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RESEARCH ARTICLE

A New Concept in Psychology: Development of the Ecopsychological Sensitivity Scale and Examination of Its Psychometric Properties

Hasan Kütük[a] A. Nilgün Canel[b] Ahmet Şirin[b]

[a] Yıldız Technical University, Faculty of Education, Department of Psychological Counseling, İstanbul, Türkiye.
[b]Marmara University, Faculty of Education, Department of Psychological Counseling, İstanbul, Türkiye.

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ABSTRACT

The main purpose of this study is to develop the Ecopsychological Sensitivity Scale (ESS) and analyse its psychometric properties. The data for the study was collected in four different stages. A total of 1070 individuals participated in the study. For the first stage, exploratory factor analysis (EFA), data was collected from a total of 416 people: 270 women and 146 men (Mage=31.51; SD=10.11). For the second stage, confirmatory factor analysis (CFA), data was collected from a total of 499 participants: 321 women and 178 men (Mage=27.59; SD=10.77). In the third stage, in order to test criterion-related validity, data was collected from a total of 110 people: 75 women and 35 men (Mage=26.39; SD=10.17). In the fourth stage, data was collected from a total of 45 people, 33 women and 12 men, in order to measure test-retest reliability (Mage=24.19; SD=9.17). As a result of EFA, a structure consisting of 14 items and two sub-dimensions was obtained. CFA results performed to verify the obtained structure showed that the fit indices of the scale were at an acceptable level. In criterion validity analyses, significant relationships were found between the ESS and similar scales. In the reliability analysis, the Cronbach alpha coefficient of the developed ESS was calculated as .94, the environmental sensitivity sub-dimension was .88, and the environmental integration sub-dimension was calculated as .91. In this study, it was concluded that the ESS, which was developed to measure the ecopsychological sensitivity levels of adult individuals, is a valid and reliable measurement tool. It is thought that it will be useful to researchers in terms of using it in future studies on ecopsychology.

The effects of the ecological world on human health have been one of the topics of interest in the psychology literature. People have been directly or indirectly affected by the healing effects of nature throughout their lives. As research on the healing effects of nature increases, its aspect of supporting mental well-being has begun to appear in the psychology literature in recent years. Based on this rationale, researchers interested in the subject have put forward hypotheses regarding the positive effect of ecology on psychology. Three theories have an impact on the literature regarding the healing effects of nature.

CORRESPONDING AUTHOR Hasan KÜTÜK, hasankutuk28@gmail.com, ORCID: 0000-0002-8288-4107, Yıldız Technical University, Faculty of Education, Department of Psychological Counseling, İstanbul, Türkiye.

The first theory that discusses the impact of the ecological world on human health is the biophilia hypothesis. According to this hypothesis, which is based on the theory of evolution, humans' connection with nature is innate. This bond dates back to our earliest ancestors, before birth (Wilson, 1984). The second theory that deals with ecology is the attention restoration theory. Rachel Kaplan and Stephen Kaplan put forward this theory during their studies on attention in the United States. The third theory that examines the healing effects of nature is the psycho-evolutionary stress reduction theory. This theory suggests that the natural environment has an inherent aesthetic order, which positively influences human health by reducing stress. This aesthetic order has a healing effect on human health. In the hospital experiment, Ulrich (1984) laid the foundations of the psycho-evolutionary stress reduction theory by noticing that the length of hospital stay was shorter for patients whose room windows looked at natural beauties.

While researchers are looking into how nature may heal people, the harm that humans are doing to the environment has also gained attention in the social scientific community. The concept of ecopsychology was introduced to change human behavior that may cause ecological problems and to raise awareness of the healing effects of nature on people. The concept of ecopsychology, brought to the agenda by Roszak (1992), emphasizes that ecopsychological studies are important for the individual to establish a connection with nature. With the acceleration of industrialization and urbanization, man's connection with nature is gradually decreasing. The individual whose relationship with the ecological world weakens both negatively affects the environment and is negatively affected by it. To eliminate this problem, studies that will increase ecopsychological sensitivity in humans are needed (Roszak, 1992). Ecopsychology deals with the ecological crisis in the world and its psychological effects on individuals. In short, it aims to eliminate the problems in the nature-human relationship by focusing on them (Scull, 2008).

Global ecological problems impact all of humanity and influence individuals' sensitivity to nature. Additionally, these problems shape the ecological policies implemented by countries. People are becoming increasingly aware that the damage they cause to nature also harms their own lives (Gül, 2013). Humans experience psychological and physiological effects as a result of the damage they have done to nature. People need to be connected to nature and have a lifestyle in touch with nature, just as much as they need social relations, to maintain a healthy body and psychological structure (Weaver, 2015).

Human behavior lies at the root of global ecological problems (Caillaud et al. 2016). High ecopsychological sensitivity in individuals may contribute to the solution of ecological problems by eliminating these negative behaviors. Only when the individual identifies with nature may they act with a common identity and assume a more protective role (Kahn et al., 2012). Researchers emphasize that negative natural conditions caused by humans may lead to problems in the lives of individuals, such as health, education, and inequalities of opportunity. Therefore, ecopsychology aims to create a common discipline by combining ecology and psychology. In this way, it aims to prevent possible negativity by improving the ecopsychological sensitivity of individuals (Woodbury & Chalquist, 2012).

From the information provided, it may be concluded that engaging in ecopsychological activities is crucial for fostering individuals' ecopsychological sensitivity. Nature therapies may be counted among these activities, with their nature encouraging the client to take action along with outdoor physical activities. It is thought that new behaviors to be developed by the natural environment during the therapy process will increase the ecopsychological sensitivity of individuals. It is thought that various activities to be carried out in touch with nature will encourage individuals to develop technologies that are more compatible with nature. A measurement tool is needed to measure the ecopsychological sensitivity levels of individuals before and after these activities. When the literature is examined, it is seen that there is no measurement tool to determine the ecopsychological sensitivities of individuals. It is seen that measurements related to ecopsychology are measured with scales such as the nature-relatedness scale (Nisbet & Zelenski, 2013), the environmental paradigm scale (Dunlap & Van Lierre, 1978), ecospirituality scale (Suganthi, 2019), and the ecological intelligence scale (Akkuzu, 2016). Examining the characteristics of the measurement tools used in the literature reveals their aim to measure the impact of spending time in nature or ecopsychological developments

on the individual. However, ecopsychological sensitivity focuses on individuals' interest in nature and their instincts to protect nature. The purpose of the ecopsychological sensitivity scale is to measure interest and protectiveness toward nature. The ecopsychological sensitivity scale is expected to contribute to the literature as an alternative measurement tool that can be used when measuring the healing effects on individuals' psychology. Since ecopsychological sensitivity is a new concept in the psychology literature, there is no measurement tool to measure it. It is thought that, thanks to the developed scale, it will be easier to conduct studies on ecopsychological sensitivity. It is thought that the research will make a contribution to the literature in this respect.

Method

Participants

The sample group of the study consists of adult individuals. In the research, data was collected in four different stages. In the first stage, data was collected from a total of 416 participants (Mage=31.51, SD=10.11), 270 women (64.9%) and 146 men (35.1%) for exploratory factor analysis (EFA). In the second stage, data was collected from a total of 499 participants (Mage=27.59, SD=10.77), 321 women (64.3%) and 178 men (35.7%) for confirmatory factor analysis (CFA). In the third stage, data was collected from a total of 110 participants (Mage=26.39, SD=10.17), 75 women (68.2%) and 35 men (31.8%), in order to test criterion validity. In the fourth stage, data was collected from a total of 45 participants (Mage=24.19, SD=9.17), 33 women (73.3%) and 12 men (26.7%), in order to measure test-retest reliability.

Data Collection Process

Quantitative data for the research were collected through the Ecopsychological Sensitivity Scale, the Nature-Relatedness Scale (Sarıçam et al., 2015), and the New Environmental Paradigm Scale (Kuvaç, 2018). Necessary permissions were obtained by taking ethical issues into account when collecting data. Ethics committee approval was received from the [Blinded] Research Ethics Committee. The study was designed following the Helsinki Declaration. The data collection process was completed in 2022. Informed consent was obtained from each participant before data collection.

Procedure

Within the scope of the research, a scale development study was carried out to determine the ecopsychological sensitivity levels of adult individuals. Literature reviews regarding the development of the Ecopsychological Sensitivity Scale, item writing stages, arrangements made with expert opinions, and procedures regarding application and analysis are explained in detail below.

It is noteworthy in this section that the concept of ecopsychology is a new concept in the psychology literature. Although there are related studies in the literature on nature, it has been observed that there are a limited number of studies on ecopsychology, especially in Türkiye. In the development of the Ecopsychological Sensitivity Scale, a comprehensive literature review was first conducted on topics such as ecopsychology, nature therapies, adventure therapy, ecological intelligence, the ecopsychological self, and being related to nature. The items and manuscript of the scales developed on the above topics in the literature were examined in detail (Akkuzu, 2016; Kuvaç, 2018; Nisbet et al., 2009; Sarıçam et al., 2015; St. John, & MacDonald, 2007). Based on the examinations made, an item list consisting of 74 items was prepared by the research team. While preparing the items, differences in individuals' approaches to ecopsychology and nature were taken into account. These 74 items were shared with 1 professor, 1 associate professor, and 5 doctoral students who are experts in the field of psychological counseling and guidance, to be evaluated in terms of content and face validity. Experts were asked to evaluate the suitability and understandability of the items according to the theoretical structure. Experts were asked to express their opinions on each item as "appropriate," "should be corrected," and "should be removed". The items were then revised according to the experts' feedback, and the final version was prepared before data collection.

Measures

Ecopsychological Sensitivity Scale. It is a self-report scale consisting of 14 items and 2 sub-dimensions on a five-point Likert scale. The lowest score that may be obtained from the scale is 14, and the highest score is 70. A high score on the scale indicates that the person has a high level of ecopsychological sensitivity. The findings section includes EFA and CFA criterion validity and reliability analyses of this scale.

Nature-Relatedness Scale. It consists of six items of five-point Likert type and a single dimension. The scale developed by Nisbet and Zelenski (2013) was adapted into Turkish by Sarıçam et al. (2015). It may be interpreted that as the scores increase, the individual's relationship with nature increases. The Cronbach Alpha internal consistency coefficient of the scale was calculated as 0.89. In addition, it can be said that the fit values are within acceptable limits ($\chi 2/sd=1.97$, RMSEA= .35, SRMR= .04, GFI= .96, AGFI= .96, CFI= .97, NFI= .96, NNFI= .97, RFI= .97, IFI= .96).

New Environmental Paradigm Scale. It was developed by Dunlap and Van Lierre (1978) to determine individuals' attitudes towards the environment. It was later revised by Dunlap et al. (2000). The Turkish adaptation study was carried out by Kuvaç (2018). The scale, which consists of 15 items in a five-point Likert type, has two sub-dimensions: anthropocentric and ecocentric. As the scores obtained increase, it may be inferred that the individual's tendency and awareness in that field are high. The Cronbach Alpha internal consistency coefficient was .79 for the ecocentric approach dimension; .73 for the anthropocentric approach dimension; it was calculated as .76 for the overall scale. In addition, it can be said that the fit values are within acceptable limits ($\chi 2/sd= 1.422$, RMSEA= .061, SRMR= .075, CFI= .94, IFI= .94, NNFI= .92).

Data Analysis

In this context, the construct validity of the scale was tested with data collected from adult individuals. First, exploratory factor analysis (EFA) was performed to obtain results regarding the sub-factors into which the data was divided. In this way, the dimensional structure of the developed scale was discovered (Tabacknick & Fidell, 2013). Confirmatory factor analysis (CFA) was used to verify the structure obtained as a result of EFA. CFA is a method used to test scales whose structures have been previously determined. It is a type of analysis that provides important data to prove construct validity in scale development studies (Kline, 2015). After the CFA results of the Ecopsychological Sensitivity Scale were obtained, item analyses were carried out according to Item Response Theory to reveal item discrimination. In item response theory, α values calculated to reveal the distinctiveness of items are expected to be greater than 1.0 (Baker, 2001). In this method, the characteristic curves of the items are also examined for item discrimination. This curve reveals the relationship between the participants' ability level and correct responses (Hambleton et al., 1991). Item response theory is frequently used to evaluate the psychometric properties of scales developed in the current literature on educational sciences and psychology (e.g. Chalmers, 2012; Elemo et al., 2023; Koçyiğit et al., 2024; Kul et al., 2024; Satıcı et al., 2024).

To test the criterion-dependent validity of the Ecopsychological Sensitivity Scale, data were collected along with equivalent scales. The collected data were examined by correlation analysis. For the reliability analysis of the developed Ecopsychological Sensitivity Scale, Cronbach Alpha values were first calculated. Then, correlation analysis was performed to reveal the relationship between the sub-dimensions. To determine the item reliability of the scale, item analysis was used, and item-total correlations were examined. Finally, a test-retest analysis was conducted regarding reliability. SPSS 26, Stata, and Mplus 7.3 statistical analysis software were used to perform statistical analyses during the data analysis process of this study.

Findings

Findings Regarding Construct Validity

Exploratory Factor Analysis (EFA). Normality analysis of the collected data set was performed before EFA was performed. Extreme values that prevented the normal distribution of the data were removed from the data set by calculating Mahalanobis distances. The sample, which consisted of 435 people before the extreme values

were removed, decreased to 416 after the extreme values were removed and normality was achieved. The procedures for EFA were carried out using this sample of 416 people. When studies on the adequacy of the sample size are examined, it may be said that the number of participants is within the acceptable range (DeVellis, 2014; Tabacknick & Fidell, 2013). The Bartlett test and Kaiser-Meyer-Olkin test results, which were applied to test the EFA suitability of the scale to be developed, showed that the data set was suitable. The Kaiser-Meyer-Olkin value of the study was calculated as 0.93 and the Bartlett test value (χ^2=7626; p<0.001).

While conducting EFA, principal component analysis was performed to determine the sub-factors of the scale. This analysis aims to reveal the highest variance while gathering the measured variables under as few factors as possible (Tabacknick & Fidell, 2013). The direct oblimin method was preferred for factor extraction. This method, which allows for the explanation of interrelated factors, is more frequently preferred in scale development studies. Factors with eigenvalues above 1.00 were evaluated. The factor loading was calculated to be at least 0.32. Items that were found on more than one factor and had a loading of at least 0.10 were removed (Tabachnick & Fidell, 2013). Repeated analyses under these conditions led to the grouping of ecopsychological sensitivity under two factors. Eigenvalues and explained variance rates for the resulting factors were calculated. The first factor explains 49.232% of the total variance, with an eigenvalue of 6.893. The second factor explains 8.403% of the total variance, with an eigenvalue of 1.176. Together, these two factors explain 57.635% of the total variance.

Factor loadings of the items of the Ecopsychological Sensitivity Scale obtained as a result of EFA are given in Table 1.

Table 1. Item factor loadings of the Ecopsychological Sensitivity Scale

Item Number	Environmental Sensitivity	Integration with the Environment
1	**.857**	-.030
2	**.809**	.023
3	**.790**	-.179
4	**.695**	.092
5	**.660**	.227
6	**.585**	.149
7	**.605**	.222
8	-.056	**.808**
9	.039	**.766**
10	-.124	**.814**
11	.187	**.632**
12	.281	**.505**
13	.320	**.532**
14	.340	**.450**

Table 1 shows the item factor loadings of the final 14-item version of the Ecopsychological Sensitivity Scale. When the table is examined, it is seen that the first factor consists of 7 items. The factor loadings of the items forming the factor are between .58 and .85. When the content of the articles is examined, it is seen that there are generally judgments aimed at defending nature. For this reason, this sub-dimension was named "Environmental Sensitivity".

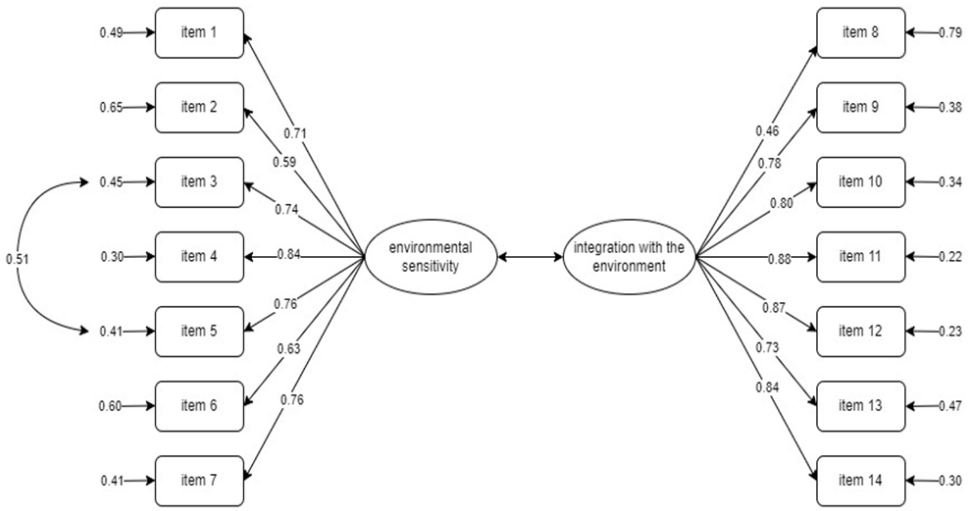
Second factor consists of seven items. The factor loadings of the items forming the factor are between .45 and .81. It was observed that the items included statements regarding the integration of the individual with the environment. With the suggestion of the thesis monitoring board at the thesis monitoring meeting, this dimension was named "Integration with the Environment".

As a result, it may be said that the Ecopsychological Sensitivity Scale consists of 2 factors and 14 items: "Environmental Sensitivity" and "Integration with the Environment". When the factor loadings for the items on the scale are examined, it is seen that the loadings vary between .45 and .85. The lowest score that may be obtained from the scale is 14, and the highest score is 70. No reverse-coded items on the scale. It may be interpreted that as the score increases, individuals' ecopsychological sensitivity levels increase.

Confirmatory Factor Analysis (CFA). As a result of EFA applying for the Ecopsychological Sensitivity Scale, a structure consisting of 14 items and 2 sub-dimensions was reached. DFA was performed to verify this structure. At this stage of the research, data was collected from 529 people, and as a result of normality assumptions, some data were discarded and analyses were carried out with 499 people. To comment on the adequacy of the fit between the data and the model, various fit indices obtained as a result of CFA are needed (Hoe, 2008; Keith, 2019; Kline, 2015; Meyers et al., 2006; Şimşek, 2007; Wang & Wang, 2012).

It was found that the first CFA process did not achieve the required fit in all values that showed the fit between the model and the data, except for TLI and SRMR ($\chi2$=448.045, p≤0.001, sd=76, $\chi2$/sd=5.89, CFI=0.92, TLI=0.91, SRMR=0.04, RMSEA=0.10). When the fit values were examined, modifications were made because the RMSEA, CFI, and $\chi2$/sd fit indices were not at a sufficient level. Item error covariances were correlated by taking the suggested modifications into account. While it is recommended that the modifications suggested as a result of CFA be made to strengthen the model (Çapık, 2014), it is also underlined that the modifications made should follow the theoretical infrastructure (Çokluk et al., 2014; Diamantopoulos et al., 2000). Based on this, the fact that the indicators of items 3 and 5 are theoretically in the same dimension (environmental sensitivity) has met the first condition for modification. When the structure of the items is examined, it is seen that they measure partially similar properties. Based on this, CFA was repeated by making a correlation between item 3 and item 5. When the findings obtained as a result of the new analysis were examined, it was seen that the model fit values were acceptable and excellent ($\chi2$=377.363, p≤0.001, sd=75, $\chi2$/sd=5.03, CFI=0.95, TLI=0.94, SRMR=0.04, RMSEA=0.08). The standardized item estimates of the Ecopsychological Sensitivity Scale created as a result of CFA are shown in Figure 1.

Figure 1. Factor Structure and Factor Loadings of Ecopsychological Sensitivity Scale



In Figure 1, each item on the Ecopsychological Sensitivity Scale was found to be a significant parameter predictor (p<.05). It is seen that factor loadings of items in the scale, which consists of 14 items and 2 sub-dimensions, are between .46 and .88. It is seen that the correlation coefficient between item 3 and item 5, whose error covariances are associated for modification purposes, is .51.

After the CFA results of the Ecopsychological Sensitivity Scale were obtained, item analyses were carried out according to item response theory (IRT) to reveal item discrimination. The analysis results in the context of IRT are given in Table 2.

Table 2. Item Response Theory estimates for the Ecopsychological Sensitivity Scale

Item Number	α	Std. Err.	[95% CI]	z	p > |z|
i1	1.98	.16	1.66-2.30	12.12	0.000
i2	1.64	.14	1.36-1.93	11.40	0.000
i3	3.94	.42	3.11-4.77	9.34	0.000
i4	2.68	.23	2.2-3.13	11.62	0.000
i5	3.82	.38	3.07-4.57	10.00	0.000
i6	1.35	.12	1.10-1.60	10.77	0.000
i7	1.76	.15	1.46-2.06	11.43	0.000
i8	1.15	.11	.92-1.37	9.91	0.000
i9	2.81	.23	2.36-3.26	12.20	0.000
i10	3.06	.25	2.56-3.55	12.09	0.000
i11	3.52	.29	2.95-4.10	12.07	0.000
Table 2 (continued)					
i12	4.05	.35	3.35-4.74	11.45	0.000
i13	2.38	.19	2.00-2.75	12.48	0.000
i14	3.26	.26	2.74-3.78	12.31	0.000

Note. Std. Err. = Standard Error, CI = Confidence Interval

As can be seen in Table 2, the item discrimination coefficient of all items on the developed scale is greater than 1.00. This finding reveals that all items on the Ecopsychological Sensitivity Scale have high discrimination power.

Findings Regarding Criterion Validity

In order to test the criterion validity of the Ecopsychological Sensitivity Scale (ESS), the Nature-Relatedness Scale (Sarıçam et al., 2015) and the New Environmental Paradigm Scale (Kuvaç, 2018) were used. Correlation analysis was performed to test the criterion validity of the Ecopsychological Sensitivity Scale. Results are presented in Table 3.

Table 3. Statistical Results Regarding Criterion Validity

	Mean	SD	1	2	3
Ecopsychological Sensitivity Scale (1)	62.17	6.11			
ESS Environmental Sensitivity (2)	31.56	2.65	.84**		
ESS Integration with the Environment (3)	30.61	4.12	.94**	.61**	
Nature-Relatedness Scale (4)	21.81	4.06	.63**	.43**	.65**
New Environmental Paradigm Scale - Ecocentric (5)	33.48	4.09	.22**	.18	.21**
New Environmental Paradigm Scale - Anthropocentric (6)	20.37	5.62	.13	.09	.13

Note. **p< .01; ESS = Ecopsychological Sensitivity Scale

According to Table 3, it was seen that ESS had a significant relationship with the Relatedness to Nature Scale (r=.63, p<.01) and with the ecocentric sub-dimension of the New Environmental Paradigm Scale (r=.22, p<.01). No significant difference was observed with the anthropocentric sub-dimension of the New Environmental Paradigm Scale. It was observed that environmental sensitivity, one of the sub-dimensions of ESS, had a significant relationship with the Nature-Relatedness Scale (r=.43, p<.01) and integration with the environment had a significant relationship with the Nature-Relatedness Scale (r=.65, p<.01). It was observed that integration with the environment, one of the sub-dimensions of ESS, had a significant relationship (r=.21, p<.01) with ecocentric, the sub-dimension of the New Environmental Paradigm Scale.

Findings Regarding Reliability

The Cronbach Alpha value obtained for the entire ESS was calculated as .942. When the results regarding the sub-dimensions of ESS are examined, the Cronbach Alpha value for the environmental sensitivity sub-dimension is .886; it was calculated as .911 for the integration with the environment sub-dimension. It may be said that the scale developed based on the data has reliable values.

Another analysis regarding the reliability of the ESS is the test-retest reliability analysis. The correlation coefficients obtained from the scales applied to the group two weeks apart are given in Table 4.

Table 4. Results Regarding Test-Retest Reliability

	Mean	**SD**	***r***	***p***
ESS – 1	63.11	3.94	.93	.001
ESS – 2	31.96	1.76		
ESS Environmental Sensitivity – 1	31.16	3.36	.84	.001
ESS Environmental Sensitivity – 2	62.29	3.93		
ESS Integration with the Environment – 1	31.62	2.05	.96	.001
ESS Integration with the Environment – 2	30.67	3.42		

Note. ESS = Ecopsychological Sensitivity Scale.

As seen in Table 4, there are highly significant positive relationships between the first and last measurement scores of the ESS and its subscales (p < .01).

Discussion and Conclusion

Based on the findings from the statistical analyses conducted, it can be stated that the Ecopsychological Sensitivity Scale is a reliable and valid measurement tool for adult individuals. The concept of ecopsychology was introduced to change human behaviors that could lead to ecological problems and to raise awareness of the healing effects of nature on humans (Roszak, 1992). Human behaviors towards nature can cause various ecological issues (Caillaud et al., 2016). To prevent such issues, it is essential for individuals to have high ecopsychological sensitivity. This sensitivity can be enhanced through various educational programs and nature therapy activities. A measurement tool may be needed to test the effectiveness of such programs. The Ecopsychological Sensitivity Scale has the potential to fill this gap in the literature.

In the analyses related to criterion validity, the Nature-Relatedness Scale (Sarıçam et al., 2015) and the New Environmental Paradigm Scale (Kuvaç, 2018) were used. The analysis results indicated that the Ecopsychological Sensitivity Scale and its subdimensions were positively correlated with the Nature-Relatedness Scale. Individuals with a high connection to nature are also highly sensitive to events occurring in nature. These individuals tend to take measures to protect nature and spend more time in it (Nisbet & Zelenski, 2013). Additionally, individuals with a healthy body and psychological structure need to be connected to nature and adopt a lifestyle intertwined with nature as much as they need social relationships (Weaver, 2015). This can explain why individuals connected to nature have high ecopsychological sensitivity.

Similarly, the Ecopsychological Sensitivity Scale and its subdimensions were found to have a positive relationship with the ecocentric subdimension of the New Environmental Paradigm Scale. No relationship was found with the anthropocentric subdimension of the New Environmental Paradigm Scale. This subdimension is human-centered rather than nature-centered (Dunlap & Van Liere, 1978). From this perspective, it is expected that there is no relationship with ecopsychological sensitivity. In summary, the findings of the study can be said to be supported by the literature. Increasing one's relationship with nature may increase ecopsychological sensitivity.

The development of ecopsychological sensitivity is important for protecting nature and benefiting from its healing effects. Educational environments based on ecopsychology, various psychoeducational activities focused on nature, and nature therapies can be counted among the activities that can develop ecopsychological sensitivity. Spending time in natural settings and internalizing behaviors suitable for nature during these activities can influence ecopsychological sensitivity. It is anticipated that individuals with developed ecopsychological sensitivity will develop more harmonious behaviors and technologies with nature. The Ecopsychological Sensitivity Scale has the capacity to measure all these positive effects. In conclusion, based on the findings obtained, the Ecopsychological Sensitivity Scale can be said to be a valid and reliable measurement tool. This scale can be used to measure individuals' levels of ecopsychological sensitivity, nature sensitivity, and ability to think about nature holistically. Additionally, it is thought to provide preliminary information about individuals' abilities to work harmoniously with nature.

Limitations

This research has some limitations. The first limitation of the study is that the sample group represents adult individuals. The fact that data were collected from adults may reduce generalizability. Therefore, the developed scale is suitable for use in adult samples. The second limitation is that the data represents adults in Turkish culture. Since Turks have had a nomadic lifestyle in the past, they may be more sensitive to nature. In this sense, it may be useful to conduct reliability and validity studies by adapting the scale to different cultures and languages. Another limitation of the study is that the scales used as data collection tools were developed based on self-report. It may be stated that the sample group predominantly consists of female participants. This imbalance may lead to sampling bias and potentially skew the results towards a female perspective. This can be considered another limitation of the study. Future research could pay attention to gender distribution while collecting data to enhance the generalizability of the findings.

Suggestions and Implications

Considering the findings of the current research, various suggestions and implications may be made. The scale developed in the research may be used to measure the ecopsychological sensitivity levels of adult individuals. In this way, adults' sensitivities about nature, their desire to spend time in nature, and their sensitivity to developing technologies and projects compatible with nature may be tested. It may be used to explore the individual's bond with nature, especially in studies on the healing effects of nature. Individuals in the education period are mostly in childhood and adolescence. During these periods, it may be necessary to measure the ecopsychological sensitivity levels of individuals participating in studies on nature education and the effects of nature on learning. Based on this, it is recommended that the scale be adapted by collecting data from individuals at different age periods. Additionally, using the scale in research will significantly improve its measuring power. The developed ecopsychological sensitivity scale can contribute to researchers by enabling the examination of the relationship between individuals' environmental attitudes and behaviors. The scale can be utilized to compare the ecopsychological sensitivities of sample groups with diverse demographic characteristics. Additionally, it can serve as a valuable resource for longitudinal studies to monitor how ecopsychological sensitivity may change over time. From a policy-making perspective, the scale can play a role in determining the effectiveness of environmental policies and programs on individuals and in designing strategic educational programs or campaigns to enhance levels of ecopsychological sensitivity. It may also contribute to the development of policies targeting communities with high ecopsychological sensitivity and promoting sustainable environmental practices in these areas.

Author Contributions. First author developed the research concept, conducted data collection and analysis, and drafted the manuscript. Second and third authors provided academic guidance throughout the research process, contributed to the methodological design, and supervised the manuscript revision. All authors reviewed and approved the final version of the manuscript for submission. This manuscript was produced from the thesis work completed by the first author under the supervision of the second and third authors.

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Data Availability. Data will be available on request.

Ethics Approval and Consent to Participate. The study protocol has been approved by the Human Research Ethics Committee of Marmara University. The study was performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its following updates. The ethical approval for this study was obtained from the Ethics Committee of Marmara University, Faculty of Educational Sciences, on 09.09.2022, with the approval number 07-17.

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