Environmental Awareness and Attitudes of University Students: The Case of Türkiye

Veysi ACIBUCA[1*] [iD], Aybüke KAYA[2] [iD]

[1] Mardin Artuklu University, Kızıltepe Vocational School, Organic Agriculture Program, Mardin
[2] Hatay Mustafa Kemal University, Faculty of Agriculture, Department of Agricultural Economics, Hatay
[*]Corresponding author: veysiacibuca@artuklu.edu.tr

Abstract

In recent years, environmental problems have been a major concern all over the world and are a threat to the quality of life of societies. Considering that most environmental problems are caused by people's lifestyles, values and attitudes, an understanding of education that changes the way today's people view nature and shapes their values and attitudes is essential to preventing environmental problems. Conducting studies to increase the level of awareness and consciousness of individuals about the environment is one of the main ways to eliminate these problems and ensure environmental sustainability. This study was conducted in Türkiye to measure the environmental awareness and knowledge of university students living in various provinces. In this study, 403 university students living in different provinces in Türkiye were interviewed. According to the results, it was found that the average age of the individuals was 22 years and about three-fourths of them had knowledge about environmental problems, but they thought that the given information about the environment was insufficient. According to these findings, people generally have environmental awareness and ideas about consumption and natural resources. However, it was found that there was a high demand for participation in environmental training at universities. Students emphasized that the most important source of information on environmental issues was the internet. In addition, a significant number of students believed that environmental training at universities should be part of the curriculum. It is believed that training provided to young people will raise the awareness of individuals and be effective for their families and friends. Environmental education is central to raising environmental awareness in individuals and raising awareness about environmental protection. It is thought that education given to individuals as a group will have an easier effect on behavior change. Gathering individuals from different provinces under one roof at universities will facilitate intercultural interaction and pave the way for environmental sustainability. Changes in the behavior of individuals will have a significant impact on future generations. Therefore, it is hoped that the results obtained in this study will contribute to environmental and climate change policies.

237

1. Introduction

Currently, human factors are at the center of environmental pollution and protection. While people continue their lives, they also indirectly harm themselves and the environment. Therefore, people's activities and their behavior toward these activities draw attention to environmental sensitivity and awareness. Environmental awareness means that people develop sensitivity and awareness of their natural environment. This involves people recognizing their responsibility to reduce the risks of environmental damage and to use natural resources in a more sustainable way. Environmental awareness is a concept used to understand the importance of protecting the environment. Although environmental awareness programs among university students have developed greatly over the years, environmental problems always appear as disasters worldwide (Jusoh et al., 2018). These disasters refer to situations such as environmental pollution, water pollution, and loss of biodiversity, which may disrupt natural balance and cause serious harm to human health. Environmental systems will be irreversibly damaged if mandatory regulatory action is not taken (Tapkı et al., 2021).

Although there are many publications on environmental problems in Türkiye, it is impossible to talk the same thing about environmental education (Alım, 2006; Öz-Aydın et al., 2022). Environmental education is the most effective way to raise conscious and sensitive individuals as a permanent solution to environmental problems (Aslan et al., 2008). Recently, the relationship between education and environmental problems has been re-examined, and the suitability of teachers and curricula to raise environmentally sensitive and conscious individuals has been reviewed. Consequently, concepts such as virtue, morality, value, tolerance, balance, unity, ethics, development, and economy have begun to be redefined in ecological terms (Meydan and Doğu, 2008). This is realized through environmental education, which has a continuous learning process that provides individuals with environmental awareness and knowledge, skills, values, and experience to solve environmental problems for future generations (Vaughan et al., 2003). Value education plays an important role in ensuring environmental awareness and effective education. Value is a choice that determines our perspective and goals in life, affects the decisions we make, reflects our beliefs, and forms our principles (Aktepe and Yel, 2009). Considering the value of directing people's behavior, value education can be used effectively to increase students' environmental knowledge, attitudes toward the environment, and awareness of environmental problems. The lesson, which is taught with activities developed according to the values education methods, is more effective in developing students' positive attitudes toward the environment than the lesson taught using the traditional method. Therefore, environmental value education studies can be conducted in a way that includes all humanities, as well as schools (Tahiroğlu et al., 2010). Personal and social awareness of the environment are related to the delivery of environmental education. Establishing and operating facilities for the collection, evaluation, and disposal of waste are among the duties of districts and metropolitan municipalities. Therefore, environmental education is a duty of local governments. Public participation in measures to mitigate environmental pollution also affects environmental costs (Esen and Esen, 2018). It is important to initiate social responsibility projects that will contribute to the increase in individual environmental awareness, attitudes, and behaviors in society with the support of university students who are candidates for determining the future of countries, employees who prepare them for life, and local governments in the cities where they are located. This situation is also seen as important in terms of the university-local government-society relationship. As a result, in this study, conducted with university students and employees, environmental sensitivity was below the expected level. The low level of environmental attitudes of individuals is due to the inadequacy of education on environmental issues, lack of

knowledge and experience about the consequences of environmental problems, and inability to react to society (Mansuroğlu and Dağ, 2021). To implement sustainable development, it is necessary to receive support not only from government institutions but also from professional groups, public sectors, environmental organizations, and all individuals in society.

Increasing global interest in mitigating climate change has led to a focus on in-depth research and analysis of countries' environmental performance (Çetin et al., 2020). Environmentally conscious individuals have adopted an understanding of conscious consumption and production in terms of not harming the environment, exhibiting environmentally beneficial behaviors, and solving environmental problems (Çiftçi and Şakacı, 2015). When this understanding is put into practice and turned into behavior, it is accepted as an indicator of environmental awareness. The most basic way to solve environmental problems is to raise awareness by providing environmental education to all individuals in society. Positive changes in environmental approaches increase environmental awareness (Bozkurt and Cansüngü, 2002). Environmental awareness plays an important role in improving the quality of life of a society (Ahmad et al., 2011).

This study aimed to measure the environmental awareness of university students residing in different cities of Türkiye, to raise awareness about environmental protection, and to guide students to behavioral change with the deficiencies in environmental awareness that they will individually notice in the study questions.

2. Materials and Methods

The main material of the research consists of primary data collected from students living in the provinces of Hatay, Adana, Osmaniye and Mardin and studying at a university in Türkiye. Within the scope of the research, 403 students studying in different provinces in 2022 were interviewed face-to-face, and a survey was conducted. In the study, the environmental awareness of individuals and

their attitudes and behavior on this issue was examined.

If it is impossible to reach all individuals in the study, the population is defined as infinite. For example, using the standard deviation value, the sample size can be determined at a certain confidence level with an acceptable margin of error (Oğuz and Karakayacı, 2017). A simple random sampling method, based on population ratios, was used to determine the sample size of the study. The sample size was determined as 384 with a 95% confidence interval and a 5% margin of error. Due to the possibility of some questionnaires being cancelled, an extra sample size of 5% was used, and 403 students were interviewed. This formula was used in the sampling:

$$n = \left(\frac{t^2}{\eth^2}\right) d^2 \qquad (1)$$

In equality;

n: Number of individuals to be sampled, σ: Mass standard deviation, t: Theoretical value found from the t -a table at a certain degree of freedom and detected error level, d: It expresses the desired ± deviation according to the mean.

Data were evaluated using the SPSS package program. Data were evaluated in line with the purposes of the research; numerical variables were given as mean, frequency, and percentage, and categorical variables were presented as frequency and mean. Within the scope of the questionnaire, general information was used to determine the socioeconomic information of the individuals and for this purpose, both open-ended questions and questions that could be answered as "yes" or "no" were asked. Additionally, a 5-point Likert scale was used to determine the level of knowledge, information resources, environmental awareness, attitudes, and behaviors toward saving and recycling individuals. Understanding the relationship between attitude and behavior and predicting behavior from attitude first depends on the reliable measurement of attitudes (Tavşancıl, 2014). The acceptability and reliability of the scales were tested using Cronbach's alpha

coefficient. Güris and Astar (2015) and Kalaycı (2016) reported that the coefficient in the range of $0.6 \leq \alpha \leq 0.8$ is acceptable and reliable. The Cronbach's alpha coefficient of the scale related to individuals' saving and recycling awareness was 0.745, and the scale related to their knowledge of environmental terms was 0.620, and both scales were determined to be acceptable reliability. Additionally, the significance level of the variables used in the scales is given as mean and standard deviation.

3. Results and Discussion

The age of the participants ranged from 18-48, with an average age of 22. Additionally, it has been determined that 90% of the individuals are between the ages of 18-24. The average household monthly income of individuals was ₺6,606.44, and the number of households consisted of nuclear families with an average of five people. Women constituted 54.3% of the study participants. More than half of the individuals stated that they grew up in the city center, while others stated that they were raised in villages and districts. Of the individuals studying in different classes, 89.5% did not have membership in any environmental organization. Additionally, it has been determined that 74.8% of the individuals have knowledge about environmental pollution, but the information given about environmental problems is not sufficient, and they are willing to participate in training/seminars on the environment at the university (Table 1). Panth et al. (2015) stated that female students are more sensitive to and conscious of the environment than are male students. Çabuk and Karacaoğlu (2003) found that the environmental awareness of students differed at the grade level and that 4th-grade students were more sensitive than lower-grade students. Kurt Konakoğlu (2020) determined that there is a statistically significant relationship between the environmental courses that the students took at the university, the class they study, and the level of awareness, consciousness, and sensitivity toward the environment. In contrast, Oğuz et al. (2011) also determined that students are generally aware of the environmental problems in Türkiye, and although they know the main NGOs operating in the field of environment in Türkiye, they do not show interest in these organizations as participants.

Table 1. General information about individuals

Variables	Definition	Frequency	%	N*	Mean
Age	18-24	351	90	390	22
	25-35	35	9		
	36 and above	4	1		
Income (₺)	5000>	137	36.4	376	6.606,44
	5000-10000	203	54		
	10000+	36	9.6		
Number of persons in a household	1-5	233	64	364	5.29
	6-10	124	34.1		
	10<	7	1.9		
Gender	Female	219	54.3	403	
	Male	184	45.7		
Growth area	Village	76	19	399	
	District	119	29.8		
	Province	204	51.1		
Class	1	108	27.6	391	
	2	132	33.8		
	3	60	15.3		
	4	91	23.3		
Environmental organization membership	Yes	42	10.5	399	
	No	357	89.5		
About environmental pollution knowledge	Yes	300	74.8	401	
	No	101	25.2		
Regarding environmental issues adequacy of the information provided	Yes	76	19	401	
	No	325	81		
Environmental education/seminar at university request to join	Yes	298	76	392	
	No	94	24		

* The participants did not answer all of the questions.

About 70% of the respondents said that they had heard of TEMA (The Turkish Foundation for Combating Erosion, Reforestation, and Protection of Natural Habitats) among the environmental organizations, while 13.3% said that they did not know any environmental organizations. Environmental organizations such as the Ministry of Environment and Urbanization (2.1%), the Ministry of Agriculture and Forestry (1.0%), the Foundation for the Protection and Promotion of the Environment and Cultural Values (CEKUL) (0.7%), the Green Crescent (9.4%), the Greenpeace Foundation (1.0%), and the CEVKO Foundation (0.7%), also known as Cevsan Recycling Limited Company (0.7%), were found to be other environmental organizations in Türkiye that university students knew the name of. These environmental organizations were found to be very important for the awareness and consciousness of individuals. Aminrad et al., (2011) and Jusoh et al. (2018) determined that non-governmental organizations were

effective in increasing environmental awareness. Positive changes in environmental approaches increase environmental awareness. Karahan (2017) determined that managers who are members of non-governmental organizations and who receive environmental education are more sensitive to the environment. Individuals participating in the research have different thoughts about the environment. However, there are some important points that individuals find important in the environment. In particular, the concern about the destruction of forests, water conservation, increasing the areas reserved for natural life, the pleasure of hearing the sounds of birds and insects in open areas, the thought of climate change getting worse, and although it pays more for the goods and services it consumes, agriculture and It is thought that the industrial production should be controlled more. Moreover, individuals argue that it is important to have knowledge about the environment and that modern life seriously damages it (Table 2).

Table 2. Individuals' thoughts about the environment

Thoughts	N	Mean±SD	Median
Deforestation worries me	393	4.54±0.92	5.00
Saving water is crucial to me.	393	4.50±0.82	5.00
More space should be reserved for natural life	393	4.38±0.99	5.00
I like to hear the sounds of birds and insects when I am outdoors.	393	4.28±1.04	5.00
Climate change will get worse	393	4.25±0.97	5.00
To protect the environmental quality, industrial production needs to be controlled more.	393	4.21±0.92	4.00
I need to be informed about environmental issues and problems.	393	4.19±0.92	4.00
Modern life harms the environment	393	4.03±1.11	4.00
I believe that I will contribute to the solution of environmental problems with my behavior.	393	3.99±1.01	4.00
If the exhaust gas from a car exceeds the standards, it should not be allowed to be used.	393	3.95±1.17	4.00
I enjoy watching nature-related programs on TV.	393	3.85±1.13	4.00
It is very difficult for me to persuade my friend to do something positive about the environment.	393	2.75±1.18	3.00
There are enough laws and regulations to protect the environment in Türkiye.	393	2.19±1.10	2.00
I'm against environmental rules if they will limit my lifestyle	393	2.15±1.27	2.00
I do not like to read articles on nature and the environment.	393	2.10±1.11	2.00
It does not make much difference if I turn off the light on my way out of the classroom when many lights are on campus.	393	1.96±1.23	2.00
I think that concerns about many environmental issues are exaggerated.	393	1.95±1.14	2.00
I usually do not notice natural things such as flowers, trees, and birds when I am outdoors.	393	1.65±1.00	1.00

Scale: 1= I never agree, 2= I do not agree, 3= No idea, 4= I agree, 5= Absolutely I agree SD: Standard deviation

When the thoughts of individuals on saving and recycling are examined, it is understood that it is important to turn off the switches of unused appliances and lamps to save electricity and talk to people who harm the environment and try to discourage them from this behavior, while it is understood that individuals who think about water

saving pay attention to the use of water while brushing their teeth (Table 3). Mansuroğlu and Dağ (2021) stated that technology or laws alone are not sufficient in solving environmental problems and that people's behavior and reactions are also important.

Table 3. The consciousness of individuals toward saving and recycling

Activities	N	Mean±SD	Median
I turn off unused appliances and lights to save electricity	399	4.30±0.94	5.00
I use paper towels	399	3.58±1.18	4.00
I talk to people who harm the environment and try to discourage them	399	3.45±2.81	3.00
I buy organically grown fruit and vegetables	399	3.34±1.15	3.00
I avoid buying products that use too much packaging material	399	3.07±1.10	3.00
I talk to my family and friends about solving environmental problems	399	3.04±1.12	3.00
I sort paper, plastic, glass, and cans at home for recycling	399	2.92±1.20	3.00
I always leave the water on while brushing my teeth	399	2.13±1.36	2.00

Scale: 1= Never, 2= Hardly ever, 3= Sometimes, 4= Often, 5= Always SD: Standard deviation

Although approximately three-fourths of the individuals participating in the research thought that they knew about environmental pollution, they did not have much knowledge about environmental terms. Individuals stated that they knew some of these terms and had never heard of them (Table 4). Climate change is one of the words that students participating in the research know the most. Then, organic agriculture, ecosystem, ozone, greenhouse effects, and acid rain occur, respectively. The least familiar words were non-point sources of pollution, followed by carbon footprint, environmental impact assessment, and sustainable development. In this context, Mansuroğlu and Dağ (2021) stated that it is important to develop students' awareness and attitudes about various environmental concepts and problems.

Table 4. Knowledge of individuals in some environmental terms

Terms	N	Mean±SD	Median
Organic Farming	396	1.32±0.56	1.00
Ecosystem	396	1.36±0.59	1.00
Ozone	396	1.48±0.56	1.00
Acid Rain	396	1.48±0.63	1.00
Greenhouse Effect	396	1.49±0.60	1.00
Sustainable Development	396	1.70±0.67	2.00
Environmental Impact Assessment	396	1.82±0.71	2.00
Carbon Footprint	396	1.92±0.80	2.00
Non-Point Pollution Sources	396	2.18±0.74	2.00

Scale: 1= I can define, 2= I know the word, but cannot define it, 3= I've never heard this word SD: Standard deviation

When the level of influence of individuals' information sources on the environment is examined, it is seen that the Internet (3.58±0.75), TV (3.08±0.91), and environmental organizations stand out the most, while the least important information source is the radio (Table 5). It is thought that this situation is due to the decline in the use of radio with the development of technology. It is also understood that information received from family, friends and school is not used frequently. With the increase in internet access in recent years, access to information has become easier. For this reason, people find answers to their questions on the Internet.

Table 5. Individuals' sources of information about the environment

Knowledge Sources	N	Mean±SD	Median
Internet	399	3.58±0.75	4.00
TV	399	3.08±0.91	3.00
Environmental organizations	399	2.79±0.96	3.00
Books, brochures, newspapers, magazines, etc.	399	2.78±0.87	3.00
My family	399	2.77±0.94	3.00
The knowledge received in high school	399	2.58±0.91	3.00
Friends	399	2.51±0.96	2.00
Radio	399	2.04±1.13	2.00

Scale: 1= Never, 2= Little, 3= Middle, 4= Very SD: Standard deviation

In the questions asked to raise awareness about the environment in individuals and to determine their level of knowledge, they were asked to indicate the most correct option. The answers provided by the majority of individuals participating in the research are listed (Table 6).

Table 6. Number of students with correct answers to some questions about the environment

Questions	Choices	Frequency	%
Ozon layer	Protects from global warming	141	35.1
Wetlands (like a pond)	It cleans the waters	168	41.9
The destination of your garbage	I don't know	125	31.0
The most dangerous substance in daily life	Batteries	185	45.9
Plant and animal existence	Biodiversity	322	79.9
Source of carbon monoxide	Factories and enterprises	287	71.4
The most important resource in electricity generation in Türkiye	Hydro-electric power	134	33.3
Cause of lake and river pollution	Spilling factory residues	280	69.5
A renewable resource	Forest	209	52.3
The most important threat to animal species	Destruction of natural shelters by humans	148	36.7
The share of nuclear energy in Türkiye's electricity generation (%)	10	108	28.5
The most important gas creating the greenhouse effect	Carbon dioxide	167	41.8

* While 35.1% of the individuals stated that the ozone layer, which is a protective layer in the upper atmosphere of Earth, protects people from global warming, 7.5% of them do not know, while others report that it protects them from acid rain, sudden temperature changes, and cancer-causing sunlight.

*While 41.9% of the individuals stated that the most important benefit of wetlands is that they clean the water before entering lakes, rivers, or oceans, 21.4% do not know, whereas others claim that the anti-flooding effect provides a good place for landfills and supports a low number of unwanted animals and plants.

* While 31% of the individuals stated that they did not know the last place where the garbage in their homes and dormitory went, others stated that there may be a garbage storage area, sewerage, and garbage incineration facilities in and outside the province.

* While 45.9% of the individuals claimed that the most dangerous material used in daily life in terms of environmental health was batteries, 3.7% did not know, while the others stated that they were plastic bags, glasses, and leftover food.

* While 79.9% of the individuals thought that biodiversity is the word that best describes the presence of plants and animals living in different environments, 3.7% did not know; the others reported diversity, development and socio-economics.

* While 71.4% of the individuals stated that the most important source of carbon monoxide gas that causes air pollution was factories and businesses, 5.7% of them did not know, while the others stated that there was human breath, trees, and motor vehicles.

* While 71.4% of individuals stated that the most important source of carbon monoxide gas that causes air pollution is factories and businesses, 5.7% do not know, and others have commented on human breath, trees, and motor vehicles.

* 69.5% of the individuals stated that the most important source of pollution of lakes and rivers was the spillage of factory waste, 4.5% did not know, and others reported city garbage disposal and surface water flowing from city streets and gardens.

* 52.3% of individuals stated that forests are a renewable resource, 17.8% do not know, while others stated options such as oil, iron ore, and coal.

* While 36.7% of the individuals stated that the most important factor threatening animal species was the destruction of natural shelters

by humans, 6.2% did not know, and the others stated that pesticides, the prevalence of hunting, and changes in weather conditions.

* While 28.5% of the individuals stated that nuclear energy constituted 10% of the total electricity production in Türkiye, the others stated 0.5, 20, and 40 options.

* While 41.8% of the individuals thought that the most important gas was created because of human activities and created a greenhouse effect as carbon dioxide, 14.8% did not know, while others emphasized options, such as nitrate, methane, and ozone.

According to these findings, individuals generally have environmental awareness and ideas about consumption and natural resources. Wong (2003), Talay et al., (2004), Oguz et al., (2010), Erdal et al., (2013), and Özen and Özen (2017) also stated in their studies that university students are aware and informed about environmental problems.

Individuals' preferences for opening environmental courses in universities to increase their environmental awareness vary. While 36.1% of the participants thought that environmental protection courses should be compulsory, 52.3% stated that they could be given as an elective course, and 11.6% stated that it was not necessary to give such a course. According to Jusoh et al. (2018), practice-based education has a more positive impact than knowledge-based education. It should also be an important value that should be emphasized to produce quality human capital. Li (2018) determined that implementing environmental education in school systems has become a primary issue in promoting environmental education.

4. Conclusions

The average age of the university students in this survey was 22 years. Most of the students were between the ages of 18 and 24. Furthermore, the average family size was five, and the monthly income of the households was inadequate. Women constituted approximately 55% of the population. Although the students believed they were aware, only 10% of them were members of environmental organizations. However, it has been recognized that students are eager to learn more about environmental challenges. In this study investigating the environmental awareness and attitudes of university students studying in different provinces of Türkiye, although approximately three-fourths of the individuals think that they know about environmental pollution, individuals do not have much knowledge about environmental terms. Despite knowing the main NGOs operating in the field of environment in Türkiye, it was determined that they did not show interest in these organizations as participantsIt was found that while three-fourths of the students desired environmental courses to be opened in universities, 36.1% of them wanted the course to be required. The environment suffers significantly in the improvement of community life. On the one hand, it provides benefits; on the other hand, it poses a great risk to future generations. For this reason, environmental education is central to raising environmental awareness in individuals and raising awareness about environmental protection. It is thought that education given to individuals as a group will have an easier effect on behavior change. Gathering individuals from different provinces under one roof at universities will facilitate intercultural interaction and pave the way for environmental sustainability. Changes in the behavior of individuals significantly affect future generations. Therefore, it is hoped that the results obtained in this study will contribute to environmental and climate change policies. It is also predicted to make significant contributions to the reports and development plans prepared by policymakers.

Declaration of Author Contributions

The authors declare that they have contributed equally to the article. All authors declare that they have seen/read and approved the final version of the article ready for publication.

Declaration of Conflicts of Interest

All authors declare that there is no conflict of interest related to this article.

Ethical Committee Approval

References

Ahmad, J.H., Mustafa, H., Hamid, H.A., Wahab, J.A., 2011. Knowledge, attitude and practices of Malaysian society regarding environmental issues. *Akademika*, 81(3): 103-115.

Aktepe, V., Yel, S., 2009. Describing the value judgments of primary school teachers: The Case of Kırşehir Province, *Turkish Journal of Education Science*, 7(3): 607-622.

Aminrad, Z., Zakaria, S.Z., Hadi, A.S., 2011. Influence of age and level of education on environmental awareness and attitude: Case Study on Iranian students in Malaysian universities. *The Social Sciences,* 6(1): 15-19.

Alım, M., 2006. Environment and environmental education in primary school in Turkey within the process of the membership of European Union, *Kastamonu Education Journal,* 14(2): 599-616.

Aslan, O., Uluçınar, Ş., Cansaran, A., 2008. Adaptation of environmental attitude scale and determination of environmental attitudes of primary school students, *Selçuk University Journal of Ahmet Keleşoğlu Education Faculty,* 25: 283-295.

Bozkurt, O., Cansüngü, K.Ö., 2002. Primary school students' misconceptions about greenhouse effect in environmental education. *Jounal of Hacettepe University Faculty of Education,* 23: 61-72.

Çabuk, B., Karacaoğlu, C., 2003. Investigation of environmental sensitivities of university students. *Ankara University Journal of Faculty of Educational Sciences,* 36(2): 190-198.

Çetin, M., Saygin, S., Demir, H., 2020. Tarım sektörünün çevre kirliliği üzerindeki etkisi: Türkiye ekonomisi için bir eşbütünleşme ve nedensellik analizi. *Tekirdağ Ziraat Fakültesi Dergisi,* 17(3): 329-345.

Çiftci, S., Şakacı, B.K., 2015. Willingness of environmentally conscious consumers to reward and punish firms: Differences between female and male consumers. *Eskişehir Osmangazi University Jounal of FEAS*, 10(1): 287-296.

Erdal, H., Erdal, G., Yücel, M., 2013. Environmental awareness level study of university students: The example of Gaziosmanpaşa University. *Gaziosmanpaşa Journal of Sciences Research,* 4: 57-65.

Esen, A., Esen, M.F., 2018. Environmental education and awareness research. *Academic Review Journal*, 65.

Güriş, S., Astar, M., 2015. Statistics with SPSS in scientific research (2nd Ed.). DER Publications, Istanbul.

Jusoh, S., Kamarudin, M.K.A., Wahab, N.A., Saad, M.H., Rohizat, N.H., Mat, N.H.N., 2018. Environmental awareness level among university students in Malaysia: A review. *International Journal of Engineering & Technology,* 7(34): 28-32.

Kalaycı, Ş., 2016. SPSS Applied Multivariate Statistical Techniques (7th Ed.). Asil Publishing, Ankara.

Karahan, M., 2017. Determination of environmental sensitivity and awareness levels of business managers. *Manas Journal of Social Studies,* 6(4): 359–374.

Kurt Konakoğlu, S.S., 2020. A study for determining the level of consciousness, awareness and sensitivity of university students on environmental issues: The case study of the department of urban design and landscape architecture at the Amasya University, Turkey. *The Journal of Graduate School of Natural and Applied Sciences of Mehmet Akif Ersoy University,* 11(2): 130-141.

Li, Y., 2018. Study of the effect of environmental education on environmental awareness and environmental attitude based on environmental protection law of the people's Republic of China. *Eurasia Journal of Mathematics, Science and Technology Education,* 14(6): 2277-2285.

Mansuroğlu, S., Dağ, V., 2021. Determination of environmental sensitivity of undergraduate and university personnel's: Case study of Akdeniz University (Antalya), *Ege University Journal of Agriculture Faculty,* 58(2): 229-238.

Meydan, A., Doğu, S., 2008. Evaluation of primary school second grade students' views on environmental problems according to some variables, *Journal of Selçuk University Ahmet Keleşoğlu Education Faculty,* 26: 267-277.

Oğuz, C., Karakayacı, Z., 2017. Research and Sampling Methodology in Agricultural Economics (1st Ed.), Atlas Akademi.

Oğuz, D., Çakçı, I, Kavas, S., 2010. Environmental awareness of university students in Ankara, Turkey. *Journal of Agricultural Research,* 5(19): 2629-2636.

Oğuz, D., Çakçı, I, Kavas, S., 2011. Environmental Awareness of Students in Higher Education. *Journal of Süleyman Demirel University Faculty of Forestry,* 12: 34-39.

Öz-Aydın, S., Ekersoy, S., Özkan, B., 2022. To What extent do curricula support the realization of environmental literacy in Turkey? *Journal of Education for Life,* 36(1): 66-89.

Özen, R., Özen, A., 2017. A Study on the views of Fırat University veterinary faculty students on environmental problems. *Kocatepe Veterinary Journal*, 10(4): 247-255.

Panth, M.K., Verma, P., Gupta, M., 2015. The role of attitude in environmental awareness of under graduate students. *International Journal of Research in Humanities and Social Studies*, 2(17): 55-62.

Tahiroğlu, M., Yıldırım, T., Çetin, T., 2010. The effect of the environmental education activity developed in accordance with the value education methods on the attitudes of the 7th grade students towards the environment, Selçuk University Ahmet Keleşoğlu, *Journal of the Faculty of Education*, 30: 231-248.

Talay, İ., Gündüz, S., Akpınar, N., 2004. On the status of environmental education and awareness of undergraduate students at Ankara University, Turkey. *International Journal of Environment and Pollution*, 21(3): 293-308.

Tapkı, N., Öztornacı, B., Davran, M.K., 2021. Tarımsal çevre kirliliği açısından üreticilerin bilinç düzeyi: Doğu Akdeniz bölgesi örneği. *ISPEC Journal of Agricultural Sciences*, 5(3): 641-651.

Tavşancıl, E., 2014. Measuring Attitudes and Data Analysis with SPSS (5th Ed.). Nobel Publishing, Ankara.

Vaughan, C., Gack, J., Solorazano, H., Ray, R., 2003. The effect of environmental education on schoolchildren, their parents, and community members: A study of intergenerational and intercommunity learning. *The Journal of Environmental Education*, 34(3): 12-21.

Wong, K., 2003, The environmental awareness of university students in Beijing, China. *Journal of Contemporary China,* 12(36): 519-536.