

Article

Analysis of Ecological Values in Future Education Professionals in Andalusia (Spain)

Gracia González-Gijón, Nazaret Martínez-Heredia*, Francisco Javier Jiménez Ríos and Andrés Soriano Díaz

Department of Pedagogy, University of Granada, 18011 Granada, Spain; graciag@ugr.es (G.G.-G.); fjjrios@ugr.es (F.J.J.R.); asoriano@ugr.es (A.S.D.)

* Correspondence: nazareth@ugr.es

Abstract: This study shows the hierarchy of values presented by first-year teacher training students studying at public universities in Andalusia (Spain), emphasising the analysis of ecological values in relation to the gender variable. For this purpose, we used a survey-type methodology with a quantitative approach. Participants were selected by means of probability sampling by clusters. The sample was finally composed of 651 students, of whom 226 were men (34.7%) and 425 women (65.3%) aged between 18 and 49 ($M = 20.20$ and $T.D. = 3.736$). The results show a high valuation of non-material aspects related to affectivity, morality, the individual and ecology, followed by values related to the body and its care, the social, the material and the aesthetic, and finally, values related to the intellectual, the political and the religious. The results show the influence of gender in the identification of ecological values and the variables that make them up, where women have higher averages in most of the items. We can therefore conclude that the gender variable influences the choice of ecological values presented by university students.

Citation: González-Gijón, G.; Martínez-Heredia, N.; Jiménez Ríos, F.J.; Soriano Díaz, A. Analysis of Ecological Values in Future Education Professionals in Andalusia (Spain). *Sustainability* **2021**, *13*, 7934. <https://doi.org/10.3390/su13147934>

Academic Editors: Pedro Vega-Marcote and Marc A. Rosen

Received: 27 April 2021

Accepted: 14 July 2021

Published: 15 July 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

Keywords: values; ecology; test; young university students; Andalusia (Spain); agenda 2030

1. Introduction

The deterioration of our natural environment is a reality in the face of which we cannot remain impassive, which is why, as an essential and determining part of the community of life that is the Earth, we must assume our responsibility and make a sustainable planet possible for future generations. One example of this is the 2030 Agenda for Sustainable Development [1], which sets out 17 goals with 169 indivisible and integrated targets that imply a universal and common commitment to the environmental, social and economic spheres.

Beliefs about the causes and consequences of environmental degradation are motivated by values, understood as stable structures that begin to be built during the socialisation process, guiding action and constituting a framework of interpretation and action on reality [2]. Ecology, sustainability, and environmental protection are notions that young people identify with more and more every day, which is why training and awareness-raising on these issues act to facilitate the development of values. Understanding ecology involves delving into ecological principles and values as a basis for the formation of an ecological culture, understood as an educational process of a continuous nature and necessary for the development of life [3].

There is a growing interest in understanding the processes of genesis, relationship and functioning between attitudes and behaviours related to ecological values. This has been motivated, above all, by the shift from an ethnocentric to an ecocentric paradigm, which has involved two opposing ways of valuing nature that differentially influence ecological behaviour.

Different studies show how current environmental challenges have been presented in two dimensions, one of intervention, trying to bring about change, and one of man-

agement, both based on the parameters of sustainability as a positive social value [4–7].

Education cannot be apart from values since they constitute in themselves the educational fact and guide it to be present within the system, being a real or ideal, desired or desirable quality that guides human life [8]. More studies [9–13] confirm the importance of values as part of the remains of education. It is essential to foster attitudes and values-oriented towards conservation and care for the environment, being a fundamental aspect in the educational fact [14], given that they are essential to be able to acquire an awareness of the environment and make changes in behaviour and lifestyles. It is essential to ensure that all people have the relevant information and knowledge for a lifestyle in harmony with nature and sustainable development [1].

The study of ecological values in education contributes to the planning of the educational phenomenon, being an element that makes it possible to describe and evaluate the quality and effectiveness of the educational process itself [15]. Education aimed at developing such values must include an economic, social, environmental and organisational dimension, making a difference in the relational circles of lifelong learning and education in order to acquire the knowledge, skills, attitudes and values necessary to promote sustainable and ecological development [16]. Thus, ecologically focused values contribute to the sustainable development of society and a healthy lifestyle, sustainable consumption, moral values, and the promotion of social activism, highlighting the importance of valuing ecological integrity and equitable well-being [17]. There is currently a commitment on the part of the university to integrate values, in line with its role in the creation of new paradigms and knowledge, together with the generation of social change [18]. The university must develop actions that contribute to the improvement of university education in values and progress in the resolution of social, economic and environmental problems [19].

Furthermore, it is necessary to move towards the design, implementation and evaluation of multidisciplinary proposals for the learning of values in university students [20].

Therefore, in education, teaching should focus not only on theoretical and technical knowledge but also on ethical and ecological knowledge. Different studies [13–23] advocate for a training model that integrates student-centred ecological learning with the use of active methodologies, highlighting that the action lines for ecology are addressed from biodiversity, natural resources, conservation, ecological restoration, community development, social equity and environmental governance.

In this sense, more specifically, we must highlight the importance of the school and, in particular, the central role of teachers as a model for transmitting attitudes and values, which are responsible for developing an education based on care for nature and sustainability [23–26]. Therefore, we need an education based on ecological values that allows us to recover the value of the natural world and to develop an eco-sophy of reconciliation with nature [21–23]. The presence of ecological values in initial teacher training indicates openness to society, the environment and transcendence, as factors that make up personal and professional identity, enabling communication with others and with the environment and with transcendence [27]. The importance of analysing the ecological values of university student teachers is determined by the fact that the people who make up this group will be, in the short term, those who, in their professional practice, will become important agents for transmitting values to their students. Therefore, research on values in general, and on the ecological values of future teachers in particular, provides valuable knowledge related to the construction of the present and the future to which we aspire and, therefore, to the school model necessary for this [25–30].

Educational actions are needed that transform our habits, conceptions and perspectives that guide us in the actions to be carried out and in the forms of social participation [20].

This study aims to identify and analyse the ecological values of first-year Primary Education students studying at public universities in Andalusia (Spain), to explore the

existing differences in relation to the gender variable, and to determine how they are represented in their hierarchy of values. To this end, we have set ourselves the following objectives:

- To determine the hierarchy of values presented by first-year university students in the first year of the Primary Education Degree who are studying at public universities in Andalusia (Spain) and their relationship with ecological values.
- To analyse the ecological values of the aforementioned Primary Education students and to identify the existing differences in relation to the gender variable.

2. Materials and Methods

In order to achieve the proposed objectives, we have opted for a descriptive, survey-type methodology, with a quantitative approach, using the Adapted Values Test (TVA_Adapted) as the data collection instrument. The following is a description of the process:

2.1. Participants

In order to carry out our research, data were collected in all public universities in Andalusia, specifically in the Faculties of Education Sciences. The sample consisted of 651 students selected by means of probability sampling by clusters where the primary sampling unit was the student body of all the first-year groups of the Degree in Primary Education at the Faculties of Educational Sciences in Andalusia, in order to select these groups proportionally, according to the number of students, in each Andalusian university (Table 1). Of the final sample, 226 were men (34.7%) and 425 women (65.3%) aged between 18 and 49 ($M = 20.20$ and $T.D. = 3.736$). The selected group of young people acquires a singular importance, as they have a multiplier effect, being the educators of the future, they will transmit their attitudes, beliefs and values to their pupils.

Table 1. Description of participants according to gender and age.

	Men	Women	Age	
	%	%	Average (D.T.)	N=
University of Sevilla	22.5%	77.5%	19.87	89
University of Granada	28.3%	71.7%	19.72	159
University of Almería	50.0%	50.0%	21.47	40
University of Córdoba	50.0%	50.0%	20.06	82
University of Huelva	20.3%	79.7%	20.16	74
University of Jaén	48.4%	51.6%	20.37	128
University of Cádiz	31.2%	68.8%	20.13	16
University of Málaga	28.6%	71.4%	20.67	63

2.2. Measuring Instrument

The instrument used was the questionnaire called Test de Valores Adaptado (TVA_adaptado) [31,32], which uses the technique of scoring words, grouped into 11 dimensions or factors that coincide with the groups of values it measures: corporal, intellectual, affective, individual, moral, aesthetic, social, political, ecological, instrumental and religious [8]:

1. We understand by bodily values all those qualities that we desire or deserve to be desired because of their goodness in relation to the human body, such as food, drink, rest, movement, hygiene, and beauty. Some are of necessity, and others concern desirability.
2. Intellectual values refer to activities related to the person's rational nature in terms of their content, process or outcome: knowing, thinking, criticism, science, reading, writing, etc.

3. We understand affective values to be those that affect human beings' affective or sentimental actions: friendship, falling in love, feelings, etc.
4. Individual values are those that refer to the person in his or her uniqueness, intimacy, independence, autonomy, freedom, etc.
5. When we speak of aesthetic values, we refer to those we desire for their beauty in its various manifestations: music, literature, sculpture, painting, etc.
6. Moral values are concerned with the malice or goodness of human actions and touch on the dignity and depths of our being: truth, justice, honesty, etc.
7. When we speak of social values, we refer to those values that make personal and institutional relations concrete, such as festivals, dialogue, trade unions, Manos Unidas, etc.
8. Political values are directly related to the democratic life of citizens and their political organisation, both in terms of process and organisation: voting, constitution, democracy, political parties, trade unions, etc.
9. Ecological values are those that allude to knowledge and care of the environment: gardens, beaches, mountains, rivers, etc.
10. Instrumental or economic values are appreciated by people more as a means of life than as an end because of the benefits they bring us: housing, clothing, money, cars, technology, etc.
11. Religious or transcendent values refer to the religious sense and feeling of personal and institutional life: faith in God, sacraments, Church, message, ministers, etc.

Each dimension or value category includes 25 words or concepts that are rated on a Likert scale (1—very unpleasant; 2—unpleasant; 3—indifferent; 4—pleasant, and 5—very pleasant). Therefore, the basis of the test lies in the reaction of liking, disliking or indifference that is produced when reading or listening to the words. For the interpretation of the data, it must be taken into account that for each value category, the highest possible positive score is 50 and the highest possible negative score is -50 so that the reaction of the subject will be more favourable the closer it is to 50 and the more unfavourable, the closer it is to -50. Zero, as well as scores close to zero, can mean indifference.

Specifically, we will focus on the identification and analysis of the set of words or items that make up the ecological values.

2.3. Quality of the Information-Gathering Instrument: Validity and Reliability

The validity and reliability parameters were used as quality criteria for the data collection instrument. For the former, content validity was taken into account by means of Kendall's W Concordance Coefficient, with the responses of 15 experts. The results showed the level of agreement between the judges' evaluations, obtaining coefficients close to 1. For construct validity, an exploratory factor analysis was carried out to confirm the dimensions proposed theoretically for this instrument, which would allow us to group the set of items into factors or dimensions. Specifically, principal component analysis (PCA) was applied, which is used to study instruments whose structure and dimensionality had already been analysed in previous versions. Prior to the factor analysis, the KMO= test (Kaiser–Meyer–Olkin = 0.891) and Bartlett's test of sphericity ($c^2 = 116,046.830$; $gl = 37,675$; $p = 0.00$) were carried out, which showed that the conditions of the variables and items were appropriate for this type of analysis. The factor analysis of the rotated matrix, by applying the VARIMAX method, confirms the existence of 11 dimensions that coincide with the theoretical construct. These 11 factors explain 44.342% of the variance.

With regard to reliability, internal consistency was measured by calculating Cronbach's alpha coefficient [33,34]. In this study, a reliability level of $\alpha = 0.991$ and $\alpha = 0.972$ was achieved for the ecological values.

The statistical package SPSS v. 26 was used for this purpose.

2.4. Data Collection and Analysis Procedure

After selecting the groups by means of probability cluster sampling during the 2017/2018 academic year, the teachers were contacted and informed of the characteristics of the research and the duration of the data collection process. Subsequently, the date and time were agreed upon to carry out the process, during which the research team travelled to each Andalusian province. Data collection began with a description of the characteristics of the test and its completion, guaranteeing the confidentiality and anonymity of the participants.

The SPSS v.26 statistical package [35] was used for data analysis, using descriptive and inferential statistical techniques with non-parametric tests. The non-normal distribution of the data analysed using the Kolmogorov–Smirnov test. Specifically, the Mann–Whitney U test was performed for several samples, in which the grouping variable is sex, assuming a significance level of $p \leq 0.05$. Finally, an exploratory factor analysis was carried out to analyse the relationships that could be established between the set of variables that formed the category of religious values and to find out, under the reduction of the dimension or category, a smaller number of underlying, unobservable factors that represent the original set of variables with the least possible loss of information.

3. Results

We begin by presenting the main results obtained from the descriptive statistics analysed in this study, which show the hierarchy of values obtained from the young people participating in this study (see Table 2 and Table 3):

Table 2. Descriptive statistics obtained for each of the value categories.

	Descriptive Statistics.				
	N	Minimum	Máximum	Average	Typ. dev.
C_Affective	650	−21	50	40.58	8.265
E_Morals	650	−34	50	38.65	9.834
D_Individuals	650	−10	50	37.29	9.766
I_Ecological	650	−25	50	34.93	12.038
A_Corporal	650	−17	50	33.68	8.005
G_Social	647	−16	50	30.53	11.010
J_Instrumentals	650	−26	50	24.42	11.227
F_Aesthetics	650	−31	50	22.90	11.838
B_Intellectuals	650	−32	50	19.53	11.764
H_Politicians	650	−33	50	15.50	12.434
K_Religious	649	−50	50	6.64	21.093

The descriptive results shown, and more specifically the arithmetic means, group the categories of values into those above 30, affective, moral, individual, ecological, bodily and social values, and those below 25, such as instrumental, aesthetic, intellectual, political and religious values. The value category that stands out above the others is affective values, with a mean of 40.58. Close to affective values are moral values (mean of 38.65). The category of individual values is very close to the previous one (37.29).

This is followed by the categories of ecological values (mean 34.93). Close behind are bodily values (33.68). To finish this block of value categories with a mean above 25, we find social values (30.53).

Within the group of values below 25 are the instrumental values (24.42), closely followed by the aesthetic values category (with an average of 22.90).

The next category of values is intellectual values, with a mean of 19.53. Political values also appear with an average close to the previous one, 15.50. Special mention should be made of the results obtained by the category of religious values, which obtained an average of 6.64. With respect to the consensus of the evaluations made, they are the ones that obtained the least agreement, with a standard deviation of 21.093.

The originality of this test lies in the evaluation of 25 words in each of the value categories, which allows us to detect the different meanings of the value, i.e., the aspects that are more or less valued or rejected. We will focus on this aspect in order to analyse the ecological values. Below are the results of the analysis of the words that make up the ecological values factor, as shown in Table 3.

Table 3. Descriptive statistics obtained for each of the ecological value variables.

	Descriptive Statistics				
	N	Minimum	Máximum	Average	Typ. dev.
Organic farming	651	1	5	3.98	0.943
Clean air	650	1	5	4.72	0.524
Biodiversity	651	1	5	4.43	0.725
Forest	651	1	5	4.55	0.669
Sustainable development	651	1	5	4.43	0.679
Ecologism	651	1	5	4.36	0.748
Renewable energy	651	1	5	4.50	0.638
Fauna	651	1	5	4.55	0.655
Unleaded petrol	651	1	5	3.68	0.929
Green peace	651	1	5	4.13	0.836
Garden	651	1	5	4.47	0.666
Lake	651	2	5	4.51	0.626
Rain	651	1	5	4.17	1.047
Flower pots	651	1	5	4.06	0.861
Mountain	651	1	5	4.41	0.758
Snow	651	1	5	4.47	0.751
Natural park	651	1	5	4.54	0.634
Beach	650	1	5	4.71	0.599
Recycle	651	2	5	4.36	0.678
Reforestation	651	1	5	4.31	0.784
River	651	2	5	4.49	0.678
Hiking	651	1	5	4.32	0.886
Sun	651	1	5	4.67	0.590
Vegetation	651	1	5	4.51	0.669
Green areas	651	1	5	4.55	0.634
N valid (according to list)	649				

As can be seen, all the variables have very positive ratings above 4, i.e., from pleasant to very pleasant. Only two variables are rated positively, with a tendency towards indifference: organic farming (3.98) and unleaded petrol (3.68), with the most negative rating. The highest ratings were found for the variables clean air (4.72) and beach (4.71).

After the global analysis, we carried out a descriptive and inferential comparative analysis based on the gender identification variable and the variables referring to the category of ecological values (Table 4). The results obtained by applying the Mann–Whitney U test for several samples, using gender as the grouping variable, are shown below.

In the analysis of the differences according to the sex of the items that make up the ecological value, as we can see in Table 5, women obtain higher average results than men in all the items except in ecological agriculture ($M = 4.02$; $SD = 0.904$) and hiking ($M = 4.37$; $D = 0.786$). The items with statistically significant differences are fresh air ($p = 0.000$), biodiversity ($p = 0.047$), green peace ($p = 0.004$), garden ($p = 0.001$), lake ($p = 0.001$), snow ($p = 0.024$), natural park ($p = 0.017$), beach ($p = 0.000$), river ($p = 0.038$), sun ($p = 0.000$) and green area ($p = 0.002$). In addition, there are higher average ranges for women in all the items

with values above 328.00, except in ecological agriculture (331.47) and hiking (328.19), which are exceeded, with very approximate values, by men and which coincide with the average values.

The highest mean results obtained by females appear in the items fresh air ($M = 4.78$; $SD = 0.481$), beach ($M = 4.77$; $SD = 0.536$) and sun ($M = 4.75$; $SD = 0.520$). For men, the data show higher means for the same items, fresh air ($M = 4.61$; $SD = 0.573$), beach ($M = 4.59$; $SD = 0.690$), and sun ($M = 4.53$; $SD = 0.681$). The lowest values obtained by women appear in the items organic farming ($M = 3.96$; $SD = 0.964$) and unleaded petrol ($M = 3.70$; $SD = 0.951$) and in men, unleaded petrol ($M = 3.63$; $SD = 0.883$) and flower pots ($M = 3.98$; $SD = 0.879$), not exceeding 4.00 in any case.

Table 4. Influence of gender on the valuation of items forming the ecological values.

Items	Men		Women		Mann-Whitney U Test	
	M	DT	M	DT	U	p
Organic farming	4.02	0.904	3.96	0.964	46,788.500	0.568
Clean air	4.61	0.573	4.78	0.481	40,691.000	0.000
Biodiversity	4.39	0.659	4.45	0.755	43,982.000	0.047
Forest	4.52	0.634	4.57	0.684	45,017.500	0.121
Sustainable development	4.42	0.629	4.45	0.702	45,745.000	0.263
Ecologism	4.29	0.764	4.39	0.736	44,246.500	0.068
Renewable energy	4.49	0.628	4.50	0.641	47,043.500	0.624
Fauna	4.50	0.656	4.58	0.652	44,710.000	0.088
Unleaded petrol	3.63	0.883	3.70	0.951	45,905.000	0.320
Green peace	4.01	0.856	4.20	0.819	41,855.500	0.004
Garden	4.35	0.698	4.53	0.633	41,229.000	0.001
Lake	4.40	0.655	4.57	0.599	41,332.500	0.001
Rain	4.12	1.059	4.20	1.041	45,179.500	0.176
Flower pots	3.98	0.879	4.11	0.848	44,087.000	0.068
Mountain	4.39	0.748	4.43	0.762	46,109.000	0.347
Snow	4.40	0.762	4.51	0.740	43,547.500	0.024
Natural park	4.47	0.661	4.59	0.613	43,345.500	0.017
Beach	4.59	0.690	4.77	0.536	41,206.000	0.000
Recycle	4.30	0.718	4.40	0.655	44,887.000	0.129
Reforestation	4.28	0.777	4.33	0.790	46,027.000	0.339
River	4.40	0.751	4.54	0.633	43,886.500	0.038
Hiking	4.37	0.786	4.30	0.936	47,530.000	0.811
Sun	4.53	0.681	4.75	0.520	40,258.000	0.000
Vegetation	4.46	0.675	4.54	0.662	44,381.500	0.066
Green areas	4.45	0.667	4.60	0.611	42,091.000	0.002

Finally, multivariate factor analysis was used as a multivariate technique to find out how the variables that form part of the ecological values category are related to each other. As a preliminary step, the KMO = test (Kaiser–Meyer–Olkin = 0.956) and Bartlett's test of sphericity ($c^2 = 10,057.097$; $gl = 300$; $p = 0.00$) were carried out, which showed that the conditions of the variables or items were appropriate for this type of analysis. The correlation matrix also provided us with data on the high and medium (linear) correla-

tion between the variables and with a value of the determinant of the correlation matrix of 0.001, indicating that the degree of intercorrelation of the variables is very high.

Table 5. Kaiser–Meyer–Olkin (KMO) and Bartlett’s test.

Kaiser–Meyer–Olkin measure of sampling adequacy		0.956
Bartlett’s test of sphericity	Approximate Chi-square	10,057.097
	gl	300
		Sig.
		0.000

The total variance explained (Table 6) by the first three components is 58.915% of the total variance explained. The component matrix informs us of the relationship between the variables, grouping them together and reducing the original data.

Table 6. Total variance explained.

Component	Initial Eigenvalues			Sums of the Squared Saturations of the Extraction			Sum of the Saturations Squared of Rotation		
	Total	% of Variance	Accumulated %	Total	% of Variance	% Cumulative	Total	% of Variance	% Cumulative
1	11.520	46.080	46.080	11.520	46.080	46.080	5.514	22.057	22.057
2	1.866	7.462	53.542	1.866	7.462	53.542	4.707	18.828	40.885
3	1.343	5.372	58.915	1.343	5.372	58.915	4.507	18.030	58.915

Extraction method: principal component analysis.

From the factor analysis (rotated component matrix), we can conclude that the variables are grouped into three main groups (Table 7):

- Component 1: the association of the variables of environmentalism, renewable energy, sustainable development, biodiversity, organic farming, reforestation, green peace, unleaded petrol, recycling.
- Component 2: the association between rain, flower pots, hiking, mountain, snow, river, natural park.
- Component 3: the variables sun, fresh air, beach, lake, fauna, forest, green area, vegetation, garden.

Table 7. Rotated component matrix.

Ecological Values	Component		
	1	2	3
Ecologism	0.796	0.119	0.313
Renewable energy	0.768	0.126	0.295
Sustainable development	0.761	0.105	0.326
Biodiversity	0.722	0.134	0.350
Organic farming	0.641	0.244	
Reforestar	0.561	0.430	0.129
Green peace	0.538	0.395	0.175
Unleaded petrol	0.531	0.352	0.194
Recycle	0.483	0.438	0.214
Rain	0.141	0.730	
Flower pots	0.308	0.676	0.149
Hiking	0.168	0.662	0.252
Mountain	0.244	0.632	0.434
Snow		0.597	0.326
River	0.284	0.572	0.513
Natural park	0.299	0.563	0.533
Sun		0.290	0.686
Fresh air	0.407		0.670
Beach		0.180	0.649
Lake	0.336	0.500	0.552
Fauna	0.528	0.228	0.543
Forest	0.524	0.204	0.539
Green areas	0.388	0.450	0.526
Vegetation	0.397	0.470	0.517
Garden	0.374	0.468	0.509

4. Discussion

Values education refers to the process that intervenes in the development of a person's morality in all its dimensions, which is why all universities have an intentional strategy that promotes values education, developing a continuous training process that requires constant precision of the objectives to be achieved [36]. In this study there is a high estimation of affective, moral and individual values, which denotes a youth that has a strong personality and concern for humanisation, justice and social and affective relationships, coinciding with the results obtained in studies by the authors Benninga [37], Berkowitz and Bier [38], Elzo et al. [39], García, Barbello and Muñoz [40], González-Anleo and López-Ruiz [41], and González-Gijón and Soriano [42].

Personality expresses the values that people have for the human being, reflecting the formation of the human being's potentialities, as well as his or her intellectual, spiritual and physical faculties. Collier [43] and Daher [44] affirm that ecological, bodily and social values have higher than average scores, showing the importance of young university students to the body, health, ecology and social relations and problems.

Similarly, Baburkin and Lymarev [45] and Krumrei-Mancuso [46] state that the below-average scores for intellectual, aesthetic and instrumental values show a youth that is not very materialistic and interested in beauty or art, or the need for intellectual training, being their current daily activity. The last values in the hierarchy, referring to political and religious values, which are far removed from the preceding ones, especially religious values, denote a lack of concern for politics, together with a rejection of and little concern for religion. Hill and Den Dulk [47] and Black [48] agree that the high standard

deviation of the religious value is noteworthy. The Santa María Foundation [41], the Ministry of Social Affairs [49], Queen Sofia Centre on Adolescence and Youth [50], INJUVE [51], etc., highlight the accelerated decline of religious values in the general population and among young people in particular [39,41,51–54].

As we have mentioned, the high scores for ecological values reveal the importance that young university students attach to ecology, which can be seen in the high scores for all the variables that make up this value, with the exception of ecological agriculture (3.98) and unleaded petrol (3.68), with the most negative scores related to the indifference that these concepts transmit to them. However, there are two words that define young people's most highly valued concept of ecology: clean air and beach. Different studies [55–58] show the high score obtained since the categories related to ecological values produce a greater liking in students.

With respect to the gender variable, women obtain higher mean scores than men in all items except organic farming and hiking... coinciding with the study carried out by Magaña, Quiles and Benítez in 2016 [56]. In addition, gender influences the value given to the words fresh air, biodiversity green peace, garden, lake, snow, natural park, beach, river, sun and green area, i.e., there are significant differences between men and women. The highest average results obtained by the participants appear in the items pure air, beach and sun, in which men and women coincide, and the lowest in the items ecological agriculture and unleaded petrol, in women, and in men, unleaded petrol and flower pots.

The factor analysis determined that the variables or words that were part of the ecological value are grouped into: Component 1, which includes the variables greening, renewable energy, sustainable development, biodiversity, organic farming, reforest, green peace, unleaded petrol, recycle and relate to goal number 7—affordable and clean energy of the 2030 Agenda for Sustainable Development [1] which guarantees access to affordable, safe, sustainable and modern energy for all people. Component 2, which describes the association between rain, pots, hiking, mountain, snow, river, natural park, and component 3, which includes the variables sun, fresh air, beach, lake, fauna, forest, green space, vegetation, garden, both of which are related to goal 11—sustainable cities and communities of the 2030 Agenda for Sustainable Development [1], which provides universal access to safe, inclusive and accessible green spaces and public spaces. This study also serves to rethink curricular aspects related to university teacher training. Researching ecological values in student teachers also implies a change in their conception, i.e., we advocate a “new” teacher who acts as an agent of social change, as a mediator who transforms the ecological into an educational value and who must transmit it in such a way that it becomes an experience for his or her pupils, enabling them to attain the status of a personal principle.

To conclude, we should point out that, as in any study, there are a series of limitations, which in our case have been produced by the sample selected, which is limited to the Autonomous Community of Andalusia and the geographical region that is located in the south of Spain and many geographical and climatological characteristics have influenced the results obtained, to young university students, being able to expand to other regions and other degrees, in future research.

As a future line of research, it is proposed to go deeper into the commitment to an ecology of young people using other qualitative and quantitative measurement instruments such as the scale developed by Amérigo, García and Côrtes [59] to analyse pro-environmental attitudes and behaviours or the environmental action scale (EAS) designed to assess the degree of involvement in collective actions in favour of the environment [60,61].

Author Contributions: Conceptualization, G.G.-G., N.M.-H., F.J.J.R. and A.S.D.; methodology, G.G.-G., N.M.-H., F.J.J.R. and A.S.D.; software, G.G.-G., N.M.-H., F.J.J.R. and A.S.D.; formal analysis, G.G.-G., N.M.-H., F.J.J.R. and A.S.D.; investigation, G.G.-G., N.M.-H., F.J.J.R. and A.S.D.; writing—original draft preparation, G.G.-G., N.M.-H., F.J.J.R. and A.S.D.; writing—review and

editing, G.G.-G., N.M.-H., F.J.J.R. and A.S.D.; supervision, G.G.-G., N.M.-H., F.J.J.R. and A.S.D.; project administration, G.G.-G.; funding acquisition, G.G.-G. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by University of Granada-Precompetitive Projects 2015, Spain, grant number PP2015-09.

Institutional Review Board Statement: The study was conducted according to the guidelines of the Research Ethics Committee of the University of Granada (Spain).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Agenda 2030 para el Desarrollo Sostenible. Available online: <http://www.exteriores.gob.es/portal/es/politicaexteriorcooperacion/nacionesunidas/paginas/objetivosdesarrollodelmilenio.aspx#:~:text=Los%20Objetivos%20de%20Desarrollo%20Sostenible,todas%20en%20todas%20las%20edades> (accessed on 27 May 2021).
- Palavecinos, M.; Américo, M.; Ulloa, J.B.; Muñoz, J. Preocupación y conducta ecológica responsable en estudiantes universitarios: Estudio comparativo entre estudiantes chilenos y españoles. *Psychosoc. Interv.* **2016**, *25*, 143–148.
- Pérez, J.M. Ecología Profunda y Transdisciplinaria en la Conservación de Ambientes Educativos. *Rev. Sci.* **2017**, *2*, 49–65.
- Pol, E. A gestão ambiental, novo desafio para a psicologia do desenvolvimento sustentável. *Estud. De Psicol.* **2003**, *8*, 235–243.
- Krasny, M.E.; Lundholm, C.; Plummer, R. Resilience in social–ecological systems: The roles of learning and education. *Environ. Educ. Res.* **2010**, *16*, 463–474.
- Porta, L. Educación, valores y ciudadanía: Los jóvenes frente al mundo actual. *Prax. Educ.* **2012**, *8*, 42–49.
- Chambers, F.; Sandford, R. Learning to be human in a digital world: A model of values fluency education for physical education. *SportEduc. Soc.* **2019**, *24*, 925–938.
- Gervilla, E. *Educar en la Postmodernidad*; Dykinson: Madrid, Spain, 2010; pp. 180–196.
- Boroel, B.I.; Arámburo, V. El posicionamiento del docente ante la formación en valores en la educación superior. *Ride. Rev. Iberoam. Para Investig. Desarro. Educ.* **2016**, *7*, 463–482.
- Gurova, V. An Ecological Culture for Teachers. In *Ecological Education in Everyday Life*; University of Toronto Press: Toronto, ON, Canada, 2016; pp. 94–106.
- Pérez, M.I. Enseñanza de valores por maestros de nivel intermedio. *Assoc. Moral Educ. Conf. Proc.* **2016**, *1*, 26–38.
- Major, L.; Namestovski, Ž.; Horák, R.; Bagány, Á.; Krekić, V.P. Teach it to sustain it! Environmental attitudes of Hungarian teacher training students in Serbia. *J. Clean. Prod.* **2017**, *154*, 255–268.
- Ortiz Cermeño, E. La adquisición de valores para la formación de los maestros en Educación Primaria. *Dilemas Contemp. Educ. Política Valores* **2017**, *4*, 1–28.
- Ren, P.; Liu, X.; Liu, J. Research on construction of indicator system for evaluation of the ecological civilization education in Chinese universities. *Cogn. Syst. Res.* **2018**, *52*, 747–755.
- Torres, R.L. Los valores de la Educación Infantil en la Ley de Educación Andaluza y sus implicaciones educativas. *Bordón. Rev. De Pedagog.* **2011**, *63*, 83–94.
- Olmos-Gómez, M.C.; Luque Suárez, M.; Ferrara, C.; Olmedo-Moreno, E.M. Quality of Higher Education through the Pursuit of Satisfaction with a Focus on Sustainability. *Sustainability* **2020**, *12*, 2366.
- Nasibulina, A. Education for sustainable development and environmental ethics. *Procedia-Soc. Behav. Sci.* **2015**, *214*, 1077–1082.
- Wu, Y.C.J.; Shen, J.P. Higher education for sustainable development: A systematic review. *Int. J. Sustain. High. Educ.* **2016**, *17*, 633–651.
- CADEP. *Orientaciones para la Introducción de la Sostenibilidad en el Currículum. Anexo a, Directrices para la Introducción de la Sostenibilidad en el Currículum CRUE, 2005, Declaración institucional*; Grupo de trabajo Sostenibilización Curricular, Valencia, CADEP-CRUE: 2012. https://www.crue.org/wp-content/uploads/2020/02/Directrices_Sostenibilidad_Crue2012.pdf
- Vilches, A.; Pérez, D.G. La educación para la sostenibilidad en la Universidad: El reto de la formación del profesorado. *Profr. Rev. Currículum Form. Profr.* **2012**, *16*, 25–43.
- Benítez, A. La educación en valores en el ámbito de la educación superior. *Rev. Electrón. Iberoam. Sobre Calid. Efic. Cambio En Educ.* **2009**, *7*, 116–129.
- Rodríguez, F.M.M.; Trianes, M.V.; Casado, A.M. Eficacia de un programa para fomentar la adquisición de competencias solidarias en estudiantes universitarios. *Eur. J. Educ. Psychol.* **2013**, *6*, 95–104.
- Wray-Lake, L.; Syvertsen, A.K.; Flanagan, C.A. Developmental change in social responsibility during adolescence: An ecological perspective. *Dev. Psychol.* **2016**, *52*, 130.

24. Lee, S.S.; Hung, D.; Teh, L.W. An ecological view of conceptualising change in the Singapore education system. *Educ. Res. Policy Pract.* **2016**, *15*, 55–70.
25. Danylova, T.; Salata, G. The ecological imperative and human nature: A new perspective on ecological education. *Міждисциплінарні дослідження складних систем* **2018**, *12*, 17–24.
26. Shephard, K.; Egan, T. Higher Education for Professional and Civic Values: A Critical Review and Analysis. *Sustainability* **2018**, *10*, 4442.
27. Zhang, X.; Shi, W. On the Integration and Innovation of the Ideas of Environmental Protection and Ecological Civilization in Ideological and Political Education in Colleges and Universities. *Acad. J. Humanit. Soc. Sci.* **2019**, *2*, doi:10.25236/AJHSS.040094.
28. Barnett, R. Re-imagining the university: An ecological perspective. *Herdsa Connect* **2019**, *41*, 2.
29. Fontalvo-Buelvas, J.C.; De la Cruz Elizondo, Y. Una Experiencia de Educación Ambiental y Sustentabilidad en la Universidad Veracruzana 2019. Available online: <http://www.anea.org.mx/2doCongresoEAS/Docs/172P-INST-FontalvoBuelvas.pdf> (accessed on 29 May 2021).
30. Estrella, Á.M. Construcción de un instrumento de categorías para analizar valores en documentos escritos. *Rev. Electrón. Interuniv. Form. Profr.* **2009**, *12*, 59–72.
31. Gervilla, E.; Casares, P.; Entrena, S.; González-Gijón, G.; Jiménez, F.J.; Lara, T.; Santos, M.; Soriano, A. Test de Valores Adaptado (TVA_adaptado). In *Registration of the Intellectual Property No. 04/2017/1538*; 2018.
32. González-Gijón, G.; Gervilla, E.; Martínez, N.; Soriano, A. Análisis y validación de un Test para medir Valores (TVA_Adaptado). *Pedagog. Soc. Rev. Interuniv.* **2021**, *38* (In Press).
33. Cronbach, L.J. Coefficient alpha and the internal structure of tests. *Psychometrika* **1951**, *16*, 297–334.
34. Nunnally, I.H.; Bernstein, J. *Psychometric Theory*, 3rd ed.; McGraw-Hill: New York, NY, USA, 1994; pp. 155–197.
35. Aljandali, A. *Multivariate Methods and Forecasting with IBM® SPSS® Statistics*; Springer: New York, NY, USA, 2017; pp. 80–95.
36. Vida, M.; Araña, A.B. Formación en valores. *Educ. Méd. Super.* **2014**, *28*, 175–186.
37. Benninga, J.S.; Marvin, W.; Kuehn, P. Character and academics: What good schools do. *Phi Delta Kappan* **2006**, *87*, 448–452.
38. Berkowitz, M.; Bier, M. The interpersonal roots of character education. *Character Psychol. Character Educ.* **2005**, *30*, 268–285.
39. Elzo, J.; Megías, E.; Ballesteros, J.C.; Rodríguez, M.Á.; Sanmartín, A.O. *Jóvenes y Valores I. Un Ensayo de Tipología*; FAD, Centro Reina Sofía sobre Adolescencia y Juventud y Fundación ONCE: Madrid, Spain, 2014; pp. 1–256.
40. García, V.A.; Barbero, F.; y Muñoz, R. Evaluación de la jerarquía de los valores humanos de Schwartz en la adolescencia: Diferencias de género e implicaciones educativas. *Rev. Bras. Educ.* **2017**, *22*, 123–146.
41. González-Anleo, J.; López-Ruiz, P. *Jóvenes Españoles Entre dos Siglos 1984–2017*; Fundación S. M.: Madrid, Spain, 2017; pp. 99–180.
42. Gonzalez-Gijón, G.; Soriano, A. A study of the individual values of Puerto Rican youth. *Rev. Paz Confl.* **2017**, *10*, 231–257.
43. Collier, K.G. *The Social Purposes of Education: Personal and Social Values in Education*; Routledge: London, United Kingdom, 2013; pp. 170–186.
44. Daher, W. Values in the mathematics classroom. *Educ. Philos. Theory* **2009**, *52*, 284–299.
45. Baburkin, S.A.; Talanov, S.L.; Lymarev, A.V. Vision of the Future and Values of University students. *Eur. J. Nat. Hist.* **2016**, *6*, 125–127.
46. Krumrei-Mancuso, E.J. Intellectual humility and prosocial values: Direct and mediated effects. *J. Posit. Psychol.* **2017**, *12*, 13–28.
47. Hill, J.P.; K.R. Den Dulk, Religion, volunteering, and educational setting: The effect of youth schooling type on civic engagement. *J. Sci. Study Relig.* **2013**, *52*, 179–197.
48. Black, P. Christian beliefs and values in science and religious education: An essay to assist the work of teachers of both subjects. *Int. Stud. Cathol. Educ.* **2017**, *9*, 206–222.
49. Informe Ministerio de Asuntos Exteriores. 2017. Available online: <http://www.exteriores.gob.es/Portal/es/SalaDePrensa/Multimedia/Publicaciones/Paginas/Inicio.aspx> (accessed on 27 May 2021).
50. Informe Sobre Valores Centro Reina Sofía Sobre Adolescencia y Juventud. 2019. Available online: <https://www.adolescenciayjuventud.org/> (accessed on 27 May 2021).
51. Benedicto, J. *Informe Juventud en España 2016. Injuve*; Fundación Santa María-Ediciones S. M.: Madrid, Spain, 2016; pp. 68–80.
52. González, J. *Jóvenes 2000 y Religion*; Fundación Santa María-Ediciones S. M.: Madrid, Spain, 2004; pp. 80–150.
53. González, J. *Jóvenes Españoles 2010*; Fundación Santa María-Ediciones S. M.: Madrid, Spain, 2011; pp. 23–45.
54. Elzo, J. *Jóvenes Españoles 99*; Fundación Santa María-Ediciones S. M.: Madrid, Spain, 1999; pp. 60–75.
55. Herrera, K.; Acuña, M.P.; Ramírez, M.J.; De La Hoz, M.D.C. Actitud y conducta pro-ecológica de jóvenes universitarios. *Opción* **2016**, *13*, 456–477.
56. Magaña, D.Q.; Quiles, O.L.; Benítez, C.A. Elección y preferencia de valores en estudiantes universitarios mexicanos. *Profesorado. Rev. Curric. Form. Profr.* **2016**, *20*, 18–38.
57. Milanés, O.A.G.; Mezzomo, M.D.M.; Corneli, V.M. Percepción sobre el desarrollo sostenible de los jóvenes universitarios. *Atos Pesqui. Em Educ.* **2020**, *15*, 423–447.
58. Cantú-Martínez, P.C. Actitudes proambientales en jóvenes universitarios. *Cienc. Educ.* **2020**, *4*, 67–74.
59. Amérigo, M.; García, J.; Côrtes, P. Análisis de actitudes y conductas pro-ambientales: Un estudio exploratorio con una muestra de estudiantes universitarios brasileños. *Ambiente Soc.* **2017**, *20*, 1–20.

-
60. Carmona-Moya, B.; Benítez, I.; Aguilar-Luzón, M.C. Psychometric properties of the Spanish version of the Environmental Action Scale (EAS)/Propiedades psicométricas de la versión española de la Escala de Acción Colectiva Ambiental (EACA). *Rev. Psicol. Soc.* **2019**, *34*, 256–280.
 61. Eugenio, M.; Zuazagoitia, D.; Ruiz-González, A. Huertos EcoDidácticos y Educación para la Sostenibilidad. Experiencias educativas para el desarrollo de competencias del profesorado en formación inicial. *Rev. Eureka Sobre Ensen. Divulg. Cienc.* **2018**, *15*, 1501, doi:10.25267/Rev_Eureka_ensen_divulg_cienc.2018.v15.i1.1501.