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ECOLOGICAL WORLDVIEW AND CONNECTION WITH NATURE WITH ENVIRONMENTAL IDENTITY: A META-ANALYTICAL STUDY

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Milan Veljković[1], Snežana Živković[1], Miodrag Milenović[2]

[1]Faculty of Occupational Safety in Niš, University of Niš
[2]Faculty of Philosophy, University of Niš

Abstract. *The aim of this meta-analytical study was to quantitatively integrate the findings obtained in individual studies that addressed the relationship between Environmental Identity (EID) and Ecological Worldview (NEP) on the one hand, and the relationship between Environmental Identity and Connectedness to Nature Scale (CNS) on the other, to determine which of these variables is the better predictor of Environmental Identity. This meta-analytical study included studies that had healthy adults as subjects. The studies included in the meta-analysis are quantitative correlation studies in English, published in an electronic form whose methodological features correspond to the context of this analysis. A total of 32 papers were included in the meta-analysis. The results of both meta-analyzes indicate the existence of a significant overall effect, in the sense that both NEP and CNS are good predictors of Environmental Identity, but CNS is still better where according to Cohen's criteria the effect size is strong while in NEP studies the effect size is medium. The obtained results are in line with the expectations and results of other researchers. The obtained results indicate high heterogeneity and the study was discussed with suggestions for researchers in this field in the direction of continuing the research of the relationship between the variables that are the subject of research.*

Key words: *ecological psychology, ecological worldviews, ecological identity, Connectedness to Nature, meta-analysis*

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Corresponding author: Milan Veljković
University of Niš, Faculty of Occupational Safety, Čarnojevića 10a, 18000 Niš, Serbia
E-mail: milan.veljkovic@znrfak.ni.ac.rs

1. INTRODUCTION

The notion of identity (etymologically, from the Latin idem = the same) has always occupied an important place in the tradition of intellectual discourse and the structures of everyday life. It is, after all, one of the key notions of Western European thought, and it denotes the vowel, the harmony of the subject, and the being superior to itself [1]. Identity is an ultimate instance for distinguishing someone or something, for emphasizing that borderline form of individual and social reality through which we cannot go without questioning them. Identity is an acknowledgment that someone or something is exactly what it is and that no one can take it away from it. The term itself is treated as self-evident in modern social sciences. It is very rarely defined in an explicit way and should be approached as a shaped element of contemporary self-consciousness that has its historical-cultural, anthropological, psychological, social, ecological, and other components. Because the social aspects of identity are so obvious and important, psychologists often overlook the influence of nonsocial (or at least inhuman) objects in defining identity. However, it is obvious that there are a large number of people for whom an important aspect of their identity lies in their connection with the natural world: connections with certain natural objects such as pets, trees, mountain formations or certain geographical locations. This is not limited and does not apply only to those people who are characterized as "environmentalists" by political opinion. Many who are associated with positions that are considered anti-ecological, nevertheless show love for some aspects of the natural world in words and behavior. Environmental identity is part of the way people form their self-concept: a sense of connection to some part of the inhuman natural environment, based on history, emotional attachment and/or similarity, which affects the ways we perceive and behave towards the world; the belief that the environment is an essential part of who we are. The term "environmental" is derived from the French term environnemental, -ale [ɑ̃viʁɔnmɑ̃tal], or the English term environmental [ɪnˌvaɪərənˈmentəl]. The author decided to replace the widely accepted term ecological with the term environmental for the following two basic reasons. The first arises from the fact that the term is ecological, in essence, biological, which, basically, refers to the connection between living organisms (animals and plants) and the environment in which they live. In the absence of a suitable term in the Serbian language, this term is accepted in a broader sense which describes the relationship of man to the preservation of the environment. This meaning, however, belongs to the term environmental, which in environmental engineering emphasizes the relationship of man to the environment and its preservation. Another reason is that by using the term environmental as an adjective, one avoids describing the effects of human activities on the environment with a larger number of words, which makes the text both shorter and clearer. Etymologically speaking, both terms originate from foreign languages. Environmental identity stems from interactions with the natural world, and socially shaped understandings of oneself and others, including nature [2]. Environmental identity is one of the main drivers of ecological behavior, the basis of which is embedded in ecological world views, i.e. the values and feelings that people have towards nature and the social environment. Ecological worldviews can be defined as “collective beliefs and values that give people an idea of how the world works, what their role is in the environment, and what behavior is right or wrong in relation to the environment” [3].

The new ecological paradigm (NEP); [4, 5] is a widely used and well-validated measure in examining value systems and attitudes about the environment. The NEP scale has been shown to be a good predictor of environmental behavior. NEP is usually considered a one-

dimensional scale and should be related to environmental identity. Based on the analysis of the definitions of environmental identity and ecological world views as well as the connection with ecological behavior, there was an interest in examining their relationship.

A study conducted by Schultz [6] found a significant correlation between environmental identity (EID) and ecological worldview (NEP). If we want to move towards environmental sustainability, we need to better understand the ecological worldview that affects resource consumption and pollution "[7], as an important part of" the circumstances in which individuals and groups make decisions and behave in a way that affects the level of resource consumption and environmental pollution" [8]. One of the mechanisms to encourage citizens to move towards environmental protection is environmental identity as a motivational basis for a wide range of environmental behaviors leading to the preservation and protection of the environment [9, 10]. The work of Whitmarsh and O'Neill [11] confirms this claim. They concluded that people who identify with environmental identity are more likely to practice environmental behaviors such as: eco-shopping, waste reduction, as well as saving water and energy in the household. This study also showed that environmental identity is a better predictor of ecological behavior compared to widely used measures of ecological worldviews, New Ecological Paradigm [5]. In addition, this and other studies have found that ecological identity contributes to a better and broader prediction of ecological intentions and behaviors than subjective norms or behavioral controls included in the theory of planned behavior [12, 13]. EID and NEP are widely used instruments on different demographic populations and different research settings in examining different aspects of the relationship between man and nature or assessing this relationship from different theoretical perspectives. Some have been used in initial studies with limited application, while some are more popular and are applied in a number of comparative studies. Understanding our interconnectedness with planet earth and the feeling that we are part of nature is often called our ecological identity or ecological self, a term coined by Arne Naess [14]. Ecological identity includes the self, human and non-human community, and the ecosystems of the planet earth [15], so that damage to the planet is considered self-harm. Claiton [9] explored environmental concepts, linking environmental self-determination with values, attitudes, and behaviors aimed at preserving and protecting the environment. The way in which people identify with the natural environment is an important aspect of the human-nature relationship. Mayer and Frantz [16] developed the Connectedness to NatureScale(CNS), which they defined as a measure of emotional connection to the natural world. The measures of the CNS scale differed from the measures of the New Ecological Paradigm (NEP) scale [4]. Mayer and Frantz pointed out that the NEP scale measures "the cognitive belief about the sustainability of the environment, and not the emotional reaction to it". In contrast, they suggested that the CNS is a measure of "one's experiential emotional connection with nature." Maier and Frantz [16] reported the results of five studies in which they assessed the reliability and validity of the CNS. They determined that the CNS is a statistically significant predictor of ecological behavior, biosphere values of the environment, ecological identity and the perspective of environmental protection. In addition, the CNS had a higher correlation with these measures than the NEP. The CNS is similar to EID in some ways, it is shorter and primarily focused on an efficient response to the world of nature. Like attitude measures, the CNS is likely to respond more to situational manipulations than it would to identity measures, and is therefore useful as a measure of contextual variability in the perception of connection to nature [17]. However, there are some ambiguities about whether the CNS is primarily a measure of the affective or cognitive response to nature [18]. We chose the connection between these constructs based on the interest and frequency of citations. It

was estimated that it is possible to make a cross-section and quantitatively integrate and compare the results of these individual studies. The aim was to determine whether the CNS is a better predictor of Environmental Identity than the NEP as claimed by Maier and Frantz [16].

This study addressed the relationship between the ecological worldview (New Ecological Paradigm) and Environmental Identity (EID) on the one hand, the Connectedness to Nature (CNS) and Environmental Identity (EID) on the other hand using meta-analytical strategies for quantitative summarizing the results of previous research that investigated the relationships between these variables to determine which variable is a better predictor of Environmental Identity. In order to solve the problem, no temporal or spatial constraints were set, as well as no language barriers, this meta-analytical study included studies that were in English, which to some extent conditioned the spatial frameworks. During the search, three studies were not in English, but had a summary in English and the necessary data to be included in this analysis. The studies included in this meta-analytical study have been published in scientific journals published by APA, Elsevier, Springer, Taylor & Francis, SAGE, Nova Science, Frontiers Media, Hogrefe, and Wiley-Blackwell. The authors of a number of studies are from the American noon [19, 20, 21, 22, 23, 24] and the European continent [25, 26] and there are also studies from Asia [27, 28] and Australia [29]. The studies are heterogeneous both in terms of the nationality of the authors, as well as in terms of the ethnic origin of the respondents.

2. METHOD

2.1. The topic of meta-analysis

This study examines the relationship between environmental identity and ecological worldview on the one hand, and the relationship between environmental identity and connection to nature on the other, to determine which of these variables is the better predictor of environmental identity.

2.2. The Operationalization of phenomena

Environmental identity was operationalized by a score on the Environmental Identity Scale (EID) questionnaire constructed by Clayton [9] with 28 items and a shorter version of the EID short questionnaire [9] with 11 items.

The ecological worldview was operationalized by the score on the NEP (New Ecological Paradigm) questionnaires: The original NEP questionnaire was constructed by Dunlap and Van Liere [4] with 12 items. Revised NEPr [5] questionnaire with 15 items.

The connection with nature is operationalized by the score on the CNS (Connectedness to Nature Scale). The original questionnaire was constructed by Mayer and Frantz [16] with 14 items.

2.3. The Sample of respondents

This meta-analytical study included studies that had healthy adults as subjects.

2.4. Research process and acceptable scientific sources

The studies included in the meta-analysis are quantitative correlation studies in English, published in electronic form. Acceptable scientific sources were considered studies presented in books, scientific journals of all categories and published doctoral dissertations. The studies defined in this way were obtained in an electronic search in the period between 8.2. and 19.2.2021. by entering keywords in the Google Scholar search engine (described in more detail in the Search literature section). As already mentioned in the introductory part of the paper, temporal and spatial constraints were not set in advance.

2.5. Criteria for inclusion of studies

- originate from one of the previously defined scientific sources (books, scientific journals, published doctoral dissertations)
- examine the correlation between environmental identity and ecological worldview or the correlation of environmental identity and connection with nature
- the variables were operationalized in a previously defined manner, described under 1, which refers to the instruments and the sample of respondents (healthy adults)
- the search was performed via Google Scholar, by entering the appropriate keywords (Metaanalysis NEP-EID: Environmental identity, EID, New Ecological Paradigm, NEP, ecological worldviews)
- (CNS-EID meta-analysis: Environmental identity, EID, CNS, Connection to Nature, Connection to Nature Scale
- Studies that did not meet these criteria were excluded from the analysis.

2.6. Literature search

NEP-EID meta-analysis

The Google Scholar search engine includes the following keywords: Environmental identity, New ecological paradigm. Following the set general criteria, the search with these keywords was terminated after page 10 because only two articles relevant to the topic of this meta-analytical study were found, the papers did not include an operational definition of environmental identity, as stated in the criterion, and therefore only papers in which Clayton, S. [9] is cited are included in the search. Environmental identity: A conceptual and an operational definition. In S. Clayton, & S. Opotow (Eds.), Identity and the natural environment (pp. 45e65). Cambridge, MA: The MIT Press. The search was then continued with additional keywords: New ecological paradigm, NEP, Ecological world views found a total of 164 potentially relevant articles. After a detailed review of the articles, 15 papers were singled out that contained data on the correlations of NEP and EID, of which two studies Walton [31] and Walton & Jones [32] were excluded from metanalysis because they used their own identity measuring instrument with a similar name Ecological identity scale EIS, and differs significantly from the EID scale defined in the criterion. Thus, the final analysis of the relationship between environmental identity on the one hand, and the ecological worldview, on the other, was performed on data from 13 studies given in Table 1.

CNS-EID meta-analysis

In the Google Scholar search engine, the search criterion was first set to include only papers that cited the work of Clayton, S. [9] as in the previous search. The search continued with additional keywords: CNS, Connection to Nature, Connection to Nature Scale found a total of 131 potentially relevant articles. 17 papers were singled out that contained data on the correlations of NEP and EID from which two studies were excluded Brick, Sherman & Kim [32] because they used their own instrument for measuring environmental identity consisting of two items, and Perrin & Benassi [33] because they did not contain adequate data. Thus, the final analysis of the relationship between environmental identity, on the one hand, the connection with nature, on the other hand, was performed on the data from 15 studies given in Table 2.

Table 1 An overview of studies that met the given criteria and that were included in the NEP-EID meta-analysis.

1.	Biga, 2006	Doctoral dissertation	M=18-29, students Washington	754	EID	NEPr	r
2.	Brügger, Kaiser, & Roczen, 2011	European Psychologist	M=16-60+ Swiss Online	1128	EID	NEPr	r
3.	Clayton, Irhin & Naratova-Bochaver 2019	Psychology Journal of the Higher School of Economics	M=23,6 students, Russia	222	EID	NEPr	r
4.	Davis, Le & Coy 2011	Journal of Environmental Psychology	M=22 students, USA	248	EID	NEPr	r
5.	Dietrich, 2013	Doctoral dissertation	M=29.32, students - n65, general population - n184 Nebraska	249	EID	NEPr	r
6.	Kashima, Paladino & Margetts 2014	Journal of Environmental Psychology	M=17-30, students, Australija	72	EID	NEPr	r
7.	Mah, Matsuba & Pratt 2020	Journal of Environmental Psychology	M=19-32, students Ontario Canada	329	EID	NEPr	r
8.	Matsuba, Pratt et al 2012	Journal of Personality	M=32.25 , Ontario	110	EID	NEPr	r
9.	Schultz 2002	Psychology of sustainable development	students	75	EID	NEPr	r
10.	Delose 2017	Doctoral dissertation	Students, Florida	125	EID	NEPr	r
11.	Irhin 2020	Омский государственный университет	M=22.6 students	189	EID	NEPr	r
12.	Jia, Alisat, & Soucie 2015	Emerging adulthood	students	112	EID	NEPr	r
13.	Roczen, Kaiser & Bogner 2010	Environmental Competence Project	high school students	1064	EID	NEPr	r

Table 2 An overview of studies that met the given criteria and that were included in the CNS-EID meta-analysis.

1.	Brügger, Kaiser, &Roczen (2011)	European Psychologist	M=18-60+ general poplation, Online, Swiss,	1309	EID	CNS	r
2.	Davis, Le, &Coy (2011)	Journal of Environmental Psychology	M=22 students, Virginia	248	EID	CNS	r
3.	Karlegger (2010)	Doctoral dissertation	M=21 Students, Vienna	119	EID	CNS	r
4.	Olivos &Aragonés (2011)	PsyEcology	M=21.4 Students Madrid	282	EID	CNS	r
5.	Olivos &Aragonés (2013)	Journal of Social Psychology	M= 21.59 , students Madrid	71	EID	CNS	r
6.	Olivos, Aragonés, &Amérigo (2011)	International Journal of Hispanic Psychology	M=20 , Students Madrid	204	EID	CNS	r
7.	Tam I (2013)	Journal of Environmental Psychology	M=20,36 students, China	322	EID	CNS	r
8.	Tam II (2013)	Journal of Environmental Psychology	M=33.43, amazon Mturk, USA	185	EID	CNS	r
9.	Halkos, Gkargkavouzi & Matsiori 2018	Munich Personal RePEc Archive	M=46.12 Teachers, Grcka	100	EID	CNS	r
10.	Delose 2017	Doctoral dissertation	Students, Florida	125	EID	CNS	r
11.	Roczen, Kaiser & Bogner 2010	Environmental Competence Project	high school students	1121	EID	CNS	r
12.	Navarro, Olivos & Fleury-Bahi st2 2017	Frontiers in psychology	M =30.5, 50% students, general population, France	153	EID	CNS	r
13.	Navarro, Olivos & Fleury-Bahi st4 2017	Frontiers in psychology	M=19.6, students, France	322	EID	CNS	r
14.	Bachleitner 2019	doctoral dissertation	M=27,573% students germany	347	EID	CNS	r
15.	Scott, Amel & Manning 2014	Ecopsychology	M=35 (16-68) eco-action, Canada	50	EID	CNS	r

Table 3 Correlations between Environmental Identity (EID) and Ecological Worldview (NEP) obtained in studies included in the meta-analysis

	n	r
1. Biga 2006	537	0.54
2. Bruger, Kaiser & Roczen 2011	1128	0.51
3. Clayton 2019	222	0.39
4. Davis, Le & Cole 2011	248	0.41
5. Dietrich 2013	249	0.28
6. Kashima 2014	72	0.48
7. Andrea, Matsubab & Pratt 2020	329	0.56
8. Matsuba, Pratt & Norris 2012	110	0.42
9. Schultz 2002	75	0.44
10. Delose 2017	125	0.58
11. Irhin 2020	189	0.4

Table 4 Correlations between Environmental Identity (EID) and Nature-Related CNS (CNS) obtained in the studies included in the meta-analysis

	n	r
1. Bruger, Kaiser & Roczen (2011)	1309	0.67
2. Davis, Le, and Coy (2011)	248	0.8
3. Karlegger (2010)	119	0.71
4. Olivos and Aragonés (2011)	282	0.69
5. Olivos and Aragonés (2013)	71	0.72
6. Olivos, Aragonés, and Amérigo (2011)	204	0.63
7. Tam I (2013)	322	0.81
8. Tam II (2013)	185	0.77
9. Halkos 2018	100	0.532
10. Delose 2017	125	0.58
11. Roczen (2010)	1121	0.67
12. Navarro 2017 st2	153	0.763
13. Navarro 2017 st4	322	0.701
14. Bachleitner 2019	347	0.755
15. Scott 2014	50	0.76

2.8. Data analysis

Given that the subject of the meta-analysis is the relationship of quantitative integration of findings obtained in individual studies that dealt with the relationship of environmental identity, on the one hand, and ecological worldview, on the other hand, and individual studies that dealt with the relationship between the environmental identity, on the one hand, and connections to nature, on the other, to determine which variable is a better predictor of Environmental identity. In order to determine the measures of the size effect of individual studies and the total measure of the size effect, the correlation coefficient r was used. As for the choice of the model itself, it is not clear whether it is more appropriate to use a fixed-effects model or a variable effects model to calculate the total measure of the effect size. Considering that individual samples of subjects in the studies included in the analysis are heterogeneous, i.e. do not belong to the same population, that the age of the subjects is different, and there may be unknown covariates, assuming that there is not one but a distribution of real effects, it seems that a model of variable effects more suitable for calculating the total measure of the size effect.

The Comprehensive Meta-Analysis– trial version software was used to calculate individual and total effect size measures, and after the expiration of the trial period, the MedCalc 19 beta version software was used to assess the drawer effect. MedCalc has proven to be more convenient because it automatically provides data for both models.

To assess the existence of a “drawer effect”, i.e. the bias of the effect size measure is published compared to unpublished studies, a graph of symmetry studies around the total effect size measure and the results of Trim and fill analysis is presented, and Beg's correlation rank and a number of studies required are calculated. to make the overall measure of effect size statistically insignificant.

3. RESULTS

Table 5 Correlations between Environmental Identity (EID) and Nature-Related CNS (CNS) obtained in the studies included in the meta-analysis

Fixed effects model						
MetaStudies	k	N	r	95% confidence interval	Z	p
NEP-EID	13	4460	0.506	0.484-0.527	37.047	0.000
CNS-EID	15	4968	0.702	0.688-0.716	61.145	0.000
Variable effects model						
MetaStudies	k	N	r	95% confidence interval	Z	p
NEP-EID	13	4460	0.481	0.430-0.529	16.057	0.000
CNS-EID	15	4968	0.713	0.677-0.745	25.094	0.000

If these side effects are interpreted in accordance with Cohen's [34] proposal, it can be concluded that the effect between the Environmental Identity and the Ecological worldview is on the border between medium and strong (0.506) for the fixed model effect, while for variable effects model of this effect of medium strength (0.481).

The effect between Environmental Identity and Connection with nature is strong for both models (0.702 - fixed model, 0.713 - variable model).

Table 6 Heterogeneity model

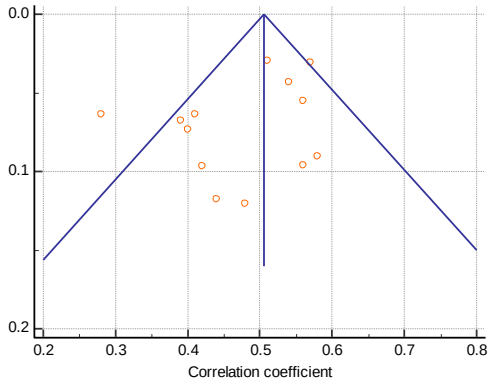
Heterogeneity model									
MetaStudies	Q	df (Q)	p	I^2	95% ci for I^2	τ^2	SE	var	τ
NEP-EID	45.03	12	0.00	73.351	53.71-84.66	0.008	0.006	0.0	0.094
CNS-EID	70.709	14	0.00	80.200	69.19-87.68	0.013	0.0082	0.0	0.116

Regarding the heterogeneity of the size effect measure, the value of the homogeneity test for the NEP-EID study, Q = 45.03, df = 12, p = .000, I2 = 73.351 indicates that the real/total effect most likely does not vary significantly within the studies themselves, i.e. that the data from individual studies can be viewed according to the assumptions of the fixed-effect model. If we look at the values of variance between studies $\tau = 0.094$, SE = 0.006, $\tau 2 = 0.00884$, the results show that it actually approaches zero, which is in line with the result that the overall effect is significant regardless of the applied model.

The value of the homogeneity test for the CNS-EID study, Q = 70.709, df = 14, p = .000, I2 = 80.200 indicates that the real/total effect most likely does not vary significantly within the studies themselves, i.e. that data from individual studies can be viewed according to the assumptions of the fixed model effect. If we look at the values of variance between studies $\tau = 0.116$, SE = 0.082, $\tau 2 = 0.0135$, the results show that it actually approaches zero, which is in line with the result that the overall effect is significant regardless of the applied model.

Since the total measure of the size effect does not differ when it comes to these two models, the results will be shown only for the fixed model effect.

Drawer effect (Publication bias) NEP-EID



Graph. 1 Asymmetry of the studies included in the meta-analysis

As shown in Graph 1, the studies included in the meta-analysis are not evenly distributed around the vertical axis, but there is a higher concentration of studies on the left side, which indicates the potential existence of a "drawer effect".

Trim and Fill analysis to correct asymmetry indicates a lack of 5 studies on the right side of the vertical axis (total measures of effect size). By adding these studies, the measure of the effect size within the fixed model would be r = 0.54081 (95% confidence interval = 0.52171-0.55937), and within the variable effect model r = 0.48957 (95% confidence interval 0.48657-0.58700).

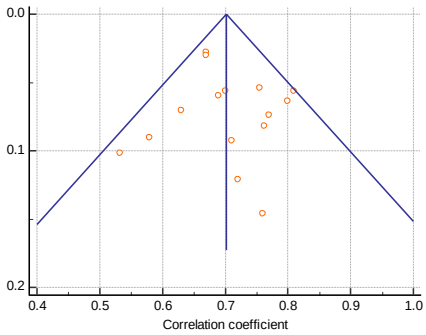
Table 7 The Egger and Beg correlation rank test

Egger's test	
Intercept	-1.8987
95% CI	-4.4311 to 0.6338
Significance level	P = 0.1271
Begg's test	
Kendall's Tau	-0.1026
Significance level	P = 0.6255

As shown in Table 7, The Egger test was calculated to be -1.8987, 95% CI -4.4311 to 0.6338, p = 0.1271, as well as the Beg correlation rank test to be τ = -0.1026, p = 0.6255. These two indicators are not statistically significant, which indicates that these effects do not exist.

These measures indicate a lack of bias in the selection of meta-analysis studies and a no drawer effect.

Drawer effect (Publication bias) CNS -EID



Graph. 2 Asymmetry of the studies included in the meta-analysis

As shown in Graph 2, the studies included in the meta-analysis are not evenly distributed around the vertical axis, but there is a greater concentration of studies on the left, indicating the potential existence of a "drawer effect".

Trim and Fill analysis used to correct asymmetry indicates a lack of 3 studies on the left side of the vertical axis (total measures of effect size). By adding these studies, the measure of effect size within the fixed model would be r = 0.68162 (95% confidence interval = 0.68767-0.69531), and within the variable effects model r = 0.68454 (95% confidence interval 0.64121-0.82352).

Table 8 The Egger and Beg correlation rank test

Egger's test	
Intercept	1.2068
95% CI	-1.6144 to 4.0280
Significance level	P = 0.3723
Begg's test	
Kendall's Tau	-0.01914
Significance level	P = 0.9208

As shown in Table 8, The Egger regression test was calculated, which was 1.2068, 95% -1.6144-4.0280, p = 0.3723, as well as the Begg correlation rank test, which was τ = -0.01914, p = 0.9208. These two indicators are not statistically significant, which indicates that these effects do not exist.

These measures indicate a lack of bias in the choice of studies for meta-analysis and a lack of drawer effects.

The main goal of this paper was to check whether the CNS is a better predictor of Environmental Identity than the NEP. By quantitatively integrating the findings obtained in the individual studies that dealt with these two relationships, the magnitudes of the effect were obtained. Previous research has not had the primary goal of determining this relationship, and previous studies have not systematically studied the relationships of these variables in research, but the above data were part of the descriptive findings. The NEP scale is the most commonly used construct in examining value systems and attitudes

about the environment, and the work that is the basis of the ecological view of the world by Dunlap, Van Liere, Mertig & Jones [5] has a large number of citations (5750 on Google Scholar) which is the basis of the connection with nature by Mayer and Frantz [16] has 2116 citations. Citing the number of citations is of an informative nature in order to have an insight into how many potential papers this meta-analytical study could cover.

The results of both meta-analyzes indicate the existence of a significant overall effect, in the sense that both NEP and CNS are good predictors of environmental identity but CNS is still better where according to Cohen's criteria the effect size is strong while in NEP studies the effect size is medium or and strong sizes.

What is evident is that the measure of the magnitude of the total effect is significant both when the fiscal model is applied and when the model of variable effects based on different assumptions is applied. The crucial difference between these two models is in relation to the way of perceiving the error variance - while the fixed effect model assumes the existence of one real effect, where all variance can be attributed to the sampling error of studies, ie inaccuracy of individual studies to reveal the real effect. The model of variable effects assumes that the real effect can vary from study to study and that the variance originates not only from the sampling error of the study, but also from the variation of individual effects between studies.

Since environmental identity is a sense of connection to some part of the non-human natural environment, based on history, emotional attachment and/or similarity, which affects the ways we perceive and behave towards the world, the connection with nature is theoretically much closer than the ecological view. a world based more on the assumption that humans are part of nature, so they must take care of it, avoiding the exploitation of resources.

4. LIMITATION

With the exception of doctoral dissertations, most of the studies included in this meta-analysis have been published in leading scientific journals which may be one of the indicators of bias in the selection of studies that may have an impact on the results of the meta-analysis. However, the results showed that there is no bias in the publication of studies, but this data is questionable because a sufficient number of studies were not included (minimum 25). The studies were conducted mainly in America and Europe, on the student population. The studies that had the least effects were studies in the non-student population, which is on average older than the student population. The main reason for this is probably the education and interest of younger people in environmental issues. Therefore, it is necessary to conduct more detailed studies that will include the rest of the population with a wider range of demographic variables. Also, it would be good to examine cross-cultural differences, given that one of the greatest effects was the study from Asia, and given the language barriers, we were not able to identify a larger number of studies from this geographical area.

Nevertheless, despite the stated limitations and the fact that the results should be accepted with reservations, the identified findings can potentially contribute to a better understanding of the construction of environmental identity.

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ODNOS EKOLOŠKOG POGLEDA NA SVET I POVEZANOSTI SA PRIRODOM SA ENVIRONMENTALNIM IDENTITETOM: META-ANALIZA

Cilj ove metaanalitičke studije bio je da kvantitativno integriše nalaze dobijene u pojedinačnim studijama koje su se bavile ispitivanjem odnosa između environmentalnog identiteta i ekološkog pogleda na svet (NEP) sa jedne strane, i odnosa između environmentalnog identiteta i povezanosti sa prirodom (CNS) kako bi utvdili koja je od ovih varijabli bolji prediktor environmentalnog identiteta. U ovu metaanalitičku studiju uključene su studije koje su kao ispitanike imale zdrave odrasle osobe. Studije uključene u metaanalizu jesu kvantitativne korelacione studije na engleskom jeziku, objavljene u elektronskoj formi, čije metodološke karakteristike odgovaraju kontekstu ove analize. U metaanalizu su uključena ukupno 32 rada. Rezultati sprovedene obe metaanalize ukazuju na postojanje značajnog ukupnog efekta, u smislu da su i NEP i CNS dobri prediktori Environementalnog identita ali je CNS ipak bolji gde je prema Cohenovom kriterijumu veličina efekta jaka dok je u NEP studijama veličina efekta srednje jačine. Dobijeni rezultati su u skladu sa očekivanjima i rezultatima drugih istraživača. Dobijeni rezulati ukazuju na visoku heterogenost studija koja je diskutovana uz sugestije za istraživače iz ove oblasti u smeru nastavka istraživanja odnosa između varijabli koje su predmet istraživanja.

Ključne reči: *ekološka psihologija, ekološki pogled na svet, environmentalni identitet, veza sa prirodom, meta-analiza*