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EXAMINING THE RELATIONSHIP BETWEEN SUSTAINABLE CONSUMPTION BEHAVIORS AND ENVIRONMENTAL LITERACY OF PRE-SERVICE PRIMARY SCHOOL TEACHERS

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Abstract:
This study aimed to determine the relationship between sustainable consumption behaviors and the environmental literacy of pre-service primary school teachers. The study was conducted with 144 (103 female, 41 male) pre-service teachers (103 female, 41 male) studying in the department of classroom teaching at the faculty of education of a state university located in the Central Black Sea Region in the spring semester of the 2022-2023 academic year. The relational survey model, one of the quantitative research methods, was used in the study. The research data were collected using the Sustainable Consumption scale developed by Doğan, Bulut, Çımrın (2015); to measure individuals' sustainable consumption behaviors. "Environmental Literacy Scale for Adults (ELSA)" developed by Atabek-Yiğit *et al.* (2014) was used for environmental literacy. According to the research findings, a positive relationship was found between the sustainable consumption behaviors of pre-service teachers and their environmental awareness, non-essential purchasing, saving and reusability levels. There is a moderate, positive and significant relationship between pre-service teachers' environmental literacy levels and sustainable consumption behaviors. The sustainable consumption behavior, environmental awareness, saving, and non-essential purchasing of pre-service primary school teachers do not show a significant difference according to gender. In line with the findings obtained as a result of the research, prospective primary school teachers are sustainable.

Keywords: sustainable consumption, environmental education, environmental literacy, classroom teacher candidates

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1. Introduction

Developments in technology, rapid increase in population, industrialization, environmental pollution, unplanned urbanization, greenhouse effect caused by gases emitted into the atmosphere, unconscious use of natural resources are the most important environmental problems. Human damage to the environment causes the ecological balance to deteriorate. The deterioration of the ecological balance has negatively affected the lives of living things and caused environmental problems. Environmental problems cannot be solved unless people who pollute the environment and cause environmental problems change their behaviors and attitudes that cause environmental problems (Selvi, 2007).

Responsible-sustainable consumption is one of the important aspects of sustainable development, which is based on achieving long-term economic growth consistent with environmental and social needs. In fact, the concept of sustainability represents the interrelationship of economic, social and environmental factors. Environmental literacy can be considered as one of the direct determinants of responsible-sustainable consumption. It is widely recognized that environmental literacy can provide a strong foundation for future environmental sensitivity and can also help transition to more sustainable societies and healthy living (Jonkute, 2015).

Sustainability, defined as a property of ecosystems, is the capacity to sustain a process indefinitely. Environmental sustainability is attracting considerable public and government attention, triggered by concerns about climate change, diminishing energy resources and rising food costs. Therefore, courses and curricula should be developed to educate students about sustainable resource consumption processes (Corral and Verdugo, 1997). Educating individuals to help implement the sustainability paradigm is vital for sustainability. Education curricula do not adequately meet this need. As consumers of the future, all consumers are expected to know how to help with environmental problems (Corral and Verdugo, 1997).

In an environment where the world's population continues to grow and natural resources are limited, environmental education in universities plays an important role in producing environmentally literate students. The university years are short and formative; therefore, an environmental literacy course should be included in the university curriculum to increase the level of environmental education for students who are future policymakers, voters, business people and teachers (Luchs and Mooradian 2012).

In this context, sustainability and environmental literacy enable individuals and societies to be prepared for future challenges. However, in order to achieve these goals, global cooperation, education and awareness-raising efforts are essential. Not only individuals but also companies, governments and the international community need to make a concerted effort on sustainability and environmental literacy. This effort will affect not only the present but also the quality of life of future generations and other living species on Earth. Focusing on sustainability and environmental literacy is a global

responsibility and teacher education has a major role to play in this education. At this point, the importance of environmental education courses is increasing day by day (Hastürk, 2016).

It is assumed that environmental education has a significant impact on students' environmental awareness, daily lifestyles and consumer behavior. Recently, many higher education institutions have realized the importance of integrating sustainability issues into education to make this impact-focused and explicit. The focus of environmental education seems to be important in shaping attitudes towards sustainable consumption.

Addressing consumerism in environmental education clearly increases awareness of the need for consumption-related lifestyle changes (Jonkute, 2015).

In this context, it has been understood that it is very important to determine some characteristics of pre-service teachers who will provide environmental education to individuals who will become teachers in the future. Among these concepts, sustainability and environmental literacy are among the concepts examined in this study. The importance of teacher training process plays a major role in terms of effective education and awareness-raising on sustainability and environmental literacy. For example, teachers trained in sustainability and environmental issues can promote environmentally friendly behaviors in their classrooms and guide students to understand environmental issues. Furthermore, teachers who adopt sustainable lifestyles and implement environmentally friendly practices set a strong example for students. This encourages students to be interested in environmental issues, to understand their responsibilities and to take an active role in them. Based on these characteristics, the teacher training process can contribute to future generations becoming conscious and responsible individuals by emphasizing sustainability and environmental literacy. This process enables teachers to shape their knowledge, skills and attitudes, enabling a more effective integration of environmental issues into the education system. Based on the mentioned characteristics, this study aims to examine the relationship between sustainable consumption behavior and environmental literacy of prospective classroom teachers studying in the department of classroom teaching at the faculty of education of a state university located in the Central Black Sea Region.

In this direction, in this research, "Is there a statistically significant relationship between environmental literacy and sustainable consumption behavior of prospective classroom teachers?" was determined. In line with the determined problem, the following sub-problems were formed:

1) What is the level of sustainable consumption behavior of pre-service primary school teachers?
2) Sustainable consumption behavior of prospective primary school teachers
   a. Gender,
   b. Mother's education level,
   c. Is there a statistically significant difference according to the father's education level?
3) What is the level of environmental literacy of prospective primary school teachers?

4) Environmental literacy of prospective primary school teachers;
   a. Gender,
   b. Mother's education level,
   c. Is there a statistically significant difference according to the father's education level?

2. Material and Methods

The study is a quantitative research in the relational survey model. In this model, it is aimed to determine the views of the participants on a subject or event or their interests, skills, abilities, attitudes, etc. In relational research, it is aimed to examine the relationship between two or more variables without intervening in these variables in any way (Karasar, 2006). In this study, the relational survey method was used from the survey model in order to determine the sustainable consumption behaviors and environmental literacy levels of pre-service teachers and to describe the relationships between them.

2.1. Working Group

The study group of the research consists of 144 pre-service teachers studying in the 3rd and 4th grades of Tokat Gaziosmanpaşa University Faculty of Education, Classroom Teaching in the 2022-2023 academic year. The sample was selected by convenience sampling method. Convenience sampling is a non-random sampling method in which the sample to be selected from the main mass is determined by the researcher's judgment. In convenience sampling, data are collected from the main mass in the easiest, fastest and most economical way. The demographic characteristics of the pre-service teachers who participated in the study and who were studying at Tokat Gaziosmanpaşa University, Department of Elementary Education, Department of Classroom Teaching in the 2022-2023 academic year are given in Table 1.

Table 1: Distribution of Pre-service Teachers Participating in the Study According to Their Gender and Grade Level

Gender		Male	Female	Total
3rd Grade	N	16	56	72
	%	11.1	38.9	50.0
4h Grade	N	25	47	72
	%	17.4	32.6	50.0
Total	N	41	103	144
	%	28.5	71.5	100

When Table 1 is analyzed, 41 (28.5%) of the participants were male and 103 (71.5%) were female. In addition, as can be understood from Table 1, 72 (50%) of the participants are studying in the 3rd grade and 72 (50%) are studying in the 4th grade.

2.2. Data Collection Tools

"Sustainable Consumption Behavior Scale" and "Environmental Literacy Scale" were used as data collection tools in the study. Detailed information about the data collection tools is given below.

2.2.1. Sustainable Consumption Behavior Scale

"Sustainable Consumption Scale" developed by Doğan, Bulut, Çımrın (2015) will be used to measure individuals' sustainable consumption behaviors. Cronbach alpha values for the whole scale were found to be 0.75. In cases where the Cronbach Alpha value is 0.70 and above, the scale is considered reliable. Therefore, Cronbach alpha values above 0.70 indicate that the scale to be used is reliable. The scale consists of 17 items on a five-point Likert-type scale. Although there are no negative items on the scale, there are 4 sub-dimensions "Environmental Sensitivity", "Non-essential Purchasing", "Saving" and "Reusability". The "Environmental Sensitivity" sub-dimension consists of 5 items, namely items 1, 2, 3, 4 and 5; the "Discretionary Purchasing" sub-dimension consists of 5 items, namely items 6, 7, 8, 9 and 10; the "Saving" sub-dimension consists of 4 items, namely items 11, 12, 13 and 14; and the "Reusability" sub-dimension consists of items 15, 16 and 17. The items belonging to the environmental awareness, saving and reusability sub-dimensions in the scale consist of five-point Likert-type expressions defined as strongly agree (5), agree (4), undecided (3), disagree (2) and strongly disagree (1), with scores corresponding to the values in parentheses. However, since the sub-dimension of non-need purchase has a negative structure, it is defined as strongly agree (1), agree (2), undecided (3), disagree (4) and strongly disagree (5) and consists of five-point Likert-type statements whose scores correspond to the values in parentheses.

2.2.2. Environmental Literacy Scale

"Environmental Literacy Scale for Adults (ELSA)" developed by Atabek-Yiğit *et al.* (2014) was used. All items in the scale consist of five-point Likert-type statements defined as strongly agree (5), agree (4), undecided (3), disagree (2) and strongly disagree (1), with scores corresponding to the values in parentheses. A high environmental literacy scale score indicates that the individual has a high level of environmental literacy, while a low score indicates a low level of environmental literacy. In the development phase of the scale, data were collected from 144 adults aged between 18 and 56. The scale consists of 20 items and has three main dimensions: Environmental awareness, environmental concern and environmental awareness. The Cronbach Alpha value for the whole scale was 0.881, 0.807 for the first dimension, 0.765 for the second dimension and 0.715 for the last dimension.

2.3. Data Analysis

The measurement tools used in the research are the sustainable consumption behaviors scale and the environmental literacy scale. The data obtained from the scales were examined one by one and transferred to the SPSS (Statistical Package for the Social

Science) package program. First, the normality of the data distribution was examined and the necessary test techniques were determined. The results of the analyzes conducted to examine the normality of the data distribution are given in Table 2.

Table 2: Normality Testing of the Data Used in the Study

Data	Kurtosis Value	Skewness Value
Environmental Literacy	-.37	-.12
Environmental Consciousness	-1.0	.80
Environmental Anxiety	-.33	-.02
Environmental Awareness	-.13	-.41
Sustainable Consumption Behavior	-.18	-.10
Environmental Awareness	-.49	.28
Non-Necessary Purchases	-.15	-1.00
Reusability	-.46	.22
Savings	-.53	-.11

Tabachnick and Fidell (2013) stated that the kurtosis and skewness values should be between +1.5 and -1.5 for the data to have a normal distribution.

The arithmetic mean ranges taken as basis in the evaluation of the research findings are 1.00-1.80; "Very Low", 1.81-2.60; "Low", 2.61-3.40; "Medium", 3.41- 4.20; "High" and 4.21-5.00; "Very High". However, arithmetic mean ranges of 1.00-1.80; "Very High", 1.81-2.60; "High", 2.61-3.40; "Medium", 3.41- 4.20; "Low" and 4.21-5.00; "Very Low" were adopted by reverse coding in the scoring of the non-need purchase sub-dimension.

3. Findings

3.1 Levels of Sustainable Consumption Behaviors (Environmental Awareness, Non-Necessity Purchasing, Saving, Reusability) of Prospective Teachers

Descriptive Statistics of Prospective Teachers' Sustainable Consumption Behavior (Environmental Awareness, Reusability, Saving, Purchasing out of Need) Levels are presented in Table 3.

Table 3: Descriptive Statistics of Prospective Teachers' Sustainable Consumption Behavior Levels

Scales	N	Minimum	Maximum	$\overline{X}$	S
Sustainable Consumption	144	2.06	4.82	3.72	.55
Environmental Awareness	144	1.00	5.00	3.57	.80
Non-Necessary Purchases	144	1.60	5.00	3.56	.86
Savings	144	1.33	5.00	3.73	.71
Reusability	144	1.75	5.00	4.11	.73

***:p<0.01 - *:p<0.05*

According to Table 3, when the scores obtained by the pre-service teachers from the scales are examined; the lowest 2,06, the highest 4,82, the standard deviation 0,55, and the

average of the scores is 3,72 for the Sustainable Consumption Behaviors scale. The lowest 1.00, the highest 5.00, the standard deviation 0.80, and the average of the scores is 3.57 for the Environmental Sensitivity sub-dimension. The lowest 1.60, the highest 5.00, the standard deviation 0.86, and the mean of the scores is 3.56. The lowest score of the Savings sub-dimension is 1.33, the highest is 5.00, the standard deviation is 0.71 and the mean score is 3.73. The lowest score for the Reusability sub-dimension is 1.75, the highest is 5.00, the standard deviation is 0.73 and the mean score is 4.11. Considering the mean scores of pre-service teachers, it was seen that their Sustainable Consumption Behaviors and their sub-dimensions of environmental awareness, saving and reusability levels were high, while their non-essential purchases were low.

Table 4: Levels of Sustainable Consumption Behavior (Environmental Awareness, Reusability, Saving, Non-essential Purchasing) of Pre-service Teachers According to Their Mothers' Education Level

Education Status of Mothers		**Sustainable Consumption**		**Environmental Awareness**		**Reusability**		**Saving**		**Non-essential Purchasing**	
	n	$\overline{X}$	**S**	$\overline{X}$	**S**	$\overline{X}$	**S**	$\overline{X}$	**S**	$\overline{X}$	**S**
Illiterate	15	3.67	.53	3.49	.85	3.75	.74	4.05	.86	3.49	.82
Primary School Graduate	69	3.72	.56	3.47	.83	3.62	.76	4.10	.73	3.71	.83
Secondary School Graduate	30	3.61	.52	3.51	.60	3.78	.57	4.02	.75	3.28	.81
Higher Education Graduate	25	3.75	.51	3.76	.73	3.81	.67	4.12	.64	3.40	.93
Postgraduate Graduate	5	4.47	.22	4.44	1.14	4.60	.36	4.95	.11	4.04	.91
Total	144	3.72	.55	3.57	.80	3.73	.71	4.11	.73	3.56	.86

Table 4 shows the average scores of pre-service teachers according to their mothers' education level. It was seen that the highest mean scores of the sustainable consumption behaviors of pre-service teachers were graduate school graduates ($\overline{X}$=4,47) and the lowest mean scores were secondary school graduates ($\overline{X}$ =3,61). According to the results of the mean scores of pre-service teachers' environmental sensitivity sub-dimension, it was seen that the mothers of the students with the highest environmental sensitivity were also postgraduate graduates ($\overline{X}$=4.44) and the lowest ones were illiterate ($\overline{X}$ =3.49). As a result of the mean scores of pre-service teachers from the reusability sub-dimension, it was seen that the mothers of the students with the highest reusability were also graduate graduates ($\overline{X}$ =4.60) and the lowest ones were primary school graduates ($\overline{X}$=3.62). As a result of the mean scores of pre-service teachers on the savings sub-dimension, it was seen that the student mothers who had the highest savings were also graduate graduates ($\overline{X}$=4.95) and the lowest were secondary school graduates ($\overline{X}$=4.02). In addition, as a

result of the mean scores obtained from the sub-dimension of unnecessary purchases, which was coded as the reverse item, it was seen that the student mothers who made the least unnecessary purchases were graduate graduates ($\overline{X}$ =4,04) and the student mothers who made the most unnecessary purchases were middle school graduates ($\overline{X}$=3,28).

Table 5: Levels of Sustainable Consumption Behavior (Environmental Awareness, Reusability, Saving, Non-essential Purchasing) of Prospective Teachers According to Their Fathers' Education Level

Education Status of Fathers		Sustainable Consumption		Environmental Awareness		Reusability		Saving		Non-essential Purchasing	
	n	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S
Illiterate	3	3.84	.78	3.87	.99	4.22	.69	3.91	.95	3.53	.99
Primary School Graduate	42	3.79	.60	3.54	.97	3.62	.74	4.15	.76	3.86	.78
Secondary School Graduate	54	3.64	.54	3.48	.74	3.70	.80	4.09	.77	3.41	.85
Higher Education Graduate	40	3.68	.47	3.57	.64	3.81	.55	4.05	.65	3.42	.89
Postgraduate Graduate	5	4.23	.35	4.44	.67	4.13	.50	4.60	.76	3.80	.76
Total	144	3.72	.55	3.57	.80	3.73	.71	4.11	.73	3.56	.86

Table 5. shows the average scores of pre-service teachers according to their fathers' education level. It was seen that the fathers of the pre-service teachers with the highest mean scores for sustainable consumption behaviors were postgraduate graduates ($\overline{X}$ =4,23) and the fathers with the lowest mean scores were middle school graduates ($\overline{X}$ =3,64). According to the results of the mean scores of pre-service teachers' environmental sensitivity sub-dimension, it was seen that the fathers of the students with the highest environmental sensitivity were also postgraduate graduates ($\overline{X}$ =4.44) and the lowest ones were middle school graduates ($\overline{X}$=3.48).

3.2 Investigation of Sustainable Consumption Behaviors of Prospective Teachers According to Various Variables

Unrelated Samples t-Test was conducted to understand whether the sustainable consumption behaviors of pre-service teachers differ according to their gender. The findings of the t-Test are given in Table 7.

Table 6: T-Test Results of Prospective Teachers' Sustainable Consumption Behaviors in Terms of Gender

	Gender	n	$\overline{X}$	S	Sd	t	p
Sustainable Consumption Behavior	Female	103	3.68	.56	142	1.40	.18
	Male	41	3.82	.50			
Environmental Awareness	Female	103	3.57	.81	142	.54	.96
	Male	41	3.56	.80			
Reusability	Female	103	3.71	.71	142	.49	.62
	Male	41	3.78	.73			
Savings	Female	103	4.08	.74	142	.67	.50
	Male	41	4.18	.72			
Non-necessary Purchases	Female	103	3.46	.88	142	2.30	.01
	Male	41	3.81	.73			

As seen in Table 6, sustainable consumption behaviors of pre-service teachers do not show a significant difference according to gender t(142)=1,40, p>.0,05. The sustainable consumption behaviors of female pre-service teachers ($\overline{X}$=3,68) are more positive than the sustainable consumption behaviors of male pre-service teachers ($\overline{X}$=3,68). The environmental sensitivities of pre-service teachers do not show a significant difference according to gender t(142)=0.54, p>0.05. Female pre-service teachers' environmental awareness ($\overline{X}$=3,57) is more positive than male pre-service teachers' environmental awareness ($\overline{X}$=3,56). The scores of pre-service teachers on the reusability sub-dimension do not show a significant difference according to gender t(142)=0,49, p>0,05.

3.3 Levels of Environmental Literacy Dimensions (Environmental Consciousness, Environmental Anxiety and Environmental Awareness) of Prospective Teachers

Table 7: Descriptive Statistics of Prospective Teachers' Environmental Levels

Scale	N	Minimum	Maximum	$\overline{X}$	S
Environmental Literacy	144	3.05	5.00	4.29	.40
Environmental Consciousness	144	2.88	5.00	4.50	.44
Environmental Anxiety	144	3.00	5.00	4.33	.43
Environmental Awareness	144	2.00	5.00	3.86	.62

Table 7. shows the scores of pre-service teachers from the scales. The lowest score of the environmental literacy scale is 3,05, the highest is 5,00, the standard deviation is 0,40, and the average of the scores is 4,29. The lowest 2,88, the highest 5,00, the standard deviation 0,44, and the average of the scores is 4,50 for the environmental awareness sub-dimension. The lowest 3,00, the highest 5,00, the standard deviation 0,43, and the mean of the scores belonging to the environmental concern sub-dimension is 4,33. The lowest 2,00, the highest 5,00, the standard deviation 0,62, and the mean of the scores of the environmental awareness sub-dimension is 3,86. Considering the mean scores of the pre-service teachers, it was seen that their environmental literacy, environmental awareness

and environmental concerns were very high, while their environmental awareness was high.

3.4 Investigation of Prospective Teachers' Environmental Literacy According to Various Variables

Unrelated Samples t-Test was conducted to understand whether the environmental literacy of pre-service teachers differed according to their gender. The findings of the t-Test are given in Table 8.

Table 8: T-Test Results for the Gender of Prospective Teachers' Environmental Literacy

	Gender	**N**	$\overline{X}$	**S**	**sd**	**T**	**P**
Environmental Literacy	Female	103	4.32	.40	142	1.60	.11
	Male	41	4.21	.39			
Environmental Consciousness	Female	103	4.52	.45	142	.90	.37
	Male	41	4.45	.41			
Environmental Anxiety	Female	103	4.37	.42	142	1.98	.05
	Male	41	4.22	.43			
Environmental Awareness	Female	103	3.89	.61	142	1.16	.25
	Male	41	3.76	.66			

As seen in Table 8, the environmental literacy of pre-service teachers does not show a significant difference according to gender t(142)=1,60, p>.0,05. The environmental literacy of female pre-service teachers ($\overline{X}$=4,32) is more positive than the environmental literacy of male pre-service teachers ($\overline{X}$=4,21). The environmental awareness of pre-service teachers does not show a significant difference according to gender t(142)=0.90, p>0.05. Male pre-service teachers' environmental awareness ($\overline{X}$=4,52) is more positive than female pre-service teachers' environmental literacy ($\overline{X}$=4,45). The environmental concerns of pre-service teachers do not show a significant difference according to gender t(142)=1,98, p>0,05. Female pre-service teachers' environmental concerns ($\overline{X}$=4,37) are more positive than male pre-service teachers' environmental literacy ($\overline{X}$=4,22). In addition, pre-service teachers' environmental awareness does not show a significant difference according to gender t(142)=1,16, p>0,05. The environmental awareness of female pre-service teachers ($\overline{X}$=3,89) is more positive than the environmental awareness of male pre-service teachers ($\overline{X}$=3,76).

3.5 Investigation of the Relationship Between Environmental Literacy Levels and Sustainable Consumption Behaviors of Prospective Teachers

The relationship between pre-service teachers' environmental literacy levels and sustainable consumption behaviors was examined and given in Table 9.

Table 9: Correlation Results of Prospective Teachers' Environmental Literacy Levels and Sustainable Consumption Behavior Scores

Variables	**Sustainable Consumption Behavior**	**Environmental Literacy**
Environmental Literacy	-	.58**
Sustainable Consumption Behavior	.58**	-

As seen in Table 10, there is a moderate, positive and significant relationship between pre-service teachers' environmental literacy levels and sustainable consumption behaviors. ($r=0.58$, $p<0.01$). Based on this finding, it can be said that as the level of environmental literacy increases, the sustainable consumption behaviors of pre-service teachers also increase. Considering the coefficient of determination ($r2=0,34$), it can be said that 34% of pre-service teachers' environmental literacy is caused by sustainable consumption behaviors.

4. Discussion and Recommendations

Today, there is a very rapid process of change. One of the biggest challenges in this process is the lack of resources and not knowing how to use these resources efficiently. As consumers, individuals need to protect these resources, use them as much as they need and use them consciously. This requires providing consumers with the knowledge and skills they need to utilize products and services and meet their needs. Knowledge and skills are constantly changing and are not static. Education plays an important role in meeting new needs. Thanks to the supporting function of education in the process of change, existing values can be preserved and changes can be adapted more easily. In this context, the importance of consumer education cannot be ignored. Sustainable consumer education should be taught by educators from all walks of life and at all levels of education (Hayta, 2009). Environmental problems are the most important and biggest problem affecting the whole world today. Teachers have a great responsibility in environmental education. Because if teachers are educated to be responsible, sensitive and able to cope with the environment, the generation they raise will have the same awareness and be environmentally sensitive individuals. In this context, it is important to determine the environmental literacy levels of pre-service teachers and to equip them with the necessary knowledge and equipment to provide students with knowledge, awareness and proactive behaviors related to environmental education. Environmental education given to children from an early age is an important factor in increasing children's awareness, attitude and sensitivity towards the environment. In fact, classroom teachers have a great role in environmental education. In a country like Turkey, where population growth and migration is intense, production and consumption are high. In parallel with this, the consumption of natural resources is also increasing. It is also important to educate prospective teachers about sustainable consumer behaviors in order for them to become environmentally sensitive citizens and to achieve sustainable development goals (Teksöz, Şahin, 2010). For this reason, the relationship between

sustainable consumption and environmental literacy of prospective primary school teachers was examined.

In examining the relationship between sustainable consumption and its dimensions, a strong relationship was found between environmental awareness and saving sub-items, and a moderate relationship was found between unnecessary purchasing and reuse sub-items. In addition, it was determined that there was a moderate relationship between environmental awareness and unnecessary purchasing and saving sub-items, and a positive relationship between reusability sub-items and saving and unnecessary purchasing sub-items, but there was a significant relationship between environmental awareness and reusability sub-items.

A survey of 1600 households in the UK found that some people adopt sustainable consumption behavior as a lifestyle, but many consumers take these aspects into account only occasionally or not at all (Gilg *et al.*, 2005). A similar study conducted among young Finnish high-income consumers found that although they were aware of sustainable consumption behaviors, they did not show it in their behavior and engaged in uncontrolled consumption behaviors in their daily lives (Gilg *et al.*, 2005). In the study conducted by Karalar and Kiracı (2010), it was determined that the frequency of sustainable consumption behavior was at a medium level. A similar result was found in the study conducted by Kiracı (2009).

In the study, it was determined that there was no significant difference between the sustainable consumption behavior and sub-dimensions of prospective primary school teachers according to gender, but there was a moderate significant difference between men and women in terms of non-essential purchases. Şener and Hazer (2007) found that women were more cautious in actions directly related to the use of financial resources and gave less importance to actions related to environmental protection. Karalar and Kiracı (2010) reached a similar conclusion. It was found that female teachers exhibited more sustainable consumption behavior than male teachers.

In a study conducted by Luchs and Mooradian (2012) with 9,092 people, it was determined that gender affects sustainable consumer behavior, so women are more likely to be concerned about the consequences of their consumption and act according to these concerns than men.

Diksaç (2019) concluded that male students are more likely to save water and throw garbage in the trash than female students. Karaca (2018) also found a similar result. It was determined that males exhibit more sustainable consumption behavior than females. In the study, it was determined that there was no significant difference between the items of environmental sensitivity, non-essential purchasing, sustainable consumption and reusability items according to the educational status of the mothers of the classroom teacher candidates. In a different study conducted by Diksaç (2019), it was concluded that the level of awareness decreased as the level of education increased, and if it is assumed that housewives are more concerned with the environment, housewives are expected to be more conscious, sensitive and protective towards the environment, but

this result was not reached, but there may be a relationship between ecological identity and variables such as race and ethnicity.

In the study, it was determined that there was no significant difference in the sub-dimensions such as sustainable consumption, environmental sensitivity, reusability, necessity purchasing and saving according to the education level of the fathers of the prospective primary school teachers. Özgül (2008) reached a similar conclusion in his study. It was concluded that sustainable consumption behavior did not differ according to education.

It was found that pre-service primary school teachers' environmental literacy, environmental awareness and interest in the environment are extremely high, which indicates that their environmental awareness is high. It was determined that there was a strong relationship between environmental literacy and environmental awareness, environmental anxiety and environmental awareness sub-dimensions of pre-service teachers and a moderate relationship between environmental awareness and environmental anxiety. In addition, Ertürk (2017) also found that students' environmental awareness levels were high.

In the study conducted by Teksöz, Şahin (2010), it was concluded that the validity level of environmental knowledge of pre-service teachers was at a medium level. According to the results of this study, it was determined that the environmental education received by pre-service teachers was insufficient.

In the study, the sustainable consumption behavior of prospective primary school teachers was examined according to various variables and it was investigated whether the sustainable consumption behavior of prospective primary school teachers differed statistically according to gender, mother's education level, and father's education level.

In the study, a positive relationship was found between sustainable consumption behaviors and environmental awareness, non-essential purchasing, saving and reusability levels. A strong relationship was found between pre-service teachers' sustainable consumption behaviors and environmental awareness and saving sub-dimensions, and a moderate relationship was found between non-essential purchasing and reusability sub-dimensions. In the study, there is a significant difference between the sustainable consumption behaviors of prospective primary school teachers according to their mothers' education level.

There is no significant difference between sustainable consumption and its sub-dimensions according to the education level of the fathers of the prospective primary school teachers. There is no significant difference between the sustainable consumption behavior of prospective teachers according to gender. The fact that there was a significant difference in the educational status of the mothers led to the conclusion that the mother's acquisition of this behavior is also effective in the education given to children in the acquisition of sustainable consumption behavior.

In the study, the environmental literacy of pre-service primary school teachers was examined according to various variables and it was investigated whether the environmental literacy perceptions of pre-service primary school teachers differ

statistically according to gender, grade level, environmental education level of parents. As a result of the research, a strong relationship was found between the environmental literacy of pre-service primary school teachers and the sub-dimensions of environmental literacy and environmental awareness, environmental awareness and environmental anxiety, and a moderate relationship was found between the environmental awareness sub-dimension and environmental anxiety sub-dimension. There is no significant difference between pre-service teachers' environmental literacy according to gender and environmental literacy according to the educational status of their mothers and fathers. It is seen that there is a moderate, positive and significant relationship between pre-service teachers' environmental literacy levels and sustainable consumption behaviors.

5. Suggestions

The research was conducted in line with the results obtained from the classroom teaching department of a university. Research can be conducted with pre-service teachers studying in different departments of universities. In the study, only quantitative data were analyzed. For more detailed research, both quantitative and qualitative data can be used to conduct research that will reveal in-depth results. Variables such as whether or not to take environmental literacy course, social economic level, geographical conditions can be added to the scales used in the research.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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