Article

Green Growth, Green Development and Climate Change Perceptions: Evidence from a Greek Region

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Abstract: Climate change is one of the biggest challenges the planet confronts today and is predicted to continue to face in the future. It is one of the greatest threats to humanity, seriously affecting human health, the natural environment, and security. This research aims to investigate the factors related to the perception of Greek citizens regarding climate change and green development and the obstacles that exist in Greece in the transition to enhanced green growth. For this reason, four cases related to communication and education, energy, actions to protect the environment, and each one's responsibility were investigated. Data were collected through a survey (structured questionnaire) of 745 respondents in the regional unit of the Greek city of Larissa with an overall response rate of 69% and analyzed through a combination of factor and path analysis. The results show that communication, actions related to environmental protection, and energy-saving actions are the ones that have significant associations with the goal of green development.

Keywords: climate change; green growth; environment; path analysis

1. Introduction

Climate change is one of the biggest challenges the planet faces today and is predicted to continue to face in the future [1–5]. It is one of the greatest threats to humanity, seriously affecting human health, the natural environment, and security. Despite the ambition of the Paris Agreement on Climate Change to keep global warming "well below two °C" compared to pre-industrial temperatures and to pursue a more ambitious target of 1.5 °C, global greenhouse gas emissions are still increasing. With global temperatures now around 1 °C warmer than in the late 19th century, the likelihood of global warming exceeding the Paris targets is increasing. If adequate mitigation strategies are not introduced, global warming could reach 3 °C or more by 2100.

For the international community to be able to confront this challenge, all countries must be active and take immediate measures to address this phenomenon. A necessary condition for the international community to act is to inform people about climate change, as information shapes and influences people's participation in creating an environmentally friendly society [6–8]. Despite the widespread conclusion of scientists that climate change is developing rapidly on the planet, mainly due to human activity, and that it is a particularly significant risk, the common understanding of these facts and the policies on climate change are still being determined.

A study on consumer perception of climate change and media awareness in Japan showed that television and newspapers had an immediate but short-term positive effect on public awareness [9]. The researchers suggested that for the national climate change information and awareness campaign to be successful, the continuous use of mass media on this issue is necessary. Another research on 6000 German households focused on the role of objective risk measures and experience with these natural hazards, the frequency

of which is likely to be affected by climate change [10]. The results imply that personal experience with adverse events and personal harm strongly determine individual climate change risk perception.

Communication campaigns are crucial in shaping people's thoughts, feelings, and actions about climate change and help shape local, national, and international public portfolios [11]. The ever-increasing and free access to the Internet makes social media and the Internet, in general, the primary environment in which citizens around the world can socialize, be informed about climate change developments, participate in relevant discussions and actions, and shape their social contribution. To enhance public participation in climate change actions, concerted efforts are being made by public authorities, including businesses, governments, and international organizations, scientists and scientific institutions, organizations, groups, and individuals in civil society, public intellectuals, and political, religious, and recreational leaders. Most of these campaigns are primarily geared toward one of four objectives: informing, raising awareness, and shaping public understanding of climate change science, problems, and policies; changing consumer behavior on the network; mobilizing consumers; and their motivation for greater and more substantial pressure on decision makers.

Evidently, how public awareness of climate change and the risks involved are raised, as well as views on climate change mitigation or adaptation, vary considerably from country to country. This diversity is supported by several factors, such as experiential, physical, psychological, and sociocultural, which influence people's attitudes and behavior toward climate change [12].

In investigating the antecedents of European citizens' perceptions of climate change, Echavarren et al. [13] argued that a high level of education confers a greater concern about climate change, especially in countries with frequent floods and droughts. In addition, left-leaning citizens living in countries with a higher democracy index and stricter climate policies understand the danger of climate change more effectively. In conclusion, a clear political orientation can contribute to a better understanding of citizens and their reflection on national climate change policy strategies.

Baiardi and Morana [14] gathered aggregated data from the Eurobarometer on climate change to assess the attitudes and perceptions of European citizens toward climate change over the last decade. The results exhibited that social trust, secondary education, and physical distress coupled with hot weather directly and significant associations affect environmental concerns. However, this concern is inversely related to greenhouse gas emissions and the relative position of the power of right-wing parties in government.

Considering those mentioned above, the present study explores the antecedents of respondents' perceptions of climate change and green development and the obstacles they face in transitioning to a green development scheme. The remainder of the study includes the theoretical background in the second section and the materials and methods in the fourth. The fifth section presents and discusses the study results, and the fifth concludes.

2. Theoretical Background

People's perception of climate change and its risks varies widely from region to region around the globe. Understanding the public perceptions of climate change is critical to broad public participation in environmental issues and developing effective communication and education approaches. These public views on climate change and how it should be tackled are essential to formulate and implement practical and acceptable policies and technologies to address climate change and adaptation. The term 'perceptions' has been used to denote a range of psychological constructs, including knowledge, beliefs, attitudes, interests, emotions, and perceived risk [11]. They have been the subject of increasing research interest since the early 1980s. Studies report increased awareness and self-reported knowledge about climate change over the past three decades. In many developed countries, such as the United Kingdom and the United States, awareness of "climate change" and "global warming" has been cultivated in almost all respondents over time [12,15–17].

The degree of public awareness of the issue varies, with significant proportions of people in developing countries still needing more awareness [12,18]. Primarily referring to populous regions with low levels of awareness and loose legislative frameworks for the environment, these include the Indian region, Indonesia, and sub-Saharan Africa [12]. However, research on a sample of three European countries, China, the United States, and Canada, revealed that the majority of respondents had a high degree of awareness of climate change and green growth, responded correctly to questions about the causes and consequences of climate change and what are the potential factors that will contribute to achieving climate change mitigation targets [19].

So, based on the above, we will consider the following hypotheses:

Hypothesis 1. *There is a positive significant relationship between communication and education and the achievement of the green growth goal.*

Hypothesis 2. *There is a positive significant relationship between energy-conservation-related actions and the achievement of the green growth goal.*

Hypothesis 3. *There is a positive significant relationship between actions related to environmental protection and achieving the goal of green growth.*

Hypothesis 4. *There is a positive significant relationship between the personal responsibility of respondents and the achievement of the goal of green growth.*

The conceptual framework proposed in this study is presented in Figure 1. It contemplates as a basic assumption that there is a correlation between communication and education, actions related to energy saving, actions that protect the environment, and personal responsibility and the goal of green growth.
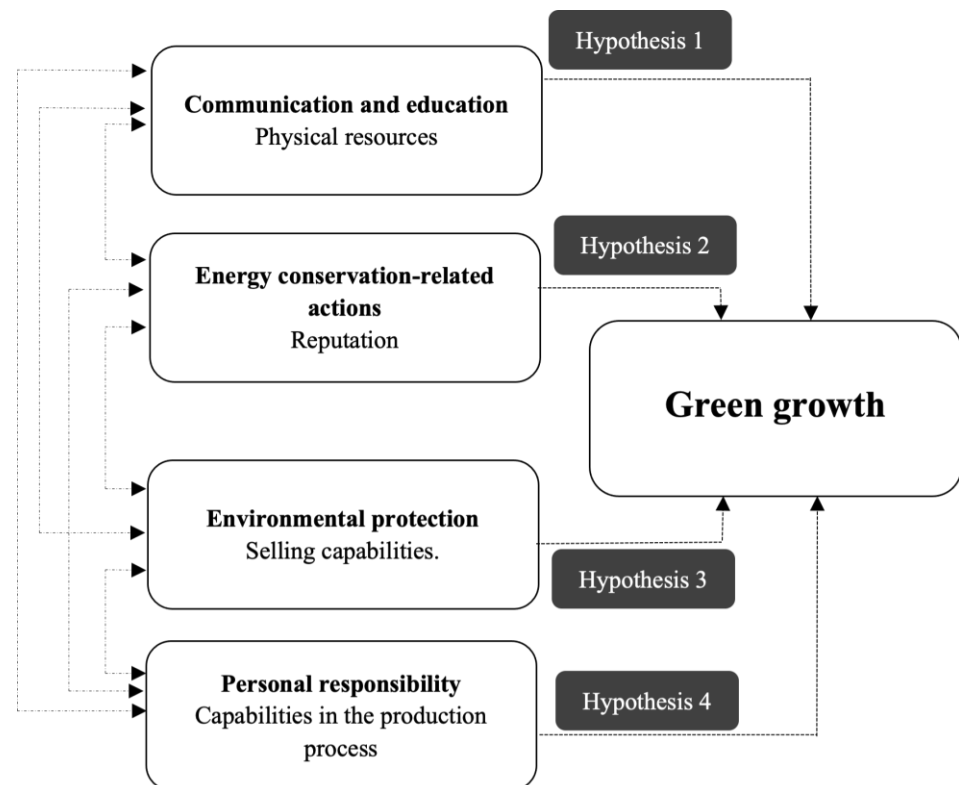
Figure 1. The conceptual framework.

Green Growth

Policymakers are proposing revolutionary economic reforms to reverse the unsustainable course of the global ecosystem and more effectively address the stagnation that has followed the financial crisis [20]. They agree that green growth should be the central backbone of such a new economy [21]. Green development goes beyond development that is balanced with environmental protection and is oriented toward development that is qualitative, low-carbon, and energy-efficient. In addition, it emphasizes the creation of added value through clean technology, physical infrastructure, and innovation in markets for environmental goods and services. Its strategies should break the vicious cycle between environmental degradation and unsustainable economic development–poverty and replace it with a virtuous cycle of quality development, environmental improvement, and social inclusion (climate action, energy security, sustainable housing) [22].

Green development must be based on economic approaches that allow for the inherent complexity of human–environment relationships [23–27]. This dialogue must consider multistakeholder participation and complex governance arrangements [28] with policy and management techniques that promote synergies between environment and development [29]. According to the United Nations Environment Program, "green development" is a policy focus for East Asia emphasizing environmentally sustainable economic progress to promote low-carbon, socially inclusive development. In Europe, policymakers in countries such as Denmark, Germany, Norway, and France have favored the term "green economy" to promote similar policy ideas.

The goal of the "Survivalist" speech was the zero-growth economy, represented by the Club of Rome. The 1972 Club of Rome report "The Limits to Growth" argued that population patterns, economic growth, and resource depletion would cause extinction in less than a century. It was predicted that in the case of inaction to mitigate the nihilism of change in the global economic system, a catastrophic global environmental and social crisis would test the survival of humanity in the coming years [30]. "Zero development" has become an iconic narrative of environmental activists, but it has prevented the formation of a meaningful shared agenda with scientists, policymakers, and industry stakeholders [31]. The latter rejected "zero development" and advocated an alternative paradigm for dealing with environmental problems. Increasing environmental degradation is an inevitable price to pay in the initial stages of development. Still, there is a tipping point after which industrial efficiency and environmental awareness growth accompany any further increase in economic growth.

Dryzek [31] proposed promoting social and technological innovation to make economic growth compatible with environmental sustainability, notably through greener consumption and lifestyles, eco-efficiency, and dematerialization. The conceptual impasse between "Survivalists" and "Problem Solvers" seemingly ended in 1987, when development was established as a critical political strategy and a necessary condition for environmental protection and sustainable development. Essentially, sustainable development intends to meet the needs of the present without compromising the ability of future generations to meet their own needs. In this context of sustainability, economic growth goes hand in hand with environmental protection through an alliance/partnership between companies, the state, and civil society. During the 1990s, a substantial endeavor was made to translate sustainability ideas into policy, stating how a sustainable economy based on green capitalism would work [32].

3. Materials and Methods

3.1. Sampling Procedure

This research concerned respondents and their perception of climate change and green development based on primary data collected through an electronic questionnaire. The period for conducting the survey was from November to December 2021. The sampling frame consisted of 268.963 people in the regional unit of Larissa city in Central Greece.

The formula for determining the minimum sample size required for a given population is the following:

$$S = \frac{\frac{z^2 x p (1-p)}{e^2}}{1 + \left(\frac{z^2 x p (1-p)}{e^2 N} \right)}$$

where *S* is the minimum sample size to investigate considering your inputs, *N* is the total population size, *e* is the margin of error, *z* is how confident you can be that the population would choose an answer within a specific range, and *p* is the standard deviation (in this case 0.5%). Accordingly, through simple random sampling, the final study sample consisted of 745 people. Table 1 shows the demographic profile of the sample.

Table 1. Demographic profile of the sample.

Item	Category	Frequency	Percent
Gender	Male	210	40.8%
	Female	305	59.2%
Age	18–24 year old	88	17.1%
	25–34 year old	117	22.7%
	35–44 year old	138	26.8%
	45–54 year old	97	18.8%
	55–64 year old	54	10.5%
	65+ year old	21	4.1%
Social status	Upper/Middle Class	15	2.9%
	Lower Middle Class	125	24.3%
	Skilled Labor Class	244	47.4%
	Working Class	116	22.5%
	Farmer	15	2.9%
Economic status	I work in the Private Sector	138	26.8%
	I work in the Public Sector	202	39.2%
	I work as a Freelancer	48	9.3%
	I am a Student	48	9.3%
	I am Unemployed	29	5.6%
Education level	Compulsory education	189	36.7%
	Graduate	139	27.0%
	AEI/TEI graduate	80	15.5%
	Master's degree holder	70	13.6%
	Holder of Ph.D.	37	7.2%

In random sampling, each member of the population has an equal chance of being selected into the sample. In practice, simple random sampling occurs when there is the possibility of placing the population in order 1, 2, and then 10–15% are selected with a random number generator. Simple random sampling usually occurs in telephone polls where the population is naturally sorted alphabetically in the telephone directory. The sample was randomly obtained from the phone book, where we divided the catalog pages based on the sample number and then approached the people randomly by phone to confirm their participation in the survey and to obtain their email addresses for sending the questionnaire. However, the questionnaire was approved by the university's ethics committee for use in the research.

Questionnaires were sent to the entire sample after telephone communication. The first step involved sending the questionnaire to all the sampled individuals, and one month later, they were approached by phone to remind them of the purposes of the research and the confidentiality of the results and a second sending of the questionnaire. Although responding to a questionnaire mailing was challenging, through continuous communication with each one, 515 questionnaires were eventually returned, all of which were deemed

valid. This corresponds to a response rate of 69%, while the remaining questionnaires not included in the survey were mainly concerned with cases of missing records.

3.2. Methodology

The methodology was based on probing questions from the extant literature on climate change and green development [33–37]. Seven basic questions were used to explore internationalization motivations and using a five-point Likert scale ranging from "very important" to "not at all important", respondents evaluated climate change and green development. The factors of climate change policies were assessed through three questions and a five-point Likert scale ranging from "strongly agree" to "strongly disagree". Respondents expressed their opinions on policies related to climate change. Their awareness of climate change was measured through nine questions. Using a five-point Likert scale ranging from "strongly agree" to "strongly disagree", respondents evaluated their opinions. Eleven questions involved the perception of green development and using a five-point Likert scale ranging from "very strong" to "not at all strong", respondents recorded their perception concerning climate change.

The inhibitors for the transition to enhanced green growth were assessed through a five-point Likert scale ranging from "very important" to "not at all important", where respondents indicated the frequency of occurrence of ten obstacles to the transition to green growth. Three questions were included to evaluate the financing for this transition, using a five-point Likert scale ranging from "very unimportant" to "very important". Finally, the respondents' perception of the actions associated with protecting the environment was captured via three questions using a five-point Likert scale ranging from "very unimportant" to "very important".

The validity check of the questionnaire structure was assessed by the factor analysis (factor analysis) to extract the factors into principal components (principal component analysis) and the method of rotation of the axes, the varimax rotation. The factors that emerged included (S1) climate change policies, (S2) scientists, (S3) media, (S4) reduction in fossil fuel consumption, (S5) addressing malnutrition, (S6) reduction in food production, (S7) energy-saving actions, (S8) gambling game, (S9) public health system, (S10) the entanglement of primary financial interests, (S11) trade balance of the country, (S12) green development is an achievable goal, (S13) actions to protect the environment, and (S14) personal responsibility. The standardized factor loadings and the reliability of the explanatory factors are presented in Table 2.

These factors were later introduced to a path analysis model based on the conceptual framework (Figure 1), which was estimated using SPSS Amos 25 software and produced the path coefficients. In this type of research, the coefficient of determination (R^2) value is considered sufficient, designating the satisfactory percentage of the interpretation of the variability in the dependent variable by the independent variables included in the model.

The estimation of the appropriate path model resulted in the creation of the following equation:

$$S12 = b1S7 + b2S3 + b3S14 + e$$

where bn (n = 1, 2, 3) are the partial standardized regression coefficients, and e is the measurement error.

According to the results of the path analysis, the overall effects of the variables on green development as an achievable goal are as follows:

$$S12 = 0.153S7 + 0.104S3 + 0.221S14 + 0.704$$

Table 2. Factor analysis results—confirmatory factor analyses: standardized loadings, measured reliabilities.

Code	Name of Factor	Name of Construct–Items		Factor Loading	Eigenvalue	Variance (%)	Goodness-of-Fit Measures		
S1	Climate change policies	Q8	I do not have time to deal with climate change	0.766	1.381	46.020	X^2: 59.721	df: 3	*p*: 0.000
		Q9	I worry that policies to tackle climate change will make my life harder	0.726					
S2	Scientists	Q12	Scientists/Academics/Researchers	0.903	4.037	44.855	X^2: 1531.550	df: 36	*p*: 0.00
S3	Media	Q13	Family and friends	0.530	1.122	12.468			
		Q14	Journalists	0.750					
		Q15	Public organizations	0.682					
		Q16	Politicians	0.736					
		Q17	Domestic businesses	0.687					
		Q18	TV and radio	0.806					
		Q19	Local institutions (region, municipalities, etc.)	0.736					
		Q20	Multinational companies	0.715					
S4	Reduction in fossil fuel consumption	Q22	Minimizing the use of materials that pollute the environment	0.676	3.446	31.329	X^2: 1099.850	df: 55	*p*: 0.00
		Q23	Increasing employment in environmentally friendly sectors of the economy	0.543					
		Q24	Reducing the consumption of fossil fuels: oil, natural gas, and coal	0.747					
		Q29	Reduction in extreme meteorological, climatic, and hydrological phenomena	0.551					
		Q30	Reducing the concentration of carbon in the atmosphere	0.648					

Table 2. *Cont.*

Code	Name of Factor		Name of Construct–Items	Factor Loading	Eigenvalue	Variance (%)	Goodness-of-Fit Measures		
S5	Addressing malnutrition	Q27	Tackling malnutrition and hunger	0.810	1.346	12.234			
		Q28	Integrating the protection of life underwater and on Earth (biodiversity) for improved diets and nutrition	0.695					
		Q32	Social, political, and economic problems on a global level	0.595					
S6	Reduction in food production	Q25	Reducing the consumption of beef and animal feed	0.515	1.022	9.288			
		Q26	Increasing the use of nuclear energy	0.601					
		Q31	Reduction in food production and water supply	0.783					
S7	Energy-saving actions	Q34	Environmental protection	0.653	4.251	32.701	X^2: 2.832	df: 78	*p*: 0.00
		Q35	Sustainable use of natural resources	0.683					
		Q36	Creation of green investment packages	0.560					
		Q40	Quality of life	0.670					
		Q41	Energy-saving actions	0.778					
		Q42	Circular economy	0.595					
		Q43	Taxation of polluting business activities	0.583					

Table 2. *Cont.*

Code	Name of Factor		Name of Construct–Items	Factor Loading	Eigenvalue	Variance (%)	Goodness-of-Fit Measures		
S8	Gambling game	Q44	It is a fraud of the big multinational industries	0.887	2.746	21.127			
		Q45	Investments of billions and huge profits of the banks	0.902					
		Q46	Another speculative game of the global financial elite	0.912					
S9	Public health system	Q37	Social justice	0.817	1.128	8.679			
		Q38	New job positions	0.827					
		Q39	Public health system	0.838					
S10	The entanglement of major financial interests	Q48	Entanglement of major financial interests	0.867	4.665	46.653	X^2: 2.062	df: 45	*p*: 0.00
		Q49	Embrace politics with the financial elite	0.851					
		Q50	Absence of real and timely control by European and national control institutions	0.691					
		Q51	Unequal distribution of E.U. financial resources in favor of the economic elite	0.638					
		Q55	Lack of organization and planning of the required investments	0.618					
		Q56	Micropolitics of governments to satisfy non-productive economic units	0.611					

Table 2. *Cont.*

Code	Name of Factor		Name of Construct–Items	Factor Loading	Eigenvalue	Variance (%)	Goodness-of-Fit Measures		
S11	Trade balance of the country	Q52	The country's fiscal deficit (public expenditure greater than public revenue due to tax evasion)	0.690	1.169	11.692			
		Q53	The imports of a huge part of the capital (mainly mechanical equipment)	0.790					
		Q54	The country's negative trade balance (imports greater than exports)	0.695					
		Q57	Fiscal policy that integrates the value of biodiversity through ecosystem services	0.611					
S12	Green development is an achievable goal	Q59	Funding from the European Union will be sufficient	0.647	1.505	50.153	X^2: 97.257	df: 3	*p*: 0.00
		Q60	National funds will be required	0.687					
		Q61	Green development is an achievable goal	0.784					
S13	Actions to protect the environment	Q65	Do you participate in actions to protect the environment?	0.917	1.886	47.14	X^2: 437.085	df: 6	*p*: 0.00
		Q66	Have you planned to participate actively in actions to protect the environment?	0.912					
S14	Personal responsibility	Q63	Personal responsibility plays a vital role in society's transition to sustainable consumption and production models	0.843	1.187	29.663			
		Q64	Actions to protect the environment influence the decisions of international organizations	0.804					

The value of the coefficient of determination R^2 was 0.296. The estimation of the path model confirmed that the factors represented a specific concept (normative validity) and that the concepts were homogeneous (convergent validity) [38]. The results are illustrated in Table 3 and Figure 2, showing all factor correlations. The product moment correlation matrix of all factors was created to investigate the preliminary relationships between the extracted factors. The correlation matrix in Table 3 between the studied factors helped us rule out some scenarios in the path analysis and have an integrated picture of all derivatives at the level of the interactions between them. Mainly, the values of the statistically significant correlation coefficients offer a first impression of the nature of the factors, the type of interaction between them, and the possible effect (positive or negative) they have on green development as an achievable goal. The interaction of factors and their impact on green development as an attainable goal are presented in more detail in the survey model, formulated and estimated by the path analysis method below (Figure 2).
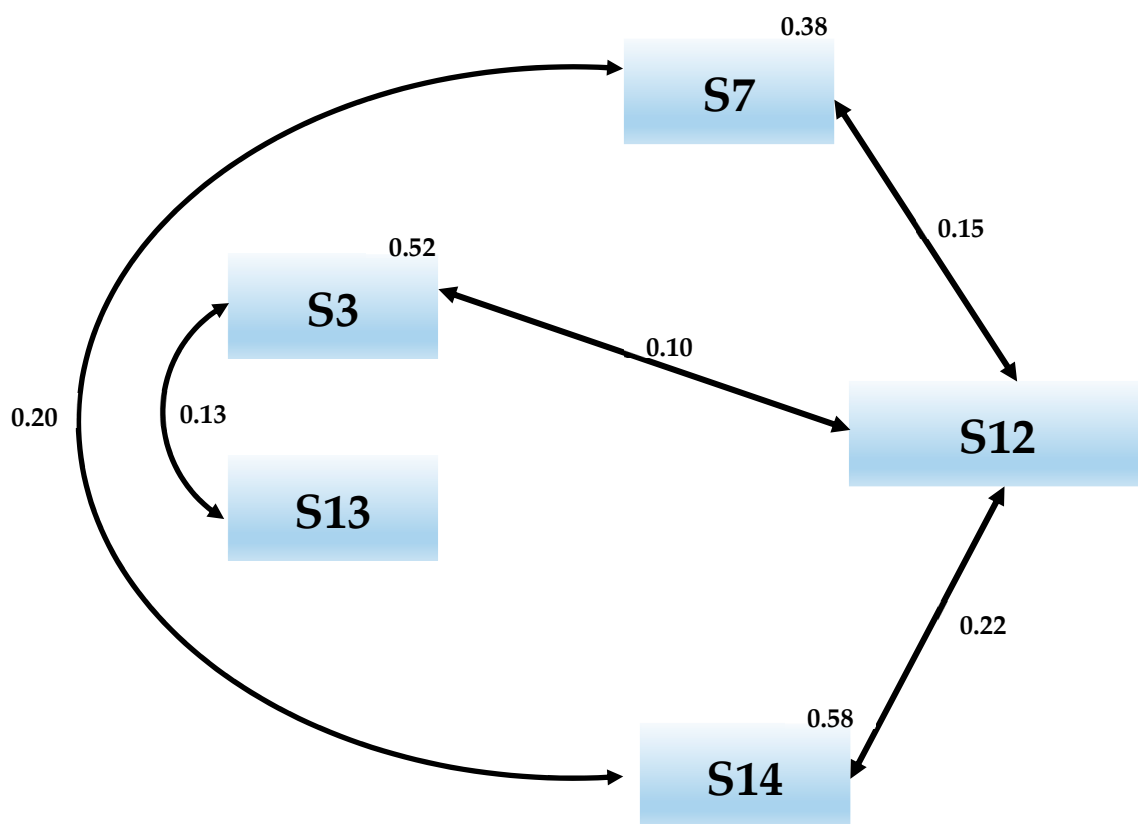
Figure 2. Path diagram—statistically significant paths and standardized coefficients (X^2: 12.74; $p < 0.001$; NFI = 0.89; IFI = 0.915; CFI = 0.92; RMSEA = 0.06).

Table 3. Pearson correlations between the constructs.

	Code	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S13	S14	S12
Climate change policies	S1														
Scientists	S2	−0.137 **	1												
Media	S3	0.129 **	−0.026	1											
Reduction in fossil fuel consumption	S4	−0.092 *	0.410 **	0.117 **	1										
Addressing malnutrition	S5	0.056	0.124 **	0.134 **	0.483 **	1									
Reduction in food production	S6	0.095 *	0.025	0.269 **	0.225 **	0.346 **	1								
Energy-saving actions	S7	−0.041	0.336 **	0.143 **	0.571 **	0.407 **	0.182 **	1							
Gambling game	S8	0.346 **	−0.250 **	0.111 *	−0.151 **	0.144 **	0.167 **	−0.028	1						
Public health system	S9	0.088 *	0.051	0.200 **	0.300 **	0.478 **	0.253 **	0.506 **	0.257 **	1					
The entanglement of major financial interests	S10	0.020	0.136 **	0.111*	0.319 **	0.262 **	0.172 **	0.347 **	0.149 **	0.254 **	1				
Trade balance of the country	S11	0.173 **	0.023	0.170 **	0.219 **	0.323 **	0.224 **	0.330 **	0.316 **	0.421 **	0.600 **	1			
Actions to protect the environment	S13	−0.054	0.066	0.195 **	0.125 **	0.142 **	0.166 **	0.183 **	0.092 *	0.145 **	0.070	0.140 **	1		
Personal responsibility	S14	−0.120 **	0.296 **	0.183 **	0.437 **	0.236 **	0.066	0.428 **	−0.092 *	0.203 **	0.172 **	0.171 **	0.208 **	1	
Green development is an achievable goal	S12	0.043	0.173 **	0.321 **	0.342 **	0.210 **	0.146 **	0.395 **	0.033	0.205 **	0.154 **	0.141 **	0.196 **	0.464 **	1

** Correlation is significant at 0.01; * Correlation is significant at 0.05.

4. Results and Discussion

The review of the climate change and green development literature led to the creation of four main hypotheses, tested by estimating the green development achievement goal's model by applying a series of linear regressions. The model estimation results and the standardized coefficient of the routes confirmed three hypotheses and rejected one. The value of the correlation coefficient (R^2) of the model's dependent variable was satisfactory, indicating the acceptable interpretation rate of the factors included.

According to the results of the estimation of the model, the correct communication of the issue of green development to the respondents (S3, β: 0.104, $p < 0.01$) is a critical factor for achieving the goal of green development (Hypothesis 1 is confirmed). Actions related to energy reduction (S7, β: 0.153, $p < 0.01$) are also an essential factor in achieving the goal of green development (Hypothesis 2 confirmed). Regarding the actions related to the protection of the environment, there seems to be no correlation with the achievement of green development (Hypothesis 3 is not confirmed). As concerns the personal responsibility of respondents, it seems that (S14, β: 0.221, $p < 0.01$) can help to achieve green growth (Hypothesis 4 is confirmed). We should emphasize that variables such as energy-saving actions, sustainable use of natural resources, and environmental protection, which are the most important in factor S7 (energy-saving actions), are directly linked to actions implemented to reduce the effects of climate change. With this fact, we can say that the connection between climate change and green development is indisputable. Also, T.V. and radio, journalists, politicians, and local institutions are the most relevant media for rural development issues, coinciding with the findings [9].

The assessment of the good or bad fit of the model to the research data was estimated by applying some general criteria concerning non-significant X^2 (at least $p > 0.05$, maybe even $p > 0.10$ or $p > 0.20$), an incremental indicator adjustment greater than 0.90, and low values of the SRMR and RMSEA indices. As a result of the estimation, the model exhibited a satisfactory goodness of fit as indicated by the values of AGFI = 0.920, NFI = 0.890, IFI = 0.915, CFI = 0.920, and RMSEA = 0.06. So, the model has relatively strong explanation power.

In addition, the analysis showed interesting two-way interactions between the communication methods of green development goals and actions related to environmental protection. This highlights the respondents' need for a better understanding of the messages of information promotions or insufficient communication of the objective of green development. Additionally, there was a positive correlation between the factor of energy-reduction actions and the personal responsibility of respondents, which emphasizes the sense of responsibility regarding the environment and their willingness to assist in this direction. More specifically, media (S3) showed a two-way positive relationship with actions to protect the environment (S13, β: 0.131, $p < 0.01$), and energy-saving measures (S7) interacted positively with personal responsibility (S14, β: 0.200, $p < 0.01$).

The logical relationship between green development and climate change is complex and multifaceted, rooted in the interplay of environmental, economic, and social dimensions. Climate change already has significant and dramatic consequences for billions of people worldwide, constituting the most important challenge for humanity in the 21st century [38–42]. The transition to green development is indispensable to limit the effects of climate change. Green growth promotes economic growth and development, ensuring that natural assets continue to provide the resources and ecosystem services on which citizens' well-being relies.

Key points elucidating this relationship involve mitigating climate change, public awareness, and education. Green development emphasizes the reduction in greenhouse gas emissions through using renewable energy sources and energy-efficient technologies. According to the International Renewable Energy Agency [43], renewable energy can significantly reduce global emissions and is crucial for achieving climate goals. Further, practices such as sustainable agriculture and reforestation help sequester carbon. The Food and Agriculture Organization [44] notes that sustainable land management practices can

enhance carbon sequestration and reduce emissions from the agriculture sector. Educating the public about the benefits of green development fosters behavioral changes supporting sustainability [45]. Involving communities in green initiatives ensures local needs are considered, leading to more effective outcomes. The World Bank [46] highlights community-driven development as crucial for successful green development projects.

In summary, the logical relationship between green development and climate change is underscored by the need to mitigate emissions, adapt to climate impacts, create economic and social benefits, improve resource efficiency, establish supportive policies, and educate and engage the public. These interconnected elements demonstrate that green development is essential for addressing climate change and achieving sustainable growth.

According to this study, respondents have a basic knowledge about climate change, consider it a global problem, and primarily trust scientists/academics/researchers for their information. They also argue that the transition to green growth will help tackle climate change, and its financing should combine national funds and private initiatives. However, impediments arise due to financial interests and the respective government's need for more organization and planning.

This study's objective was to explore the factors that will accelerate the goal of green development and contribute to the respondents' motivation toward this direction. The results demonstrate that personal responsibility (S14) and energy-saving actions (S7) are the most critical antecedents of green development. Promoting environmental education requires additional steps, mainly due to specific factors that involve some environmental problems, like greenhouse gases, which are invisible. Hence, respondents must realize that some of their daily activities harm the environment. Second, an aspect that makes it difficult to inform and sensitize people about environmental issues is that environmental degradation often occurs at a great distance and time interval from the cause. Thus, the negative consequences of our actions may be perceived by future generations, people living in different parts of the planet, or people belonging to other demographic groups of the local population. This spatial, social, and temporal distance leads to psychological distancing and a lack of personal concern due to underestimating the seriousness of environmental problems [47,48].

Respondents indicated their recognition of climate change as a global problem and do not think that policies to address it will create problems. These findings reaffirm previous studies in European countries [14,49]. They include scientists, experts, and academic researchers regarding the sources they prefer and trust for their information. At the same time, they showed mistrust regarding their information from friends, family, journalists, politicians, mass media, businesses, local institutions, and public enterprises. Other research gave similar results regarding informing respondents on environmental issues, as respondents argued that scientific sources provide more objective information [50].

Additionally, green growth was perceived as businesses adopting environmentally friendly practices such as reducing the use of materials that harm the environment, using renewable energy sources, saving energy, reducing greenhouse gas emissions, and protecting life underwater and on land. Furthermore, they associated green growth with job creation in environmentally friendly employment sectors, the circular economy, and improved quality of life. However, to promote green development, respondents should perceive green development as an alternative market through the growing demand for green products and services.

According to the results, respondents have a basic knowledge about climate change and claim they have time to inform themselves about this problem. These results coincide with the findings of the literature and with the conclusion that even during the economic recession in Greece and despite the issues faced by the respondents, they were informed and found time to deal with climate change.

Considering the inhibiting factors for the transition to the green economy growth in Greece, the respondents contemplated the intertwining of significant economic interests, the close connection of politics with the economic elite, and the lack of the necessary

organization and planning of green investments as the most important obstacles. They also mentioned the micropolitics of governments that satisfy economic units that are not productive. Obstacles, therefore, arise due to financial interests and the need for organization and planning.

5. Conclusions

The current study explores factors related to citizens' perceptions of climate change and green development in a Greek city and the obstacles they confront in transitioning to a green development scheme. The results confirmed and strengthened the pre-existing theoretical approaches and empirical findings in the field of climate change, offering new perspectives and knowledge with the unexplored data of respondents on the issue.

Balancing the coordinated development between green development and climate change involves a multifaceted approach integrating policymaking, technological innovation, economic incentives, and societal engagement. In the case of public education, raising awareness about the benefits of green development and the urgency of climate action can drive public support. Furthermore, promoting energy-saving habits, waste reduction, and sustainable consumption can bring significant environmental benefits. Incentives for adopting green practices, such as rebates for energy-efficient appliances, can encourage participation. The role of communities is crucial, as engaging local communities in planning and implementing green development projects ensures that solutions are tailored to local needs and conditions. Participatory approaches can enhance the effectiveness and sustainability of projects. Positive effects may stem from resilient communities, international cooperation, and, more importantly, monitoring and evaluation. Integrating these strategies makes achieving a balanced and coordinated approach to green development and climate change possible. This holistic approach ensures that efforts to promote sustainability and reduce emissions are mutually reinforcing, leading to long-term environmental, economic, and social benefits.

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