

THE SPATIAL DIMENSION OF ENVIRONMENT-RELATED ATTITUDES: DOES URBAN OR RURAL ORIGIN MATTER?

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Abstract

Aim of this research is to analyze the role of the urban or rural origin of students in their environment-related attitudes. Standardized questionnaires were completed by 315 students of environment-related departments (Forestry, Farming Enterprise Management, Crop Production and Landscape Architecture), originating from various villages, towns and cities of Greece. The research was conducted from 2007 to 2013. Spearman test (bivariate correlation) was used and in-depth interviews were conducted. The following results have derived: The environmental profiles (more anthropocentric or eco-centric) as well as the susceptibility to hunting do not depend on the origin. The organized involvement in environment-related issues (participation in associations) is more restricted in rural-originated interviewees. They latter also present a greater tendency to abuse animals than the urban-originated students. Interviewees of both urban and rural origin appear to be similarly receptive (or critical) to the institutional necessity of the Ministry of Environment. Urban interviewees are more familiar with certain environmental policy concepts (e.g. “environmental education”, “biodiversity problem”) while rural-originated students are less receptive (or more deconstructive) to these. The perception of naturalness appears to be quite independent of the origin. The attractiveness of certain environmental elements is differentiated between urban- and rural-originated students, depending on either the feeling of familiarity or on the need of escaping from anxiety or monotony. The way of familiarization with the notion of “forest” does not markedly differ between rural- and urban-originated interviewees (the urban-originated ones are more influenced by comics). Rural-originated students tend to consider their study as a practical training while urban students as a science, mainly focusing on physico-biological subjects. Issues such as the propagandistic instrumentalization of the notion of “environmental problem”, the deconstructive or defensive discourse toward “environmental issues”, perception of landscape, in-situ experience, and universal aesthetic values in relation to origin are discussed.

Keywords: environmental attitudes, family-related and region-related origin, environmental education

JEL classification: Q5, R2

1. Introduction

Subsequent to previous article (Goula et al. 2015), which suggests a spatial-based typology of students’ attitudes toward environmental issues, the present work aims at depicting the influence of students’ origin on their attitudes toward environment-related issues. The origin is distinguished in region-related (permanent residence of student in village, small towns and

big cities, particularly Athens and Thessaloniki), which is the explicitly spatial dimension, and in family-related (rural or urban job or home of parents), which reflecting an implicitly spatial dimension, as the characterization of a job or home as “rural” or “urban” is rather a perceptual approach of each interviewee (student).

The article of Goula et al. (2015) focused on determinants of attitudes separately in the sample of 101 students from villages and 99 from Athens and Thessaloniki (total sample=200), considering these extreme conditions of rurality and urbanization as explicitly different settings, in which various determinants influence in different ways the attitudes and the environmental profiles of students, without examining the effect of their origin on these attitudes and profiles.

In the present paper, the sample has been extended to 315 students (incl. the 200 students of the previous study=101 from capital cities+ 99 from Athens and Thessaloniki, and 115 more, who are permanent residents of capitals of prefectures). The origin (region- or family-related) is considered not as a setting (namely as a background/condition, under which the effect of various determinants on attitudes and profile is differentiated) but as a determinant of attitudes. The diagnosis of origin parameters influencing or being irrelevant to the environment-related attitudes of the students is expected to constitute the academic added value of the present article for Regional Science and the possible practical added value for policy-making and Environmental Education.

As this paper and the paper of Goula et al. (2015) are based in part on the same primary data and handle attitudes to environment-related issues, they use the same literature. Both papers have been in part motivated by spatial-planning issues raised by and in the framework of the multi-level EU integration process, which interact with local driving forces and the implications of regional governance and make the exploration of their role in environment-related issues necessary (Gioti-Papadaki 2014, 2013, 2012a, 2012b, 2008, Gioti-Papadaki & Papadaki 2011, Gioti-Papadaki et al. 2014). The importance of socio-political and developmental dimensions of spatial planning also build a framework of significant importance for the environmental attitudes (Leotsakos et al. 2014, Papadopoulou et al. 2012, Scott et al. 2013, Prager et al. 2015, Ives & Kendal 2013, Baur et al. 2013). Insightful results pointing out the spatial character of environment- and development-related attitudes but only in case of landowners and not of students have also been proposed (Bastian et al. 2014).

Particular regional-analytical approaches in relation to environmental policy, land use policy analysis and Natural Resource Management have also been extensively discussed (Ladias et al. 2013a, Ladias et al. 2013b, Ladias et al. 2014a, Ladias et al. 2014b, Ladias et al. 2013c). The role of regional differences in the building of environmental attitudes has been depicted but in primary and not in Higher Education (Ürey et al. 2009). Considering further studies, the relation of these issues to education policy at Higher Education is still just a little explored field (Lozano et al. 2013, Karatzoglou 2013, Vicente-Molina et al. 2013). It has been supported that social-personal parameters, incl. origin, influence the environmental attitudes (Meerah et al. 2010, Zsóka et al. 2013, Yu 2014, Masud & Kari 2015). However, the list of possible characteristics which may influence environmental attitudes as well as of the possible prejudices which still exist and can be deconstructed are unexhausted.

2. Method

2.1. Data collection and process

Standardized questionnaires have been completed from 2007 to 2013 by 315 students. In-depth interviews were also conducted. This sample was academically distributed as follows: 31% from the Forestry department at the Technology Institute University of Kavala (branch of Drama), 34,3% from Landscape Architecture department (at the same institution of Kavala, branch of Drama), 9,8% from Farming Enterprise Management department at the Technology Institute University of Thessaloniki-Sindos and 24,9% from the Crop Production department (at the same institution of Thessaloniki-Sindos). Spatially, their permanent residence were distributed as follows: 32,7% from non capital cities (small towns-villages), 35,2% from capital cities of prefectures and 32,1% from Athens and Thessaloniki (the two largest cities of Greece). Their age varied from 18 to 60 (mean= 23). The study duration varied from 1st to 20th semester (mean=6th). 66,1% were female and 33,9% were male students.

Although the aim of this research was not to produce representative descriptive statistics and, thereby, no random sampling was necessary, the questionnaires were completed by students in laboratories where the participation was compulsory. Thus, students of all possible characteristics were included in the sample and not only those who are most attentive. In other words, the particular descriptive statistics is expected to be present properties of a representative random sample. Of course, the features may vary from year to year, as students of different “quality” (school grades and performance) are enrolled.

The data were processed with the bivariate correlation test of Spearman at significance level 5%(*) and 1%(**). Such a non parametric test eliminates the possible effect of outliers.

2.2. Particular comments on Charles Spearman test

This is a bivariate correlation test between X and Y, as Pearson test. However, the Spearman formula (1) does not use the observed values but transform them in a scale of equal intervals (e.g. X1=1, X2=5 X3=9 X4=13 X5=17 are transformed in $\chi_1=1$ $\chi_2=2$ $\chi_3=3$ $\chi_4=4$ $\chi_5=5$, respectively). In this way, the impact of the outliers, which could “deform” the reality of the dominant tendencies, is eliminated. Simultaneously, effects of non-linearity are also excluded (with all subsequent advantages or disadvantages regarding credibility or accuracy).

$$\rho = 1 - \frac{6 \sum (x_i - y_i)^2}{n(n^2 - 1)} \quad (1)$$

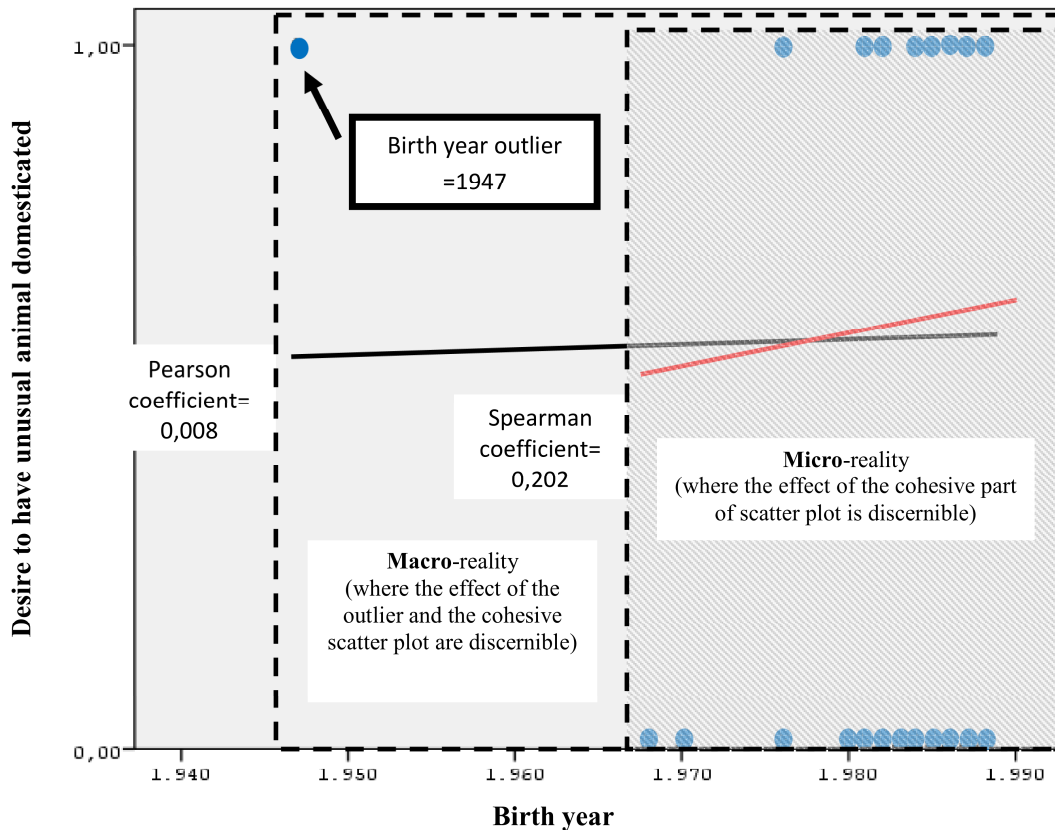
The counter-argument is that Pearson test is more reality-credible, as it incorporates all observed values, even the outliers, enabling a total detection and depiction of the reality, without the “arbitrary” transformation of Spearman test, which produces just “smart” results. From another point of view, Spearman test yields “safer” and more “reserved” results in the framework of a restricted (micro-) reality, “compressing” the outliers in the narrower scale of a more cohesive scatter plot.

On the other hand, Pearson test yields results of the macro-reality, including all observed values as measured and not only pairs of values which are located close to each other (part of the whole observed scatter plot). The coefficient ρ varies from +1 to -1, depending on whether the equation $y=f(x)$ is increasing or decreasing. It is possible to produce interpretable results for binary as well as for any so-called “ordinal”, “interval” and “ratio scale” variables.

In the present research the variables measured in ordinal scale of a few ranks. Most of them are binary. Thus, there is actually no question of outliers. The results have also been verified by the non parametric Kendal test and by the parametric Pearson test as well. These have produced significant coefficients of same sign (+, -) in the respective cases of correlation.

For reasons of deeper understanding, the following diagram 1 from Goula et al. (2015) is presented. In this diagram the birth year included values that could be considered as outliers which can cause differentiation of the results between Pearson and Spearman test. Due to the outlier 1947 the parametric Pearson test yields the weak coefficient 0,008 between the “*Desire to have unusual animal domesticated*” and the “*Birth year*”, which implies independence between these variables. On the contrary, due to the “compression” of the outlier, Spearman test depicts (and Spearman coefficient expresses) a stronger correlation between these variables.

Thereby, applying the “deforming” test Spearman in the particular research seems to be useful for extracting “safer” conclusions. At this point, it is sensible to emphasize that as a rule in any social research the correlations do not have a calculative but just an indicative purpose, regarding the dominant tendencies.

Diagram 1. Comparative depiction of Pearson and Spearman test (Goula et al. 2015)

3. Results and discussion

3.1. Environmental profile

In table 1 it is noticeable that no significant correlation appears. It could be expected that students with rural origin would be more susceptible to exploitative and anthropocentric attitudes. Thus, they would have markedly avoided vegetarianism in comparison with urban students. However, such a hypothesis is not supported by the particular findings.

The desire to keep domestic carnivore animals and subsequently to feed them with meat of other animals shows a racist attitude toward animals and not an equity-based and generally eco-centric handling toward them. Such a desire does not significantly depend on the origin. The desire for a closer familiarity with peculiar (“exotic”) natural values (domestication of unusual animals) seems also to be independent of any origin pattern.

The sensitiveness to natural entities (e.g. desire to save a tree in the personal house yard) is also not strongly differentiated between rural- and urban-originated students, though it would be expected that rural population does not tend to adopt the natural values of urban people, as the rural people are de facto brought up with more nature-exploitative values.

Table 1. Environmental profile

	Region-related origin	Family-related origin							
		permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job urban (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)
Being a vegetarian by ideology (no=0, yes=1)	,019	-,011	,060	,007	,112	-,020	,024	-,011	,013
	,740	,850	,296	,905	,051	,730	,678	,841	,814
Desire to have a carnivore domesticated (dog, cat etc) (no=0, yes=1)	,003	,050	-,027	-,018	-,009	-,018	,023	,059	-,050
	,956	,382	,631	,757	,878	,747	,683	,296	,378
Desire to have unusual animal domesticated (monkey, wolf, lion, bear etc) (no=0, yes=1)	,047	-,012	-,061	-,019	-,101	,056	-,047	,032	-,028
	,404	,828	,280	,734	,077	,323	,408	,566	,622
Desire to save a tree in your house yard in case of technical works (no=0, yes=1)	-,018	,009	-,047	,024	-,103	-,014	,010	-,003	,001
	,745	,880	,414	,673	,071	,803	,866	,956	,988

3.2. Social embedment

The organized involvement in environment-related issues such as animal welfare and protection, environmental conservation as well as scouting (which is a pedagogy method strongly connected with natural values) through membership in associations appears to be negatively related to the parents rural profession (-0,141 to -0,113 and -0,133 to -0,167).

Thus, the rural way of life seems to restrict free time or scope for developing interest in such an organized participation. The intensive occupation with rural work, the simultaneous adoption of exploitative attitudes toward natural environment and in certain areas the geographical inaccessibility makes the involvement in associations difficult. Such associations represent conservationist ideologies, which normally find resonance in urban population.

Table 2. Social embedment

	Region-related origin	Family-related origin					
		permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job rural (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)
Membership at animal protection/ welfare association (actual=2, desirable=1, not all=0)	,079	-,141(*)	-,133(*)	,083	-,080	,054	-,059
	,160	,013	,019	,142	,156	,339	,300

	Region-related origin	Family-related origin					
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job rural (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Membership at environmental association (actual=2, desirable=1, not all=0)	,033	-,113(*)	-,100	-,031	,025	-,023	,021
	,558	,046	,079	,588	,660	,680	,718
Membership at scout association (actual=2, desirable=1, not all=0)	,044	-,020	-,167(**)	,077	-,072	,038	-,035
	,441	,724	,003	,176	,208	,508	,539

3.3. Susceptibility to hunting

The susceptibility to hunting is one more constellation of attitudes that appears to be totally independent of the origin parameters measured in this research. Neither the character (urban or rural) of the residence nor even the family character (urban or rural) seems to influence the tendency to the students to deal with hunting or not. Urban- or rural-originated students present equal susceptibility to be hunters (organized in hunting association) or even support the prohibition of hunting or coming in conflict with hunters. Thus, practice or idea of hunting (or disagreement with the practice or idea of hunting) does not have any origin. There are various species which are suitable quarry both for rural and urban population. There are also areas which are equally accessible for both of them.

Concerning hunting as value and idea, this seems to be compatible with the value systems of both population. Although rurality seems to be incompatible to animal protectionism (s. table 2), it does not to enhance hunting idea more than urban value system. Obviously, hunting seems to be connected with an attitude different from being protectionist or friendly to animals or not. Apart from that, it should not be disregarded that hunters are cooperating with dogs, which also are animals and can be appreciated or even loved as non-human "friends" by the hunters.

Table 3. Susceptibility to hunting

	Region-related origin	Family-related origin						
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Membership at hunting association (actual=2, desirable=1, not all=0)	,049	-,025	,072	-,084	,011	-,007	,067	-,066
	,392	,662	,204	,141	,852	,900	,235	,247
Agree with prohibiting hunting (for all species=2, for some species=1, for no species at all=0)	,055	-,038	-,082	-,091	,004	-,020	-,011	,004
	,329	,504	,151	,112	,939	,725	,841	,948
Conflict with hunters about whether hunting is something "bad" or "good" (no=0, yes=1)	,031	-,035	,070	,060	-,053	,033	-,007	-,003
	,579	,534	,215	,290	,355	,565	,898	,962

3.4. Behavior to animals

In table 4 the exploitative attitude of rural population toward animals is revealed (0,138 to 0,130; 0,181 to 0,128; 0,149 to 0,157; -0,120 to 0,142) and the protectionist attitude of urban population is depicted (-0,124; -0,135 to -0,133; -0,117; -0,139 to -0,152; -0,116 to -0,140).

In contrast to table 1, where no tendency to exploitation of nature in general is detected, in table 4 the animal is a particularly focused natural element which is considered to be more familiar to the human feelings. Thus, the rural up-bringing which is intensively oriented to nature exploitation is needed to overcome hesitations against any behavior to animals which can be considered as abuse.

The possible tendency of killing of poisonous animal in nature, even in case of not direct threat for the human life seems to be equally appearing in both urban and rural population (insign. coefficients). Evidently, even the potential threat is enough reason for everyone to kill animal.

Table 4. Behavior to animals

	Region-related origin	Family-related origin							
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job urban (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Would you kill poisonous animal in nature, even if it did not threaten you directly? (no=0, yes=1)	-,035	-,045	,023	-,004	,012	-,036	,032	-,044	,035
	,535	,428	,679	,943	,829	,531	,577	,440	,534
Have you abused animals before the age of 10? (no=0, yes=1)	,006	-,070	,138(*)	-,021	,111	-,139(*)	,149(**)	-,094	,099
	,920	,219	,015	,715	,051	,014	,009	,095	,080
Have you abused animals after the age of 10? (no=0, yes=1)	,020	-,135(*)	,164(**)	-,089	,181(**)	-,125(*)	,133(*)	-,116(*)	,120(*)
	,728	,018	,004	,120	,001	,028	,019	,041	,035
Have you abused animals today? (no=0, yes=1)	-,006	-,133(*)	,130(*)	-,117(*)	,136(*)	-,152(**)	,157(**)	-,140(*)	,142(*)
	,918	,019	,022	,041	,017	,007	,006	,014	,012
Have you killed animals after the age of 10? (no=0, yes=1)	-,124(*)	-,036	,004	-,024	,128(*)	-,040	,026	-,010	,013
	,028	,525	,943	,670	,024	,487	,650	,857	,822

3.5. Perception to environmental concepts

How critical the attitudes toward environmental concepts are seems to be depends, to certain extent, on the origin (table 5). The purely spatial characteristic, namely the rural or urban character of the residence, does not appear as relevant to the any attitude (insign. coefficients). Thus, population of any area or family-related origin, independent of its rural or urban character, seems to be equally receptive and susceptible (or not) to the necessity of a separate policy field called “environmental policy” and of a respective institution responsible for this (ministry of environment). The deconstructive attitude that the so-called “environmental problems” can be more effectively confronted by other specialized ministries (e.g. pesticides impacts by the ministry of agriculture, marine pollution by the ministry of marine affairs, potable water pollution by the ministry of health etc) as well as the politically

constructivist attitude that “environmental problems” constitute a new type of “problem” and subsequently the existence of ministry of environment makes sense is equally possible to appear in both rural or urban population.

The former attitude, that the ministry of environment is useless, implies latently but clearly that this institution as well as its object, the “environment”, the “environmental policy” and the “environmental issues” are not really new legal and politico-administrative entities but just new nominal entities aiming at creating new posts for appointing civil servants and politicians, new jobs in private sector (e.g. planners, engineers involved in environmental impacts assessments) as well as new political issues for debates and new discourses aiming at drawing the attention of the public away from other critical issues of the everyday life (e.g. poverty, unemployment) or of the international arena (e.g. wars). Thus, this attitude implies that the concept of “environment” and “environmental policy” and “issues” are nothing but propaganda instruments.

Thus, neither urban nor rural area (nor family-related origin) seems to be able to eliminate such an implicit but critical attitude against “environment”-related ideology at institutional level (nor of course to enhance it). Politico-administratively (institutionally) critical thinking (or susceptibility to propaganda) is independent on urbanization or rurality.

However, students who have received certain urban influence (by father who exerts a job which can be perceived as urban) seem to have adopted concepts related to environmental policy such as “environmental education” (0,149) as well as the biodiversity as a “problem” (-0,119). On the contrary, students with rural origin seem to be less receptive or more deconstructive to such environmental policy terms and issues. In-situ perceptions of the natural reality, independent of their accuracy and scientific validity, may also influence this deconstructive attitude toward environmental policy issues and disseminated discourses. This attitude may also have a defensive character.

Table 5. Perception to environmental concepts

	Region-related origin	Family-related origin	
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)
No institutional necessity of Ministry of Environment (no=0, perhaps=1, yes=2)	-,006	-,047	,075
	,918	,405	,188
Have you ever heard the term “environmental education” or “environmental pedagogy” (no=0, yes=1)	-,037	,149(**)	-,085
	,519	,009	,138
Do you believe that biodiversity issue is a real problem (=1) or a propagandistic concept (=2)?	-,010	-,119(*)	,178(**)
	,854	,036	,002

3.6. Perception of naturalness

In general, rurality or urbanization does not markedly influence the perception of naturalness, as only a few ones of the natural phenomena presented in the table 6 (most coefficients are insignificant). Urbanized students, in contrast to those who are rural residents, slightly tend to perceive the artificial reforestation as natural (0,114). This can be attributed to the fact that the urbanized people are sensitive to the superficial output rather than to the nature process (regeneration) which is supposed to lead to the output (forested area). In

contrast to urban residents, rural people are used to seeing natural regeneration and/or artificial reforestation (planting) and have consolidated the difference between natural and artificial process and they also are strongly of the causal relation between output and process.

Numerous other human interventions (more or less intensive) on nature, even this of organic and non organic agriculture, are differentiated in the perception of the interviewees as more or less “natural” (insign. coefficients). This flattening of perception can be understood as an effect of the restricted contact and emotional connection with the particular rural environment which was used to be considered by previous generations as “natural”. The use of personal car which constitutes villages neighborhoods of the closest town or city, makes the contact to nature easy. Additionally, the intensive use of internet possibly makes the younger generations familiar with a continuity of least, less, more and most “natural” landscapes. Thereby, the landscape tends to become single and not discretely differentiated. The distinct differences between “natural” and “human-made” tend to be mitigated and less discernible.

Apart from that, the technical interventions in nature have been so extensive that they are regarded as “usual” and as harmful for the nature.

Table 6. Perceiving as “natural”

	Region-related origin	Family-related origin							
		permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father’s job urban (no=0, yes=1)	father’s job rural (no=0, yes=1)	mother’s job urban (no=0, yes=1)	mother’s job rural (no=0, yes=1)	father’s home urban (no=0, yes=1)	father’s home rural (no=0, yes=1)	mother’s home urban (no=0, yes=1)
Artificial reforestation (no=0, yes=1)	,114(*)	,045	-,014	,076	-,030	,075	-,083	,068	-,076
	,049	,442	,806	,190	,612	,197	,152	,238	,187
Many small stream dams (no=0, yes=1)	,011	,015	-,007	-,004	-,076	,038	-,033	,089	-,084
	,845	,802	,904	,949	,192	,508	,575	,122	,148
One big stream dam (no=0, yes=1)	,055	,101	-,023	,038	,038	,021	-,011	,000	,005
	,342	,082	,690	,514	,512	,719	,848	,998	,931
Organic agriculture (no=0, yes=1)	-,002	,022	,062	,022	,012	-,025	,022	-,066	,063
	,971	,702	,289	,710	,836	,661	,704	,252	,277
Non organic agriculture (no=0, yes=1)	,038	,036	-,018	-,026	,012	,084	-,100	,067	-,082
	,507	,539	,762	,653	,832	,147	,087	,246	,155
Mountain dirt road (no=0, yes=1)	-,002	,093	-,110	,039	,047	,050	-,053	,038	-,041
	,974	,108	,056	,497	,423	,388	,358	,512	,477
Mountain fire break (antifire stripe) (no=0, yes=1)	-,012	-,006	-,069	,032	-,062	,002	-,009	,062	-,069
	,833	,920	,233	,583	,289	,970	,878	,283	,235
Forest fire (no=0, yes=1)	,057	,040	-,009	,077	-,051	-,004	,007	,049	-,046
	,320	,487	,877	,187	,382	,947	,905	,401	,431

3.7. Environmental attractiveness

In table 7 the elements which are attractive in a painting exhibition are presented. The urbanization enhances the attractiveness of sky (0,117). This is expectable as affluent view of open sky and horizon is the element which the urban residents miss most of all. A differentiated attitude toward land characterize students who have received urban family influence (-0,116), as they are used to seeing urban surroundings.

Those who are influenced by rural family (-0,117) tend to appreciate biotic elements, as they are closer to them (rural animals) in contrast to students influenced by urban family values (0,122). The range mostly attracts students of rural families (0,131 and 0,155) while

the forest is more attractive for the students who have been influenced by urban way of life (-0,138 and -0,166). This can be understood as a tendency of people influenced by rural values to focus on elements familiar to them and relevant to their subsistence while people with urban origin prefer forest as escape from anxiety or monotony. In other words, rurality is attractive while urbanization presses to escape to forest, which is the antipode of civilization. However, this escape seems to be desirable only to certain extent, as the students of urban families (0,116) are mostly attracted by nature mixed with houses in contrast to rural-influenced students (-0,113). Consequently, civilization seems to inspire need for escape but also to certain extent security.

Last but not least, the attractiveness of water and pure nature seem not to be differentiated between rural- and urban-originated people (insign. coefficients). It appears thus to be universal aesthetic values, independent of the origin.

Table 7. Environmental attractiveness

	Region-related origin	Family-related origin						
		father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job urban (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Do you like to watch biotic (=1) or abiotic (=2) elements	,052	,067	-,117(*)	,122(*)	,044	-,037	,076	-,072
	,365	,244	,043	,036	,445	,520	,189	,209
...forest (=1) or range (=2)	,000	-,038	-,003	,002	-,138(*)	,131(*)	-,166(**)	,155(**)
	,999	,502	,951	,967	,015	,021	,003	,006
Land (no=0, yes=1)	-,046	-,116(*)	,103	-,040	-,048	,040	-,077	,081
	,414	,042	,071	,487	,402	,481	,173	,153
Water (no=0, yes=1)	-,034	,079	-,039	-,035	,010	-,005	,053	-,057
	,553	,165	,491	,536	,865	,928	,353	,312
Sky (no=0, yes=1)	,117(*)	,013	-,049	,080	,039	-,035	,024	-,021
	,040	,814	,389	,161	,494	,543	,679	,707
...nature with small houses (no=0, yes=1)	,000	,032	,007	,047	,116(*)	-,113(*)	,092	-,098
	1,000	,580	,896	,413	,043	,048	,104	,086
...pure nature (no=0, yes=1)	,008	-,037	-,018	-,052	-,098	,094	-,075	,080
	,884	,515	,758	,363	,087	,100	,185	,158

3.8. Familiarization with “forest” notion

There are various ways to learn what “forest” is and what risks and values are connected with it and what it means for the human life or the society. One could expect that the familiarization of the children with the notion of “forest” through oral tradition is a “luxury” of rural population due to the more traditional spirit and way of life that is supposed to exist. However, in the table 8 it is noticeable that the oral tradition does not tend to be practiced more intensively by the rural or urban population.

The same stands also for the whole variety of familiarization ways they have been examined. Films (documentary or entertainment) are equally accessible by the rural and urban population of the youngest generation we examine in this paper, as everybody today has tv and access to internet. Excursions through which one can be in early age familiar with the notion of “forest” are also equally feasible for both parts of population due to the private car that everyone nowadays possesses. Only comics appear to be more used by people who have received urban family influence (0,120). This is understandable, considering that near urban centers exist a wider variety of comics.

Table 8. Familiarization with “forest” notion

	Region-related origin	Family-related origin							
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job urban (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Through oral tradition (no=0, yes=1)	,060	-,061	-,056	-,058	-,013	-,047	,046	-,070	,063
	,291	,285	,322	,309	,820	,407	,424	,217	,270
... documentary films (no=0, yes=1)	,001	-,052	-,007	,005	-,044	-,059	,063	-,049	,051
	,981	,365	,899	,935	,446	,305	,268	,390	,368
... entertainment films (no=0, yes=1)	-,022	-,020	,055	,003	,060	-,013	,018	-,032	,034
	,703	,724	,337	,959	,298	,817	,748	,576	,545
... excursions (no=0, yes=1)	-,083	,020	,060	-,020	,004	-,048	,054	-,007	,003
	,146	,721	,295	,722	,941	,404	,345	,907	,964
... comics (no=0, yes=1)	,094	,120(*)	-,061	,089	-,056	,089	-,082	,084	-,081
	,099	,035	,283	,121	,330	,120	,148	,138	,153

3.9. Perception of environment-related study

Concerning the perception of their study (table 9), the origin seems to have a slight effect. At first, students with rural family-related origin (0,112) tend to regard their study (forestry, crop production, rural enterprise management or landscape architecture) as a practical training rather than as a science. This can be attributed to the fact that the rural influence of their family on their value system and thinking leads them to mainly focus on and retain the practical part of knowledge provided by the faculty.

The urban family influence has also slightly the opposite effect (-0,115), convincing them to pay attention and appreciate the more theoretical part of knowledge which approaches what is often called “scientific”. Particularly, such an influence makes them focus on physico-biological subjects (0,134), depreciating the socio-economic ones (-0,121). This can be attributed to the fact that physico-biological subjects offer chances for further (possibly international) career at academic arena or industry and are connected with rapidly developing technology. These epistemological and professional features are of course attractive for urban-originated people. It is also noticeable that technical subjects seem to be equally attractive for both urban and rural population, as they are a sound and relatively safe background for a career at construction enterprises.

Table 9. Perception of environment-related study

	Region-related origin	Family-related origin							
		permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job urban (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)
Do you regard your study as a science (=1) or as practical training (=2)	-,022	-,054	,112(*)	-,115(*)	,110	-,052	,036	-,055	,047
	,693	,345	,048	,043	,054	,356	,522	,331	,406
Are you more interested in technical subjects (no=0, yes=1)	,012	,002	,007	-,008	,073	-,054	,041	-,001	-,005
	,829	,975	,904	,886	,201	,345	,466	,984	,931
... in physico-biological subjects (no=0, yes=1)	,044	,037	-,005	,134(*)	-,075	,079	-,072	,063	-,059
	,432	,520	,934	,019	,190	,162	,203	,268	,295
... socio-economic subjects (no=0, yes=1)	-,039	-,008	-,023	-,121(*)	-,032	-,016	,023	-,075	,079
	,489	,895	,692	,034	,575	,785	,687	,184	,164

4. Synopsis

Regarding environmental profile, urban and rural interviewees are not characterized by any particular (more anthropocentric or eco-centric) environmental profile. Concerning social embedment, the organized involvement in environment-related issues appears to be negatively related to the rural family-related origin. The rural way of life and in part the geographical inaccessibility seem to restrict the possibility or interest for such an organized participation.

The susceptibility to hunting appears to be independent of the origin. Both the idea and the practice of hunting is equally adoptable by rural and urban interviewees. The behavior of rural-originated interviewees to animals can be characterized as exploitative while this of urban population as more protectionist.

Interviewees of both urban and rural origin appear to be similarly receptive to the institutional necessity of the Ministry of Environment or (latently) critical toward the question whether “environmental issues” are really new issues or just a nominal concept with propagandistic role.

Urban interviewees are more familiar with certain environmental policy concepts such as “environmental education” or “biodiversity problem”. On the other hand, rural-influenced students are less receptive (or more deconstructive) to these, possibly due to in-situ perceptions of the natural reality or to deconstructive-defensive disposition.

Rurality or urbanization does not strongly influence the perception of naturalness. Only slightly urbanized students tend to perceive superficial effects of nature restoration, such as artificial reforestation, as “natural”, in contrast to rural people who seem to be used to seeing natural processes of restoration, to be aware of the difference between natural and artificial process and to have connected both with each other. The dissemination of personal car which made the transport easy and the internet which makes the landscape “single” or “continuous” as well as the extensiveness of the human interventions in nature seem to have made less discernible the difference between “natural” and “non natural”.

Concerning the attractiveness of environmental elements, water and pure nature seem to be universal aesthetic values, independent of the spatial origin. The attractiveness of certain other elements is differentiated between urban- and rural-originated students, depending on either

the feeling of familiarity (in the case of rurality) or on the need of escaping from monotony or anxiety (caused by the urbanization).

The way of familiarization with the notion of “forest” does not appear to noticeably differ between rural- and urban-originated interviewees. The only means which is more susceptible the urban students to is comics, as this exists more affluently and in a greater variety in urban centers.

As expected, rural-influenced students tend to consider their study as a practical training while urban students as a science, mainly focusing on physico-biological subjects, as these are the mostly ambitious career-related. Technical subjects are equally attractive for both urban and rural population, as these are a relatively safe way for a career in construction sector.

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