earth

MDPI

Article

Wildlife Value Orientations and Demographics in Greece

Vasilios Liordos *, Vasileios J. Kontsiotis, Ioanna Eleftheriadou, Stylianos Telidis and Archimidis Triantafyllidis

Department of Forest and Natural Environment Sciences, International Hellenic University, P.O. Box 172, 66100 Drama, Greece; vkontsiotis@for.ihu.gr (V.J.K.); iwanna_eleftheriadou@hotmail.com (I.E.); stelios3527@gmail.com (S.T.); dakoulis_93@yahoo.gr (A.T.)

* Correspondence: liordos@for.ihu.gr

Abstract: Value orientations can predict attitudes and possibly behaviors. Wildlife value orientations (WVOs) are useful constructs for predicting differences in attitudes among segments of the public towards issues in the wildlife domain. We carried out face-to-face interviews with a representative sample of the Greek population (n = 2392) to investigate two basic WVOs, domination and mutualism and the four WVO types that result from their combination: traditionalist (high domination, low mutualism), mutualist (high mutualism, low domination), distanced (low mutualism, low domination) and pluralist (high mutualism, high domination), and how they relate to sociodemographics. Based on basic WVOs, the Greek population was predominantly mutualism-oriented. The analysis of WVO types also revealed that mutualists were the most abundant (41.0%) followed by the distanced (31.1%). Traditionalists (17.9%) and pluralists (10.0%) occupied smaller proportions of the population. Younger individuals were more mutualist-oriented, while older individuals (>35 years old) were more traditionalist and distanced-oriented. Females were more mutualist than males, the latter being more traditionalist. Those with higher education were more mutualist and less traditionalist and distanced than those with lower education. Pet owners were more mutualist and less distanced than non-pet owners. WVO types did not vary with current residence. The produced knowledge would inform about differences in WVOs among segments of the public and would be therefore useful for implementing successful wildlife conservation and management plans.

Keywords: questionnaire survey; general public; value orientations; cognitive hierarchy; stakeholders; Eastern Mediterranean

Citation: Liordos, V.; Kontsiotis, V.J.; Eleftheriadou, I.; Telidis, S.; Triantafyllidis, A. Wildlife Value Orientations and Demographics in Greece. *Earth* **2021**, *2*, 457–467. https://doi.org/10.3390/earth2030027

Academic Editor: Daniela Baldantoni

Received: 30 June 2021
Accepted: 20 July 2021
Published: 22 July 2021

1. Introduction

Anthropogenic pressures, most importantly habitat loss, overexploitation for economic gain, and climate change, have caused the exceptionally rapid endangerment and extinction of many wildlife species over the last few centuries [1,2]. The encroachment of natural habitats and the continual expansion of urban areas have also caused conservation conflicts among public groups over wildlife impacts, such as crop damage, damage of private or public property and disease transmission to humans and livestock [3–6]. Therefore, the conservation of threatened species and the management of conservation conflicts are among the more pressing wildlife-related issues of our time. However, the implementation of conservation and management strategies is rarely successful without attaining public consensus. Furthermore, consensus cannot be reached without knowing people's beliefs about wildlife and the effects of such beliefs on people's support for wildlife conservation and management [4]. Therefore, such knowledge would be critical for informing policies and strategies aiming at the conservation of threatened wildlife species and the management of conservation conflicts.

Values form the basis of the cognitive hierarchy of human behavior: values, value orientations, attitudes/norms, behavioral intentions and behaviors [7–9]. According to Rokeach [9] (p. 5), a value is "an enduring belief that a specific mode of conduct or end state of existence is personally or socially preferable to an opposite or converse mode of conduct

or end state of existence". Values, such as freedom, equality and honesty are general mental constructs that are not linked to specific situations or objects (i.e., any entity that is being evaluated, such as a person, situation, wildlife, management action, or policy [10]). Values are taught early in life, are part of one's identity, are enduring throughout life and are more difficult to change than attitudes and norms [8,9]. They are also widely shared by all members of society; therefore, they are unlikely to account for much of the variability in attitudes and specific behaviors. Basic beliefs reflect our thoughts about general classes of objects (e.g., wildlife, forests) and give meaning to the more abstract values. Value orientations are networks of basic beliefs that organize around values and provide contextual meaning to those values in relation to a particular domain such as wildlife [11,12]. Because the strength of value orientations varies among individuals, differences in attitudes and behaviors can be predicted from this variation.

Fulton et al. [7] and Manfredo et al. [13] first used wildlife value orientation (WVO) surveys to measure human–wildlife relationships in North America. Subsequently, two key WVOs that affect relationships with wildlife have been identified [12,14]: domination (prioritizing human well-being over wildlife and treating wildlife as resources to be used for human benefit) and mutualism (seeing wildlife as part of one's social community and deserving of rights like humans). Four WVO types have been derived from these two key WVOs [12,14,15]: traditionalist (high domination, low mutualism), mutualist (high mutualism, low domination), distanced (low mutualism, low domination), and pluralist (high mutualism, high domination). Traditionalists believe that wildlife should be used and managed primarily for human benefit. Individuals with a strong traditionalist orientation are more likely to prioritize human well-being over wildlife in their attitudes and behaviors, to use utilitarian arguments to justify treatment of wildlife and to accept lethal management of wildlife. Mutualists view animals as part of an "extended family", capable of relationships of trust with humans and deserving rights and care. Individuals with a strong mutualist orientation are less likely to accept lethal management of wildlife and are more likely to participate in animal welfare behaviors and anthropomorphize wildlife. Pluralists link both domination and mutualism and their influence is situation-specific; expressed orientation depends on the specific conditions of a given issue. Pluralists could be responding either as traditionalists or as mutualists, making it difficult to predict their behavior. The distanced group have neither a domination nor a mutualism WVO and are not particularly interested in wildlife and wildlife-related issues.

The WVOs are important in predicting public attitudes and behaviors towards wildlife conservation and management issues. This is also an important concept for describing differences in cultural thought, so it can be used in cross-cultural contexts [16]. Therefore, researchers have applied the WVO concept in different countries, including the Netherlands [17], Denmark [18], Sweden [19], Italy [20], Estonia [21] and ten other European countries [22], Thailand [23], Mongolia [24], Malaysia [25], China [26], Chile [27] and Northern Congo [28]. These studies confirmed the validity of the WVO construct outside the United States. They also reported similarities and differences in WVOs but concluded that WVOs are currently becoming more mutualist and distanced, mostly due to the ever-increasing levels of urbanization [11]. However, several of these studies are based on rather small samples, which are not representative of the studied country. Furthermore, fewer studies examined the relationship between sociodemographic characteristics and WVOs [12,17,18,29,30]. These studies most often reported that younger, female, pet owners, urban residents with higher education tend to be mutualism-oriented, while older, male, non-pet owners, rural residents with lower education are usually domination-oriented.

Our objective was to examine, for the first time, the WVOs of the adult Greek population by collecting a representative sample. First, we asked respondents to rate WVO statements. Next, we recorded five sociodemographic characteristics: age, gender, educational level, current residence and pet ownership. Finally, we assessed the relationship between WVO types and the five sociodemographic characteristics.

Based on previous findings from the literature and our objectives, we hypothesized:

Hypothesis (H1). *Respondents will have stronger mutualist WVOs;*

Hypothesis (H2). *Older age groups will be more traditionalist-oriented than younger age groups;*

Hypothesis (H3). *Females will be more mutualist-oriented than males;*

Hypothesis (H4). *Individuals with higher education will be more mutualist-oriented than those with lower education;*

Hypothesis (H5). *Urban residents will be more mutualist-oriented than rural residents;*

Hypothesis (H6). *Pet owners will be more mutualist-oriented than not-pet owners.*

2. Materials and Methods

2.1. Sampling Protocol

The study was carried out in the 13 administrative Regions of Greece (Figure 1). Data were collected from on-site face-to-face surveys with adult Greek residents (aged 18–80), between March 2017 and September 2018. Cities, towns and villages were visited in all the regions during open market hours (9.00–15.00 and 17.00–21.00, from Monday to Saturday). Every fifth person passing in front of the researcher (I.E.) was asked to participate by completing a questionnaire [31]. In cases in which more than five persons had passed while a questionnaire was being completed, the first person encountered upon completion was selected. It took respondents 15 min on average to complete the questionnaire.

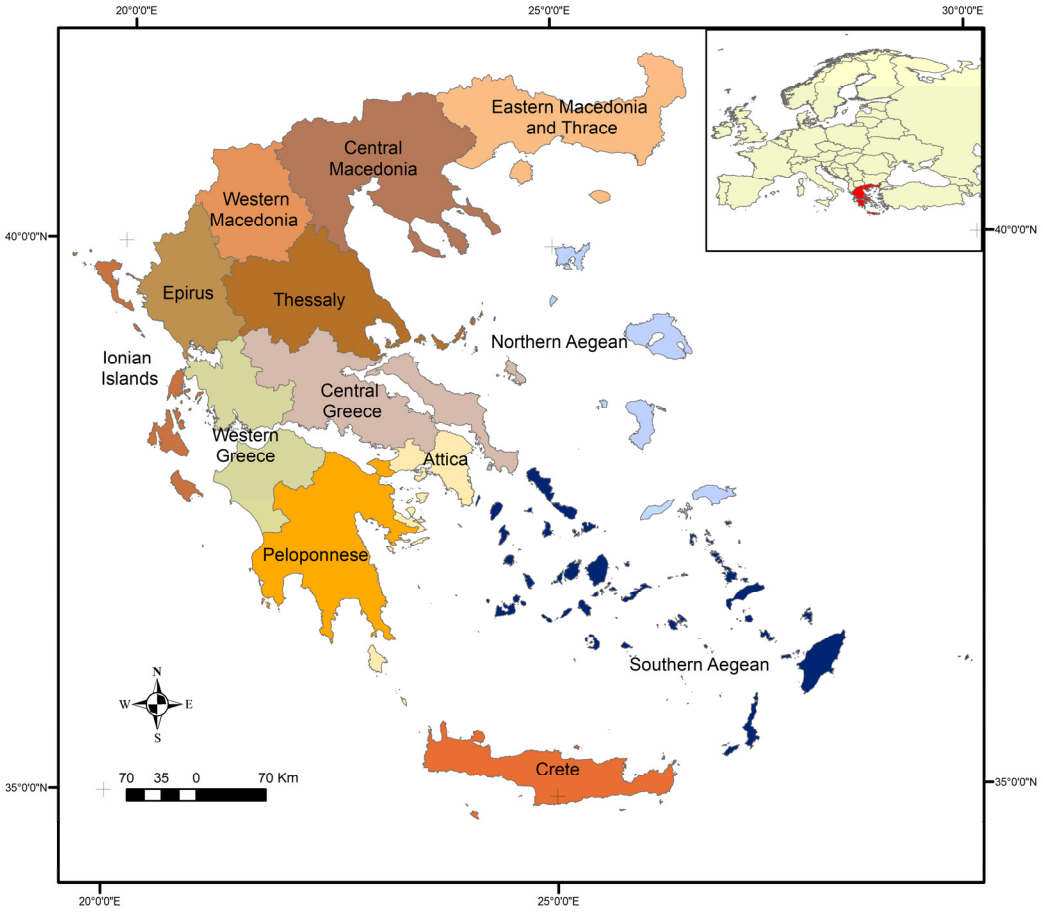

Figure 1. Map showing the 13 administrative regions of Greece, where the survey was carried out.

2.2. Survey Design

Five demographic characteristics were examined (Table 1): (1) gender (female or male); (2) age (in years); (3) education (recorded as higher (technological institute or university degree) or lower (elementary or high school degree)); (4) current residence (recorded as rural or urban); and (5) pet ownership (recorded as yes or no).

Table 1. Demographic characteristics of the sampled Greek population (n = 2392).

Demographics	Frequency (%)
Age	
18–34	776 (32.4)
35–54	836 (34.9)
55–80	780 (32.6)
Gender	
Female	1216 (50.8)
Male	1176 (49.2)
Educational Level	
Higher	696 (29.1)
Lower	1696 (70.9)
Current Residence	
Rural	568 (23.7)
Urban	1824 (76.3)
Pet Ownership	
Yes	1092 (45.7)
No	1300 (54.3)

Two basic WVOs, assessed by 19 statements in total, were investigated. The domination value orientation (ten statements) was based on two basic belief dimensions (appropriate use beliefs (six statements) and hunting beliefs (four statements)). The mutualism value orientation (nine statements) contained two basic beliefs (social affiliation beliefs (four statements) and caring beliefs (five statements)). The specific wording for each statement in each basic belief dimension is shown in Table 2. All variables were coded on seven-point scales ranging from 1 "strongly disagree" to 7 "strongly agree".

Table 2. Descriptive statistics, reliability and confirmatory factor analysis (CFA) of wildlife value orientation statements.

Wildlife Value Orientation Statements	Mean [a]	SD	CFA	Reliability Analysis		
			Factor Loadings [c]	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Domination	3.31	1.61				0.80
Appropriate Use Beliefs	3.12	1.53				0.76
Humans should manage fish and wildlife populations so that humans benefit.	2.89	1.54	0.68	0.42	0.71	
The needs of humans should take priority over fish and wildlife protection.	3.45	1.71	0.76	0.50	0.69	
It is acceptable for people to kill wildlife if they think it poses a threat to their life.	4.51	1.68	0.60	0.48	0.69	
It is acceptable for people to kill wildlife if they think it poses a threat to their property.	3.19	1.45	0.71	0.59	0.66	
It is acceptable to use fish and wildlife in research even if it may harm or kill some animals.	2.86	1.45	0.65	0.45	0.70	
Fish and wildlife are on earth primarily for people to use.	1.84	1.37	0.90	0.38	0.72	

Table 2. *Cont.*

Wildlife Value Orientation Statements	Mean [a]	SD	CFA	Reliability Analysis		
			Factor Loadings [c]	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Hunting Beliefs	3.58	1.73				0.75
We should strive for a world where there's an abundance of fish and wildlife for hunting and fishing.	3.89	1.84	0.66	0.43	0.68	
Hunting is cruel and inhumane to the animals. [b]	3.26	1.89	0.54	0.57	0.52	
Hunting does not respect the lives of animals. [b]	3.18	1.63	0.59	0.59	0.51	
People who want to hunt should be provided the opportunity to do so.	4.02	1.54	0.69	0.42	0.68	
Mutualism	4.64	1.45				0.86
Social Affiliation Beliefs	4.51	1.41				0.77
We should strive for a world where humans and fish and wildlife can live side by side without fear.	4.08	1.48	0.55	0.46	0.74	
I view all living things as part of one big family.	5.18	1.32	0.66	0.60	0.66	
Animals should have rights similar to the rights of humans.	4.10	1.46	0.82	0.53	0.70	
Wildlife are like my family and I want to protect them.	4.68	1.37	0.81	0.61	0.66	
Caring Beliefs	4.74	1.49				0.81
I care about animals as much as I do other people.	4.87	1.53	0.77	0.48	0.79	
It would be more rewarding to me to help animals rather than people.	4.06	1.28	0.51	0.43	0.79	
I take great comfort in the relationships I have with animals.	4.49	1.61	0.69	0.68	0.73	
I feel a strong emotional bond with animals.	4.78	1.58	0.82	0.72	0.71	
I value the sense of companionship I receive from animals.	5.50	1.44	0.75	0.62	0.75	

[a] Variables coded on seven-point scales ranging from 1 (Strongly disagree) to 7 (Strongly agree). [b] Item was reverse coded prior to analysis. [c] All t values for standardized factor loadings were significant at $p < 0.001$.

2.3. Data Analysis

Reliability and confirmatory factor analysis were used to validate WVO theoretical constructs [31]. Confirmatory factor analysis was used to confirm that the 19 WVO statements would fit into factors according to theory (i.e., two basic orientations and four basic belief dimensions). Model fit was assessed using five indicators (χ^2/df; comparative-fit index, CFI; goodness-of-fit index, GFI; normed-fit index, NFI; root mean-square residual, RMR). Then, Cronbach's alpha (α) was used to determine whether the statements included in the factors fitted by confirmatory factor analysis reliably measured basic WVOs and beliefs, with a value larger than $\alpha = 0.7$ considered acceptable [31].

Four WVO types were constructed from the two basic orientations on the basis of predetermined combinations of answers following Teel et al. [14] and Teel and Manfredo [12]: traditionalist, mutualist, pluralist and distanced. Scores were first assigned to each basic WVO by computing the mean of the corresponding statements (ten for domination, nine for mutualism). Respondents were then segmented into types by comparing their scores on the domination and mutualism responses (cross-tab procedure). From these two dimensions, the four types were derived on the basis of whether they scored "high" (>4.50; the median and scale midpoint for each mean composite from Teel et al. [14]) or "low" ($\leq$4.50) on the two basic orientations. Hence, traditionalists scored high on domination and low on

mutualism, while mutualists scored high on mutualism and low on domination. The third category, pluralists, were defined by scoring high on both scales, while the distanced individuals scored low on both orientations.

The relationship between WVO types and demographic characteristics was assessed using chi-squared (χ^2) tests. Chi-squared tests and reliability analysis were performed with SPSS Statistics, confirmatory factor analysis with SPSS Amos statistical software (version 21.0, IBM Corp., 2012) and significance level was set at $\alpha = 0.05$.

3. Results

A total of 2392 questionnaires were completed, with 295 refusals, yielding a response rate of 89%. Greece's population has a 50.8% female/49.2% male gender ratio, the age ratio, after excluding those under 18 and over 80, is 28.5%/37.1%/34.4% in the 18–34, 35–54 and 55–80 year old age classes, respectively, the higher/lower educational ratio is 29.1%/70.9% [32] and the rural/urban residents ratio is 21.0%/79.0% [33]. The sample's gender ($\chi^2 = 0.064$, df = 1, $p = 0.769$), age ($\chi^2 = 4.481$, df = 2, $p = 0.106$), educational level ($\chi^2 = 1.790$, df = 1, $p = 0.166$) and urban/rural ($\chi^2 = 2.554$, df = 1, $p = 0.099$) structure (Table 1) was not different to that of the general population.

Confirmatory factor analysis provided a good fit for the data (χ^2/df = 2.87, CFI = 0.98, GFI = 0.93, NFI = 0.96, RMR= 0.053) and supported the constructs associated with the latent variables, with standardized factor loadings being statistically significant at $p < 0.001$ and above the minimum criterion of 0.40 used to denote practical significance (Table 2). In addition, the internal reliability of the domination (Cronbach's alpha 0.80) and mutualism (Cronbach's alpha 0.86) WVOs was high. The majority of the respondents were either mutualists or distanced, supporting hypothesis H1 (Table 3). In contrast, the proportions of traditionalists and pluralists were generally small in the sampled population. The mean scores of WVO types by basic orientations and beliefs are also shown in Table 3.

Table 3. Wildlife value orientation type scores [a] by basic orientations and beliefs of the sampled Greek population ($n = 2392$).

Value Orientations and Beliefs	Traditionalist (17.9%)		Mutualist (41.0%)		Pluralist (10.0%)		Distanced (31.1%)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Domination	5.13	0.66	2.77	0.80	5.03	0.57	3.27	0.77
Appropriate Use	4.83	0.84	2.62	0.88	4.72	0.99	3.89	0.95
Hunting	5.58	1.09	3.00	1.22	5.50	1.30	3.92	1.21
Mutualism	3.27	0.86	5.48	0.66	5.24	0.66	3.93	0.69
Social Affiliation	2.94	1.13	5.45	0.94	4.91	1.04	3.88	1.10
Caring	3.53	1.01	5.50	0.83	5.51	0.89	3.97	0.89

[a] Original statements comprising the basic orientations and beliefs were coded on seven-point scales ranging from 1 (Strongly disagree) to 7 (Strongly agree).

There was a statistically significant difference in WVO types in terms of age ($p = 0.006$; Table 4). As predicted (H2), the younger age group (18–34 years old) was more mutualist-oriented, while the older age groups (>35 years old) were more traditionalist and distanced-oriented. In general, the proportion of mutualists decreased with age, while that of traditionalists and distanced increased with age.

As predicted (H3), there was a statistically significant gender difference ($p < 0.001$), with females being more mutualist than males (Table 4). On the other hand, males were more traditionalist than females.

WVO types also varied significantly with educational level ($p = 0.009$). Respondents with higher education were more mutualist and less traditionalist and distanced than those with lower education. These findings support hypothesis H4. In contrast, there was not a significant difference in WVO types with regard to respondents' current residence ($p = 0.477$). This finding contradicts hypothesis H5.

Pet ownership significantly affected WVO types ($p < 0.001$). Respondents who owned a pet were more mutualist and less distanced than those who did not own a pet, in line with hypothesis H6.

Table 4. Wildlife value orientation types by demographic characteristics of the Greek population (%).

Demographic Variable	Wildlife Value Orientation Type				x^2	p	Cramer's V
	Traditionalist	Mutualist	Pluralist	Distanced			
		Age			18.22	0.006	0.123
18–34	11.9	51.5	11.3	25.3			
35–54	21.5	37.3	8.6	32.5			
55–80	20.0	34.4	10.3	35.4			
		Gender			20.586	<0.001	0.186
Female	11.8	48.1	9.2	30.9			
Male	24.1	33.7	10.9	31.3			
		Educational Level			11.631	0.009	0.139
Higher	17.3	49.4	11.5	21.8			
Lower	18.2	37.5	9.4	34.9			
		Current Residence			2.493	0.477	0.065
Rural	20.4	40.8	12.0	26.8			
Urban	17.1	41.0	9.4	32.5			
		Pet Ownership			20.229	<0.001	0.184
Yes	19.0	46.9	12.1	22.0			
No	16.9	36.0	8.3	38.8			

[a] Row percentages within each demographic variable class.

4. Discussion

4.1. WVO Types and Demographics

Reliability and confirmatory factor analysis results of the two basic WVO scales suggested their applicability in the Greek context. Indeed, the internal consistency of the WVO scales in Greece was similar to that of the original U.S. studies [11,12,34] and to the Dutch and Danish studies [17,18] and at a somewhat higher level compared to eight other European countries [22].

The majority of the Greek population were either mutualist or distanced WVO types. This contrasts the findings from the western U.S., where 34% of respondents were classified as traditionalists, 33% as mutualists, 20% as pluralists, and only 13% as distanced [12]. On the other hand, the Danish public had similar proportions of mutualists and distanced (32% each WVO type [18]). Manfredo et al. [35] and Manfredo et al. [36] found that WVOs are changing in western societies, with traditionalists decreasing and mutualists increasing. They attributed this change to several socioeconomic factors, most importantly to the increased rates of urbanization. Rural residents are in direct contact with wildlife, frequently engaging in outdoor activities, thus becoming more traditionalist. In contrast, urban residents do not have frequent opportunities to directly experience wildlife and either idealize it, thus becoming more mutualist, or lose interest, thus becoming more distanced. Greece is a small, densely populated country, with 79% of its population living in cities, about half of them in the capital, Athens. On the other hand, due to the small size of Greece, residents have relatively easy access to both outdoor areas and cities, thus possibly blurring the distinction between urban and rural areas. These factors might explain the large proportions of mutualists and distanced among the Greek public and also the lack of differences in WVO types between rural and urban residents. Similar explanations were also offered by Gamborg and Søndergaard Jensen [18] for the large proportion of distanced individuals in the also densely populated and highly urbanized Denmark.

Younger individuals, females and those with higher education tended to be mutualist-oriented. Similar trends in WVO types with age, gender and educational level are usually reported by other studies [12,17,18,29,30]. In general, younger, highly educated females tend to show greater emotional affection toward individual animals, are more concerned about

animal cruelty and exploitation, have a general aversion to killing or violence and are more wildlife protection and mutualist-oriented than older males with less education [12,17,37].

Pet owners tended to be more mutualist and less distanced than non-pet owners. Bjerke et al. [38] and Liordos et al. [39] found that pet owners appreciated wildlife species more than non-pet owners. Indeed, they even liked many wild animal species more than their pets. In general, pet owners display more positive attitudes and empathy towards wildlife, engage more in animal-related activities, are more likely to join and support animal welfare and environmental organizations, and are more supportive of strategies attempting to avoid species extinctions [38,40–42].

4.2. Management Implications

This study produced knowledge about the WVOs of the Greek public and determined their relationship with age, gender and education classes, current residence and pet ownership. Such information would be helpful to wildlife managers in designing tailor-made education and outreach programs for appropriately informing specific segments of the public about the necessity of plans and the suitability of strategies for successful wildlife conservation and management. Indeed, previous studies have shown that WVOs can be used to predict the public's attitudes and the acceptability of specific conservation and management strategies. Such studies involved issues such as the lethal control of crop pests in the Netherlands [43], the recolonization of wolves [44] and the reintroduction of bison in Germany [45], game management practices in Denmark [46,47], the tolerance and illegal killing of wildlife by farmers in response to crop damage in Italy [20], the attitudes towards geese in Sweden [19] and timber rattlesnakes (*Crotalus horridus*) in the U.S. [48], mid-size predator management [49], hunters' pro-environmental intent [50], and the support for distance-related wildlife safety communication strategies in the U.S. [51], and the support of huemul (*Hippocamelus bisulcus*) conservation policies in Chile [27].

The large proportion of distance-oriented individuals among the Greek public is an issue of concern to wildlife managers, suggesting that a considerable part of the population is not interested in wildlife and wildlife-related issues. Urbanization has been identified as a major factor for a shift towards mutualist and distanced WVOs [35,36], and as the level of urbanization in Greece is expected to rise from 79% in 2018 to 88% by 2050 [33], this shift is predicted to continue, thus increasing the proportion of the distanced-oriented. Education and outreach programs should be designed, aimed at informing the distanced-oriented about the importance of wildlife, urgent conservation and management issues and communicating the suitable policies and strategies for their resolution. The results of such programs should be measured and assessed, because more knowledge does not necessarily change attitudes, especially in individuals characterized by apathy towards wildlife [36].

5. Conclusions

Our findings suggested a dominant mutualism WVO among the Greek population. The analysis of WVO types confirmed this outcome, but also revealed a large proportion of distanced-oriented individuals. Younger, female, educated pet owners were more mutualist-oriented, while older, male non-pet owners with lower education were more traditionalist and distanced. These findings could help managers and policy makers to predict the attitudes and behaviors of segments of the public and implement successful wildlife conservation and management plans. Further research should examine the WVOs of specific stakeholder groups that are key to wildlife management, such as farmers, hunters and fishers [52]. It should also be investigated how WVOs relate to stakeholder attitudes towards specific wildlife-related issues such as the conservation of threatened species, species reintroductions, crop damage, wildlife disease transmission and recreational hunting [20,45,47,53]. Wildlife value orientations could help us to understand differences in attitudes to specific wildlife conservation and management issues, policies and plans (i.e., support, opposition or apathy) among stakeholder groups.

Author Contributions: Conceptualization, V.L. and V.J.K.; investigation, I.E.; methodology, V.L., V.J.K., I.E., S.T. and A.T.; software, V.L.; validation, V.L. and V.J.K.; formal analysis, V.L. and V.J.K.; resources, V.L., V.J.K., I.E., S.T. and A.T.; data curation, V.L. and V.J.K.; writing—original draft preparation.; V.L.; writing—reviewing and editing, V.L., V.J.K., I.E., S.T. and A.T.; visualization, V.L.; supervision, V.L. and V.J.K.; project administration, V.L. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki and adhered to the ethical standards laid out by the Research and Academic Committee of the International Hellenic University.

Informed Consent Statement: We sought informed consent from all the participants and maintained anonymity at all the stages of the research.

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

Acknowledgments: We thank survey participants for sharing their time and opinion with us. We also thank two anonymous reviewers whose comments and suggestions helped to greatly improve the manuscript.

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

References

1. Dirzo, R.; Isaac, N.J.B.; Young, H.S.; Collen, B. Defaunation in the Anthropocene. *Science* **2014**, *345*, 401–406. [CrossRef] [PubMed]
2. Brooks, T.M.; Mittermeier, R.A.; da Fonseca, G.A.B.; Gerlach, J.; Hoffmann, M.; Lamoreux, J.F.; Mittermeier, C.G.; Pilgrim, J.D.; Rodrigues, A.S.L. Global biodiversity conservation priorities. *Science* **2006**, *313*, 58–61. [CrossRef]
3. Treves, A.; Wallace, R.B.; Naughton-Treves, L.; Morales, A. Co-managing human–wildlife conflicts: A review. *Hum. Dimens. Wildl.* **2006**, *11*, 383–396. [CrossRef]
4. Liordos, V.; Kontsiotis, V.J.; Georgari, M.; Baltzi, K.; Baltzi, I. Public acceptance of management methods under different human–wildlife conflict scenarios. *Sci. Total Environ.* **2017**, *579*, 685–693. [CrossRef]
5. Liordos, V.; Kontsiotis, V.J.; Nevolianis, C.; Nikolopoulou, C.E. Stakeholder preferences and consensus associated with managing an endangered aquatic predator: The Eurasian otter (*Lutra lutra*). *Hum. Dimens. Wildl.* **2019**, *24*, 446–462. [CrossRef]
6. Kontsiotis, V.J.; Vadikolios, G.; Liordos, V. Acceptability and consensus for the management of game and non-game crop raiders. *Wildl. Res.* **2020**, *47*, 296–308. [CrossRef]
7. Fulton, D.C.; Manfredo, M.J.; Lipscomb, J. Wildlife value orientations: A conceptual and measurement approach. *Hum. Dimens. Wildl.* **1996**, *1*, 24–47. [CrossRef]
8. Homer, P.M.; Kahle, L.R. A structural equation test of the value-attitude-behavior hierarchy. *J. Pers. Soc. Psychol.* **1988**, *54*, 638–646. [CrossRef]
9. Rokeach, M. *The Nature of Human Values*; Free Press: New York, NY, USA, 1973.
10. Eagly, A.H.; Chaiken, S. *The Psychology of Attitudes*; Harcourt Brace Jovanovich College Publishers: Orlando, FL, USA, 1993.
11. Manfredo, M.J.; Teel, T.L.; Henry, K.L. Linking society and environment: A multilevel model of shifting wildlife value orientations in the Western United States. *Soc. Sci. Q.* **2009**, *90*, 407–427. [CrossRef]
12. Teel, T.L.; Manfredo, M.J. Understanding the diversity of public interests in wildlife conservation. *Conserv. Biol.* **2010**, *24*, 128–139. [CrossRef]
13. Manfredo, M.J.; Vaske, J.J.; Decker, D. Human dimensions of wildlife management: Basic concepts. In *Wildlife and Recreationists: Coexistence through Management and Research*; Knight, R.L., Gutzwiller, K.J., Eds.; Island Press: Washington, DC, USA, 1995.
14. Teel, T.; Dayer, A.; Manfredo, M.J.; Bright, A. Regional results from the research project entitled "Wildlife Values in the West" (Project Rep. No. 58). In *Project Report for the Western Association of Fish and Wildlife Agencies*; Colorado State University, Human Dimensions in Natural Resources Unit: Fort Collins, CO, USA, 2005.
15. Tetlock, P.E. A value pluralism model of ideological reasoning. *J. Pers. Soc. Psychol.* **1986**, *50*, 819–827. [CrossRef]
16. Manfredo, M.J. *Who Cares About Wildlife? Social Science Concepts for Exploring Human-Wildlife Relationships and Conservation Issues*; Springer: New York, NY, USA, 2008.
17. Vaske, J.J.; Jacobs, M.H.; Sijtsma, T.J. Wildlife value orientations and demographics in the Netherlands. *Eur. J. Wildl. Res.* **2011**, *57*, 1179–1187. [CrossRef]
18. Gamborg, C.; Søndergaard Jensen, F. Wildlife value orientations: A quantitative study of the general public in Denmark. *Hum. Dimens. Wildl.* **2016**, *21*, 34–46. [CrossRef]
19. Eriksson, L.; Johansson, M.; Månsson, J.; Redpath, S.; Sandström, C.; Elmberg, J. The public and geese: A conflict on the rise? *Hum. Dimens. Wildl.* **2020**, *25*, 421–437. [CrossRef]

20. Cerri, J.; Mori, E.; Vivarelli, M.; Zaccaroni, M. Are wildlife value orientations useful tools to explain tolerance and illegal killing of wildlife by farmers in response to crop damage? *Eur. J. Wildl. Res.* **2017**, *63*, 70. [CrossRef]
21. Raadik, J.; Cottrell, S. Wildlife value orientations: An Estonian case study. *Hum. Dimens. Wildl.* **2007**, *12*, 347–357. [CrossRef]
22. Teel, T.L.; Manfredo, M.J.; Jensen, F.S.; Buijs, A.E.; Fischer, A.; Riepe, C.; Jacobs, M.H. Understanding the cognitive basis for human-wildlife relationships as a key to successful protected-area management. *Int. J. Sociol.* **2010**, *40*, 104–123. [CrossRef]
23. Tanakanjana, N.; Saranet, S. Wildlife value orientations in Thailand: Preliminary findings. *Hum. Dimens. Wildl.* **2007**, *12*, 339–345. [CrossRef]
24. Kaczensky, P. Wildlife value orientations of rural Mongolians. *Hum. Dimens. Wildl.* **2007**, *12*, 317–329. [CrossRef]
25. Zainal Abidin, Z.A.; Jacobs, M.H. The applicability of wildlife value orientations scales to a Muslim student sample in Malaysia. *Hum. Dimens. Wildl.* **2016**, *21*, 555–566. [CrossRef]
26. Zinn, H.C.; Harry, C.; Shen, X.S. Wildlife value orientations in China. *Hum. Dimens. Wildl.* **2007**, *12*, 331–338. [CrossRef]
27. Serenari, C.; Peterson, M.N.; Gale, T.; Fahlke, A. Relationships between value orientations and wildlife conservation policy preferences in Chilean Patagonia. *Hum. Dimens. Wildl.* **2015**, *20*, 271–279. [CrossRef]
28. Rickenbach, O.; Reyes-García, V.; Moser, G.; García, C. What Explains Wildlife Value Orientations? A Study among Central African Forest Dwellers. *Hum. Ecol.* **2017**, *45*, 293–306. [CrossRef]
29. Vaske, J.J.; Donnelly, M.P.; Williams, D.R.; Jonker, S. Demographic influences on environmental value orientations and normative beliefs about National Forest management. *Soc. Nat. Resour.* **2001**, *14*, 761–776. [CrossRef]
30. Zinn, H.C.; Manfredo, M.J.; Barro, S.C. Patterns of wildlife value orientations in hunters' families. *Hum. Dimens. Wildl.* **2002**, *7*, 147–162. [CrossRef]
31. Vaske, J.J. *Survey Research and Analysis: Applications in Parks, Recreation and Human Dimensions*; Venture Publishing Inc.: State College, PA, USA, 2008.
32. ELSTAT (Hellenic Statistical Authority). Population Census 2011. Available online: http://www.statistics.gr/portal/page/portal/ESYE/PAGE-census2011 (accessed on 20 June 2021). (In Greek).
33. United Nations, Department of Economic and Social Affairs, Population Division. World Urbanization Prospects: The 2018 Revision (ST/ESA/SER.A/420). *United Nations.* Available online: https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf (accessed on 20 June 2021).
34. Zinn, H.; Pierce, C. Values, gender, and concern about potentially dangerous wildlife. *Environ. Behav.* **2002**, *34*, 239–256. [CrossRef]
35. Manfredo, M.; Teel, T.; Bright, A. Why are public values toward wildlife changing? *Hum. Dimens. Wildl.* **2003**, *8*, 287–306. [CrossRef]
36. Manfredo, M.J.; Teel, T.L.; Berl, R.E.W.; Bruskotter, J.T.; Kitayama, S. Social value shift in favour of biodiversity conservation in the United States. *Nat. Sustain.* **2021**, *4*, 323–330. [CrossRef]
37. Kellert, S.R. America's attitudes and knowledge of animals. *Trans. North Am. Wildl. Nat. Resour. Conf.* **1980**, *45*, 111–124.
38. Bjerke, T.; Østdahl, T.; Kleiven, J. Attitudes and activities related to urban wildlife: Pet owners and non-owners. *Anthrozoös* **2003**, *16*, 252–262. [CrossRef]
39. Liordos, V.; Kontsiotis, V.J.; Anastasiadou, M.; Karavasias, E. Effects of attitudes and demography on public support for endangered species conservation. *Sci. Total Environ.* **2017**, *595*, 25–34. [CrossRef] [PubMed]
40. Bennett, R. Factors underlying the inclination to donate to particular types of charity. *Int. J. Nonprofit Volunt. Sect. Mark.* **2003**, *8*, 12–29. [CrossRef]
41. Shuttlewood, C.Z.; Greenwell, P.J.; Montrose, V.T. Pet ownership, attitude toward pets, and support for wildlife management strategies. *Hum. Dimens. Wildl.* **2016**, *21*, 180–188. [CrossRef]
42. Taylor, N.; Signal, T.D. Empathy and attitudes to animals. *Anthrozoös* **2005**, *18*, 18–27. [CrossRef]
43. Sijtsma, M.T.; Vaske, J.J.; Jacobs, M.H. Acceptability of lethal control of wildlife that damage agriculture in the Netherlands. *Soc. Nat. Resour.* **2012**, *25*, 1308–1323. [CrossRef]
44. Hermann, N.; Menzel, S. Predicting the intention to support the return of wolves: A quantitative study with teenagers. *J. Environ. Psychol.* **2013**, *36*, 153–161. [CrossRef]
45. Hermann, N.; Voss, C.; Menzel, S. Wildlife value orientations as predicting factors in support of reintroducing bison and of wolves migrating to Germany. *J. Nat. Conserv.* **2013**, *21*, 125–132. [CrossRef]
46. Gamborg, C.; Jensen, F.S.; Sandøe, P. A dividing issue: Attitudes to the shooting of rear and release birds among landowners, hunters and the general public in Denmark. *Land Use Policy* **2016**, *57*, 296–304. [CrossRef]
47. Gamborg, C.; Lund, J.F.; Jensen, F.S. Landowners' wildlife value orientations, attitudes and behaviour in relation to game management practices. *Eur. J. Wildl. Res.* **2019**, *65*, 9. [CrossRef]
48. Keener-Eck, L.S.; Morzillo, A.T.; Christoffel, R.A. A comparison of wildlife value orientations and attitudes toward timber rattlesnakes (*Crotalus horridus*). *Hum. Dimens. Wildl.* **2020**, *25*, 47–61. [CrossRef]
49. Glas, Z.E.; Getson, J.M.; Prokopy, L.S. Wildlife value orientations and their relationships with mid-size predator management. *Hum. Dimens. Wildl.* **2019**, *24*, 418–432. [CrossRef]
50. Ghasemi, B.; Kyle, G.T. On the relationship between hunters and pro-environmental intent. *Hum. Dimens. Wildl.* **2021**, in press. [CrossRef]
51. Freeman, S.; Taff, B.D.; Miller, Z.D.; Benfield, J.A.; Newman, P. Mutualism wildlife value orientations predict support for messages about distance-related wildlife conflict. *Environ. Manag.* **2021**, *67*, 920–929. [CrossRef] [PubMed]

52. Gamborg, C.; Søndergaard Jensen, F. Wildlife value orientations among hunters, landowners, and the general public: A Danish comparative quantitative study. *Hum. Dimens. Wildl.* **2016**, *21*, 328–344. [CrossRef]
53. Gortázar, C.; Delahay, R.J.; McDonald, R.A.; Boadella, M.; Wilson, G.J.; Gavier-Widen, D.; Acevedo, P. The status of tuberculosis in European wild mammals. *Mamm. Rev.* **2012**, *42*, 193–206. [CrossRef]