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ORIGINAL SCIENTIFIC PAPER

Determination of Ecorecreative Attitudes of University Students

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Abstract

The purpose of this study is to determine the ecorecreative attitude levels of university students and to examine these attitudes according to selected demographic variables. The study was conducted using a quantitative research approach and was designed based on a cross-sectional survey model. The study was conducted with a sample of 309 university students. The Ecorecreative Attitude Scale (EAS) was administered as the data collection instrument. The scale consists of three subdimensions: affective attitude, cognitive attitude, and behavioral attitude, and aims to measure the importance that participants attach to ecological sustainability in their participation in recreational activities. In the data analysis process, the Cronbach Alpha coefficient was calculated to determine the reliability of the measurement tool. Skewness and kurtosis values were examined to evaluate the distributional characteristics of the data set. For the data set that met the assumption of normal distribution, the Independent Samples t-test was used for comparisons between two groups. According to the findings, when the subdimensions were examined, the highest mean score was observed in the cognitive attitude dimension (M =3.66), while the lowest mean score was found in the affective attitude dimension (M =3.34). It was determined that students who were members of university nature sports clubs had significantly higher ecorecreative attitude scores in all subdimensions and in the total scale score compared to those who were not members (for total score, $t=2.767$, $p<0.05$, $d=0.33$). Similarly, students who evaluated their leisure actively had significantly higher ecorecreative attitude levels than those who evaluated their leisure passively (for total score, $t=3.362$, $p<0.05$, $d=0.43$). In this context, increasing nature-based recreational activities at universities and supporting student nature sports clubs are considered important factors that may contribute to the development of students' ecorecreational awareness.

Keywords: leisure, ecorecreation, outdoor, nature-sports, sustainability

1. Introduction

Today environmental problems occurring on a global scale have made it necessary to reconsider the relationship between humans and the natural environment. Industrialization, rapid urbanization and increasing population pressure cause serious damage to natural ecosystems and

bring about problems such as biodiversity loss, environmental pollution, climate change and the depletion of natural resources. Environmental pressures emerging particularly from industrial activities lead to ecosystem degradation, habitat loss and the threat to the sustainability of natural resources (Berdenov et al., 2025). Moreover, recreational activities carried out in natural areas may also create various environmental impacts when they are not properly planned. It has been reported that nature-based recreational activities can result in environmental consequences such as habitat degradation, vegetation damage and ecosystem pressure (Pickering and Hill, 2007). Therefore, planning recreational activities in line with sustainability principles and increasing environmental awareness have become necessary.

Urbanization and technological developments brought about by modern life have significantly reduced individuals' contact with the natural environment (Louv, 2006). In particular, the decreasing opportunities for young individuals to interact with nature may negatively affect the development of environmental awareness and attitudes toward nature (Soga and Gaston, 2016). Research indicates that young people's interactions with nature and rural environments are not merely recreational experiences but also play an important role in the formation of individual identity and the development of lifestyle patterns (King and Church, 2013). However, with the increasing level of urbanization, the connection individuals establish with nature in their daily lives has weakened, and opportunities for nature experiences have become increasingly limited (Miller, 2005). Indeed, it has been suggested that urbanization causes significant changes in individuals' lifestyles and by reducing interaction with the natural environment, brings about various environmental and social problems (Kaynak et al., 2025).

At this point, nature-based recreational activities are considered one of the important tools that enable individuals to reconnect with the natural environment (Bratman et al., 2019). Outdoor recreational activities allow individuals to spend time in natural settings and provide significant benefits both physically and psychologically (Pretty et al., 2005). Nature-based activities such as mountaineering, hiking, camping and water sports enable individuals to experience nature while also contributing to the development of their environmental awareness (Jenkins and Pigram, 2006). However, a critical distinction must be drawn between general outdoor recreation and the specific paradigm of ecorecreation (Fennell, 2015). While outdoor recreation encompasses a broad spectrum of leisure pursuits situated in natural settings (Thapa, 2010), ecorecreation places a distinct emphasis on environmentally responsible participation that actively aligns with ecological

sustainability (Weaver, 2008). Consequently, ecorecreation transcends mere physical presence in nature; it reflects a deliberate, conscious orientation aimed at minimizing environmental impacts while actively fostering pro-environmental attitudes and conservation behaviors (Ewert et al., 2005; Larson et al., 2011). Establishing this conceptual boundary at an early stage is imperative to clarify the theoretical scope of the study and to accurately contextualize the psychological and behavioral dimensions of ecorecreational engagement (Vaske and Kobrin, 2001).

The implementation of nature-based recreational activities in line with environmental protection principles has brought the concept of ecorecreation to the forefront. Ecorecreation refers to recreational activities that support environmental sustainability while increasing individuals' interaction with the natural environment (Karaküçük and Akgül, 2016). These activities enable individuals to establish contact with nature and contribute to the development of environmental awareness and a sense of environmental responsibility (Hungerford and Volk, 1990). Participation in nature-based activities has been shown to improve individuals' physical health, enhance psychological well-being and positively influence life satisfaction (Pritchard et al., 2020). In addition, it has been emphasized that the sustainable planning of recreational areas is important both for environmental conservation and for public health (Manning, 1999).

The literature indicates that the relationship established with nature has a significant effect on individuals' environmental attitudes (Mayer and Frantz, 2004; Schultz, 2001). Individuals who develop a strong connection with nature tend to exhibit more environmentally responsible and sensitive behaviors (Wells and Lekies, 2006). In particular participation in outdoor recreational activities has been reported to increase individuals' level of interaction with nature and contribute to the development of ecological attitudes (Thapa, 2010; Nisbet et al., 2009). Strengthening the emotional and psychological connection with nature may increase individuals' sensitivity toward environmental problems and contribute to the adoption of sustainable behaviors.

Recent research has increasingly emphasized the role of nature-based recreation in shaping environmental attitudes among university students (Uygur et al., 2025; Durhan and Karaküçük, 2020). Studies have shown that stronger connection to nature is associated with greater preference for outdoor environments and more frequent participation in nature-based recreational activities (Rosa et al., 2023; Martin et al., 2020). In addition, interaction with natural environments has been linked to improved psychological well-being and cognitive restoration during emerging adulthood (Puhakka et al., 2021). Furthermore, evidence from sport sciences

contexts suggests that individuals who actively engage in nature-based and ecorecreational activities tend to exhibit higher levels of environmental awareness and more positive sustainability-related attitudes. These findings highlight that environmental attitudes among university students are closely associated with experiential aspects of leisure and remain a relevant area for further investigation.

University students represent an important life period in which environmental awareness and sustainable behaviors develop. The university years can be considered a critical stage during which individuals' value systems and attitudes toward the environment are shaped. For this reason determining university students' attitudes toward ecorecreation is considered important for increasing environmental awareness and promoting a sustainable understanding of recreation. In this context the aim of the study is to determine university students' attitudes toward ecorecreation and to examine these attitudes in terms of various variables. Based on the literature, the following hypotheses were formulated:

- H1: Ecorecreative attitude levels differ according to gender.
- H2: Ecorecreative attitude levels differ according to recreational opportunities.
- H3: Ecorecreative attitude levels differ according to nature sports club membership.
- H4: Ecorecreative attitude levels differ according to leisure type (active vs. passive).

2. Materials and Methods

Research model

This study was designed using the general survey model, one of the quantitative research methods, in order to determine the ecorecreative attitude levels of university students and to examine whether these attitudes differ according to various demographic variables. The survey model is a research approach that aims to reveal the existing situation as it is and allows the examination of relationships between variables. Within this framework relational survey approaches were used in the study.

Population and sample

The population of the study consists of undergraduate students studying at Yalova University. The sample of the study consists of a total of 309 volunteer university students selected using the convenience sampling method. Of the participants 45.3% were female (n = 140) and

54.7% were male (n = 169). Convenience sampling is a widely used approach that allows researchers to collect data from easily accessible participants. However, this method may limit the representativeness of the sample and, therefore, the generalizability of the findings to the broader population.

Research publication ethics

Ethical approval required for the conduct of the study was obtained from the Yalova University Human Research Ethics Committee. The ethics committee approved the study as ethically appropriate with the decision dated 10.03.2023 and protocol number 2023/38. Before the data collection process participants were informed about the purpose and scope of the study and it was stated that participation was based on voluntary consent. Participants were also informed that they could withdraw from the study at any time and that all data would be used only for scientific purposes.

Data collection tools

In the study the Demographic Information Form and the Ecorecreative Attitude Scale were used as data collection instruments.

Ecorecreative attitude scale

The Ecorecreative Attitude Scale (EAS) was developed by Kement et al. (2021) to assess individuals' attitudes toward ecorecreation. The scale was developed through a comprehensive multi-stage process including the Delphi technique, focus group interviews, item purification, and validation procedures. In the scale development phase, data were collected from participants in Turkey and both exploratory and confirmatory analyses were conducted to establish its validity and reliability.

The final scale consists of three subdimensions: affective (5 items), cognitive (7 items), and behavioral (10 items), reflecting the multidimensional structure of ecorecreative attitudes. Given that the present study was conducted with a university student sample within a similar cultural context, the use of the scale was considered appropriate without requiring further cross-cultural adaptation. The scale was rated on a five-point Likert-type format, and higher scores indicate higher levels of ecorecreative attitudes.

Data collection

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The data of the study were collected through an online questionnaire form. During the data collection process participants were informed about the purpose of the study and were asked to complete the questionnaire voluntarily.

Data analysis

The data obtained from the study were analyzed using the SPSS 23.0 statistical software package. Frequency and percentage distributions were calculated to determine the demographic characteristics of the participants. Cronbach's alpha reliability coefficient was calculated to determine the internal consistency of the scale. The normality of the data set was evaluated by examining skewness and kurtosis values. Parametric test techniques were used for variables that met the assumption of normal distribution.

Skewness and kurtosis values were examined to evaluate the normality of the data distribution. In line with Tabachnick and Fidell (2013) values within the range of ±1.5 were considered indicative of normal distribution. For variables meeting this assumption, parametric tests were applied. The assumption of homogeneity of variances was tested using Levene's test. In cases where the assumption of equal variances was violated, Welch's t-test was used as a more robust alternative. Accordingly, Welch-adjusted degrees of freedom were reported in the relevant analyses.

3. Results

Table 1. Descriptive statistics

Variables		N	%	Total	Min.	Max.	Mean	s.d.
Gender	Female	140	45,3	309				
	Male	169	54,7					
Recreational Opportunities	Sufficient	110	35,6					
	Insufficient	199	64,4					
Nature Sports Club Membership	Yes	141	45,6					
	No	168	54,4					
Leisure Type	Active	207	67,0					
	Passive	102	33,0					
Age					18	34	21,23	2,44

Note: Mean, standard deviation, minimum and maximum values are not reported for nominal variables.

Table 1 presents the findings related to some demographic characteristics of the participants included in the study. According to the frequency results a total of 309 individuals participated in the study including 169 males (54.7%) and 140 females (45.3%). When participants' perceptions of recreational opportunities were examined 110 participants (35.6%) evaluated these opportunities as sufficient whereas 199 participants (64.4%) considered them insufficient. Regarding nature sports club membership 141 participants (45.6%) reported that they were members of a club while 168 participants (54.4%) stated that they were not members. In terms of the way participants spent their leisure time 207 participants (67.0%) reported that they spent their leisure time actively while 102 participants (33.0%) stated that they spent it passively. Finally the ages of the participants ranged between 18 and 34 and the mean age was 21.23 ± 2.44.

Table 2. Distribution of measurement scores

Dependent Variables	Number of Items	N	Mean	Skewness	Kurtosis	Cronbach's Alpha
Affective Attitude Subdimension	5	309	3,34	-,224	,059	,808
Cognitive Attitude Subdimension	7		3,66	-,474	,251	,846
Behavioral Attitude Subdimension	10		3,55	-,519	,694	,888
Total Score of the Ecorecreative Attitude Scale	22		3,54	-,422	,905	,933

When table 2 is examined descriptive statistics related to the scores obtained by 309 students participating in the study from the Ecorecreative Attitude Scale (EAS) are presented. When evaluated in terms of the subdimensions of the scale participants obtained a mean score of 3.34 from the affective attitude subdimension 3.66 from the cognitive attitude subdimension and 3.55 from the behavioral attitude subdimension. The total mean score of the scale was determined as 3.54. The skewness and kurtosis values related to the subdimensions and the total score ranged between ±1.5 indicating that the data set showed a normal distribution (Tabachnick and Fidell

2013). According to the reliability analysis results Cronbach's alpha coefficients were .808 for the affective attitude subdimension .846 for the cognitive attitude subdimension .888 for the behavioral attitude subdimension and .933 for the total score of the scale. These findings indicate that the subdimensions and the total score of the scale have a high level of internal consistency and that the scale is a reliable measurement tool.

Table 3. Independent samples t test results according to the gender variable

Dependent Variables	Gender	N	Mean	s.d.	t	df	p	Cohen's d
Affective Attitude	Female	140	3,39	,851	,759	307	,449	0.08
	Male	169	3,32	,855				
Cognitive Attitude	Female	140	3,75	,826	1,517	307	,130	0.18
	Male	169	3,60	,844				
Behavioral Attitude	Female	140	3,60	,855	,885	307	,377	0.11
	Male	169	3,51	,802				
Total Score of the Ecorecreative Attitude Scale	Female	140	3,60	,759	1,182	307	,238	0.13
	Male	169	3,50	,738				

Table 3 presents the results of the independent samples t-test according to the gender variable. When the findings are examined it is seen that the mean scores of female participants in the affective cognitive and behavioral attitude subdimensions as well as the total score of the Ecorecreative Attitude Scale are higher than those of male participants. However the results of the analysis indicated that these differences were not statistically significant ($p > 0.05$). This finding shows that participants' ecorecreative attitude levels do not differ significantly according to the gender variable. No statistically significant differences were observed according to gender. Furthermore, effect size estimates (Cohen's d) indicated negligible differences, suggesting that gender does not play a meaningful role in shaping ecorecreative attitudes.

Table 4. Independent samples t test results according to the recreational opportunities variable

Dependent Variables	Recreational Opportunities	N	Mean	s.d.	t	df	p	Cohen's d
Affective Attitude	Sufficient	110	3,43	,937	1,276	307	,203	0.15
	Insufficient	199	3,30	,802				
Cognitive Attitude	Sufficient	110	3,70	,864	,565	307	,572	0.06
	Insufficient	199	3,65	,826				
Behavioral Attitude	Sufficient	110	3,59	,883	,613	307	,540	0.07
	Insufficient	199	3,53	,795				

Total Score of the Ecorecreative Attitude Scale	Sufficient	110	3,59	,800	,840	307	,402	0.10
	Insufficient	199	3,52	,719				

Table 4 presents the results of the independent samples t-test according to the recreational opportunities variable. When the findings are examined it is observed that the mean scores of participants who evaluated recreational opportunities as sufficient in the affective cognitive and behavioral attitude subdimensions as well as in the total ecorecreative attitude score were higher than those of participants who evaluated these opportunities as insufficient. However the results of the analysis indicated that these differences were not statistically significant ($p > 0.05$). This finding shows that participants' ecorecreative attitude levels do not differ significantly according to whether they perceive recreational opportunities as sufficient or insufficient. No statistically significant differences were found based on perceived recreational opportunities. Consistent with this, effect size estimates (Cohen's d) were small, indicating that perceived opportunities have limited practical influence on ecorecreative attitudes.

Table 5. *Independent samples t test results according to the nature sports club membership variable*

Dependent Variables	**Nature Sports Club Membership**	**N**	**Mean**	**s.d.**	**t**	**df**	**p**	**Cohen's d**
Affective Attitude	Yes	141	3,48	,970	2,493	255,308	,013	0.28
	No	168	3,24	,726				
Cognitive Attitude	Yes	141	3,81	,881	2,815	307	,005	0.31
	No	168	3,55	,783				
Behavioral Attitude	Yes	141	3,67	,895	2,289	307	,023	0.27
	No	168	3,45	,753				
Total Score of the Ecorecreative Attitude Scale	Yes	141	3,67	,827	2,767	265,405	,006	0.33
	No	168	3,43	,658				

Table 5 presents the results of the independent samples t-test according to the nature sports club membership variable. When the findings are examined it is determined that the mean scores of individuals who are members of nature sports clubs in the affective cognitive and behavioral attitude subdimensions as well as the total score of the Ecorecreative Attitude Scale are significantly higher than those of individuals who are not members ($p < 0.05$). This finding indicates that membership in nature sports clubs has a positive effect on individuals' ecorecreative attitude levels.

A consistent pattern of higher scores was observed among participants who were members of nature sports clubs across all subdimensions, indicating a positive association between nature-based engagement and ecorecreative attitudes.

Table 6. Independent samples t test results according to leisure type

Dependent Variables	Leisure Type	N	Mean	s.d.	t	df	p	Cohen's d
Affective Attitude	Active	207	3,51	,855	4,918	307	,000	0.60
	Passive	102	3,02	,754				
Cognitive Attitude	Active	207	3,77	,822	3,020	307	,003	0.39
	Passive	102	3,46	,839				
Behavioral Attitude	Active	207	3,62	,842	2,032	307	,043	0.25
	Passive	102	3,42	,782				
Total Score of the Ecorecreative Attitude Scale	Active	207	3,64	,760	3,362	307	,001	0.43
	Passive	102	3,34	,685				

Table 6 presents the results of the independent samples t-test according to leisure type. When the findings are examined it is determined that the mean scores of individuals who spend their leisure time actively in the affective cognitive and behavioral attitude subdimensions as well as the total score of the Ecorecreative Attitude Scale are significantly higher than those of individuals who spend their leisure time passively ($p < 0.05$). This finding indicates that engaging in active recreational activities during leisure contributes to the positive differentiation of ecorecreative attitude levels.

The results reveal a clear and consistent pattern in which participants engaged in active leisure activities reported higher scores across all subdimensions, highlighting the strong role of active participation in shaping ecorecreative attitudes.

4. Discussion

This study aimed to determine university students' ecorecreative attitude levels and to examine whether these attitudes differ according to selected demographic variables. The findings demonstrated that ecorecreative attitudes were significantly associated with nature sports club membership and active leisure participation, whereas no statistically significant differences were observed according to gender and perceived recreational opportunities.

In the present study, ecorecreative attitudes did not differ significantly by gender. This finding is consistent with previous research conducted with university students, including the study by Yılmaz et al. (2023) which likewise reported no significant gender-based differences in ecorecreational attitudes. Although some studies suggest that women tend to exhibit higher levels of environmental concern and pro-environmental attitudes, the broader literature indicates that such differences are often small or context-dependent (Zelezny et al., 2000; Xiao and McCright, 2015). In this respect, the current findings align with studies reporting negligible gender-based differences, suggesting that environmental attitudes may not be strongly determined by demographic characteristics alone. Instead, attitudes toward ecorecreation may develop through similar levels of environmental awareness and shared experiential factors across genders. Supporting this view, international studies on green space use and ecosystem services have emphasized that pro-environmental attitudes are more closely associated with environmental awareness and engagement rather than gender differences (Clayton et al., 2015; Chawla, 1998).

In the study ecorecreational attitude levels were examined according to the recreational opportunities variable. According to the findings the affective cognitive and behavioral attitude subdimensions as well as the total ecorecreational attitude scores did not show a statistically significant difference. However participants who evaluated recreational opportunities as sufficient had higher mean scores in all subdimensions. This situation suggests that perceiving recreational opportunities as sufficient may positively support individuals' attitudes toward nature-based recreational activities. It is known that the increase in green spaces and recreational opportunities can positively influence individuals' environmental awareness and their interaction with nature (Hartig et al., 2014). In this context improving recreational infrastructure and increasing nature-based recreation opportunities may contribute to strengthening individuals' ecorecreational attitudes (Beery and Jönsson, 2017; Kil, 2016).

The finding that perceived recreational opportunity sufficiency did not significantly influence ecorecreative attitudes is noteworthy and somewhat counterintuitive. One possible explanation is that subjective perceptions of opportunity may not accurately reflect actual engagement with nature-based environments, as individuals may perceive opportunities as sufficient without actively participating in them (Hartig et al., 2014; Whitburn et al., 2018). This suggests that perceived availability alone may be insufficient to shape ecorecreative attitudes. Instead, such attitudes may depend more strongly on experiential and behavioral factors, such as

active participation in nature-based activities, as well as individual-level variables including motivation, social norms, and personal interest in nature (Ajzen, 1991; Rosa et al., 2018). Accordingly, future research should examine these potential mediating mechanisms to better understand the formation of ecorecreative attitudes.

It was determined that ecorecreational attitude levels differed significantly according to the nature sports club membership variable. According to the findings participants who were members of nature sports clubs had significantly higher mean scores in the affective cognitive and behavioral attitude subdimensions as well as in the total ecorecreational attitude score compared to those who were not members. This finding suggests that participation in nature sports clubs may contribute to individuals' increased interaction with nature experiencing the natural environment and developing environmental awareness. Indeed various studies emphasize that participation in nature-based recreational activities strengthens individuals' environmental attitudes and increases their tendency to engage in pro-environmental behaviors (Han, 2023; Theodori et al., 1998). Activities carried out through nature sports enable individuals to establish direct contact with nature and may contribute to the development of values such as environmental sensitivity connection with nature and sustainable environmental awareness (Brymer et al., 2009).

In the study it was determined that ecorecreational attitude levels differed significantly according to leisure type. According to the findings individuals who spent their leisure time actively had significantly higher mean scores in the affective cognitive and behavioral attitude subdimensions as well as in the total ecorecreational attitude score compared to those who spent their leisure time passively. This finding indicates that engaging in active recreational activities during leisure may contribute to the development of environmental awareness and positive environmental attitudes by increasing individuals' interaction with nature**.** Active recreational activities allow individuals to directly experience the natural environment and contribute to the development of nature connectedness environmental sensitivity and sustainable environmental awareness (Lumber et al., 2017). Recreational activities that involve direct contact with nature increase individuals' environmental awareness and contribute to the development of environmental responsibility (Rosa and Collado, 2019). In this context evaluating leisure time through active recreational activities can be considered an important means of supporting the development of ecorecreational attitudes by enabling individuals to establish more frequent and meaningful interactions with nature.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the use of convenience sampling may limit the representativeness of the sample and the generalizability of the results. Second, the cross-sectional design does not allow for causal inferences between variables. Finally, the study was conducted within a single university context, which may restrict the applicability of the findings to broader populations. Despite these limitations, the findings of the present study suggest that recreational activities that increase individuals' interaction with nature play an important role in the development of ecorecreational attitudes. In particular, factors such as engaging in active outdoor leisure activities and the presence of awareness regarding nature sports clubs were found to positively influence individuals' affective, cognitive, and behavioral attitudes toward the environment.

5. Conclusions

The findings of the present study suggest that recreational activities that increase individuals' interaction with nature play an important role in the development of ecorecreative attitudes. In particular, active participation in outdoor leisure activities and involvement in nature sports clubs were found to positively contribute to individuals' affective, cognitive, and behavioral environmental attitudes. These findings indicate that direct engagement with nature may support the development of environmental awareness and sustainable environmental consciousness among university students.

In this context, universities and local administrations may contribute to the strengthening of ecorecreative awareness by increasing the accessibility of nature-based recreational opportunities and encouraging active student participation in outdoor activities. Supporting activities such as hiking, camping, outdoor sports, and environment-based recreational events may further enhance students' environmental sensitivity and nature connectedness. Furthermore, future studies should examine the long-term effects of participation in nature-based recreation through longitudinal and experimental research designs conducted with different populations and age groups.

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