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Examining the Relationship Between Pre-Service Teachers' Behaviors Towards Environmental Issues and Their Awareness

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Abstract

This research was designed in the relational screening model to examine the relationship between the awareness levels of pre-service teachers towards environmental issues and their behaviors towards environmental issues. 5 multiple-choice questions to determine their descriptive features, the "Awareness Scale for Environmental Issues" developed by Guven (2011) to measure their awareness of environmental issues, and the "Behavior Scale for Environmental Issues" to measure their behaviors on this were applied by the researcher to 129 pre-service teachers studying at Gazi Osmanpasa University, Faculty of Education, Department of Primary School Teaching in the 2019-2020 academic year. Numbers, percentage, mean, standard deviation were used as descriptive statistical methods in the evaluation of the data. T-test was used for comparison of quantitative continuous data between two independent groups and a one-way Anova test was used for comparison of quantitative continuous data between more than two independent groups. Scheffé's test was used after the Anova test as a complementary post-hoc analysis to determine the differences. The Pearson correlation and regression analysis were applied between the continuous variables of the study. As a result of the research, it was determined that the awareness of the pre-service primary school teachers about environmental issues was low and their behavior towards environmental issues was moderate. A low-level significant relationship was found between pre-service primary school teachers' awareness of environmental issues and their behaviors. As a result, it was concluded that as the awareness levels of primary school teachers towards environmental issues increased, their behaviors towards environmental issues increased positively.

Keywords: Environmental Issues, Awareness of Environmental Issues, Environmental Issues-Oriented Behavior, Pre-Service Primary School Teacher

1. Introduction

To survive, humans base their lives on very different internal and external balances that are interdependent and closely related. Perhaps the most important of these balances is the balance between humans and the environment that has been going on since the existence of human beings. Since the earliest known history of humankind, the environment and humans have acted as inseparable parts of a continuous whole (Guvén & Aydogdu, 2012).

The environment is defined as living and non-living things that coexist and mutually affect each other (Yesilyurt, Gul & Demir, 2013; Dagdemir, 2015). It is possible to divide the environment into two biotic and abiotic environments. The living environment includes plants, animals, and microorganisms (living natural resources), the abiotic environment includes air, water, and soil systems, mines, and underground resources (natural resources) that the living natural environment needs uninterruptedly (Keles, Hamamci & Coban, 2015).

People have to use other living things and their abiotic nature to survive. The relations between humans and the environment have always continued in harmony from the creation of human beings until the industrial revolution, even if there are differences. With the Industrial Revolution, global environmental issues have become threatening to nature and the world. The way of existence, which is valid for all living species, has left indelible marks on the earth due to excessive use when it comes to human societies, has dominated all other species of nature, and has created results that reach the level of environmental destruction. Humanity has accelerated the process to disrupt the natural balance by intervening in nature. In this progressive process, the ecological balance has begun to be destroyed and deteriorated by human beings and pose a danger to the life of living things (Dogan & Purutcioglu, 2017; Celik & Dogru, 2019).

After the 17th century, the ambition of human beings to dominate nature and consume nature's resources unlimitedly increased more rapidly. In the 18th century, with the development of technology and industry, many more issues began to arise, primarily in Western European countries and later in the world (Gormez, 2010). Being careless and insensitive in technological advances and industrialization has disrupted the ecological balances in the world (Selim et al., 2011). As a result of the advancing age of the world, the unpredictable increase in the consumption rate, the limited resources consumed and the decrease in natural resources, the issue of regaining the limited resources needed is becoming a vitally important problem of the current age. The environment is a whole with the living and non-living things that it contains. Each part of the whole affects the others. Human is the one who consciously or unconsciously damages the environment in which he lives (Kadioglu Ates & Isik Oner, 2020). Environmental issues are defined as the negative effects of the artificial environment, created by humans, on the natural environment (Erturk, 2011). For centuries, human beings have seen nature as an unlimited resource, and it has been brutally destroyed, polluted causing environmental issues. (Sipahi, 2010). The environmental issues that threaten the future of human beings, who constantly struggle with the environment and change the environment, occur as a result of this struggle and changes (Secgin, Yalvac & Cetin 2010; Ercengiz, Kececi Kurt & Polat, 2014). In general, environmental issues such as the depletion of the ozone layer, the melting of glaciers, climate change, pollution of drinking water, air pollution, decrease in soil fertility, global warming, and deforestation affect our lives negatively (Cocadar, Turkoglu, & Gezer, 2009; Kadioglu Ates & Isik Oner, 2020).

On the other hand, humankind has wasted by producing, selling, and throwing away products that it does not even need, and could not use natural resources effectively (Barlas, 2013). As a result of the increase in environmental pollution day by day, the deterioration of the natural balance has begun to harm human health, and as a result, environmental pollution has gained an international dimension. Since this problem also concerns future generations, raising environmentally sensitive people has become a necessity (Sahin et al., 2004; Demirbas & Pektas, 2009). Today, consumption of resources, pollution of the environment in all respects, has exceeded nature's limits of self-cleaning and renewal. It is difficult to say that successful steps have been taken to solve environmental issues and that the problem has been completely resolved (Kislalioglu & Berkes, 2012).

Of course, the most effective and permanent solution to eliminate and combat environmental issues is to raise environmentally conscious societies. Environmental awareness can be explained as the attitudes, thoughts, and behaviors that societies and individuals who make up societies should have to develop a balanced relationship with their environment (Guyen & Aydogdu, 2012). Effective environmental education should be given to individuals to raise environmentally conscious societies. The history of environmental education is quite new, and it has come to the fore as a result of increasing environmental issues, especially after the 1970s. Informing all segments of the society against increasing environmental issues, raising awareness, and using nature without destroying it can be achieved with an effective education process (Ada, Baysal & Erkan, 2017). Environmental education plays an important role in solving environmental issues. Effective environmental education increases

the person's knowledge of the subject, and as a result, enables the person to develop a positive attitude towards the environment. It is expected that these attitudes will lead to actions that will positively affect the environment (Sahin & Dogu, 2018). Environmental manners are positive or negative attitudes and thoughts that people show towards fears, anger, restlessness, value judgments caused by environmental issues, and environmentally beneficial behaviors such as readiness for the solution of environmental issues (Erten, 2005). Environmental education aims to develop individuals' environmental ethics, environmental awareness, environmental attitudes, and behaviors in a positive way. Therefore, changing environmental attitudes and information about the environment are among the primary objectives of environmental education (Atasoy & Erturk, 2008). Environmental education is an integrated process that examines the relationship between the environment and nature in which we live in many subjects, especially in the urban and rural planning of the environment of human beings, technological protection, correct use and economic consumption of resources, the balance of the population, and population development (Nagel, 2005). Environmental education is an education process that aims to equip people with information that they can analyze and evaluate the results of all kinds of actions, situations, and behaviors in their technical, social, and natural environments (Islam, 2000).

The main cause of environmental issues is the negative behaviors of individuals. To overcome these issues, everyone should be aware of environmental issues and behave for the solution of these issues. Individuals, knowing about the environment and environmental issues, display a positive attitude towards the environment and strive to take responsibility (Ozsoy, Ozsoy & Kuruyer, 2011). One of the most effective ways to reduce environmental issues and bring solutions to existing issues is to raise individuals who have high environmental awareness and sensitivity, have the necessary environmental knowledge, have a positive environmental attitude, and can actively participate in the solution of environmental issues. Individuals' perception and interpretation of events and phenomena occurring in their environment are effective in the development of environmental awareness and attitude. By supporting individuals to interpret the effects of these events and phenomena on the environment correctly, to perceive environmental issues and the causes of environmental issues correctly, to realize the measures that can be taken against the formation of environmental issues, and to take responsibility for the solution of issues, it can be facilitated to achieve the purpose of environmental education (Yucel & Ozkan, 2018).

Environmental awareness and environmental education are the most important concepts that human beings have at the point of solving environmental issues. The individuals, forming the society, are in an interaction network. Individuals who have not received environmental education and do not have any sense of responsibility in environmental issues cannot be expected to benefit each other, the environment, and the society in which they live. However, people with environmental awareness can provide positive effects and benefits to other members of the society with whom they interact and to the whole society over time. Teachers have important responsibilities in sharing their knowledge and experiences about environmental education with their students and in raising environmental awareness.

Primary school teachers, who have an important role in education, are expected to be environmentally aware and environmentally conscious individuals. Teachers with this awareness can raise individuals who can exhibit positive behaviors to the environment. For increasing the effectiveness of environmental education, it is important to carry out studies especially from the pre-school and primary school. It is important that primary school teachers have sufficient sensitivity and a positive attitude towards the environment in the pre-service period. It is thought that it is important for environmental education that there is a positive relationship between preservice primary school teachers' awareness of environmental issues and their behaviors to environmental issues. It is important that pre-service teachers have the awareness to set an example for their students and their environment when they become teachers. Particularly, the environmental education to be given in the primary education period and the behavior of the teacher, who is a role model, is very important in terms of the development of students' environmental awareness. It has critical importance for children to acquire positive attitudes and behaviors towards the environment and to form the basis of their future life. Considering the situation in environmental issues in Turkey, the value that should be given to environmental education and the importance of studies on this issue emerge. When evaluated from this point of view, the importance of our study on the awareness of teachers, who

have an important role in shaping new generations, towards environmental issues and their behaviors in this regard, increases even more.

Based on this information, in this study, answers to the following questions were sought to examine the effects of pre-service primary school teachers' awareness of environmental issues on their behaviors towards environmental issues;

- What is the level of awareness of pre-service teachers about environmental issues?
- What is the level of pre-service teachers' behaviors to environmental issues?
- Is there a significant relationship between pre-service teachers' awareness and behaviors towards environmental issues?
- Do pre-service teachers' awareness of environmental issues significantly affect their behavior towards environmental issues?
- Do pre-service teachers' awareness and behavior towards environmental issues differ according to their descriptive characteristics?

2. Method

2.1. Research Model

This research was designed in the relational screening model to examine the relationship between the awareness levels of pre-service teachers towards environmental issues and their behaviors towards environmental issues. Relational screening model; "is defined as a research model that aims to determine the existence or degree of covariance between two or more variables (Karasar, 2012).

2.2 Study Group

The universe of the research consisted of 4th-grade students studying at Gazi Osmanpasa University, Faculty of Education, Department of Primary Education in the 2019-2020 academic year. In the research, sampling was not used, and the whole sample group was tried to be reached. In this context, 129 primary school pre-service teachers, who received education in the 4th-grade, voluntarily participated in the research.

2.3 Data Collection Tools

The research data was collected by questionnaire method. In the first part of the three-part survey, there are 5 multiple-choice questions to determine the descriptive features such as the participants' age, gender, etc. In the second part of the questionnaire, there is the "Awareness Scale for Environmental Issues" developed by Guven (2011). There are 44 propositions in the 3-point Likert type in the scale. The scale is selected as agree, neutral, and disagree. It is marked as 0 to disagree, 1 to neutral and 2 to agree. In this context, a minimum of 0 points; maximum of 88 points can be obtained from the "Awareness Scale for Environmental Issues." An increase in the score, obtained from the scale, indicates an increased awareness of environmental issues. In the study, the reliability analysis for the scale was repeated, and the reliability value of the "Awareness Scale for Environmental Issues" was found to be 0.809.

In the third part of the questionnaire, there is the "Behavior Scale for Environmental Issues" developed by Guven (2011), consisting of 40 3-point Likert type offerings. The options and scoring of the scale were done in the same way as the Awareness Scale for Environmental Issues. In this direction, they can get a minimum of 0 points; maximum of 80 points from the "Behavior Scale for Environmental Issues." An increase in the score, obtained from the scale, indicates an increased awareness of environmental issues. In the study, the reliability analysis for the scale was repeated, and the reliability value of the "Awareness Scale for Environmental Issues" was found to be 0,822.

2.4 Analysis of Data

The data, obtained in the research, were analyzed using SPSS (Statistical Package for Social Sciences) for Windows 22.0 package software. Numbers, percentage, mean, standard deviation were used as descriptive statistical methods in the evaluation of the data. T-test was used for comparison of quantitative continuous data between two independent groups and a one-way Anova test was used for comparison of quantitative continuous data between more than two independent groups. Scheffé's test was used after the Anova test as a complementary post-hoc analysis to determine the differences. The Pearson correlation and regression analysis were applied between the continuous variables of the study.

3. Results

In this section, the findings, obtained as a result of the analysis of the data collected through the scales of the pre-service teachers participating in the research, are included to solve the research problem. Explanations and interpretations were made based on the findings.

Table 1: Distribution of pre-service teachers' descriptive characteristics.

	Groups	Frequency (n)	Percentage (%)
Gender	Female	95	73.6
	Male	34	26.4
	Total	129	100.0
Mother's Educational Status	Illiterate	15	11.6
	Primary School	76	58.9
	Secondary School	16	12.4
	High school and above	22	17.1
	Total	129	100.0
Father's Educational Status	Primary school and below	47	36.4
	Secondary School	26	20.2
	High School	28	21.7
	University	28	21.7
	Total	129	100.0
Family's Monthly Income	1000 and Below	18	14.0
	1001-2000	46	35.7
	2001-3000	45	34.9
	3001 and Above	20	15.5
	Total	129	100.0
Family's Place of Residence	Town	24	18.6
	District	32	24.8
	City Center	73	56.6
	Total	129	100.0

According to gender, 95 (73.6%) of the pre-service teachers are female and 34 (26.4%) are male. Pre-service teachers range as 15 (11.6%) illiterate, 76 (58.9%) primary school, 16 (12.4%) secondary school, 22 (17.1%) high school and above according to the mother's educational status. According to father's educational status; 47 (36.4%) primary school or below, 26 (20.2%) secondary school, 28 (21.7%) high school, 28 (21.7%) university. According to the monthly income of the family, it range as 18 (14.0%) 1000 and below, 46 (35.7%) 1001-2000, 45 (34.9%) 2001-3000, 20 (15.5%) 3001 and above. According to the place of residence of the family, pre-service teachers range as 24 (18.6%) towns, 32 (24.8%) districts, and 73 (56.6%) urban centers.

Table 2: Awareness of environmental issues and the average of behavior towards environmental issues

	N	Avg.	Sd	Min.	Max.	
Awareness of Environmental Issues	129	30.326	6.454	18	57	0-88
Behaviors Towards Environmental Issues	129	48.217	8.666	24	71	0-80

The average score of awareness level for environmental issues is 30.326. It is seen that the level of awareness of pre-service teachers about environmental issues is at a low level. The average score for the level of behaviors towards environmental issues is 48.217. It is seen that the level of behavior of pre-service teachers towards environmental issues is at a moderate level.

Table 3: The correlation analysis between the awareness of environmental issues and behaviors towards environmental issues

Awareness of Environmental Issues	
Behaviors Towards Environmental Issues	r 0.217*
	p 0.013

*<0.05; **0.01

There is a weak, positive and significant relationship between behaviors towards environmental issues and awareness of environmental issues ($r=0.217$; $p=0.013<0.05$).

Table 4: The correlation analysis between awareness of environmental issues and behaviors towards environmental issues

Dependent Variable	Independent Variable	β	t	p	F	Model (p)	R ²
Behaviors Towards Environmental Issues	Fixed		39.374	10.922	0.000	6.287	0.013
	Awareness of Environmental Issues	0.292	2.507	0.013	0.040		

The regression analysis performed to determine the cause and effect relationship between awareness of environmental issues and behavior towards environmental issues was found to be statistically significant ($F=6.287$; $p=0.013<0.05$). It was observed that the relationship (explanatory power) with awareness variables about environmental issues as a determinant of the level of behavior towards environmental issues was weak ($R^2=0.040$). The awareness of pre-service teachers to environmental issues increases their behavior levels towards environmental issues positively ($\beta=0.292$).

Table 5: Comparison of awareness and behavior to environmental issues according to descriptive features

Demographic Features	n	Awareness of Environmental Issues	Behaviors Towards Environmental Issues
Gender		Avg. \pm SD	Avg. \pm SD
Female	95	30.126 \pm 6.090	48.168 \pm 7.380
Male	34	30.882 \pm 7.450	48.353 \pm 11.667
t=		-0.585	-0.106
p=		0.560	0.932
Mother's Educational Status		Avg. \pm SD	Avg. \pm SD
Illiterate	15	31.800 \pm 6.816	44.467 \pm 9.372
Primary School	76	30.316 \pm 5.641	47.184 \pm 7.890
Secondary School	16	28.875 \pm 6.032	51.625 \pm 7.420

High school and above	22	30.409±8.953	51.864±10.039
F=		0.526	3.631
p=		0.665	0.015
PostHoc=			3>1, 4>1, 4>2 (p<0.05)
Father's Educational Status			
		Avg. ±SD	Avg. ±SD
Primary school and below	47	30.106±5.906	45.957±7.304
Secondary School	26	31.154±5.576	45.769±9.043
High School	28	30.179±5.729	51.679±8.615
University	28	30.071±8.696	50.821±9.002
F=		0.177	4.416
p=		0.912	0.005
PostHoc=			3>1, 4>1, 3>2, 4>2 (p<0.05)
Family's Monthly Income			
		Avg. ±SD	Avg. ±SD
1000 and Below	18	30.833±6.119	47.000±11.098
1001-2000	46	29.587±5.184	48.326±7.680
2001-3000	45	31.733±6.949	48.400±8.566
3001 and Above	20	28.400±7.843	48.650±9.184
F=		1.565	0.141
p=		0.201	0.935
Family's Place of Residence			
		Avg. ±SD	Avg. ±SD
Town	24	30.958±7.000	50.125±10.001
District	32	29.906±4.720	47.938±9.062
City Centre	73	30.301±6.972	47.712±8.042
F=		0.181	0.719
p=		0.835	0.489

The awareness of pre-service teachers about environmental issues, their behavior scores towards environmental issues do not differ significantly according to gender, monthly income of the family, and the place where the family lives ($p>0.05$). Behavior scores of pre-service teachers towards environmental issues differ significantly according to the mother's educational status ($F=3.631$; $p=0.015<0.05$). The awareness scores of pre-service teachers for environmental issues do not differ significantly according to the mother's educational status ($p>0.05$). The behavior scores of pre-service teachers towards environmental issues differ significantly according to the father's educational status variable ($F=4.416$; $p=0.005<0.05$). The awareness scores of pre-service teachers for environmental issues do not differ significantly according to the father's educational status variable ($p>0.05$).

4. Discussion

It was determined that the pre-service primary school teachers' awareness of environmental issues was low. It was determined that the environmental behaviors of the pre-service teachers were at a moderate level. It is an indication that the awareness and behavior levels of the pre-service teachers in our study group are below the desired and expected level to understand environmental issues and to carry out studies to solve these issues. Looking at the studies in the literature, the research consistent with the results, there are findings that awareness and behaviors towards environmental issues are low (Tuncer et al., 2005; Oguz, Cakci, & Kavas, 2010; Kahraman et al.; 2008; Shobeiri, Omidvar & Prahallada, 2007; Aminrad, Zakaria & Hadi, 2011; Kaushal & Singhal, 2011), it was also

found that awareness and behaviors towards environmental issues are at a high level (Gokceli, Bilmez & Tarkocin, 2015; Altiparmak, 2012; Unalan, 2018; Irmak- Kazazoglu, 2020).

While a significant low-level relationship was determined between the awareness of pre-service teachers about environmental issues and their behaviors towards the environment, it was concluded that their awareness of environmental issues affected their behavior towards environmental issues, albeit at a low level. When the relationship between pre-service teachers' environmental awareness and their behaviors towards environmental issues is examined, it has been determined that there is a positive and moderate relationship between their environmental awareness levels and their behaviors towards environmental issues. This situation can be considered as an indication that with the increase in environmental awareness, their behavior towards environmental issues will also increase.

In a study conducted by Sahin & Dogu (2018) on the examination of pre-service pre-school teachers' attitudes and behaviors towards environmental issues, they concluded that there is a positive and significant relationship between pre-service pre-school teachers' attitude scores towards environmental issues and their behavior scores towards environmental issues. In the research conducted by Irmak Kazazoglu (2018) on undergraduate students studying at Hacettepe University Beytepe Campus, it was determined that there is a positive relationship between students' environmental awareness and their behaviors towards environmental issues. In the study conducted by Gulay (2011), it was stated that the increase in environmental knowledge and environmental awareness and environmental behavior are related to each other. These results support the results of our study.

It has been concluded that the awareness and behavior levels of pre-service teachers towards environmental issues do not differ according to their gender. In the literature, some results coincide with our research findings (Chu et al., 2007; Yurt et al., 2010; Guven & Aydogdu, 2011; Unalan, 2018), and there are also findings that the awareness and behaviors of the participants towards environmental issues differ according to their gender (Tuncer, Ertepinar, Tekkaya & Sungur, 2005; Annex et al., 2009; Irmak Kazazoglu, 2020).

It has been concluded that the awareness and behavior levels of pre-service teachers towards environmental issues do not differ according to the monthly income level of their families. In the literature, some results coincide with our research findings (Atasoy & Erturk, 2008; Kisoglu, 2009; Altinoz, 2010; Timur, 2011; Unalan, 2018), but there are also findings that the awareness and behaviors of the participants towards environmental issues differ according to their income levels. These results do not lead to a generalization that the income level of the family affects awareness and behavior towards environmental issues.

It has been concluded that the awareness and behavior levels of pre-service teachers towards environmental issues do not differ according to their gender. In the literature, there are results that coincide with our research findings (Kisoglu, 2009; Altinoz, 2010; Karatekin, 2011; Timur, 2011), and there are also findings that the awareness and behaviors of the participants' families towards environmental issues differ according to the place of residence (Kose, 2010; Unalan, 2018; Irmak Kazazoglu, 2020). These different results show that different variables may affect awareness and behaviors towards environmental issues.

It was determined that the awareness levels of the pre-service teachers towards environmental issues did not differ according to the education levels of their parents, but the levels of behavior towards environmental issues differed according to the education levels of the parents. It has been concluded that the behaviors of those whose mothers are at secondary school or higher education level and whose fathers are at high school or higher education level are more positive towards environmental issues than those whose parents have lower education levels. When we look at the studies in the literature, there are findings that environmental behaviors do not differ according to the education level of the parents (Ocal, 2013; Altiparmak, 2012), while there are also findings that differ according to the education level of the father and cannot differ according to the education level of the mother (Irmak-Kazazoglu, 2020). On the other hand, as the education level of the parents increases, which is in line with our research results, the results of the research reveal that more positive behaviors towards the environment occur in children (Chu et al., 2007; Ocal, 2013; Unalan, 2018). Based on these results, it can be said that environmental

awareness and behaviors of parents, rather than their educational status, are more effective in their children's awareness and behavior towards the environment.

One of the biggest issues of the century we live in is environmental issues that affect all countries of the world directly or indirectly. To reveal what these issues are, their characteristics, causes, and dimensions, each environmental value should be examined separately and, in a way, a breakdown of them should be made (Keles & Hamamci, 2002). Because the solution of a problem is only possible by defining it fully and knowing the causes of it. From this point of view, it is considered as an important problem that primary school pre-service teachers have low awareness of environmental issues and moderate behaviors. The environmental awareness of a professional group that should be a role model and shapes society is an important issue that concerns the whole world. Considering the function of education in solving environmental issues, providing information, changing attitudes and behaviors, education is in an effective position in environmental issues. Teachers, who are the most critical part of education, are at a key point in environmental education. In the education process, gaining the expected attitude towards the environment will be possible with the help of competent and sensitive educators. Although many studies on the perception of the environment in Turkey describe students' attitudes towards the environment as positive, these approaches are relative. The country's sensitivity to this issue within the national education policies concerns both the country and the future of our world. Although it is possible to benefit from education as a process of gaining knowledge, skills, and attitudes in the cognitive, affective, and psychomotor fields in the individual, and as a tool to change individuals in the solution of environmental issues, this situation depends on the quality of the education to be given. One of the main functions of education in society is to transfer scientific and cultural knowledge to new generations, and the other is to change and develop the natural and social environment.

As a result of the research, it was concluded that pre-service primary school teachers have low-level awareness of environmental issues and moderate behaviors. It has been determined that there is a significant low-level relationship between awareness and behavior towards environmental issues, and as the awareness levels towards environmental issues increase, their behaviors towards environmental issues increase positively.

When the awareness levels for environmental issues are examined in terms of descriptive characteristics of pre-service teachers; it was determined that gender, education level of parents, monthly income of the family, and the place where the family lived did not cause a significant difference. When the behaviors of pre-service teachers towards environmental issues are examined according to their descriptive characteristics; it has been determined that there is no difference according to the gender, monthly income of the families, and the place of residence of the families but there are differences in their behaviors towards environmental issues according to the education level of the parents. It was concluded that as the parents' education level increased, their behaviors towards environmental issues increased positively.

4.1. Limitation of the Study

This research is limited to the opinions of 129 4th grade students studying at Gazi Osmanpasa University, Department of Primary Education. There are some limitations in generalizing the findings of our study to all primary school pre-service teachers and other countries. To generalize the results of the research, studies can be carried out on a larger sample.

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