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THE EFFECT OF LOVE OF NATURE AND ENVIRONMENTAL CONCERN ON GREEN PURCHASING BEHAVIOUR*

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Abstract

Green consumer behaviours play a significant role in the sustainability of natural resources. In this regard, pre-service science teachers are a key demographic to focus on, in addition to being young consumers themselves. Becausethey will introduce their future students to pro-environmental behaviour. Therefore, this study aimed to explore the effect of love of nature (with the following sub-dimensions: passion for nature (PN), intimacy with nature (IN), and commitment to nature (CN)) and environmental concern (EnC) on green purchasing behaviour (GPB), using a multidisciplinary perspective. In addition to this, the effect of love of nature on EnC was investigated.,. The participants of this study were 228 pre-service science teachers enrolled in freshman, sophomore, junior, and senior years. Data was collected using a questionnaire form with four parts which were demographic form, Love of Nature, Environmental Concern and Green Purchasing Behaviour Scales. Cronbach's alpha and correlation coefficients and descriptive statistics were calculated and simple and multiple linear regression analysis and confirmatory factor analysises were also performed using SPSS 24 and MPLUS8 programs. Based on the analyses, it was found that IN had positive significant effects on EnC and GPB, CN had positive significant effects on EnC, and EnC had positive significant effects on GPB.

Keywords: Environmental Concern, Environmental Education, Green Purchasing Behaviour, Love of Nature

JEL Codes: M10, M30, I20

DOĞA SEVGİSİ VE ÇEVRESEL KAYGININ YEŞİL SATIN ALMA DAVRANIŞINA ETKİSİ

Öz

Yeşil tüketici davranışları, doğal kaynakların sürdürülebilirliğinde önemli bir rol oynamaktadır. Bu bağlamda, fen bilimleri öğretmen adayları odaklanılması gereken önemli bir demografik gruptur. Çünkü fen bilimleri öğretmen adayları genç tüketiciler olmalarının yanı sıra gelecekte öğrencilerine çevre yanlısı davranışları kazandırabileceklerdir. Bu nedenle, bu çalışmada multidisipliner bir bakış açısıyla doğa sevgisi (doğa tutkusu (DT), doğayla yakınlık (DY) ve doğaya bağlılık (DB) alt boyutları ile) ve çevresel kaygının (ÇK) yeşil satın alma davranışı (YSAD) üzerindeki etkisinin incelenmesi amaçlanmıştır. Ayrıcadoğa sevgisinin çevresel kaygı üzerindeki etkisi incelenmiştir. Çalışmanın katılımcılarını birinci, ikinci, üçüncü ve dördüncü sınıflara kayıtlı 228 fen bilimleri öğretmen adayı oluşturmaktadır. Veriler demografik form, Doğa Sevgisi, Çevresel Kaygı ve Yeşil Satın Alma Davranışı ölçekleri olmak üzere dört kısımdan oluşan bir anketle toplanmıştır. SPSS 24 ve MPLUS8 programları kullanılarak Cronbach alfa ve korelasyon katsayıları ile tanımlayıcı istatistikler hesaplanmış ve basit ve çoklu doğrusal regresyon ve doğrulayıcı faktör analizleri yapılmıştır. Analizlere göre DY'nin ÇK ve YSAD üzerinde, DB'in ÇK üzerinde ve ÇK'nin YSAD üzerinde pozitif anlamlı etkisinin olduğu bulunmuştur.

Anahtar Kelimeler: Çevre Eğitimi, Çevre Kaygısı, Doğa Sevgisi, Yeşil Satın Alma Davranışı

JEL Kodları: M10, M30, I20

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INTRODUCTION

As the world undergoes rapid development and the human population increases, urbanisation and industrialisation are accelerating to meet the needs of this increasing population. Increasing consumption activities have engendered an expansion in production and marketing activities, thereby increasing the pressure on the environment. Consequently, natural resources are being consumed uncontrollably, leading to irreversible environmental problems. Hence, environmental degradation has become a highly significant issue in contemporary times (Hojnik, Ruzzier and Manolova, 2020; Witek and Kuzniar, 2020), and taking measures to protect the environment has become a vital necessity. Accordingly, all United Nations (UN) member states approved the 2030 Agenda for Sustainable Development in 2015. This urgent call for action contains vital targets for the protection of natural resources; these are planned to be reached by 2030 and include 17 Sustainable Development Goals. In addition to these, UN provide some useful approaches and tools to introduce of sustainable development perspectives (Larrondo Ureta, Meso Ayerdi, Peña Fernández, Marauri Castillo and Pérez Dasilva, 2022). Furthermore, synchronously with these environmental movements, especially in the last decades, consumers have noticed their impact on the environment and reflected this in their purchasing behaviour. In essence, they use their power to help nature (Hameed, Hyder, Imran, and Shafiq, 2021). Increasing environmental concern (EnC) has directed consumers to green products (Kanchanapibul, Lacka, Wang, and Chan, 2014), and consumers have begun to prefer these environmentally friendly, recyclable products (Türkmen, Sarıkaya, and Saygılı, 2013). As a result of these purchasing behaviours, which force businesses to be prudent with nature, an environmentally friendly approach has started to become widespread in the various sectors (Bozpolat, 2021). Customers with EnC prefer environmentally friendly products even if they have higher prices (Tseng and Hung, 2013). This situation requires both industry representatives and researchers to focus on consumers' purchasing behaviour regarding environmentally sustainable products.

Green purchasing behaviour

Consumers have started to move away from unsustainable lifestyles and turn to green products with sustainable and environmentally friendly features because of the degradation of natural life, the depletion of natural resources locally and globally, and the increase in waste. Green products are products whose negative environmental effects are minimised in all production and consumption processes (Yıldız and Kütahyalı, 2021); they have superior properties, such as recyclability, biodegradability, low emissions, and energy efficiency, compared to non-green products (Sharma and Fropon, 2019). Thus, consumers who buy these products fulfil their environmental responsibilities without decreasing the satisfactory properties of

the product (de Medeiros and Ribeiro, 2017). Consequently, the demand for green products is increasing, and this is shaping the market. As environmental consciousness is no longer an ideology of action, it has turned into market competition, which affects consumer behaviour and also uses the power of consumer demand in the environmental arena (Siringi, 2012). This has led to the spread of green purchasing behaviour (GPB), which is a pro-environmental behaviour.

GPB, in its most basic form, is the conversion of the intention to buy environmentally friendly products to behaviour/action (Marvi, Minbashrazgah, Zarei, and Baghini, 2020). Green purchasing includes ecologically conscious behaviours in its consumption dimension (Wu and Zu, 2021). In this context, purchasing products that consume less energy, are recyclable, have less environmental impact, and are environmentally friendly is considered GPB. Although GPB that overlaps with sustainable consumption underlines consumer behaviour reinforced by environmental awareness, it also encompasses broader values such as social development and justice (Wu and Zu, 2021).

Consumers with GPB are those who buy and use green products; in essence, they help protect the environment for future generations (Minbashrazgah, Maleki and Torabi, 2017). These consumers are more satisfied by purchasing environmentally friendly products (Kement, Bükey, Başar, and Göral, 2021), and they try to raise awareness with their GPB (Sarumathi, 2014). Their GPB is affected by internal and external factors (Nekmahmud and Fekete-Farkas, 2020): The external factors comprise product-related features, such as price and quality, while the internal factors include possessing an awareness of environmental problems, knowing about the effects of products on the environment and wanting to reduce this effect, and adopting a zero-waste philosophy. Love of nature and EnC are some of these internal factors and they are basic concepts that should be addressed when explaining consumers' GPB.

Two important concepts related to pro-environmental behaviours: environmental concern and love of nature

Love is an intrinsic part of human beings. The recipient of this love can be virtually anything, including nature. Nature is included in this list, and love of nature is a special kind of love. Aiming to love, protect, and sustain all living and non-living beings in nature with a love that rises above one's self-interest is a noble endeavour. Love of nature refers to the feeling of being emotionally connected to nature, and people from all walks of society exhibit this. Thus, when nature and society are considered to be intertwined, several issues related to nature can be understood (Pohl and Helbrecht, 2022).

Love of nature can be divided into three dimensions: passion for nature (PN), intimacy with nature (IN), and commitment to nature (CN) (Dong, Liu, Li, Yang, Liang and Deng, 2020). These dimensions are

also reflected in consumers' behaviour. Consumers who exhibit PN, IN, and CN aim to ensure that the products they use do not harm nature. This provides a way for people to create a consumer identity for themselves. When a person likes something, they tend to use it for longer, more intensely, and in a wider scope (Jackson, 2005). Therefore, individuals who love nature protect natural resources and use them efficiently so that these resources can be used by future generations as well. Passion facilitates consumer adherence to product (Batra, Ahuvia and Bagozzi, 2012); thus, PN motivates people to use green products – that is, to increase their GPB.

Environmental degradation leads people to learn more about protecting the environment. Environmentally conscious people are also more concerned about the future of the world. It is a predicted behaviour for individuals with environmental sustainability awareness to have EnC (Bozpolat, 2021). This also affects their consumption habits.

EnC is an important predictive variable in the purchase of green products (Jaiswal and Kant, 2018). Increasing EnC increases individuals' demand for environmentally friendly products (Kanchanapibul, Lacka, Wang, and Chan, 2014). This is significantly reflected in the GPB of consumers (Tan, Ojo and Thurasamy, 2019). EnC instils in consumers a strong desire to protect nature, and they research ways to do this; owing to this increasing awareness, they turn to more environmentally friendly products. Consequently, they can respond to environmental policies more (Foumani, Gholipour Soleimani and Rezaee Kelidbari, 2022). Furthermore, such consumers' EnC leads other consumers as well as businesses to act in an environmentally friendly manner (Bozpolat, 2021). Therefore, EnC affects, among others, green increasing purchasing behaviours, environmental awareness, and the number of environmentally friendly businesses.

Significance and aim of the research

In the present study, the effect of love of nature and EnC on GPB and the effect of love of nature on EnC were examined. The existing environmental problems force people to adopt precautions against environmental degradation, which increases the demand for green products. However, despite consumers' intention to buy these green products, few consumers actually buy them (Hojnik et al., 2020), and the market share of environmentally friendly products is less than 4% worldwide (Soomro, Mirani, Sajid Ali and Marvi, 2020). The spread of GPB is highly important in terms of the sustainability of natural resources. Therefore, identifying the factors that affect consumers' GPB is of vital importance in determining policies that will increase these behaviours. This is the first reason for conducting this research.

The existing studies in the literature have investigated the effect of love of nature (Dong et al., 2020; Wu and Zhu, 2021) and ecological/environmental concerns (Bozpolat, 2021; Koyuncu, 2020; Lee, 2008;

Özalp, 2020; Shyan, 2010) on green consumer behaviour / GPB with the participation of various consumer groups, and it was identified that the mentioned variables affected green consumer behaviour / GPB. In the present study, the focus is on the GPB of pre-service science teachers. Teacher candidates are a special consumer group for two reasons: First, teacher candidates are young generation consumers. Young generation consumers, who are different from other generation consumers, tend to acquire comprehensive information about a product before purchasing it, support their lives with technology, and prefer to be permanent customers of the green market because they are concerned about the future (Kanchanapibul, Lacka, Wang, and Chan, 2014). Younger generations access information more easily via technology. Thus, owing to their knowledge and environmental education, they are more motivated to buy sustainable products (Prieto-Sandoval, Torres-Guevara, and Garcia-Diaz, 2022). However, there is an inconsistency between consumers' GPB and green purchase intentions (Foumani, Gholipour Soleimani and Rezaee Kelidbari, 2022): Not every purchase intention results in a purchase. Thus, it is important to investigate the GPB of the younger generations, which will shape our future, and the factors affecting these. The present study provides data to address this issue.

The second important factor that makes pre-service teachers to be special consumers is that especially pre-service science teachers will provide their future students with knowledge and awareness about environmental protection. In Türkiye, in science courses (Grades 3–8), environmental education issues – such as environmental pollution, efficient and economical use of resources, sustainable development, recycling, recovery, reuse, waste separation and reduction, and being a conscious consumer – are presented comprehensively (Ministry of National Education, 2018). The success of environmental education depends on teachers (Gül and Özay Köse, 2015). Pre-service science teachers will take an active role in effective environmental education in the future. Furthermore, they will also set an example for students and their parents with their GPB. In childhood, in particular, promoting a relationship with nature and fostering the love of nature are highly important, and these traits engender the formation of environmentally friendly behaviours (Ersoy-Quadir and Temiz, 2017). Thus, determining the GPB of pre-service science teachers and the factors affecting it will also be beneficial in developing teacher training policies that will ensure that teacher candidates are raised as conscious consumers possessing environmental responsibility. This is the second reason for conducting this study.

Stimulation and prediction of pro-environmental behaviors like GPB are essential. EnC is one of the important variables in customers' GPB, because people tend to purchase green products more with increasing their EnCs (Jaiswal and Kant, 2018; Kanchanapibul, Lacka, Wang, and Chan, 2014). Therefore,

determining the factors affecting EnC is a critical requirement. For this reason, the effect of love of nature on EnC was also investigated within the scope of the study.

Considering the reasons presented above, this study aimed to explore the effect of love of nature and EnC on GPB, in addition to the effect of love of nature on EnC. The following research questions were investigated:

1. Does love of nature have a significant effect on EnC?

2. Does love of nature have a significant effect on GPB?

3. Does EnC have a significant effect on GPB?

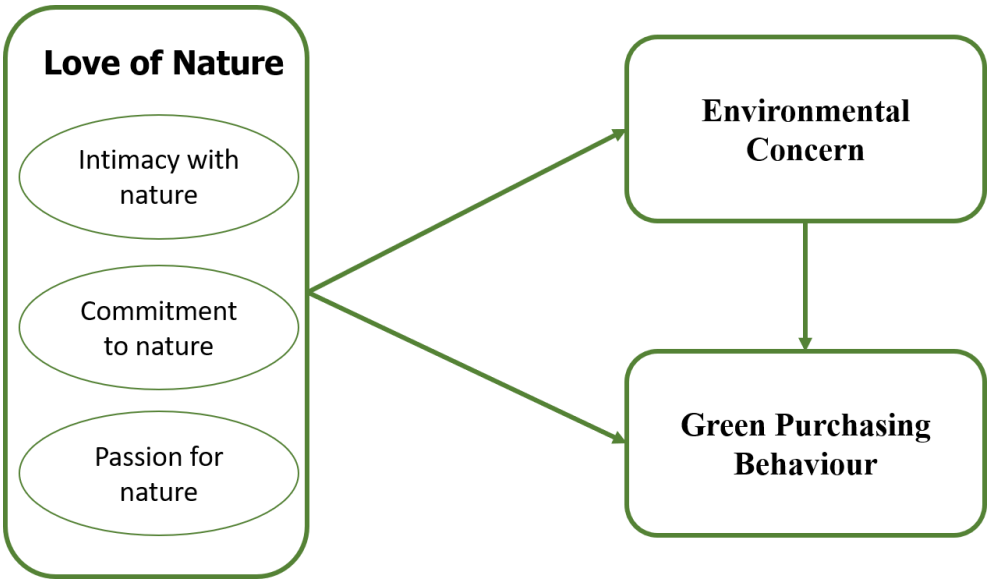
METHODS

This section presents information about the research model, hypotheses, participants, and data collection tool.

Research model and hypotheses

This cross-sectional quantitative research study was structured on the basis of descriptive and hypothesis development strategies. Thus, it aimed to make inferences and explore the possible relationships between different variables based on a phenomenon (Cooper and Schindler, 2016; Malhotra, 2019), and the data were collected and summarised statistically (Hair, Babin, Money and Samouel, 2005). In this study, love of nature was divided into three dimensions, namely PN, IN, and CN, according to Kals, Schumacher and Montada, 1999), Lastovicka and Sirianni (2011), and Dong et al. (2020). EnC (Haws, Winterich and Naylor, 2014; Özmerdivanlı, 2022) and GPB (Lee, 2008; Öğüt, 2021) were evaluated as unidimensional. Considering these previous studies, a research model was developed; it is shown in Figure 1.

Figure 1: Model of the research



Based on the research model in Figure 1, the following hypotheses were formulated:

H1a: IN has a significant effect on EnC.

H1b: PN has a significant effect on EnC.

H1c: CN has a significant effect on EnC.

H2: EnC has a significant effect on GPB.

H3a: PN has a significant effect on GPB.

H3b: IN has a significant effect on GPB.

H3c: CN has a significant effect on GPB.

Participants

The participants of this study were 228 prospective science teachers enrolled in freshman, sophomore, junior, and senior years at two different universities in the north of Türkiye. The demographic features of the pre-service science teachers, which were obtained from the first part of the data collection tool, and the distribution of these characteristics are presented in Table 1.

Table 1. Distributions of Features of the Participants

Variables	Groups	Frequency	Per cent
Gender	Female	180	78.9
	Male	48	21.1
	Total	228	100.0
Average Monthly Income	5500 TL and below	168	73.7
	5501-8500 TL	21	9.2
	8501-11500 TL	16	7.0
	11501 TL and above	23	10.1
	Total	228	100.0
University	University-1	131	57.5
	University-2	97	42.5
	Total	228	100.0
Working status	Working	31	13.6
	Not working	197	86.4
	Total	228	100.0
*TL: Turkish Liras			

The sample was determined using the convenience sampling method. Ethics committee approval detailed in the acknowledgement section was obtained before the research. The participants took part in the research voluntarily.

Ethical statements

Before the data collection, researchers applied to the ethical committee for approval and Kırklareli University Scientific Research and Publication Ethics Committee approval was obtained for this study at the meeting of Kırklareli University Ethics Committee dated 17.02.2023. In addition to this, participants of the research were informed about the content of the research, and an informed consent form was presented to them to declare their voluntary participation.

Data collection tools and data analysis

To test the research hypotheses, a questionnaire form with four parts was used. The first part contained a number of questions aimed at identifying the demographic features of the participants. The second part had the Love of Nature Scale adapted by Dong et al. (2020) from Kals et al. (1999) and Lastovicka and

Sirianni (2011). This scale had three dimensions and 12 items: PN (4 items), IN (5 items), and CN (3 items). The third part contained the Environmental Concern Scale; this one-dimensional scale adopted by Özmerdivanlı (2022) from Haws et al. (2014) had six items. The final part had the Green Purchasing Behaviour Scale, comprising four items adopted by Öğüt (2021) from Lee (2008). Each scale was a 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree). Some example items were presented in Table 3.

The data were analysed using SPSS 24 and MPLUS8 programs. Based on these analyses, descriptive statistics, Cronbach's alpha coefficients, and correlation coefficients were calculated. Simple and multiple linear regression and confirmatory factor (CFA) analyses were also performed.

Furthermore, extreme value analysis was performed on the data before the analysis. Seven participants were determined to be extreme values according to their standardised z scores (based on the range of +3, -3) and were excluded from the data (Şekercioğlu, Bökeoğlu, and Büyüköztürk, 2018). After the extreme values were eliminated, the analyses were continued with 221 participants. CFA was performed to examine the model factor construct validity of the scales. For examining the reliability of the scales, Cronbach's alpha coefficients and CR values were calculated and interpreted. Correlation coefficients were calculated to examine the relationships between the scores obtained from the scales, and simple and multiple linear regression analyses were performed to examine the effects of the scores obtained from the scales.

RESULTS

Validity and reliability of the scales

The information on the fit index values obtained as a result of the CFA for the construct validity of the Love of Nature Scale, the Environmental Concern Scale, and the Green Purchasing Behaviour Scale is given in Table 2. $\chi 2/sd$, RMSEA, SRMR, TLI and CFI fit indices were reported in Table 2 as recommended by Brown (2015) and Mulaik, James, Alstine, Bennet, Lind and Stilwell (1989).

Table 2: CFA fit index values for scales

Model Fit İndex	Green Purchasing Behaviour Scale	Environmental Concern Scale	Love of Nature Scale	Model Fit Criteria
χ^2/sd	5.365/2	18.077/8	147.864/45	χ^2/sd<5 (Schermelleh-Engel & Moosbrugger.2003)
RMSEA	0.081	0.075	0.084	RMSEA<0.08 (Steiger. 2007)
SRMR	0.024	0.032	0.062	SRMR<0.08 (Brown, 2015)
TLI	0.951	0.944	0.861	TLI>0.90 (Tabachnick & Fidell, 2001)
CFI	0.984	0.970	0.905	CFI>0.90 (Tabachnick & Fidell, 2001)

As seen in Table 2, the model fit index values of the Green Purchasing Behaviour Scale, the Environmental Concern Scale, and the Love of Nature Scale complied with the acceptance criteria, and the item factor structures of the scales were confirmed by showing a good fit. The Cronbach's alpha internal consistency coefficients and CR values for all scales are presented in Table 3.

Table 3: The Cronbach Alpha internal consistency coefficients and CR values for all scales

Items of Scales	Factor	Cronbach Alfa	CR
Love of Nature Scale		0.892	0.925
Dimension 1. PN		0.784	0.839
I cannot imagine anything else I own making me as happy as nature was.	0.54		
2	0.64		
3	0.84		
4	0.63		
Dimension 2. IN		0.795	0.802
I know details about nature that are of little interest to most other people	0.42		
6	0.49		
7	0.70		
8	0.62		

9	0.68		
Dimension 3. CN		0.685	0.770
I would like to always keep in touch with nature.	0.85		
11	0.60		
12	0.46		
Environmental Concern Scale		0.840	0.898
It is important to me that the products I use do not harm the environment.	0.77		
2	0.70		
3	0.62		
4	0.65		
5	0.69		
6	0.66		
Green Purchasing Behaviour Scale		0.777	0.858
When purchasing a product, I look at the product ingredient label to see if it contains anything that harms the environment.	0.70		
2	0.66		
3	0.81		
4	0.58		

It can be seen in Table 3 that all scales and sub-dimensions of the Love of Nature Scale were reliable and valid (Karagöz, 2019). The discriminant table for all scales is also presented in Table 4.

Table 4: Discriminant Table

	Mean	**Std. Dev.**	**PN**	**IN**	**CN**	**EnC**	**GPB**
PN	14.213	2.963	.203				
IN	18.923	2.992	.660**	.123			
CN	12.371	2.011	.535**	.631**	.186		
EnC	24.118	3.393	.421**	.533**	.566**	.218	
Green Purchasing Behaviour Scale	14.167	3.044	.321**	.358**	.317**	.555**	.230

According to the results in Table 4, there was a moderately positive statistically significant relationship between EnC and all variables; GPB and PN, GPB and IN, GPB and CN; PN and IN, PN and CN; IN and CN ($p < 0.05$).

Results of the regression analysis

The multiple linear regression analysis performed to examine the effect of the Love of Nature Scale scores on the Green Purchasing Behaviour Scale scores are presented in Table 5 and Table 6.

Table 5: Summary of model and ANOVA results

	Sum of Squares	**df**	**R**	**R^2**	**F**	**sig**
Regression	305.954	3	0.150	0.138	12.771	.000
Residuals	1732.851	217				
Total	2038.805	220				

Based on the results in Table 5, the relationship between the independent variables and the dependent variable was determined to be at a low level ($R = 0.150$). The participants' PN, IN, and CN scores accounted for 13.8% of the variance in GPB scores. The results showed that the model established regarding the predictors of the participants' PN, IN, and CN scores was statistically significant ($F (3, 220) = 12.771$, $p < 0.05$) (Çokluk, Şekercioğlu, ve Büyüköztürk, 2012). The regression model is presented in Table 6.

Table 6: Regression model

Model	**Unstand. β**	***Std. Error***	**Stand. β**	**t**	**sig**	**r_{ikili}**	**$r_{kısmi}$**
Constant	6.208	1.331		4.663	.000		
PN	.126	.087	.123	1.442	.151	.321	.097
IN	.201	.094	.198	2.135	.034	.358	.143
CN	.191	.125	.126	1.530	.127	.317	.103

According to the standardised regression coefficient (β) in Table 6, when the effects of the independent variables on GPB were examined, it was found that only the IN score affected GPB.

The regression equation for predicting GPB according to the analysis results is given below:

$$GPB = 6.208 + 0.201\ IN$$

The results of the simple linear regression analysis conducted to identify the effect of the Environmental Concern Scale scores on the Green Purchasing Behaviour Scale scores are given in Table 7 and Table 8.

Table 7. Summary of model and ANOVA results

	Sum of Squares	**df**	**R**	**R^2**	**F**	**sig**
Regression	627.425	1	.555	.305	97.356	.000
Residuals	1411.380	219				
Total	2038.805	220				

As seen in Table 7, the relationship between the EcN and GPB was found to be at a moderate level (R = 0.555). The EnC scores of the participants accounted for 30.5% of the variance in the GPB scores. The model established regarding the predictors of the EnC scores of the participants for their GPB scores was determined to be statistically significant (F (1, 220) = 97,356, $p < 0.05$). The regression model is presented in Table 8.

Table 8. Regression model

Model	**Unstand. β**	***Std. Error***	**Stand. β**	**t**	**sig**
Constant	2.164	1.228		1.762	.050
EnC	.498	.050	.555	9.867	.000

The significance of the standardised regression coefficient (β) in Table 8 showed that the effect of EnC on GPB was statistically significant.

The regression equation for predicting GPB according to the analysis results is given below:

GPB = 2.164 + 0.498 EnC

The multiple linear regression analysis conducted to determine the effect of the Love of Nature Scale scores on the Environmental Concern Scale scores and its result are given in Table 9 and Table 10

Table 9: Summary of model and ANOVA results

	Sum of Squares	df	R	R^2	F	sig
Regression	944.814	3	.611	.373	43.033	.000
Residuals	1588.127	217				
Total	2532.941	220				

As seen in Table 9, the relationship between PN, IN, CN and EcN was found to be at a medium level (R = 0.611). The participants' PN, IN, and CN scores accounted for 37.3% of the variance in their EnC scores. Furthermore, the model established for the predictors of the EnC scores of the participants' PN, IN, and CN scores was found to be statistically significant (F (3, 220) = 43.033, p < 0.05).

Table 10: Regression model

Model	Unstand. β	Std. Error	Stand. β	t	sig	r_{ikili}	$r_{kısmi}$
Constant	9.849	1.274		7.728	.000		
PN	.050	.084	.044	.600	.549	.421	.041
IN	.304	.090	.268	3.367	.001	.533	.223
CN	.631	.119	.374	5.284	.000	.566	.338

According to the standardised regression coefficient (β) in Table 10, when the effects of the independent variables on the environment were examined, it was seen that the IN and CN scores affected EnC.

The regression equation for predicting EnC according to the analysis results is given below:

$$EnC = 9.849 + 0.304\ IN + 0.631\ CN$$

According to all the results, the test results of the hypotheses of the research are summarised following: H1a, H1c, H2, and H3b were accepted, and there were statistically significant effects; however, H1b, H3a, and H3c were rejected, and there were no statistically significant effects.

DISCUSSION

This study aimed to investigate the effect of love of nature and EnC on GPB as well as the effect of love of nature on EnC. The effect of love of nature was examined in terms of three sub-dimensions, namely CN, PN, and IN, as mentioned by Dong et al. (2020). The results indicated positive and significant relationships between CN, PN, IN, EnC, and GPB. It was determined that only IN affected GPB. These

results have highlighted that, as the level of IN increases, consumers may exhibit more GPB. Similarly, Dong et al. (2020) found that IN has significant positive effects on GPB as a dimension of sustainable consumer behaviour. Furthermore, Wu and Zu (2021) found that love of nature affects green consumer behaviour. PN and CN did not affect pre-service science teachers' GPB in this study, contrary to the results of Dong et al. (2020). PN and CN comprise a set of very strong relationships with nature. More contact and more concrete experiences are required to establish these relationships. In addition, pre-service science teachers are students, and their income is limited. The average monthly income of 73.7% of the participants was 5500 TL or below, which is quite low considering the cost of living in the participants' country of residence. Aksu (2019) identified that consumer thought that green products are hard-to-reach and expensive. Therefore, this study result, which differs from the literature, can be explained by the limited availability and high prices of green products.

The second important result of the current study is that EnC influenced the pre-service science teachers' GPB. Similarly, Lee (2008), Shyan (2010), Özalp (2020), and Bozpolat (2021) determined that EnC affects GPB. This study result, which also overlaps with the literature, underlines that an increase in EnC will increase GPB.

Within the scope of the study, it was identified that IN and CN affected EnC. It was found that PN did not affect EnC. No study examining the effects of the sub-dimensions of love of nature on environmental anxiety has been found in the literature. Thus, the current study and its findings fill this gap in the literature.

CONCLUSION, LIMITATATIONS AND IMPLICATIONS

This study has some limitations. First, the data were collected using three scales and interpreted through quantitative analysis methods. In future studies, mixed-method research can be conducted, supported by qualitative data as well. Second, EnC and the sub-dimensions of love of nature were taken as independent variables affecting GPB. The effect of different variables can be investigated in future studies. Third, the number of samples was limited to 228; in future studies, this number can be increased, and more generalisable results can be obtained. Finally, the participants of this research were pre-service science teachers; further studies can be conducted with science teachers, who play an important role in environmental education.

Despite these limitations, this study offers valuable contributions to two different disciplines: teacher training and environmental social marketing. Pre-service science teachers, who will be future science teachers, play a key role in environmental education. However, to provide effective environmental education in the classroom, teachers must have environmental awareness and reflect it in their behaviours. Currently,

there is an environmental science course in the science teacher education curriculum in Türkiye. The content of this course covers fundamental environmental issues and environmental problems. According to the results of this study, IN and EnC affect GPB. Taking this into account, it is suggested that science teacher training curricula should be enriched with activities that would encourage pre-service teachers to buy green products and increase their IN. IN is the result of interactive experiences between humans and nature (Dong et al., 2020). Therefore, to increase the GPB of pre-service science teachers, it is necessary to increasingly facilitate activities. For example, field trips provide different experiences and long lasting benefits that could not gain through traditional approaches (Prasad, Lal, Wolde, Smith, Zhu, Samanthula and Panorkou, 2022). In addition to field trips, field investigations, nature observations, and projects focused on protecting natural resources and gaining awareness about green products and zero-waste philosophy can be conducted; this will, in turn, increase these teachers' interaction with nature. Environmental education encourages people to show environmentally friendly behaviours (Suárez-Perales, Valero-Gil, Leyva-de la Hiz, Rivera-Torres and Garces-Ayerbe, 2021). Pre-service science teachers who display sustainable behaviours will teach these behaviours to their future students, and these students will transfer what they have learned to their families, resulting in such behaviours becoming more widespread. In summary, investment in teacher education is an investment in the future, and this study contributes to science teacher training policies.

The results of this study also contribute to environmental social marketing. Prospective science teachers, who comprised the sample of this study, are university students. University students constitute an important consumer group. As a result of university education, more awareness of green products is gained (Kanchanapibul, Lacka, Wang, and Chan, 2014). However, as in this study, the income of university students is limited, which poses a significant challenge regarding their purchase of green products. Thus, companies should determine consumer demographics for their product (Prieto-Sandoval, Torres-Guevara, and García-Díaz, 2022). They should offer more accessible green products, especially for low-income consumers such as university students. Businesses that meet consumer expectations for their green products will ensure future product loyalty (Kanchanapibul, Lacka, Wang, and Chan, 2014); this will engender increased consumption of green products and contribute to both the green product market and the sustainability of natural resources. Furthermore, companies should cooperate with universities, especially teacher training departments, to both introduce their green products and increase the IN of teacher candidates by participating in universities' environmentally friendly activities. These activities have been determined to increase the GPB of students, as underlined by the results of this study.

Finally, teacher education and environmental social marketing are two important disciplines that enrich each other. Evidence supporting this is also presented in this study. Therefore, it is recommended that future studies continue to explore the interplay of these two disciplines.

YAZAR BEYANI / AUTHOR STATEMENT

The researchers reported that the authors jointly contributed to this aricle. Researchers have not declared any conflict of interest.

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