

Environmental Concern and Consumption Behaviours among Eco-Recreationists: A Demographic Segmentation Application for Outdoor Sports Participants

Eko-Rekreasyonist Bireylerde Çevresel Kaygı ve Çevreci Tüketim Davranışları: Doğa Sporcularına Yönelik Demografik Segmentasyon Uygulaması

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ABSTRACT

This study aims to examine the levels of environmental concern and environmentally conscious consumer behaviour among individuals engaged in outdoor sports, within the framework of a demographic segmentation approach. The sample of the research consists of 221 professional and serious leisure-level outdoor sports participants from various regions in Turkey involved in different types of outdoor sports. Data were collected through an online survey using the New Environmental Paradigm (NEP) and Environmentally Conscious Consumer Behavior (ECCB) scales. Statistical analyses, including independent samples t-test, ANOVA, correlation, multiple regression, and two-step cluster analysis, were conducted using SPSS software. The findings indicate that participation in outdoor sports supports both environmental concern and environmentally conscious consumption tendencies. According to multiple regression analysis, environmental concern and age significantly predict environmentally conscious consumer behaviour, whereas demographic factors such as income and education have limited effects. Two-step cluster analysis revealed that individuals over the age of 30 with higher income and education levels are more willing to engage in environmentally friendly consumption. The results demonstrate that outdoor sports play a significant role in shaping environmental attitudes; however, the phenomenon of the "green gap" between attitudes and behaviours persists.

Keywords: *Environmental awareness, Environmentally responsible behaviour, Sustainability, Eco-recreation, Nature sports*

ÖZ

Bu çalışma, doğa sporlarıyla ilgilenen bireylerin çevresel kaygı düzeyleri ile çevreye duyarlı tüketici davranışlarını demografik segmentasyon çerçevesinde incelemeyi amaçlamıştır. Araştırmanın örneklemini, Türkiye'nin çeşitli illerinden ve farklı doğa sporlarıyla uğraşan 221 profesyonel ve ciddi boş zaman seviyesinde doğa sporcuları oluşturmaktadır. Veriler, Yeni Çevresel Paradigma (NEP) ve Çevre Bilinçli Tüketici Davranışı (ECCB) ölçekleri kullanılarak çevrimiçi anket yöntemiyle toplanmıştır. Verilerin analizinde SPSS yazılımı kullanılmış; bağımsız örneklem t-testi, ANOVA, korelasyon, çoklu regresyon ve iki aşamalı kümeleme analizlerini içeren istatistiksel yöntemler uygulanmıştır. Bulgular, doğa sporlarına katılımın çevresel kaygıyı ve çevreye duyarlı tüketim eğilimlerini desteklediğini göstermektedir. Çoklu regresyon analizine göre, çevresel kaygı ve yaş değişkenleri çevre bilinçli tüketici davranışını anlamlı şekilde yordarken; gelir ve eğitim gibi demografik faktörlerin sınırlı etkisi olduğu görülmüştür. İki aşamalı kümeleme analizi, 30 yaş üstü, daha yüksek gelir ve eğitime sahip bireylerin çevre dostu tüketime daha istekli olduğunu ortaya çıkarmıştır. Sonuçlar, doğa sporlarının çevresel tutumları şekillendirmede önemli bir rol oynadığını, ancak tutum ve davranış arasındaki "yeşil boşluk" olgusunun sürdüğünü göstermektedir.

Anahtar Kelimeler: *Çevresel farkındalık, Çevre bilinçli davranış, Sürdürülebilirlik, Eko-rekreasyon, Doğa sporları*

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INTRODUCTION

Throughout history, people have engaged in various production and consumption activities to meet their needs. However, particularly after the Industrial Revolution, the acceleration of production and consumption processes has led to the rapid depletion of natural resources and growing environmental problems (Kahvecioğlu, 2004). As individuals became aware of the damage to nature, environmental concerns increased, and they started to develop environmental awareness at the social level (Koçak and Balci, 2010). Environmental concern reflects individuals' worries about environmental issues and their tendency to behave more responsibly (Kement et al., 2023). These types of worries cause differences in attitudes and behaviours (Su, Hsu and Boostrom, 2020). According to Ekinci (2024), environmental sensitivity develops not only as a cognitive process but also through experiential engagement. In recent years, the increasing concern about the environment has supported Ekinci's study findings by leading to a rise in the preference for eco-friendly activities. In this context, the concept of eco-recreation has recently emerged as a phenomenon gaining popularity (Lordkipanidze et al., 2008).

Eco-recreation is founded on ecological principles and emphasizes engaging in recreational activities that prioritize environmental protection and sustainability (Akgül and Karaküçük, 2024). While awareness of environmental challenges typically leads to the adoption of eco-recreational attitudes and behaviours (Hammitt and Cole, 2023; Kement and Bükey, 2020), participating in eco-recreational activities has the potential to enhance environmental awareness (Kement et al., 2023). This process can be described as a self-reinforcing cycle. Within the scope of eco-recreation, activities are harmoniously aligned with nature and are environmentally friendly. In this perspective, studies have found that outdoor sports participants (in our case, these people referred to as an eco-recreationists) develop environmentally conscious consumption behaviours that reinforce sustainable environmental management and conservation awareness (Arslan et al., 2024; Han, 2023; Høyem, 2020). In this context, nature sports are recognized as an essential component of eco-recreation both in practice and theory, necessitating further examination of this field to better understand the relationship between environmental sensitivity and consumption behaviours.

Consequently, investigating environmental concerns and the consuming behaviours of eco-recreationists (outdoor sports participants), is significant. In this way, the study aims to address the relationship between environmental concern and environmentally conscious consumption behaviours of eco-recreationists who engage in outdoor sports at a professional and serious recreational level. With this approach, this study aims to contribute to the literature by providing an updated perspective on recreation and sustainability in the sports sciences field.

Conceptual and Theoretical Framework: Stern's (2000) Value-Belief-Norm (VBN) theory posits that individuals' value orientations shape their general environmental beliefs and, in turn, activate personal norms that guide pro-environmental behaviours. In this framework, environmental concern emerges as a central psychological construct reflecting awareness of environmental consequences and a felt obligation to respond. The New Environmental Paradigm (NEP) complements this view by offering a widely used measure of individuals' environmental worldviews and attitudes toward the human-nature relationship, thereby linking underlying values to pro-environmental orientations (Dunlap and Van Liere, 2000). Environmental attitudes and concern are further shaped by people's perceptions and by their social, cultural and educational backgrounds (Trivedi et al., 2018), as well as social environment (Drosinou et al., 2025; Macias and Nelson, 2011), media and societal norms (Schultz et al., 2023; Gifford and Nilsson, 2014), which together contribute to how individuals evaluate environmental problems and appropriate responses.

In this study, environmental concern refers to individuals' affective and cognitive evaluations of environmental problems and their perceived seriousness, whereas in the environmental attitudes literature, environmentally conscious consumption behaviour denotes consumers' tendencies to prefer, purchase and use products and services that minimise environmental harm (Arslan et al., 2024; Bamberg, 2003; Dunlap and Van Liere, 2000; Fraj and Martinez, 2006; Høyem, 2020; Joshi and Rahman, 2015; Ramkissoon, Weiler and Smith, 2012; Roberts and Bacon, 1997; Saygılı et al., 2016; Su et al., 2020). Furthermore, social belonging, subjective norms and perceived self-efficacy play an important role in the adoption of pro-environmental behaviours (Moazzam et al., 2023; Schultz et al., 2023). At the same time, sustainable products affect purchase intention not only through functionality but also through status, emotional satisfaction, and symbolic meanings (An and Kim, 2022). These findings indicate that consumer behaviours are based not only on individual beliefs but also on social norms.

Within this theoretical background, individuals who are in direct and frequent contact with nature, such as eco-recreationists engaged in outdoor sports, constitute a particularly relevant group (Dunlap and Heffernan, 1975; Koçak and Balcı, 2010). These individuals engage with nature not only for physical health and recreation, but also for integration with nature (Ardahan and Yerlisu Lapa, 2011; Ekinci, 2024; Ramkissoon et al., 2012) and enhancing environmental awareness (Gençay and Karaküçük, 2000; Han, 2023; Kaplan and Ardahan, 2013). According to Han (2023), the "flow" experience encountered during nature-based recreation positively affects individuals' attitudes and behaviours toward the environment. This heightened awareness supports the expectation that eco-recreationists are more attentive to sustainable consumption preferences, and several studies suggest a positive link between environmental concern and green purchasing in this context (Ardahan and Yerlisu Lapa, 2010; Brochado et al., 2017; Çetinkaya, 2015; Gökdayı and Demirel, 2011; Kement and Bükey, 2020; Ramkissoon, Weiler and Smith, 2012). However, outdoor recreation and nature-based tourism can also generate ecological pressures (Koçak and Balcı, 2010; Somuncu, 2004). Although this normative understanding is significant for society as a whole, it is considered a more pressing issue for eco-recreationists interested in outdoor sports. In line with the VBN framework and prior empirical evidence indicating that greater environmental concern is associated with greener purchasing decisions, it is expected that eco-recreationists with higher levels of environmental concern will report stronger environmentally conscious consumption behaviour. Within the framework of all these findings, Within the framework of these findings, the first hypothesis of the study can be formulated as follows. H1: There is a positive relationship between environmental concern and environmentally conscious consumption behavior among eco-recreationists. Studies revealed that individuals' levels of environmental knowledge and concern are directly related to their tendency to use eco-friendly products. Some studies show an increase in environmental sensitivity, especially among young individuals, and highlight the growing prevalence of favourable attitudes toward eco-friendly products (Ay and Ecevit, 2005; Rawat, 2015; Vistharakula and Kaushik, 2021). On the other hand, the research conducted by Brochado et al. (2017) revealed that women show more interest than men in green products. In order to examine the effects of gender-based differences among eco-recreationists in this research, the second hypothesis of the study can be formulated as follows. H2: The level of environmental concern among eco-recreationists differs significantly by gender.

Apart from these, research indicates that although environmental concern influences green purchasing behaviour, this influence does not always translate into action (Cleveland et al., 2005; Kollmuss and Agyeman, 2002). This inconsistency is defined in the literature as the "attitude-behaviour gap," questioning why individuals who possess pro-environmental attitudes may not always translate them into corresponding behaviours. In this context, it appears that various economic, cultural, and psychological factors shape green consumer behaviour. In particular, price perception

acts as a barrier in the consumer decision-making process, since green products are often more expensive (Pickett-Baker and Ozaki, 2008; Sheikh et al., 2023). Thus, the third hypothesis of this study, from the eco-recreation perspective, is as follows. H3: Income levels of eco-recreationists affect eco-friendly consumption behaviours.

Finally, although some studies on environmental concern and sustainable consumption (Terzic et al., 2020) have approached the topic from a sport tourism perspective, relatively few have specifically focused on eco-recreationists (outdoor sport participants), particularly from a demographic segmentation perspective (Larson et al., 2011; Myburgh and Hallmann, 2025). Yet this group is strategically important, as eco-recreationists are often regarded as environmentally sensitive and as potential role models for sustainable lifestyles. Empirical evidence is still limited regarding whether these individuals indeed exhibit higher environmental concern and whether this concern is reflected in their consumption habits. Moreover, it remains unclear how different demographic segments within this population differ in terms of environmental concern and environmentally conscious consumer behaviour.

In line with the hypotheses stated above and the importance in the literature, the aim of the study is to examine the levels of environmental concern and environmentally conscious consumer behaviour in individuals who do outdoor sports within the framework of demographic segmentation and to reveal the relationships between the variables in question.

METHOD

Research Design: This research was conducted within the quantitative research paradigm, using a relational survey model. While the quantitative research methods provide an effective basis for testing the relationships between demographic and psychographic variables (Creswell and Creswell, 2018; Sekaran and Bougie, 2016), the relational survey model specifically focuses on examining the direction and strength of associations between predefined dependent (environmental concern, environmentally conscious consumer behaviour) and independent variables (demographic characteristics). This design is consistent with the study's aim of testing the hypothesized relationships between these variables and identifying meaningful segments within a heterogeneous group of outdoor sports participants (Fraenkel et al., 2012).

Sampling Group: The universe of the research consisted of individuals engaged in nature sports (mountaineering, camping, hiking, caving, mountain biking, canoeing, kayaking, etc.) at the professional or serious leisure level in Türkiye. To ensure this qualification through purposive sampling (Neumann, 2007), participants were expected to be licensed or semi-amateur individuals in a branch (participating in competitions or planning), as an inclusion criterion. Purposive sampling was preferred because it allowed for the intentional inclusion of individuals who actively participate in outdoor nature sports and thus could provide information relevant to the research aim. However, this non-probability technique limits the generalizability of the findings beyond similar populations (Neumann, 2007). To reach individuals engaged in these types of nature sports, the Turkish Mountaineering Federation was contacted, and voluntary participants were invited to the study through announcements made via official social media accounts and communication channels. To ensure maximum diversity, participants from different provinces were included in the study through outdoor sports associations, clubs, and social media communities located in various geographical regions (Antalya, Bursa, Erzurum, İzmir, Kayseri, Muğla).

Prior to the data collection, ethical approval was obtained from the Ethics Committee of Bitlis Eren University with decision number E.3668 dated 17/04/2023. Informed consent was obtained from all participants, and voluntary

participation was adopted as the principle in the selection of participants (Lewis and Sheppard, 2006). Data from 28 participants who had incomplete or incorrect were excluded from the analysis. As a result, a total of 221 outdoor sports participants, whose data were deemed suitable for analysis, constituted the research group.

Data Collection Tools: A demographic information form prepared by the researcher was used to determine the socio-demographic characteristics (gender, age, education level, income level) of the participants. The following two scales with proven validity and reliability in the literature were used to collect data.

Environmental concern (New environmental paradigm scale - NEP): To measure the level of environmental concern, the New Environmental Paradigm (NEP) scale developed by Dunlap and Van Liere (1978) was utilized. The scale consists of 12 items with a 4-point Likert format, of which four items are reverse-coded. The response options are as follows: (1) Strongly Disagree, (2) Disagree Slightly, (3) Agree Slightly, and (4) Strongly Agree. The possible scores on the scale range from 12 to 48 points. Although a revised 15-item version of the NEP was later introduced, this study deliberately adopted the original unidimensional form, which has been widely used to assess general environmental worldviews (Dunlap, 2008; Dunlap et al., 2000).

Environmentally conscious consumer behavior (ECCB): To determine consumption habits, the Environmentally Conscious Consumer Behavior (ECCB) scale adapted into Turkish in a shortened 16-item form by Ay and Ecevit (2005) was used. Such abbreviations may occur during cultural adaptation and validity/reliability studies of the scale due to factor structure or statistical justifications. The original scale, developed by Roberts (1996), consists of 30 items. The scale employs a 5-point Likert format with (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly Agree. Due to cultural appropriateness, this study used the form adapted into Turkish and reduced to 16 items (Ay and Ecevit, 2005).

Data Collection and Analysis: Data for the study were collected via an online survey form. In the first section of the questionnaire, participants were informed about the purpose of the research, the usage of the data, and the ethical approval obtained (Ethics Committee Decision); the survey proceeded upon acceptance of the consent form. The collected data were analysed using the SPSS (version 20.0) software package.

Table 1

Normality Values for the Scales

Scales	n	X	SD	Skewness	Kurtosis
Environmental Concern (NEP)	221	40.22	4.80	-0.486	-0.302
Environmentally Conscious Consumer Behavior	221	3.65	0.57	-0.431	0.277

In the normality analysis, skewness and kurtosis values were found to be within the ± 1.0 range (Environmental Concern: skewness = -0.486; kurtosis = -0.302; Environmentally Conscious Consumer Behaviour: skewness = -0.431; kurtosis = 0.277), and the data were considered to exhibit a normal distribution (Hair et al., 2019). Accordingly, the application of parametric tests was decided. Independent sample t-tests and one-way analysis of variance (ANOVA) were used to examine differences between independent groups. Homogeneity of variances was checked with Levene's test, and Post Hoc (Tukey) tests were applied for multiple comparisons in groups where differences were detected. The relationships between dependent variables were analysed using Pearson correlation tests. To investigate the relationships between environmental concern, environmentally conscious consumer behaviours, and demographic variables, a multiple

regression model was employed. Additionally, a two-step cluster analysis was conducted to reveal the demographic profiles of the segments.

Validity and Reliability: Validity and reliability studies have been conducted previously, and the theoretical basis for the content validity of the scales' items has been established in the literature. Before including the scales in the study, the researchers reviewed them for both relevance to the research purpose and content integrity, and expert opinions were obtained. The evaluation concluded that the items were consistent with the constructs they were intended to measure. In addition, the fact that the data obtained from the sample in this study met the normality assumption (skewness and kurtosis values were between ± 1) indicates that the scales exhibited a distribution compatible with the expected structural properties (Hair et al., 2019). As a result of reliability tests, the Cronbach's Alpha coefficient of the New Environmental Paradigm (NEP) scale was found to be $\alpha = 0.730$, and the Environmentally Conscious Consumer Behaviour (ECCB) scale was determined as $\alpha = 0.816$. These values confirm that the scales produced reliable results within the sample group (Hair et al., 2019).

RESULTS

This section presents the findings derived from the statistical analyses conducted on the data. The discussion focuses on how the findings regarding environmental concern and environmentally conscious consumer behaviour among outdoor sports participants contribute to the existing literature on pro-environmental consumption behaviour and demographic segmentation.

Table 2

Socio-Demographic Characteristics of Participants

Variables	n	%
Gender		
Male	123	55.7
Female	98	44.3
Age		
Under 30 years old	124	56.1
30 years and above	97	43.9
Education Level		
High school and below	18	8.1
University	136	61.6
Postgraduate	67	30.3
Income Level		
Low income	76	34.4
Lower-middle income	55	24.9
Upper-middle income	57	25.8
High income	33	14.9

The socio-demographic profile of the sample group is presented in Table 2.

Table 3

Independent Samples T-Test Results According to Gender and Age Variables

Scales	Variable		n	\bar{x}	SD	t	p
Environmental Concern (NEP)	Gender	Male	123	39.28	4.91	3.406	0.001*
		Female	98	41.45	4.38		
	Age	Under 30 years	124	39.74	4.71	-1.687	0.093
		30 years and over	97	40.83	4.87		
Environmentally Conscious Consumer Behavior (ECCB)	Gender	Male	123	3.65	0.55	0.092	0.927
		Female	98	3.66	0.59		
	Age	Under 30 years	124	3.51	0.53	-4.496	0.001*
		30 years and over	97	3.84	0.57		

* = $p < 0.05$

Table 3 presents the independent samples t-test results for the gender and age variables. There was a statistically significant difference in environmental concern scores according to gender ($t=3.406$, $p=0.001 < 0.05$); female participants' mean scores ($\bar{x}=41.45$, $SD=4.38$) were significantly higher than those of males ($\bar{x}=39.28$, $SD=4.91$). No statistically significant difference was found between age groups for the environmental concern variable. Regarding the Environmentally Conscious Consumer Behaviour scale, the mean score of the under-30 age group ($\bar{x}=3.51$, $SD=0.53$) is lower than that of the 30 and over age group ($\bar{x}=3.84$, $SD=0.57$), and this difference is statistically significant ($t= -4.496$, $p=0.001 < 0.05$). There was no significant difference between gender groups in terms of environmentally conscious consumer behaviour.

Table 4

ANOVA Test Results According to Education and Income Variables

Scales	Variable		\bar{x}	SD	ANOVA		Difference
					F	p	
Environmental Concern (NEP)	Education	High school and below	40.89	4.46	0.590	0.555	-
		University	40.37	5.03			
		Postgraduate	39.73	4.42			
	Income	Low	39.70	4.83	0.797	0.497	-
		Lower-middle	40.05	4.87			
		Upper-middle	40.96	4.98			
	High	40.42	4.32				
Environmentally Conscious Consumer Behavior (ECCB)	Education	High school and below	3.82	0.47	2.362	0.097	-
		University	3.59	0.59			
		Postgraduate	3.73	0.54			
	Income	Low	3.50*	0.54	2.912	0.035*	Low < Lower-middle
		Lower-middle	3.77*	0.52			
		Upper-middle	3.73	0.55			
	High	3.65	0.57				

* = $p < 0.05$

According to the Levene's Test results, homogeneity of variances is ensured for both groups ($p > 0.05$). It can be seen in Table 4 that there is no statistically significant difference between groups in terms of environmental concern scores for both education level and income groups. However, a statistically significant difference exists among income groups in terms of environmentally conscious consumer behaviour scores ($F=2.912$, $p=0.035$). According to the Tukey HSD test, the significant difference is between the low-income group ($\bar{x}=3.50$) and the lower-middle income group ($\bar{x}=3.77$).

Table 5

Relationships of Environmental Concern and Demographic Variables with Environmentally Conscious Consumer Behaviour – Multiple Regression Analysis Results

Variable	B	β	t	p	VIF
Constant	1.843		4.455	0.001	
Environmental Concern (NEP)	0.027	0.226	3.406	0.001	1.095
Gender	0.060	0.052	0.766	0.445	1.165
Age	0.378	0.330	4.252	0.001	1.506
Education Level	0.101	0.103	1.532	0.127	1.137
Income Group	-0.059	-0.112	-1.362	0.175	1.682
$r = 0.37$ $R^2 = 0.14$ $\Delta r^2 = 0.12$ Durbin-Watson = 1.837					
$F(5.215) = 6.92$ $p < .001$					
Cohen's $f^2 = 0.16$					

Dependent variable: Environmentally Conscious Consumer Behaviour

Multiple regression analysis was conducted to examine the extent to which environmentally conscious consumer behaviour is explained by environmental concern, gender, age group, education level, and income status (Table 5). All model assumptions were met prior to analysis, including normality, homogeneity of variance, multicollinearity, and autocorrelation. The model was significant, $F(5.215) = 6.92$, $p < 0.001$, with an explained variance of $R^2 = 0.14$ (Adjusted $R^2 = 0.12$). According to Cohen's conventions, this corresponds to a medium explanatory power (Cohen's $f^2 = 0.16$). Among the predictors, age group ($\beta = 0.33$) and environmental concern ($\beta = 0.23$) were significant, both representing notable contributions, while gender, education, and income level effects were negligible ($\beta < 0.11$, nonsignificant).

After identifying the main factors affecting environmentally conscious consumer behaviour, a two-step cluster analysis was performed to explore whether these effects differed significantly across various groups (segments) within the sample.

Table 6

Correlation Test for Environmental Concern and Environmentally Conscious Consumer Behaviour

		ECCB
Environmental Concern (NEP)	r	0.234**

** = Correlation is significant at the 0.01 level.

In Table 6, a positive and statistically significant relationship was found between environmental concern and environmentally conscious consumer behaviour ($r = 0.234$, $p < 0.01$). The value of the correlation coefficient indicates a weak linear relationship between these two variables.

Table 7

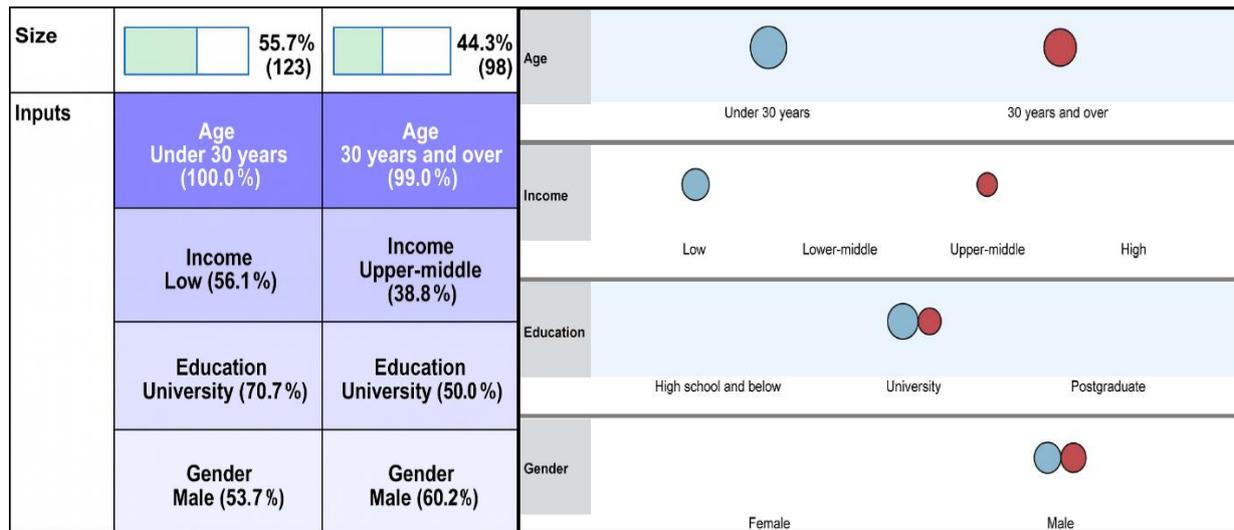
Segments Comparison of Environmental Concern and Environmentally Conscious Consumer Behaviour

Clusters	Specifications	Environmental Concern (NEP)		SD	t	p
		\bar{x}	\bar{x}			
Segment Red, $n = 98$	Mature, high-income, educated males	40.81	3.83	0.56	4.449	0.001*
Segment Blue, $n = 123$	Young, low-income, university males	39.76	3.50	0.54		

The mean scores of environmental concerns for the two segments in Table 7 are very close to each other, whereas there is a notable difference in the mean scores of environmentally conscious consumer behaviour. To test the statistical significance of this difference, a comparison between the groups (cluster/segment) was conducted using an independent samples t-test. The analysis results indicate that the environmentally conscious consumer behaviour score of Segment 1 ($\bar{x}=3.83$) is significantly higher than that of Segment 2 ($\bar{x}=3.50$) ($t=4.449$, $p<0.001$).

Figure 1

Segmentation and Demographic Characteristics Through Two-Step Cluster Analysis



As a result of the two-step cluster analysis, the sample was divided into two segments (Figure 1). The silhouette coefficient was calculated as 0.4, indicating a fair level of cluster quality for this model (Sarstedt and Mooi, 2019). This suggests that while the clusters are not very distinctly separated, the segmentation is still meaningful. The first segment consists almost entirely of individuals aged 30 and above; this group predominantly comprises males, upper-middle, and high-income participants and those with university or postgraduate education. The second segment consists entirely of individuals under 30 years of age; this group is largely characterized by low income, university education, and a male majority. Age group was the most determinant variable in the formation of segments, while income and education level were less important. The effect of gender on segmentation was very low. These differences between segments indicate that attitudes and behaviours related to the environment may significantly vary according to demographic characteristics.

DISCUSSION

The aim of this study is to examine the levels of environmental concern and environmentally conscious consumer behaviour among individuals engaged in outdoor sports within the framework of demographic segmentation, thereby elucidating the relationships between these variables. Overall, participants displayed relatively high environmental concern and moderate levels of environmentally conscious consumer behaviour, partially supporting the attitude-behaviour gap by indicating that pro-environmental attitudes do not always translate into consistent purchasing practices.

Firstly, the relationship between outdoor sports and environmental concern as well as environmentally conscious consumption behaviour is a widely accepted fact in the literature. Ekinçi (2024), in a qualitative study involving in-depth interviews with 10 participants who have been practicing outdoor sports for at least five years, revealed a strong

relationship between engaging in outdoor sports and forming a connection with nature. Han (2023) found that involvement in outdoor sports increases environmental awareness. Kaplan and Ardahan's (2013) study on mountaineering and rock climbing showed that participating in outdoor sports supports environmental consciousness. In Gençay and Karaküçük's (2000) study, it was concluded that engaging in outdoor sports is related to gaining environmental consciousness and increased sensitivity to environmental issues. *Mistra Sport and Outdoors*, a Sweden-based organization, operates to positively enhance young people's engagement with the environment and instil sustainability awareness through youth camps and outdoor sports training (de Bernardi, Linde and Ioannides, 2023). Such initiatives suggest that environmental awareness could be developed as a state policy via outdoor sports in our country as well. The literature also includes findings that social capital promotes environmental concern and behaviours (Gifford and Nilsson, 2014). It is also stated that individuals with strong social ties and social networks encourage the dissemination of environmental knowledge and awareness (Drosinou et al. 2025; Macias and Nelson, 2011). After supporting this symbiotic relationship between environmental consciousness and nature sports with the existing literature, the relationship between environmental consciousness and consumption behaviour now emerges as another focal point of our study.

Independent samples comparison tests revealed a statistically significant difference between environmental concern and gender variables, favouring women. Thus, our hypothesis H2 was confirmed. Konstantopoulos et al. (2024) reported that among sports event attendees, female fans scored higher in environmental intentions and behaviours compared to male fans. Liang et al. (2024), Vistharakula and Kaushik (2021), and Brochado et al. (2017) also found that women show more interest in eco-friendly products and parallel to this, it is stated that female consumers generally have more positive attitudes and behaviours towards purchasing green products compared to men; this is consistent with the observation that gender can affect sustainable consumption patterns (Megha, 2024). These studies support the findings of our research. On the other hand, some studies found no significant influence of gender on environmental awareness among individuals participating in outdoor sports activities (Bayrak and Demirel, 2024; Gökdayı and Demirel, 2018).

In terms of the age variable, no significant difference was detected in environmental concern. Nevertheless, the relationship between age and environmental concern has been addressed in both directions in the literature. Süllü and Engin's (2024) study found moderate levels of environmental behaviour scores among young people. According to the results of the research of Konstantopoulos et al. (2024), it is seen that young fans (18-34 years old) exhibit less enthusiasm and less active behaviour towards environmental sustainability than expected; Older fans (55+) show stronger attitudes towards environmental awareness. This finding aligns with some recent studies suggesting that although young people have higher awareness of environmental issues (Dixon, 2021), their behaviour conversion rates are lower. In other words, young people talk more about environmental issues, but older individuals implement more actions. Erdoğan (2020), in the "Well-being of Youth in Turkey" report prepared under the Habitat Association, also emphasized that young people have higher levels of social and environmental concerns. Morrison and Beer (2016) modelled environmental awareness by age in an inverted U shape: young and middle-aged individuals show high environmental awareness, whereas very young and very old groups show lower awareness. This may be due to the global environmental transformation movement strengthening since the 2000s as part of Sustainable Development Goals (Jacob, 2025). The lower awareness among older people may be explained by the fact that they never experienced development initiatives during their lifetime.

When it comes to the consumption behaviour, no statistically significant difference was observed according to gender. However, a significant difference was detected between environmentally conscious consumer behaviour and age, favouring the 30 years and older group. Some studies report a decline in pro-environmental behaviour with age,

suggesting younger individuals show more environmentally friendly patterns (Rawat, 2015; Vistharakula and Kaushik, 2021), which contradicts our findings.

With respect to education levels, both dependent variables showed no statistically significant differences. However, some literature suggests that environmental awareness increases with higher education levels (Jhanji and Sarin, 2018; Kement et al., 2025; Morrison and Beer, 2016), which does not align with our results.

In terms of income level, a statistically significant difference was found in environmentally conscious consumer behaviour. The lower-middle income group exhibited more environmentally conscious consumption behaviour than the low-income group. This may be because the low-income group prefers not to purchase comparatively higher-priced eco-friendly products to meet minimum living conditions. Sheikh et al. (2023) and Pickett-Baker and Ozaki (2008) noted that green products often being more expensive affects consumer decision-making. Thus, our hypothesis H3 is supported.

The regression model explains 12% of the variance in the dependent variable, which is considered acceptable in social sciences due to the complex and unpredictable nature of human behaviour. According to Cohen's criteria, the corresponding effect size ($f^2 = 0.16$) reflects a medium effect (Cohen, 1988; Ozili, 2022). On the other hand, in our study, environmental concern ($\beta = 0.23$) and age ($\beta = 0.33$) had statistically significant standardized beta coefficients. These findings align with the "green gap" literature, which highlights the mismatch between individuals' environmental attitudes and actual behaviours (Kement et al., 2025; Kollmuss and Agyeman, 2002). Literature in this field showed that consumption choices are shaped not only by environmental sensitivity but also by different factors such as subjective norms and self-efficacy (Moazzam et al., 2023), price perception (Sheikh et al., 2023), social belonging (An and Kim, 2022; Schultz et al., 2023), cultural identity, or habits (Sustainability Directory, 2025). Pickett-Baker and Ozaki (2008) highlight that green products often being more expensive acts as a barrier to consumer preferences. On the other hand, Ramkissoon et al. (2012) emphasize that outdoor sports can positively influence individuals' environmental attitudes in the long term. Regression analysis findings generally show that environmental concern and age group positively and significantly affect environmentally conscious consumer behaviour. These results are consistent with the findings of Ay and Ecevit (2005). Ribeiro et al. (2023) argued that older individuals with higher socioeconomic status have higher environmental awareness in their consumer behaviour. Some studies in the literature parallel this study, indicating that older and higher-income individuals have more green purchasing behaviour, while other studies show that upper-class green consumers are generally younger individuals with higher incomes, while non-green consumers tend to be older men with lower incomes (Wilska et al. 2025). As a result, it is indicating a complex interaction between financial resources, current life stage, and cognitive development. Moreover, Straughan and Roberts (1999) argue that psychographic variables are more effective than demographic variables in explaining consumer behaviour.

In line with this argument, we applied a segmentation test on the sample group in our study. In the demographic comparison between segments, the 30 years and older, high-income group's mean environmentally conscious consumption behaviour score was higher than that of the younger, low-income group, which may point to a "luxury-sustainability consumption" paradox. This phenomenon may be driven by determinants such as quality, uniqueness, and social value (Alghanim and Ndubisi, 2022) and, at the same time, reflects the adoption of eco-friendly products as status symbols that contrasts with the excessive resource use inherent in luxury consumption (Teah et al., 2023). However, the relatively small mean difference suggests that luxury green products may not primarily be chosen for status (conspicuous green consumption), but rather for functional benefits such as quality and durability (An and Kim, 2022). Taken together, these demographic segmentation results indicate that, within sustainability-oriented marketing strategies, positioning

products for older and higher-income consumers on the basis of functional benefits (e.g., quality, durability, longevity) rather than status signalling may be more effective, while also highlighting that demographic variables alone are insufficient to explain environmentally responsible consumption and that greater emphasis should be placed on psychographic segmentation (values, lifestyle, etc.).

CONCLUSION AND SUGGESTIONS

This study reveals that eco-recreationists engaged in outdoor sports report high levels of environmental concern, yet their environmentally responsible consumption behaviours remain only at a moderate level. This finding once again confirms the presence of the attitude-behaviour gap identified in the literature, also within the context of eco-recreationists. This discrepancy underscores the need for psychographic segmentation approaches in sports marketing that focus not merely on basic structural characteristics but on value orientations, environmental identity, and lifestyle-based attributes in defining target audiences. Granting psychological and value-based mechanisms a more central position within research on sustainable consumption in sports could enable the development of more functional segmentation strategies.

The study, however, is subject to certain limitations. The sample is limited to eco-recreationists reached through federation-affiliated clubs and online networks; therefore, the findings cannot be generalized to all outdoor sports participants or the general population in Türkiye. Moreover, the exclusion of individuals who are less digitally visible or not affiliated with federations poses a potential selection bias risk. Future research could address these limitations by focusing on participants in different eco-recreation activities (e.g., eco-tourists, sport tourists), adopting longitudinal designs, and integrating psychographic variables into mixed-method segmentation models. Such studies would enable the identification of deeper insights into the attitudes and behaviours of eco-recreationists, facilitate a better understanding of the target audience, and allow for the development of more refined strategies to promote sustainable consumption.

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Author Contribution:

1. **Kadir Çalışkan:** Idea/Concept, Design, Data Collecting and Processing, Analysis-Interpretation, Writing
2. **Anıl Onur Mercanoğlu:** Writing, Analysis-Interpretation, Checking, Critical Review

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REFERENCES

1. Akgül, B. M. and Karaküçük, S. (2024). *Ecorecreation*. Eğitim Yayınevi.
2. Alghanim, S., and Ndubisi, N. O. (2022). The paradox of sustainability and luxury consumption: the role of value perceptions and consumer income. *Sustainability*, 14(22), 14694. <https://doi.org/10.3390/su142214694>
3. An, Y., and Kim, N. (2022). Why do consumers buy sustainable luxury products? From the perspective of consumption value and environmental concerns. *Conference Paper*, 14694. <http://dx.doi.org/10.31274/ita.15935>
4. Ardahan, F. and Yerlisu Lapa, T. (2011). Açık alan rekreasyonu: bisiklet kullanıcıları ve yürüyüşçülerin doğa sporu yapma nedenleri ve elde ettikleri fayda. *Uluslararası İnsan Bilimleri Dergisi*, 8(1), 1327-1341.
5. Arslan, Y., Suveren, C., Unlu, C., and Ceviker, A. (2024). Does participation in outdoor sports affect environmental attitudes? A research on university students. *International Journal of Education in Mathematics, Science, and Technology*, 12(3), 682-692. <https://doi.org/10.46328/ijemst.4239>
6. Ay, C., and Ecevit, Z. (2005). Çevre bilinçli tüketiciler. *Akdeniz İİBF Dergisi*, 10, 238-263.
7. Bamberg, S. (2003). How does environmental concern influence specific environmentally related behaviors? A new answer to an old question. *Journal of Environmental Psychology*, 23(1), 21-32. [https://doi.org/10.1016/S0272-4944\(02\)00078-6](https://doi.org/10.1016/S0272-4944(02)00078-6)
8. Bayrak, A., and Demirel, M. (2021). Rekreasyonel aktivitelere katılımın ekolojik tutum açısından değerlendirilmesi. *Sportive*, 5(2), 1-13. <https://doi.org/10.53025/sportive.1184740>
9. Brochado, A., Teiga, N., and Oliveira-Brochado, F. (2017). The ecological conscious consumer behaviour: Are the activists different? *International Journal of Consumer Studies*, 41(2), 138-146. <https://doi.org/10.1111/ijcs.12321>
10. Brooks, J. S. (2010). Economic and social dimensions of environmental behavior: balancing conservation and development in Bhutan. *Conservation Biology*, 24(6), 1499-1509. <https://doi.org/10.1111/j.1523-1739.2010.01512.x>
11. Creswell, J. W., and Creswell, J. D. (2018). *Research design: qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
12. Çetinkaya, G. (2015). Doğa sporlarına katılım çevre tutumunu etkiler mi? Üniversite öğrencileri üzerine bir araştırma. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi*, 13(2), 137-142. https://doi.org/10.1501/Sporm_0000000278
13. Cleveland, M., Kalamas, M., and Laroche, M. (2005). Shades of green: linking environmental locus of control and pro-environmental behaviors. *Journal of Consumer Marketing*, 22(4), 198-212. <https://doi.org/10.1108/07363760510605317>
14. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Routledge. <https://doi.org/10.4324/9780203771587>
15. De Bernardi, C., Linde, S., and Ioannides, D. (2023). Pro-environmental behaviour in sport and outdoor activities: a literature review. *Mistra Sport and Outdoors Rapport*, 3.
16. Demirel, M., Gürbüz, B., and Karaküçük, S. (2009). Rekreasyonel aktivitelere katılımın çevreye yönelik tutum üzerindeki etkisi ve yeni ekolojik paradigma ölçeği'nin geçerliliği ve güvenilirliği. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi*, 7(2), 47-50. https://doi.org/10.1501/Sporm_0000000155
17. Dixon, E. (2021, May). *Study: 69% of young sports fans support environmental change*. SportsPro. <https://www.sportspro.com/news/sports-fans-environmental-change-viewing-habits-gwi-study/>
18. Drosinou, M., Palomäki, J., Jokela, M., and Laakasuo, M. (2025). Everything is connected: reminders of environmental and social connectedness strengthen environmental attitudes. *Journal of Environmental Psychology*, 102, 102549. <https://doi.org/10.1016/j.jenvp.2025.102549>
19. Dunlap, R. E., and Heffernan, R. B. (1975). Outdoor recreation and environmental concern: an empirical examination. *Rural Sociology*, 40(1), 18-30.
20. Dunlap, R. E. and Van Liere, K. D. (1978). The "new environmental paradigm". *The Journal of Environmental Education*, 9, 10-19.
21. Dunlap, R. E., Van Liere, K. D., Mertig, A. G., and Jones, R. E. (2000). New trends in measuring environmental attitudes: measuring endorsement of the new ecological paradigm: a revised NEP scale. *Journal of Social Issues*, 56(3), 425-442.
22. Dunlap, R. E. (2008). The new environmental paradigm scale: from marginality to worldwide use. *The Journal of Environmental Education*, 40(1), 3-18.
23. Ekinci, E. (2024). Biyofili ve doğa sporları: insan-çevre bağlantısının derinlemesine incelenmesi. *Uluslararası Bozok Spor Bilimleri Dergisi*, 5(3), 53-68.
24. Erdoğan, E. (2020, December). *Türkiye'de gençlerin iyi olma hali araştırması*. Habitat Derneği. <https://habitatdernegi.org/wp-content/uploads/2023/04/genclerin-iyi-olma-hali-arastirmasi-3-rapor-sunumu.pdf>
25. Fraenkel, J., Wallen, N., and Hyun, H. (1993). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Education.

26. **Fraj, E., and Martinez, E. (2006).** Environmental values and lifestyles as determining factors of ecological consumer behaviour: an empirical analysis. *Journal of Consumer Marketing*, 23(3), 133-144. <https://doi.org/10.1108/07363760610663295>
27. **Gençay, S., and Karaküçük, S. (2000, Mayıs).** *Sporcuların çevre sorunlarına yaklaşımları* [Konferans sunumu]. Gazi Üniversitesi Beden Eğitimi ve Spor Bilimleri Kongresi, Ankara, Türkiye.
28. **Gifford, R., and Nilsson, A. (2014).** Personal and social factors that influence pro-environmental concern and behaviour: A review. *International Journal of Psychology*, 49(3), 141-157. <https://doi.org/10.1002/ijop.12034>
29. **Gökdayı, F., and Demirel, M. (2011).** Bir boş zaman etkinliği olarak doğa sporları aktivitelerine katılan bireylerin çevresel farkındalık düzeylerinin incelenmesi. *SDÜ Sosyal Bilimler Enstitüsü Dergisi*, 14, 117-130.
30. **Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2019).** *Multivariate data analysis* (8th ed.). Cengage Learning.
31. **Hammitt, W. E., and Cole, D. N. (2023).** *Wildland recreation: ecology and management* (3rd ed.). John Wiley and Sons.
32. **Han, G.-S. (2023).** Relationships between outdoor recreation-associated flow, pro-environmental attitude, and pro-environmental behavioral intention. *International Journal of Environmental Research and Public Health*, 19(9), 5173. <https://doi.org/10.3390/su151310581>
33. **Høyem, J. (2020).** Outdoor recreation and environmentally responsible behavior. *Journal of Outdoor Recreation and Tourism*, 31, 100317. <https://doi.org/10.1016/j.jort.2020.100317>
34. **Jacob, J. (2025).** A background history of the sustainable development goals. *Sustainable Development*, 33(3), 3747-3759.. <https://doi.org/10.1002/sd.3317>
35. **Jhanji, H., and Sarin, V. (2018).** Relationship between environmental consciousness and green purchase behaviour among youth. *International Journal of Green Economics*, 12(3-4), 171-181. <https://doi.org/10.1504/IJGE.2018.097871>
36. **Joshi, Y., and Rahman, Z. (2015).** Factors affecting green purchase behaviour and future research directions. *International Strategic Management Review* 3(1-2), 128-143. <https://doi.org/10.1016/j.ism.2015.04.001>
37. **Kahvecioğlu, Y. (2004).** *Tüketim toplumu, ekolojik risk, Türkiye*. [Unpublished master's thesis]. Uludağ University.
38. **Kaplan, A., and Ardahan, F. (2013).** Doğa sporları yapan bireylerin profilleri, doğa sporu yapma nedenleri ve elde ettikleri faydalar: Antalya örneği. *Karadeniz Sosyal Bilimler Dergisi*, 5(8), 93-114.
39. **Kement, Ü., and Bükey, A. (2020).** Yeşil satın alma davranış teorisi kapsamında ekorekreatyon faaliyetlerine katılan bireylerin davranışlarının incelenmesi: Bolu Yedigöller örneği. *Journal of Recreation and Tourism Research*, 10(1), 15-29.
40. **Kement, Ü., Çavuşoğlu, S., Çalık, I., and Durmaz, Y. (2023).** The effects of environmental value and ecological worldview on eco-recreative attitude: an application in Turkey. *Tourism and Management Studies*, 19(2), 7-19. <https://doi.org/10.18089/tms.2023.190201>
41. **Kement, Ü., Doğan, S., Baydeniz, E., Bayar, S. B., Erkol Bayram, G., and Başar, B. (2025).** Effect of environmental attitude on environmentally responsible behavior: a comparative analysis among green and non-green hotel guests in Türkiye. *Journal of Hospitality and Tourism Insights*, 8(5), 1640-1664. <https://doi.org/10.1108/JHTI-03-2024-0230>
42. **Koçak, F., and Balci, V. (2010).** Doğada yapılan sportif etkinliklerde çevresel sürdürülebilirlik. *Ankara Üniversitesi Çevre Bilimleri Dergisi*, 2(2), 213-222.
43. **Kollmuss, A., and Agyeman, J. (2002).** Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239-260. <https://doi.org/10.1080/13504620220145401>
44. **Konstantopoulos, I., Manoli, A. E., Ntzoufras, I., Chantzi, E., and Thamnopoulos, I. (2024).** Understanding fans' responses to sustainability: a segmentation of sport event goers' pro-environmental intentions and behaviours. *Journal of Strategic Marketing*, 1-15. <https://doi.org/10.1080/0965254X.2024.2424760>
45. **Larson, L. R., Whiting, J. W., and Green, G. T. (2011).** Exploring the influence of outdoor recreation participation on pro-environmental behaviour in a demographically diverse population. *Local Environment*, 16(1), 67-86. <https://doi.org/10.1080/13549839.2010.548373>
46. **Lewis, J. L., and Sheppard, S. R. (2006).** Culture and communication: can landscape visualization improve forest management consultation with indigenous communities? *Landscape and Urban Planning*, 77(3), 291-313. <http://dx.doi.org/10.1016/j.landurbplan.2005.04.004>
47. **Liang, J., Li, J., Cao, X., and Zhang, Z. (2024).** Generational differences in sustainable consumption behavior among Chinese residents: implications based on perceptions of sustainable consumption and lifestyle. *Sustainability*, 16(10), 3976. <https://doi.org/10.3390/su16103976>
48. **Lordkipanidze, M., Krozer, Y., Kadiman, T., Crul, M., and Brezet, H. (2008).** Innovations for tourism in national parks. In A. D. Ramos and P. S. Jimenez (Eds.), *Tourism Development: Economics, Management and Strategy*, pp. 1-45. Nova Science Publishers.
49. **Macias, T., and Nelson, E. (2011).** A social capital basis for environmental concern: evidence from Northern New England. *Rural Sociology*, 76(4), 562-581. <https://doi.org/10.1111/j.1549-0831.2011.00063.x>
50. **Megha. (2024).** Determinants of green consumption: a systematic literature review using the TCCM approach. *Frontiers in Sustainability*, 5, 1428764. <https://doi.org/10.3389/frsus.2024.1428764>

51. **Moazzam, M., Ahmad, M., Hussain, A., and Akram, M. A. (2023).** Examining the factors that shape green purchase behavior: the role of subjective norms, self-efficacy, attitude and intention. *Bulletin of Business and Economics (BBE)*, 12(3), 221-232. <https://doi.org/10.61506/01.00027>
52. **Morrison, P. S. (2016).** Consumption and environmental awareness: demographics of the European experience. In H. Shibusawa, R. Mizunoya, and S. Ushida (Eds.), *Socioeconomic environmental policies and evaluations in regional science: essays in honor of Yoshiro Higano* (pp. 81-102). Springer. <https://doi.org/10.25455/wgtn.16830196.v2>
53. **Myburgh, E., and Hallmann, K. (2025).** Trail runners' consumer profiles: the landscape seekers, sport devotees, and eco-group travelers. *Event Management*, 29(2), 203. <https://doi.org/10.3727/152599524X17229013810275>
54. **Neuman, L. W. (2007).** *Basics of social research qualitative and quantitative approaches*. Pearson Education.
55. **Niu, H.J., Huang, K.-S., Huang, P.Y., and Ju, H.F. (2024).** Leisure-time physical activity as a pathway to sustainable living: insights on health, environment, and green consumerism. *International Journal of Environmental Research and Public Health*, 21(5), 618. <https://doi.org/10.3390/ijerph21050618>
56. **Ozili, P. K. (2023).** The acceptable R-square in empirical modelling for social science research. In *Social research methodology and publishing results: a guide to non-native English speakers* (pp. 134-143). IGI Global. <https://dx.doi.org/10.2139/ssrn.4128165>
57. **Pickett-Baker, J., and Ozaki, R. (2008).** Pro-environmental products: marketing influence on consumer purchase decision. *Journal of Consumer Marketing*, 25(5), 281-293. <https://doi.org/10.1108/07363760810890516>
58. **Ramkissoon, H., Weiler, B., and Smith, L. D. G. (2012).** Place attachment and pro-environmental behaviour in national parks: the development of a conceptual framework. *Journal of Sustainable Tourism*, 20(2), 257-276. <https://doi.org/10.1080/09669582.2011.602194>
59. **Rawat, S. R. (2015).** Impact of age and income over green consumer behavior. *Indian Journal of Science and Technology*, 8, 13-22. <http://dx.doi.org/10.17485/ijst/2015/v8iS4/60349>
60. **Ribeiro, J., Dias da Silva Gabriel, M. L., do Amaral Moretti, S. L., and Ripamonti, A. (2023).** Values and sustainable behaviors of street runners: Influence on purchase decision of sports products. *Consumer Behavior Review (CBR)*, 7(1), e-256795. <https://doi.org/10.51359/2526-7884.2023.256795>
61. **Roberts, J. A. (1996).** Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research*, 36(3), 217-231. [https://doi.org/10.1016/0148-2963\(95\)00150-6](https://doi.org/10.1016/0148-2963(95)00150-6)
62. **Roberts, J. A., and Bacon, D. R. (1997).** Exploring the subtle relationship between environmental concern and ecologically conscious consumer behaviour. *Journal of Business Research*, 40(1), 79-89.
63. **Sarstedt, M., and Mooi, E. (2019).** *A concise guide to market research: the process, data, and methods using IBM SPSS Statistics* (3rd ed.). Springer-Verlag. <https://doi.org/10.1007/978-3-662-56707-4>
64. **Saygılı, M., Özdemir, A., Tanyeri, A. E., and Erden, C. (2016).** Çevre bilinci ve çevre dostu ürün bilincine ilişkin tutumların incelenmesi üzerine bir araştırma: Adıyaman Üniversitesi örneği. *3rd International Symposium on Environment and Morality (ISEM2016)*, 1089-1098, Alanya, Antalya, Turkey.
65. **Schultz, A. E., Newman, K. P., and Wright, S. A. (2023).** The negative effect of low belonging on consumer responses to sustainable products. *Journal of Business Ethics*, 187(3), 473-492. <https://doi.org/10.1007/s10551-022-05257-0>
66. **Sekaran, U., and Bougie, R. (2016).** *Research methods for business: a skill-building approach* (7th ed.). Wiley.
67. **Sheikh, A., Mirzaei, M., and Ahmadinejad, B. (2023).** Factors influencing green purchase behavior: price sensitivity, perceived risk, and attitude towards green products. *Contemporary Management Research*, 19(3), 153-174. <https://doi.org/10.7903/cmr.22824>
68. **Somuncu, M. (2004).** Dağcılık ve dağ turizmindeki ikilem: ekonomik yarar ve ekolojik bedel. *Coğrafi Bilimler Dergisi*, 2(1), 1-21.
69. **Stern, P. C. (2000).** New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424. <https://doi.org/10.1111/0022-4537.00175>
70. **Straughan, R. D., and Roberts, J. A. (1999).** Environmental segmentation alternatives: a look at green consumer behaviour in the new millennium. *Journal of Consumer Marketing*, 16(6), 558-575. <https://doi.org/10.1108/07363769910297506>
71. **Su, L., Hsu, M. K., and Boostrom Jr, R. E. (2020).** From recreation to responsibility: increasing environmentally responsible behavior in tourism. *Journal of Business Research*, 109, 557-573. <https://doi.org/10.1016/j.jbusres.2018.12.055>
72. **Sustainability Directory. (2025, February).** *How does consumption relate to cultural identity?* <https://lifestyle.sustainability-directory.com/question/how-does-consumption-relate-to-cultural-identity/>
73. **Süllü, M. E., and Engin, S. G. (2024).** Ortaöğretim öğrencilerinin algıladıkları sporcu kimliği düzeyi ile çevresel davranış arasındaki ilişkinin çeşitli değişkenlere göre incelenmesi. *Uluslararası Bozok Spor Bilimleri Dergisi*, 5(1), 260-274.
74. **Teah, K., Cheah, I., and Shimul, A. S. (2023).** The present and future of the luxury-sustainability paradox. In *Luxury Marketing, Sustainability and Technology: The Future of Luxury Management*, 1-18. Routledge. <https://doi.org/10.4324/9781003321378-8>
75. **Tekin, N. (2021).** Sürdürülebilir tüketim ve spor ilişkisi. *FOCUSS Spor Yönetimi Araştırmaları Dergisi*, 2(1), 35-46.

76. Terzic, A., Demirovic, D., Petrevska, B., and Limbert, W. (2020). Active sport tourism in Europe: applying market segmentation model based on human values. *Journal of Hospitality & Tourism Research*, 45(7), 1214-1236. <https://doi.org/10.1177/1096348020926546>
77. Trivedi, R. H., Patel, J. D., and Acharya, N. (2018). Causality analysis of media influence on environmental attitude, intention, and behaviors leading to green purchasing. *Journal of Cleaner Production*, 196, 11-22. <https://doi.org/10.1016/j.jclepro.2018.06.024>
78. Vistharakula, U. R., and Kaushik, V. (2021). Influence of gender and age with consumers 'green behavior'. *Current Journal of Applied Science and Technology*, 40(12), 95-100. <https://doi.org/10.9734/cjast/2021/v40i1231384>
79. Yıldırım, A., and Şimşek, H. (2021). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seçkin Yayıncılık
80. Wilska, T. A., Rantala, E., and Nyrhinen, J. (2025). Profiles of green and non-green consumers: A three-country study. *Cleaner and Responsible Consumption*, 16, 100260. <https://doi.org/10.1016/j.clrc.2025.100260>