JOEEP

e-ISSN: 2651-5318
Journal Homepage: http://dergipark.org.tr/joeep

Araştırma Makalesi ● Research Article

Individual Values and the Self-assessment of Environment-Economy Trade-off in Turkey*

Türkiye'de Bireylerin Çevre ve Ekonomi Arasında Yaptıkları Tercihte Kişisel Değerlerin Rolü

Hüseyin Safa Ünal [a,**]

[a] Res. Asst., Bilecik Şeyh Edebali University, Faculty of Economics and Administrative Sciences, Economics Department, 11230, Bilecik / Turkiye
ORCID: 0000-0001-7841-5685

MAKALE BİLGİSİ

Makale Geçmişi:
Başvuru tarihi: 1 Mart 2024
Düzeltme tarihi: 2 Mayıs 2023
Kabul tarihi: 2 Mayıs 2024

Anahtar Kelimeler:
Çevre & Ekonomik Büyüme
Dünya Değerler Araştırması
Lojistik Regresyon
Sürdürülebilir Kalkınma

ÖZ

Bu çalışma, Türkiye'de ekonomi yanlısı tutumlara karşılık çevre yanlısı hassasiyeti etkileyen çok yönlü faktörleri aydınlatmayı amaçlamaktadır. Dünya Değerler Araştırması'nın yedinci dalgasından (2017-2022) elde edilen veri seti kullanılmıştır. Lojistik regresyon sonuçları, negatif yaş-çevre ilişkisinin dönüm noktasından sonra tersine döndüğünü ortaya koymaktadır. Çevre yanlısı tutumlar, gelir ve kentleşme gibi refah göstergelerinin yanı sıra din ve milliyetçilik gibi sosyo-kültürel faktörlerle de karmaşık bir şekilde bağlantılıdır. Eğitim, yüksek gelirli ve kurumsal olarak gelişmiş ülkelerde önemli bir belirleyici olarak ortaya çıkmaktadır. Türkiye'de istatistiksel olarak önemsiz olması, Türkiye'deki benzersiz sosyo-kültürel dinamiklerin varlığını ve eğitim sisteminin yetersizliğini vurgulamaktadır. Bu bulgular, sürdürülebilir kalkınma için politika müdahalelerinin öncelik vermesi gereken en etkili değerleri tanımlayarak çevre bilincine ilişkin değerli bilgiler sunmaktadır.

ARTICLE INFO

Article history:
Received: March 1, 2024
Received in revised form: May 2, 2023
Accepted: May 2, 2024

Keywords:
Environment & Economic Growth
World Values Survey
Logistic Regression
Sustainable Development

ABSTRACT

This study aims to elucidate the multifaceted factors influencing pro-environmental sentiments in contrast to pro-economic attitudes in Turkey. Utilizing the data set from the seventh wave of the World Values Survey (2017-2022), logistic regression results reveal that the negative age-pro-environment nexus undergoes a reversal after the inflection point. Pro-environmental attitudes are intricately linked with indicators of prosperity, including income and urbanization, as well as socio-cultural factors such as religion and nationalism. While education emerges as a significant determinant in high-income and institutionally developed countries, its statistical insignificance in Turkey highlights unique socio-cultural dynamics and insufficiency of the education system. These findings offer valuable insights into environmental consciousness, identifying the most effective values that policy interventions should prioritize for sustainable development.

1. Introduction

Since the discovery of agriculture, and the resulting population growth, the world has experienced both demographic and economic expansion. There is no clear manual outlining the steps to reduce the side effects of this economic growth. A combination of technological change and strong public policy for the environment might alleviate the side effects. This can even lead to environment-friendly economic growth. That is why environmental concerns of individuals is that much important on the environmental quality because they are the source of the public policy. For this reason, detecting the factors affecting the environmental concern is significant, because without public support, public policy is not efficient. Understanding and shaping individual environmental preferences have utmost importance. That is why this study seeks to find out factors that shape environmental concerns. Turkey, one of the upper-middle income countries, is the focus of this study.

* This study is based on the doctoral dissertation prepared by Hüseyin Safa Ünal at the Economics Department of Bilecik Şeyh Edebali University.

** *Sorumlu yazar/Corresponding author*.
e-posta: hsafa.unal@bilecik.edu.tr

Atıf/Cite as: Ünal, H.S. (2024). Individual Values and the Self-assessment of Environment-Economy Trade-off in Turkey. *Journal of Emerging Economies and Policy*, 9(1), 253-272.

Utilizing data from the WVS (Inglehart, et al., 2022), which represents the entire population of Turkey, study includes research with results that can be generalized to the whole population. The seventh wave of the WVS spans the period between 2017 and 2022 for 64 countries or territories. Data for Turkey was collected in 2018. In addition to demographic characteristics, life satisfaction, post-materialism, income, statist preference in business and industry, religiosity, political choice, nationalism are utilized as potential factors affecting environmental preferences and their relationship with the prioritization of the environment over economic growth is examined using logit regression results.

In the literature on Turkey, the environmental perspective has been examined in the context of education. Studies have examined students' environmental perceptions, attitudes, and the factors that influence them. These studies have been conducted among students ranging from primary school to university level (Alp et al., 2008; Berberoglu & Tosunoglu, 1995; Taskin, 2009; Tuncer, 2008; Yilmaz et al., 2004). Demographic characteristics, such as age and gender, or individual characteristics, such as family income, area of residence, and knowledge of the environment, are examined for possible factors that influence attitudes toward the environment. Because the samples in the previous literature are generally composed of specific age intervals and education levels, the results cannot apply to the entire population. The 2018 WVS data set used in this study consists of responses from 2,415 participants in Turkey. The participants were from 26 different statistical regions of Turkey and were interviewed face-to-face. 73.6% of the participants are from urban areas and 26.4% are from rural areas (World Values Survey Association, 2018). So, this study fills a gap in the literature with evidence that can be extended to the whole society. In order to establish an effective legal framework for combating environmental degradation that involves civil society and citizens, there is an urgent need to understand social behavior and factors affecting environmental concerns. What individual values and characteristics shape the prioritization of environmental protection over economic growth? This study aims to answer this question for the Turkey sample.

The rest of the study is organized as follows. The second part is a summary of literature on the relationship between economic growth and environmental problems. The third part is a review of the trade-off literature on the environment and economic growth and a discussion of the factors affecting environmental concerns. The fourth part is for data and methodology. The fifth part discusses the empirical findings, including an extension of the analysis of the basic model to countries other than Turkey using different classification criteria. Last part concludes the study.

2. On the Economic Growth and Environmental Problems

Environmental issues are as old as human history. Interaction with nature has led to the evolution of nature into tools to serve people. The entire production process is, in a sense, a transformation of some part of the world. The extent to which this transformation harms the environment depends on the structure of production, the use of natural resources, and the emphasis placed on sustainability. As the volume of production has increased, the damage to the environment has escalated. Except for the currently popular ones, such as renewable energy and environment-friendly technologies, the development of technological methods has led to an ever-increasing exploitation of the outside world. The transition from subsistence production to profit-oriented production increased the amount of manufactured goods produced through the exploitation of nature.

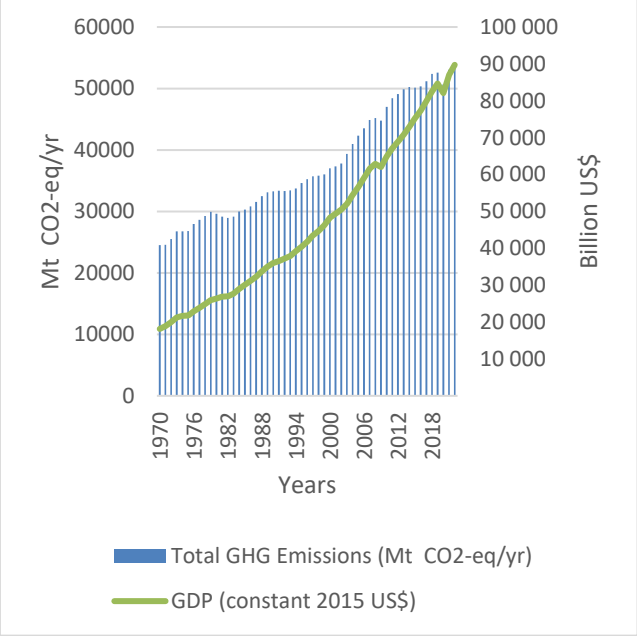
As production increased, the environment was exposed to more impacts. Braudel (1985) notes that the coal revolution that affected England after the 1600s both modernized England and created a pollution problem that would affect London for centuries. Coal was used from domestic heating to bakery ovens, from small producers to the largest industrial plants (Braudel, 1985: 369). The authorities in Amsterdam were aware of a similar problem, and in 1614 they banned the use of coal in sugar refineries because of air pollution. However, the factories continued to produce, and more factories were built (Braudel, 1983: 193). In a sense, the environment was being sacrificed for the sake of production. And the coal technology that started the industrial revolution in Britain could not have been possible without the destruction of forests thousands of years ago. While deforestation had an ongoing destructive impact on the environment at the time and for many years afterward, it also led to the creation of the coal that would provide the energy needed to fuel the Industrial Revolution in Britain. However, the use of coal has exacerbated environmental problems. In the last quarter of the 19th century, air pollution was the worst in British history. In London, even a significant amount of sunlight was blocked by air pollution (Clapp, 2013: 14).

Environmental problems are not limited to industrialized societies. The roots go back to ancient civilizations. Runnels (1995) states that deforestation and soil erosion in Greece has been going on for 8000 years due to the need for more agricultural land and land abuse per se. Huge amounts of charcoal remains from 4,500-5,000 B.C. indicate that there was a massive deforestation in Eastern Anatolia (Willcox, 1974). Scientific research proves that the climate was more humid in the Roman Classical Period, after which it has become drier and warmer due to the human use of the land surface (Hughes, 2011). From its early stages to 20th century, agriculture had been a major source of environmental crises. Deforestation caused erosion, and desertification. Increased crop yields led to population growth, but overexploitation of the land led to lower yields and eventually to food crises. This cycle eventually led to population declines or social movements such as migration that would profoundly affect world history. The industrialization of agriculture, especially after World War

II, increased the number of crops to an unprecedented level. However, this has led to significant environmental problems such as chemical pollution, erosion, depletion of water resources, reduced resistance to diseases and pests due to decreased crop diversity, and more deforestation (Bentley, 2013).

World's economy has grown 155 times from 1820 to 2022 (Maddison, 2001: 173; The World Bank, 2023a), while the world population has grown almost 8 times from 1820 to 2022 (McNeill, 2001: 8; The World Bank, 2023b). Since the beginning of this century, there has been a sharp acceleration in these growth rates. A quarter of the growth in population occurred in less than 25 years, starting in 2000, and two-thirds of the 155-fold economic growth also occurred in less than a quarter century (The World Bank, 2023a; The World Bank, 2023b). So, population and economic growth have been closely linked to environmental issues. City centers with high population concentrations, exploitation of natural resources, demand for limited energy resources, increasing level of toxins, contamination of air, soil, and water by chemicals are just a few of these negative impacts (Bentley, 2013). For example, the steady increase over the past half century in greenhouse gas (GHG) emissions, one of the leading causes of climate change, has accompanied the growth of the global economy (see Figure 1.)

Figure 1. Global GHG Emissions (left axis, bars) and GDP (right axis, green line), 1970-2002

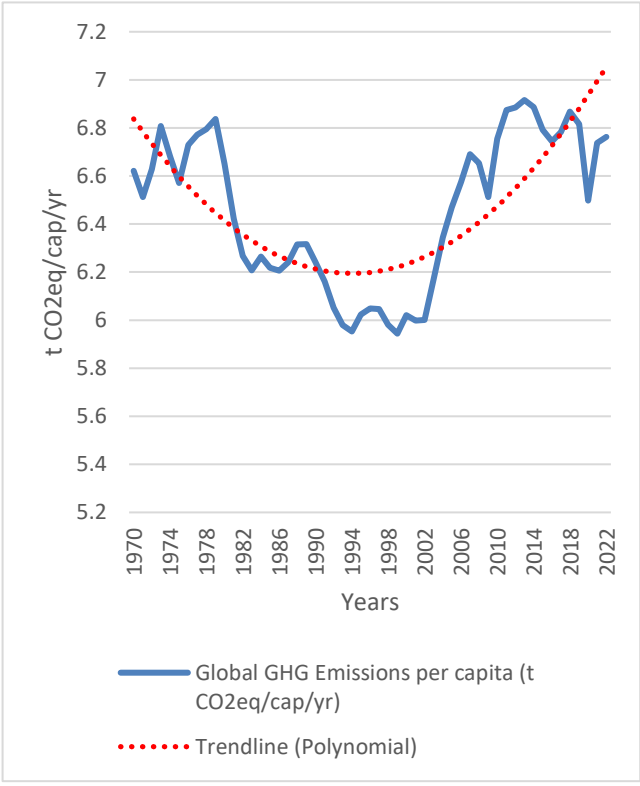


Note: GHG Emissions are measured in million tonnes of carbon dioxide equivalent produced per year.

Source: European Commission's Emissions Database for Global Atmospheric Research (EDGAR) (Crippa, et al., 2023), (The World Bank, 2023c).

GDP increased 4.95 times between 1970 and 2022. GHG emissions, while not keeping pace with the growing global economy, increased 2.20 times over the same period. GHG emissions are increasing as the global economy grows, but production structures have become less intensive in terms of the pollution they produce. However, per capita GHG emissions, which had been on a downward trend from the early 1970s to the mid-1990s, have been on an upward trend since then. This can be attributed to the decrease in the growth rate of the world's population during these years. But this situation is the proof of intensive exposition to GHG since 1990s (see Figure 2).

Figure 2. Global GHG Emissions per capita (t CO2eq/cap/yr) , 1970-2022



Note: t CO2eq/cap/yr: Amount of GHG emissions measured in tonnes of carbon dioxide equivalent produced per capita per year.

Source: European Commission's Emissions Database for Global Atmospheric Research (EDGAR) (Crippa, et al., 2023).

Environmental problems do not necessarily increase linearly with production or economic growth. In some cases, the increase in GDP is in line with the deterioration of environmental conditions in poor countries, but after a certain level of income, environmental quality improves (Grossman & Krueger, 1995). As countries increase their level of development, they can have access to cleaner technologies and shift their production of polluting goods to poorer countries. Alternatively, they can cease production of these goods entirely and import them from poorer countries. Poor countries could benefit from the experience of other countries. This learning effect allows developing countries to reach the turning point of environmental degradation at lower levels of economic development (Zhao et al., 2023). Alternatively, they may not continue this up-and-down pattern. Instead, economic development can be achieved in

which economic growth progresses linearly with environmental quality. However, to achieve such a positive relationship, it is necessary to implement conscious and determined environmental policies. Indeed, Ekins (2000) posits that while economic growth is a cause of environmental damage, the same relationship cannot lead to an improvement in environmental quality at some point. He cites the OECD and European countries where income has risen but environmental quality has not improved proportionately (Ekins, 2000).

Consequently, active engagement is essential to enhance environmental quality, rather than relying on an endogenous change in economic growth to alleviate environmental issues. The absence of an efficient public policy is the primary reason for environmental challenges at the early stages of economic development. Wong and Wan (2011) posit that among numerous factors, gender, educational attainment, individuals' pro-environmental beliefs, concern about potential environmental damages, and the steps governments take to protect the environment are the primary determinants of environmental concern. The evidence presented in Wong and Wan (2011) indicates that government action is the most significant factor influencing environmental concern, as evidenced by the 2000 and 2008 data for Hong Kong.

EDGAR data (Crippa, et al., 2023) reveals that pollution remains a significant issue in the developed countries as well despite their well-developed institutional quality and regulatory frameworks. Environmental awareness cannot be achieved solely through an independent judiciary, a well-developed legal system, education, and government effectiveness. Conscious and active environmental policies are necessary to combat environmental issues and increase environmental awareness. The role of government is critical in raising environmental awareness through the formulation of pro-environmental public policy, the enactment of legislation, and the effective enforcement of environment protection laws.

3. On the Environment-Economic Growth Trade-off

There is a significant and growing body of literature that measures whether people are more likely to prioritize environmental issues or economic goals (Dunlap et al., 1991; Dunlap & York, 2008; Franzen, 2003; Inglehart, 1988; Inglehart, 1995). People are asked to choose between two options. One is to protect the environment even if it slows down the economic growth, and the other is to give priority to economic growth even if it harms the environment. There is, however, a large body of literature that is critical of this dichotomous question, which presents the economy and the environment as alternatives to each other and forces people to make choices only between them (Kaplowitz et al., 2011; Klineberg et al., 1998). They show that respondents do not always view environmental policy and economic growth as mutually exclusive goals, and that a binary set of responses does not represent the preferences of a significant proportion of potential respondents. Economic development or growth does not necessarily require sacrificing environmental protection or environmental quality (DeCanio, 1997; Feiock & Stream, 2001). Therefore, this question may not accurately reflect the true cost of environmental protection for the individuals in question. For some, there is a need for follow-up questions to further investigate the intensity of prioritization of environmental problems (Nadeau et al., 2022). So, there is no consensus on how to correctly measure individuals' environmental concerns or attitudes.

Environmental problems are related to ongoing industrialization for several centuries. It is not possible to consider them independent from the concepts of economic growth and development. So, what changes when the concept of economic growth is introduced into the analysis? People tend to express their preferences more precisely when they are given different choices. This study aims to identify the factors that influence individuals' decision-making when faced with a choice between environmental protection and alternative options, such as economic growth. In this way, instead of analyzing the answers to direct questions, it is possible to conduct an analysis that emphasizes more the complexity of the multi-layered human way of thinking. For a meaningful analysis, using the trade-off between economy and environment is a proper way to measure the factors affecting the environmental concern. To overcome a potential conceptual conflict, the terms "pro-environment" or “pro-environmental” and "pro-economy" are also used instead of "environmental concern”. These emphasize the opposite ends of the trade-off between environmental protection and economic growth.

Factors Affecting the Environmental Concern

As for the environment itself, environmental concern is also a dynamic concept that evolves depending on the environmental problems. That is why there are many definitions for environmental concern, each dealing with a specific aspect of the concept. Dunlap and Jones (2002) define environmental concern in a comprehensive way as “the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution”. So, the concept itself has a personal emphasis. This is why the studies on the determinants of environmental concern tend to focus on personal characteristics mostly. Age, gender, education, income, or social class as a proxy for income, political views, religion, location of residence are just a few of the many variables that have been studied as potential determinants of environmental concern.

Understanding the nature of the trade-off between economic prosperity and environmental protection is the key to implementing effective environmental policy. Observing the influence of individual values and characteristics on the trade-off decision between the economy and the

environment is also an important point to consider in raising environmental awareness which is a resource that feeds the idea for public policy. There are individual and social factors that shape pro-environmental behavior and concern, according to Gifford and Nilsson (2014). Being knowledgeable and highly educated, being a woman, having high income, and being in the middle or upper-middle social classes are some of the many individual and social factors that promote pro-environmental behavior and concern. Although younger age cohorts tend to be more concerned about the environment, older people are more likely to engage in pro-environmental behavior for them. Religion and urban/rural residence have inconclusive effects on environmental attitudes and behavior (Gifford & Nilsson, 2014). Birch (2020) shows that individual level characteristics such as income, education and female gender are in a positive relationship with the support for the environmental protection over economic growth. Research conducted by Kajsa et al. (2020) among climate change protesters shows that they clearly prioritize the environment over economic growth. But the results are ambiguous when social welfare is used as a proxy for economic interest. For example, women are more concerned about the environment than about economic growth, but they give priority to social welfare over the environment. And protesters with higher education are more pro-environment than pro-welfare (Kajsa et al., 2020). This is because highly educated people tend to have higher incomes and less job insecurity. So, it is a question of whose welfare is at stake.

Opinion about environmental problems includes attitudes toward environmental problems and environmental awareness as well. Awareness about the environmental problems is positively related to education, age, health conditions of the individual and positive parenting especially in developing countries (Chin et al., 2019; De Pretto et al., 2015; Sudarmadi, et al., 2001; Wang, et al., 2015). However, there is no consensus on the effect of demographic variables on the awareness of environmental problems such as air pollution. While some authors find a positive relationship between age and environmental awareness (Chin et al., 2019; Qian, et al., 2016; Rotko, et al., 2002), some find a contradictory association between two (Egondi, et al., 2013; Semenza, et al., 2008). This is because different surveys, asking different questions in different societies, may not measure the same concept of awareness of environmental problems. Furthermore, when measuring between the same two variables in different countries, controlling for different characteristics of the survey respondents will not actually measure the same relationship as well. This study utilizes a dataset that includes identical survey questions asked in the same manner across various countries. The analysis of different countries employs the same variables, thereby avoiding the limitations associated with comparing results from studies that use different datasets and variables.

Seemingly unrelated religious teachings may influence people's views on certain issues in the same direction. A survey of Christian, Muslim and secular communities in the UK shows that all communities see climate change as a problem. However, the logic they use to reach the conclusion differs. Divine and intergenerational responsibility shape the views of Christians and Muslims on environmental issues. However, seculars approach the problem in an evolutionary way of thinking and see human responsibility, and they place environmental problems in an urgent context (Hope & Jones, 2014). Evidence from 25 different countries shows that the ones who state that they believe in God are more pro-environmental (Neumayer, 2004). Data from 2007 to 2010 for post-Soviet countries show that the importance of God in individuals' lives increases support for environmental protection but has a negative effect on preferences for economic growth (Čábelková et al.,2023). The sample is heterogeneous, comprising the secular Baltic countries, religiously diverse Russia, and predominantly Islamic Central Asia.

Indeed, people who believe in the same religion but differ in the importance they place on religion may not have similar views on the daily life issues. Believing in a specific religion may not necessarily affect people's environmental behavior or attitudes in a systematic way. In their study based on U.S. data among Christians, Eom et al. (2021) show that within Christianity, while the adoption of a stewardship belief leads to more pro-environmental support, the belief in a more controlling God does not (Stewardship is the belief that people are responsible for the world that God created. But the belief in a controlling God requires people to believe that God is in control of all things and events, and that human beings do not have any influence over them). For instance, church attendance is negatively related to environmental attitudes while it is in a positive relationship with environmental behavior (Kanagy & Willits, 1993). Therefore, the impact of religious values on environmental concern or behavior is ambiguous and depends on the societal characteristics such as values, sociocultural structure, historical development, and economic prosperity.

The literature shows that elite polarization on environmental issues deepens the left-right divide in attitudes toward environmental problems. This finding is empirically supported by many studies for the U.S. case, and European countries (Dunlap & McCright, 2008; Egan & Mullin, 2017; Guber, 2013; Hamilton, 2011; Harring & Sohlberg, 2017; McCright & Dunlap, 2011). Birch (2020) generalizes this finding to a more global context, using data from 42 countries for the different years between 1995 and 2015. The evidence shows that, with the exception of post-communist countries, mass polarization among voters occurs analogously to elite polarization between political parties (Birch, 2020). Moreover, party ideology may also shape citizens' attitudes toward issues such as environmental problems. This influence is not limited to the supporters but can extend beyond the ideological spectrum of the party. 2007 data for Australia shows that although environmental concern is stronger among the left-wing party followers and postmaterialists, leaders' effect on shaping public views on

environmental issues are beyond own partisans (Tranter, 2011).

Inglehart (1971) proposed a theory of value change in Europe. In advanced industrial societies there would be a shift in value priorities from what might be called materialist concerns to what might be called post-materialist values. Materialist values can be summarized as values or goals related to economic security and physical security. On the other hand, postmaterialist values include collective social concerns such as freedom, self-expression and the improvement of quality of life. While the economy and security are still important goals, they are no longer seen as the top priorities (Abramson & Inglehart, 1995, 9-10).

The main force driving the values of societies from materialist to post-materialist is, in the long run, intergenerational value change. This is a process whereby older cohorts with predominantly materialist values are replaced by younger cohorts with relatively post-materialist values (Inglehart & Abramson, 1999). The post-World War II generations, who experienced less economic and physical insecurity than the pre-war generations, put more emphasis on immaterial needs. The crisis years may cause a decline in their postmaterialist values, but this is a temporary effect. As soon as economic and physical security is no longer a concern, postmaterialist values become dominant again. So, younger birth cohorts do not prioritize materialist values as much as they do post-materialist values. Environmental protection can be considered as a higher need and classified as a part of post-materialist values, in contrast to the materialist value of economic affluence.

Control variables used in this study is in parallel to the literature that focuses on the individual level analysis on the views on the environmental problems. Age, for instance, is in a negative relationship with the environmental concerns, while education, female gender, income, social class are in a positive association with environmental concern in a significant number of studies (Franzen & Meyer, 2010; Gelissen, 2007; Kvaløy et al. 2012; Lewis et al., 2019; Marquart-Pyatt, 2012). Post materialist values are in positive association with environmental concerns and environmental action as well (Booth D. E., 2017). Conservation values play an important role in the explanation of the pro-growth views (Drews & van den Bergh, 2016; Guiso et al., 2003). The association between religiosity and right-wing political views with economic growth is explained by Marxist literature mostly. System justification theory (Jost et al., 2007; Jost, et al., 2014; Jost & van der Toorn, 2012) asserts that people, intentionally or not, tend to maintain the status quo. For this reason, they justify and defend all aspects of it with all the means at their disposal. Because economic growth is an integral part of the prevailing economic, social, and political system, conservation values defend the necessity of economic growth for the continuation of the system.

For Birch (2020), according to self-placement on the political scale, the ones on the left end of the scale are more pro-environment than the ones in the right (Birch, 2020). In his study using data from 45 countries, Neumayer (2004) shows that, apart from party ideology, an individual's left-wing orientation increases the likelihood of having a pro-environmental position. Evidence from the literature shows that being younger, being highly educated, having more income, being an urban resident rather than rural, being liberal rather than conservative (Inglehart (1990) uses conservative and liberal interchangeably for right and left especially in English-speaking countries) are the factors that seems to be in positive relationship with the environmental concern (Inglehart, 1990; Van Liere & Dunlap, 1980). Demographic and individual-level characteristics can sometimes be intertwined with political views and ideology. Moreover, in some societies, political views may have a direct impact on individual or social preferences. For this reason, there is always the potential for ideology to play a worthwhile role in raising awareness for environmental issues.

4. Data and Method

4.1. Data

The data employed here is from the 7th wave of the WVS. The 7th wave was conducted between 2017 and 2022. The time of data collection changes in each country within this period. Turkish data used in this study are from 2018 (Inglehart, et al., 2022). 2415 respondents from Turkey participated in the survey by answering 290 different questions during March, April and May 2018. Table 1 shows that the average town size of the respondents is more than 50,000. Although the age range is 18-95, the average age of the Turkish sample is 38.83. 62.1% of the respondents in Turkish sample is married. In the Turkish sample, the role of God appears to be significant with an average rating of 8.14 on a scale of 1-10. Similarly, the average political leaning of the participants was 6.3, indicating a tendency towards the right side of the spectrum on a scale of 1 (left) to 10 (right). The survey results show that while the average importance rating for living in a democratic country is 7.89 out of 10, the average rating for the actual democracy in the country is 6.27. This suggests the existence of a critical attitude toward the government.

What demographic characteristics and individual values relate to environmental concerns is the subject of this study. These individual values include not only personal preferences, but also individual assessments of the country's institutional and industrial structure. Different models are evaluated in the analyses. But for each of them the dependent variable is fixed.

Table 1. Descriptive Statistics-Turkey

Variables	N	Mean	Standard Deviation	Minimum	Maximum
environment	2,318	0.578	0.494	0	1
age	2,414	38.83	12.67	18	95
incscale	2,329	5.343	1.722	1	10
educrec	2,406	1.586	0.765	1	3
married	2,412	0.621	0.485	0	1
male	2,415	0.500	0.500	0	1
townsize	2,415	6.393	1.620	1	8
lifesat	2,405	6.518	1.907	1	10
postmat4	2,360	1.781	0.613	1	3
godinlife	2,398	8.138	2.176	1	10
nationalism	2,382	4.419	0.948	1	5
polscale	2,151	6.292	2.573	1	10
incomeeq	2,362	5.213	2.676	1	10
businessown	2,296	6.099	2.389	1	10
governmentresp	2,364	6.102	2.600	1	10
confenv	2,285	2.511	0.837	1	4
impdemocracy	2,364	7.892	2.100	1	10
democraticgov	2,347	6.265	2.295	1	10

Source: (World Values Survey Association, 2018).

For environmental concern, a trade-off question is utilized from WVS:

Question 111: "Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?"

Choices: =1 if "Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs."

= 0 if "Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent."

Explanatory variables that consider many aspects, such as demographic characteristics, both individual characteristics and individual assessment of economic, societal, and institutional values are used in the study.

All the variables utilized from WVS are listed in Table 2 below.

Table 2. Variables-Turkey

Variable	Question	Answers & Coding
environment	Q 111: Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?	=1 if "Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.", = 0 if "Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent."
age	Q 262: Age of the respondent	Ranges from 18 to 95
incscale	Q 288: On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in.	Ranges from 1 to 10, =1 if "Lowest group", =10 if "Highest group."
educrec	Q 275: (Recreated based on the question:) What is the highest educational level that you have attained?	=1 if lower, =2 if middle, =3 if upper
married	Q 273: marital status	=1 if married, =0 if living together as married, divorced, separated, widowed or single.
male	Q 260: sex of the respondent	=1 if male, =0 if female
townsize	Size of town where interview was conducted	=1 if under 2000, =2 if 2-5000, =3 if 5-10000, =4 if 10-20000, =5 if 20-50000, =6 if 50-100000, =7 if 100-500000, =8 if 500000 and more.

incomeeq	Q 106: How would you place your views on this scale?	Ranges from 1 to 10, =1 if "Incomes should be made more equal", =10 if "There should be greater incentives for individual effort."
businessown	Q 107: How would you place your views on this scale?	Ranges from 1 to 10, =1 if "Private ownership of business and industry should be increased", =10 if "Government ownership of business and industry should be increased."
governmentresp	Q 108: How would you place your views on this scale?	Ranges from 1 to 10, =1 if "Government should take more responsibility to ensure that everyone is provided for", =10 if "People should take more responsibility to provide for themselves."
lifesat	Q 49: All things considered, how satisfied are you with your life as a whole these days?	Ranges from 1 to 10, =1 if "Completely dissatisfied", =10 if "Completely satisfied."
godinlife	Q 164: How important is God in your life?	Ranges from 1 to 10, =1 if "Not at all important", =10 if "Very important."
nationalism	Q 254: How proud are you to be [country's nationality]?	=1 if not Turkish, =2 if not at all proud, =3 if not very proud, =4 if quite proud, =5 if very proud
polscale	Q 240: In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking?	Ranges from 1 to 10, =1 if left, =10 if right.
impdemocracy	Q 250: How important is it for you to live in a country that is governed democratically?	Ranges from 1 to 10, =1 if "Not at all important", =10 if "Absolutely important."
democraticgov	Q 251: And how democratically is this country being governed today?	Ranges from 1 to 10, =1 if "Not at all democratic", =10 if "Completely democratic."
confenv	Q 79: I am going to name a number of organizations. For each one, could you tell me how much confidence you have in environmental organizations?	=1 if "None at all", =2 if "Not very much", =3 if "Quite a lot", =4 if "A great deal"
postmat4	Aims of respondent: first choice: Q 154. If you had to choose which one of the things on this card, would you say is most important? (Code one answer only under "first choice"): 1. Maintaining order in the nation 2. Giving people more say in important government decisions 3. Fighting rising prices 4. Protecting freedom of speech Aims of respondent: second choice: Q155. And which would be the next most important? (Code one answer only under "second choice"): 1. Maintaining order in the nation 2. Giving people more say in important government decisions 3. Fighting rising prices 4. Protecting freedom of speech	Post-Materialist index 4-item (created from questions from 154 and 155). Among the 4 aims, the ones selecting aims 1 and 3 are coded as materialist. The ones selecting aims 2 and 4 are coded as post-materialist, and the ones choosing aims 1 or 3 and aims 2 or 4 are coded as mixed. =1 (Materialist) if (Q154=1 and Q155=3) or (Q154=3 and Q155=1), =2 (Mixed) if (Q154=1 or 3 and Q155=2 or 4) or (Q154=2 or 4 and Q155=1 or 3), =3 (Post-materialist) if (Q154=2 and Q155=4) or (Q154=4 and Q155=2).

Source: (World Values Survey Association, 2018).

4.2. Method

Answers for the survey question used as the dependent variable are at 0-1 scale. So, the dependent variable "Environment" is binary. 1 is for pro-environment, and 0 is for pro-economy. OLS estimation gives unbiased estimates for linear probability model (LPM) coefficients. However, they are not best. t and F tests, so the confidence intervals cannot be valid even in large samples (Aldrich & Nelson, 1984: 14).

In OLS estimation, there is no limit to the predicted values of dependent variables. That is, estimation results are highly likely to end up with values larger than one and smaller than zero. On the other hand, predicted values of dichotomous dependent variables show the predicted probability of y being equal to 1 in a linear probability model. And probability can take values between 0 and 1. So there is a potential incompatibility between the predicted probabilities and the model estimates.

$$P(Environment_i = 1) = P_i = \beta_0 + \beta_1 x_{i1} + \cdots + \beta_k x_{ik} = \beta_0 + \sum_{j=1}^{k} \beta_j x_{ij} \quad \text{(LPM)(1)}$$

The subscript i refers to the i-th observation and j denotes the j-th independent variable. To address the aforementioned limitations of OLS estimates of LPM, logistic regression is utilized instead of linear probabilities:

$$ln\left(\frac{P_i}{1-P_i}\right) = \ln(Odds_i) = \beta_0 + \sum_{j=1}^{k} \beta_j x_{ij} = Z_i \quad (2)$$

$$\exp\left(ln\left(\frac{P_i}{1-P_i}\right)\right) = \exp\left(\beta_0 + \sum_{j=1}^{k} \beta_j x_{ij}\right) \quad (3)$$

$$\frac{P_i}{1-P_i} = e^{\beta_0} e^{\beta_1 x_{i1}} \dots e^{\beta_k x_{ik}} \quad (4)$$

e^{β_j} is the partial effect of one independent variable on the odds of the event of interest, controlling for the other independent variable. The probability is linear in the independent variables in the OLS, but it is not linear in the logistic regression. To estimate the logistic model,

maximum likelihood estimation is used. Interpretation of log odds and the effect of a change in one of the predictors on the dependent variable is not straightforward. The sign of the log odds coefficient, however, is intuitive for interpretation. While some favor reporting odds-ratios rather than probabilities and log odds, others are in favor of probabilities over odds-ratios conditional on the features of the slope coefficients (Aldrich & Nelson, 1984; Demaris, 1992; Menard, 2002; Pampel, 2000). What matters is the direction of the researcher's assessment. Both log odds and odds ratios are preferred for interpretation. As will be shown, the same empirical findings are achieved from both perspectives.

Based on the literature, the study is constructed to test two main hypotheses:

Hypothesis 1: Age and being on the right of the political scale are negatively associated with pro-environmental preferences as opposed to being pro-economy.

Hypothesis 2: Education, income, post-materialist values, size of the town, statist preferences in the market, religiosity, the importance attached to institutions such as democracy and civil society are positively associated with pro-environmental preferences as opposed to being pro-economy.

5. Results

Logit model dependent variables presented in Table 3 are environment. If people prioritize the environment over economic growth, it equals 1, otherwise 0. Those who prioritize the environment over economic growth are considered to have pro-environmental views, rather than being pro-economy. The first model is the base model consisting of only demographic characteristics as explanatory variables. In the early stages of age, age is in a negative association with the log odds of pro-environmental views. The coefficients for the age variable are not statistically significant in any of the models that only examine a linear relationship between age and environmental concern. Therefore, the square of the age term is added as a second independent variable to assess the non-linear relationship between age and environmental concern. The results of the model with only the age variable are not reported here to avoid distracting from the focus of this study.

That is, as the age increases, people tend to give less priority to environmental protection over economic growth. The positive coefficient for age-squared indicates that the relationship between age and the log odds of being pro-environment is not linear. That is, the negative relationship starts to become less negative. At the inflection point of 33 ([-(-0.066)/2x0.001)] = 33) , this relationship reverses. The rate of decrease slows down over time at a very slow pace. Within the younger cohorts, age increase erodes pro-environmental views much more than it does in the older cohorts until age 33. As age approaches 33, the decline in pro-environmental views is less pronounced than in younger age groups. The dependent variable presents respondents with a choice between prioritizing environmental protection at the expense of economic growth and job creation and prioritizing economic growth and job creation at the expense of environmental degradation. Given the high level of job insecurity in younger age groups, it is possible that individuals may prioritize economic growth and job creation over environmental protection. However, long-tenured employees may experience less job insecurity as they age. Consequently, the inverse relationship between age and pro-environmental views gradually diminishes at the age of 33. Subsequently, they tend to prioritize environmental concerns over economic considerations. Furthermore, as they age, they become more pro-environmental. Individuals might be concerned about the environment at younger ages as Gifford and Nilsson (2014) suggested. However, it is not until a certain age that this concern evolves into pro-environmental behavior.

On the other hand, the association between income scale and the log odds of pro-environmental views is positive. As people get older, the economic situation may become less of a priority than it was in their younger years. They are more likely to realize their self-actualization, and financial security becomes less of an issue. In other words, it might not be correct to establish a direct causal link between age and environment. As age increases, the level of education might also tend to increase. It is common for people's incomes to improve in relation to this. It is possible to move up the income scale, depending on the education level and the experience that comes with age. Therefore, it might not be possible to isolate and causally link the mutual impact of age and income or other demographic characteristics with pro-environmental views.

Education does not have a statistically significant relationship with being pro-environment. The positive but not statistically significant education coefficient, the nonlinear relationship between age and pro-environmental views, and the positive income coefficient demonstrate the comovement of these individual characteristics on pro-environmental attitudes, as previously stated by Birch (2020) and Kajsa et al. (2020). The results do not indicate that being married has any effect on pro-environmental views compared to being unmarried either. Just as the association of gender with having pro-environmental views is not statistically significant. The log odds of having pro-environmental views increase with the town size. That is, as the size of the town people live in increases, they are more likely to prioritize the environment over the economy. Environmental problems are more serious in larger cities, mainly because of manufacturing. While economic growth may create new jobs, its negative impact on the environment may be more important for people who experience it firsthand. The process of urbanization can be regarded as a reflection of modernization. In this context, it can be posited that post-materialist values, detached from the concerns of physical and financial security as outlined by Inglehart

(1971; 1995), have manifested more prominently in urban settings compared to rural areas. Thus, individuals might prioritize environmental concerns, and higher needs over economic and basic needs. The association between demographic characteristics and pro-environmental views is similar across models, although the magnitude of the relationship and the levels of significance vary.

The results of models 2 and 3 prove that increases in life satisfaction and post-materialist values are positively related to pro-environmental thoughts. As individuals become more satisfied with their lives, they may become more concerned with the environment rather than the household. And because their material needs are satisfied, their immaterial needs become more important as Abramson and Inglehart (1995) suggest. Satisfaction of higher needs, which are exempt from financial and physical security issues, might become more essential to them.

Individual economic values are tested in model 4. Three variables, incomeeq, businessown, and governmentresp, measure the opinions of people on whether an individualistic or statist approach should prevail in the economy. As people favor income differences to support individual effort over income equality, the log odds of having pro-environmental views decrease. The more people are in favor of an increasing share of government in business and industry relative to individual entrepreneurs, the more likely they are to hold pro-environmental views. The closer one is to the view that people should try harder to make a living on their own rather than relying on the state, the less likely one is to hold pro-environmental views. If individuals exhibit a preference for a more statist approach to income distribution, entrepreneurship, and the welfare state, they may be more inclined to prioritize environmental protection over economic growth. This is analogous to that the cost prioritization in state investments takes a back seat compared to private investments.

godinlife variable in model 5, is used as an indicator of religiosity. As God becomes more important in an individual's life, the log odds of having pro-environmental views increase. According to 2020 data, 98.41% of Turkey's population, Sunni or Shia, believes in Islam (The ARDA, 2023). This percentage is expected to be 97.6% in 2050 projections (Johnson & Grim, 2023), which is still very high, albeit slightly lower than the 2020 statistics. And a dominant idea of stewardship in Islam makes people responsible for God's creations. Not only are they responsible, but it is believed that they will be held accountable in the hereafter (Saniotis, 2012). Therefore, the earth and its resources are of divine significance for Islam. Thus, the belief in stewardship and the afterlife shapes the Islamic environmental ethic and could put pressure on people to protect the environment even if it means sacrificing the economy.

Table 3. Log Odds-Environment vs. Economic Growth-Turkey

Variables	(1) *environment*	(2) *environment*	(3) *environment*	(4) *environment*	(5) *environment*	(6) *environment*	(7) *environment*	(8) *environment*
age	-0.066***	-0.064**	-0.066***	-0.055**	-0.065***	-0.069**	-0.067***	-0.085***
	(0.008)	(0.012)	(0.009)	(0.039)	(0.010)	(0.011)	(0.008)	(0.001)
age-squared	0.001***	0.001***	0.001***	0.001**	0.001***	0.001***	0.001***	0.001***
	(0.005)	(0.007)	(0.006)	(0.020)	(0.006)	(0.008)	(0.005)	(0.001)
incscale	0.086***	0.074***	0.093***	0.135***	0.082***	0.099***	0.086***	0.095***
	(0.001)	(0.007)	(0.001)	(0.000)	(0.002)	(0.000)	(0.001)	(0.001)
educrec	0.059	0.058	0.047	0.071	0.066	0.019	0.066	0.032
	(0.342)	(0.352)	(0.455)	(0.263)	(0.289)	(0.772)	(0.288)	(0.619)
married	0.058	0.038	0.044	-0.003	0.037	0.069	0.074	0.192*
	(0.594)	(0.731)	(0.690)	(0.978)	(0.739)	(0.549)	(0.503)	(0.097)
male	0.055	0.048	0.069	0.069	0.054	0.058	0.065	0.078
	(0.525)	(0.579)	(0.430)	(0.442)	(0.536)	(0.518)	(0.455)	(0.390)
townsize	0.065**	0.060**	0.055**	0.064**	0.065**	0.089***	0.065**	0.048*
	(0.016)	(0.028)	(0.041)	(0.020)	(0.017)	(0.002)	(0.017)	(0.090)
lifesat		0.050**						
		(0.035)						
postmat4			0.199***					
			(0.006)					
incomeeq				-0.076***				
				(0.000)				

businessown				0.139***				
				(0.000)				
governmentresp				-0.052***				
				(0.008)				
godinlife					0.045**			
					(0.024)			
impdemocracy						0.100***		
						(0.000)		
democraticgov						-0.066***		
						(0.001)		
confenv						0.230***		
						(0.000)		
nationalism							0.131***	
							(0.004)	
polscale								-0.103***
								(0.000)
Constant	0.476	0.215	0.150	-0.202	0.119	-0.591	-0.113	1.519***
	(0.359)	(0.688)	(0.780)	(0.734)	(0.827)	(0.327)	(0.842)	(0.007)
Observations	2,255	2,252	2,236	2,168	2,252	2,131	2,235	2,043
Pseudo R-squared	0.0107	0.0122	0.0133	0.0375	0.0124	0.0297	0.0140	0.0217

p-values in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: (World Values Survey Association, 2018).

Model 6 focuses on individuals' perceptions of democracy and civil society. The importance of how democratically the country is governed to the respondent and how democratically the country is governed in the respondent's view are used as indicators of ideal preferences for democracy and actual experience of democracy, respectively. As the importance of democratic government increases, the log odds of having pro-environmental thoughts increase. Just as there is a correlation between the economic prosperity, physical security of countries and the shift from materialist to postmaterialist values (Inglehart & Abramson, 1994; Inglehart, 2008), there is also a relationship between individuals having postmaterialist values instead of materialist values because they have met their economic needs as their income level increases. That is, people might seek more humane societal goals including more freedom, self-expression, and a higher quality of life according to Inglehart's theory of postmaterialism. If environmental protection is associated with higher needs and postmaterialist values, then it is expected that the ones favoring democracy to prefer environment over economic growth.

However, as people observe that Turkey is more democratically governed, the log odds of being pro-environment decrease. These two results may seem controversial at first glance. But the latter involves a more subjective observation about the government of the country. And it is very likely to include political preconceptions and biases. For instance, supporters of the ruling parties, Justice and Development Party and Nationalist Movement Party, are more likely to perceive the country as being governed democratically, whereas those who vote for opposition parties are more likely to view the country as not being governed democratically in 2018 wave of the WVS in Turkey (World Values Survey Association, 2018). When analyzing the first five political parties with the highest number of votes in the general elections, most respondents stated the importance of a democratic regime. However, 916 out of 1084 respondents who voted for the Justice and Development Party, which received the highest number of votes, rated the country's democratic governance as 6 or higher on a scale of 1-10. Only 8 out of 516 respondents who voted for the main opposition party, Republican People's Party, indicated that the country is governed in a completely democratic manner. In addition, as individuals move to the right of the political scale, the log odds of being more pro-environment in Turkey decrease (see Model 8). Consistent with the literature (Birch, 2020; Inglehart, 1990; Neumayer, 2004; Van Liere & Dunlap, 1980), right-leaning political supporters are more likely to preserve the current economic status quo, even if this means not preserving the environment. In addition, the more individuals trust the civil society of environmental organizations, the more likely they are to be pro-environment. Thus, not only improving the institutional structure of the country, but also having a civil society that can inspire confidence can guarantee the formation of pro-environmental concerns.

Findings for nationalism in the 7th model are in parallel to the religion case. As individuals feel prouder to hold Turkish citizenship, the log odds of having pro-environmental thoughts increase. In Turkey, there has been a symbolic relationship between ethnic separatism, terrorism, and forest fires for years. 90% of the forest fires in Turkey are caused by anthropogenic activities, including intentional fires such as arson and terror attacks (Çolak & Sunar, 2020). In this respect, observing a positive relationship between nationalism and environmental concern is an expected result.

To make numerical interpretation easier, odds-ratio can be used instead of log odds. Log odds, odds-ratio, and marginal effects all measure the same topic in different ways and can be interpreted similarly. In this case, log odds are used to interpret the sign of the relationship and odds-ratios to interpret the magnitude of the relationship. Marginal effects are not reported here to avoid repetition, but the calculated marginal effects are available upon request.

The right-hand side of the odds-ratio equation is multiplicative, meaning any change in the regressors affects the odds multiplicatively. The odds-ratio increases when the coefficient $e^{\beta_j x_{ij}}$ is greater than 1, decreases when the coefficient is lower than 1, and remains the same when the coefficient is equal to 1. The intuition has already been expressed by interpreting log odds coefficients. But the magnitude of the effects of changes in variables are shown by odds-ratios in Table 4.

Education, marital status, and gender were found to be statistically insignificant among the demographic characteristics as they are shown in Table 3. The model reveals that for each increase in age, there is a 0.936-fold decrease in the odds of having pro-environmental views. However, it is important to note that the coefficient of the square of age is greater than 1, which may suggest that odds will become positive in later years of life. The inflection point for change in the behavior is calculated as age 33 above. Additionally, the odds of pro-environmental views increase by a factor of 1.09 with each category increase in the income scale. Similarly, as the size of the town increases, odds of favoring pro-environmental views increase by a factor of 1.067. All inferences made for demographic characteristics based on the base model are held in models 2 through 7, despite the differences in statistical magnitude. As life satisfaction increases, the odds of being at the pro-environment end in the trade-off between environmental protection and economic growth increases by 1.051 times. The same is true for post-materialist values, with a 1-unit increase resulting in 1.22 times higher odds of having pro-environmental views. Individuals who support income inequality are less likely to hold pro-environmental views (odds-ratio decreased by 0.927). On the other hand, those who favor government involvement in business are more likely to hold pro-environmental views (odds-ratio increased by 1.15). Additionally, those who prioritize individual effort over state subsidies are less likely to prioritize pro-environmental views over economy (odds-ratio lowered by 0.949).

Table 4. Odds-Ratio-Environment vs. Economic Growth-Turkey

Variables	(1) *environment*	(2) *environment*	(3) *environment*	(4) *environment*	(5) *environment*	(8) *environment*	(6) *environment*	(7) *environment*
age	0.936***	0.938**	0.936***	0.946**	0.937***	0.934**	0.935***	0.919***
	(0.008)	(0.012)	(0.009)	(0.039)	(0.010)	(0.011)	(0.008)	(0.001)
age-squared	1.001***	1.001***	1.001***	1.001**	1.001***	1.001***	1.001***	1.001***
	(0.005)	(0.007)	(0.006)	(0.020)	(0.006)	(0.008)	(0.005)	(0.001)
incscale	1.090***	1.077***	1.097***	1.145***	1.086***	1.104***	1.090***	1.100***
	(0.001)	(0.007)	(0.001)	(0.000)	(0.002)	(0.000)	(0.001)	(0.001)
educrec	1.060	1.059	1.048	1.074	1.068	1.019	1.068	1.033
	(0.342)	(0.352)	(0.455)	(0.263)	(0.289)	(0.772)	(0.288)	(0.619)
married	1.060	1.039	1.045	0.997	1.037	1.071	1.077	1.211*
	(0.594)	(0.731)	(0.690)	(0.978)	(0.739)	(0.549)	(0.503)	(0.097)
male	1.057	1.049	1.071	1.071	1.055	1.060	1.067	1.082
	(0.525)	(0.579)	(0.430)	(0.442)	(0.536)	(0.518)	(0.455)	(0.390)
townsize	1.067**	1.062**	1.057**	1.067**	1.067**	1.093***	1.067**	1.049*
	(0.016)	(0.028)	(0.041)	(0.020)	(0.017)	(0.002)	(0.017)	(0.090)
lifesat		1.051**						
		(0.035)						
postmat4			1.220***					
			(0.006)					

incomeeq				0.927***				
				(0.000)				
businessown				1.150***				
				(0.000)				
governmentresp				0.949***				
				(0.008)				
godinlife					1.046**			
					(0.024)			
impdemocracy						1.105***		
						(0.000)		
democraticgov						0.936***		
						(0.001)		
confenv						1.259***		
						(0.000)		
nationalism							1.139***	
							(0.004)	
polscale								0.903***
								(0.000)
Constant	1.610	1.240	1.161	0.817	1.127	0.554	0.893	4.568***
	(0.359)	(0.688)	(0.780)	(0.734)	(0.827)	(0.327)	(0.842)	(0.007)
Observations	2,255	2,252	2,236	2,168	2,252	2,131	2,235	2,043
Pseudo R-squared	0.0107	0.0122	0.0133	0.0375	0.0124	0.0297	0.0140	0.0217

p-values in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: (World Values Survey Association, 2018).

Each increase in the category on the scale of the role of God in life results in a 1.046-fold increase in the odds. Similarly, each increase in the category of nationalism towards 'very proud' results in a 1.139-fold increase in the odds of prioritizing the environment over economic growth. Conversely, each shift toward the right wing on the political scale leads to a 0.903-fold decrease in the same odds.

As individuals prioritize living under a democratic government, their odds of prioritizing the environment over the economy increases by 1.105 times. Additionally, greater trust in civil society and environmental organizations leads to a 1.259-fold increase in the odds-ratio of pro-environmental views. However, there is a negative correlation between having pro-environmental views and believing that the country has a democratic government in practice. Arguing that democracy exists decreases the odds of having pro-environmental views by 0.936 times.

In addition to the analysis based on the data of respondents from Turkey, several relatively objective criteria are identified to classify other 63 countries in the survey. The sample comprises 64 countries surveyed by the WVS from 2017 to 2022, including Turkey. The countries were classified based on their income level, freedom scores, democracy index, economic freedom index, and human development index, using various data sources. The same analysis conducted for Turkey in model 1 above is also conducted for the other 63 countries. This approach added diversity to the study and enabled testing the external validity of the findings for Turkey. There is no clear pattern in the demographic characteristics of any of the country classifications. However, education is generally positively associated with prioritizing the environment in high-income countries, except for Chile. The statistically significant positive coefficients are concentrated in high-income countries. A similar pattern is observed for the degree of freedom, level of democracy, economic freedom, and human development index.

Table 5. Log Odds-Environment vs. Economic Growth-by Country Classification Criteria

	Country	*age*	*age-squared*	*incscale*	*educrec*	*married*	*male*	*townsize*	constant	Obs.	Pseudo R-squared
1	Australia	0.0135	-0.0003	-0.0108	0.5579***	-0.4595***	-0.1665	0.0620**	-0.4143	1,592	0.0548
		(0.4961)	(0.1610)	(0.7218)	(0.0000)	(0.0001)	(0.1486)	(0.0129)	(0.4571)		
2	Canada	-0.0558***	0.0005***	-0.0499***	0.3051***	-0.1883***	-0.3362***	0.0183	1.5797***	3,997	0.0255
		(0.0000)	(0.0001)	(0.0081)	(0.0000)	(0.0087)	(0.0000)	(0.2118)	(0.0000)		
3	Chile	-0.0425	0.0003	-0.0894*	0.2154	0.2261	-0.2383*	0.0409	1.2955*	832	0.0158
		(0.1371)	(0.3016)	(0.0627)	(0.1193)	(0.1410)	(0.0956)	(0.2092)	(0.0755)		
4	Germany	-0.0163	0.0000	0.0112	0.5332***	-0.1169	-0.2365*	0.0177	0.3788	1,338	0.0283
		(0.4185)	(0.7918)	(0.7646)	(0.0000)	(0.3833)	(0.0540)	(0.5703)	(0.4914)		
5	Great Britain	0.0179	-0.0002	0.0251	0.4337***	-0.2124*	-0.1003	0.0293	-0.5574	1,837	0.0356
		(0.3068)	(0.1845)	(0.3574)	(0.0000)	(0.0597)	(0.3413)	(0.3665)	(0.2660)		
6	Japan	0.0642**	-0.0006**	-0.0684**	0.4928***	0.2829	-0.0227	-0.0155	-2.2692**	691	0.0272
		(0.0452)	(0.0473)	(0.0303)	(0.0002)	(0.1666)	(0.8871)	(0.8202)	(0.0232)		
7	Netherlands	0.0124	-0.0001	-0.0196	0.6789***	-0.0288	-0.2709**	0.0017	-0.7809	1,451	0.0421
		(0.6054)	(0.7747)	(0.4716)	(0.0000)	(0.8342)	(0.0287)	(0.9755)	(0.2858)		
8	New Zealand	0.0389	-0.0005	-0.0146	0.4288***	-0.5663***	-0.3143*	-0.0283	0.1633	711	0.0529
		(0.2567)	(0.1037)	(0.6954)	(0.0006)	(0.0043)	(0.0670)	(0.4329)	(0.8666)		
9	Northern Ireland	-0.0498	0.0007	0.2347***	0.3542**	-0.4820*	-0.0169	0.0475	-0.8250	320	0.0635
		(0.2694)	(0.1143)	(0.0028)	(0.0251)	(0.0737)	(0.9456)	(0.6386)	(0.5012)		

Note: All nine countries in Table 5 belong to the intersection of being high-income, free, full democracy, economically free, and very high human development index country groups. p-values in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: WVS (Inglehart, et al., 2022), DataBank of the World Bank (The World Bank, 2023d), Freedom Scores (Freedom House, 2023), Democracy Index (Economist Intelligence Unit, 2023), Fraser Institute's Economic Freedom of the World Index (Gwartney, Lawson, Hall, & Murphy, 2021), Human Development Index (UNDP, 2022).

6. Conclusion

Based on the empirical findings from Turkey summarized above, Hypothesis 1 cannot be rejected. Similarly, Hypothesis 2 cannot be rejected except for the relationship between education and pro-environmental views. The statistical analysis shows no significant relationship between education level and prioritization of environmental protection over economic growth.

Hypothesis 1: Age and being on the right of the political scale are negatively associated with pro-environmental preferences as opposed to being pro-economy.

Hypothesis 2: Education, income, post-materialist values, size of the town, statist preferences in the market, religiosity, the importance attached to institutions such as democracy and civil society are positively associated with pro-environmental preferences as opposed to being pro-economy.

When people are exposed to something negative, they are more likely to express their discomfort and unease. Kim and Lee (2018) find that people's knowledge about environmental pollution does not influence their attitude toward environmental problems. Instead, it is the extent to which they are exposed to the consequences of environmental problems that matters. They show that people do not care about the harmful effects of FDI projects carried out in remote areas in Kenya unless the project is close to the neighborhood (Kim & Lee, 2018). The key issue for people is therefore the directness of the harmful effects and how close these affects are to home. While it is important for people to consider whether a project is environmentally harmful or pro-environmental, the impact on their daily lives may be much more important. People can even change their voting behavior and punish the local government when a project directly affects their quality of life, even if it is pro-environmental (Stokes, 2015).

Therefore, it is important for people to understand the negative consequences of an environmental problem, even if it does not affect them directly. Environmental education is the most effective means of promoting global

environmental awareness, in addition to mainstream education. This approach enables individuals to take prompt and active roles in environmental issues, even if they are not exposed to a direct impact. If there is a concern about environmental problems and if protecting the environment is a necessity for people, the way to transform these ideas into public policies at the state level is to educate and raise awareness among the masses and establish a functioning legal framework. The mechanism is reciprocal. Education raises public awareness and creates environmental concern, and public awareness puts pressure on government to form pro-environment public policies including education of people to create environmental concern in return.

Education plays a crucial role in shaping environmental awareness and concern, especially in high-income countries, countries where freedom is embraced, democracy is better practiced, and human development is high. However, the Turkish sample suggests that the existing education system may not systematically cultivate environmental awareness, as there was no statistically significant relationship between education and pro-environmental views. Tuncer et al.'s (2005) study of 1497 lower secondary and upper secondary level students in Ankara demonstrates that young people have environmental awareness. However, students enrolled in private schools exhibit significantly higher environmental awareness than their peers attending public schools. The limited scope of environmental education in Turkey is understandable, given the predominance of state investment in educational institutions. In September 2023, out of the total 75,019 formal education institutions in Turkey, 14,281 are private schools, which account for only 19% of the total. Meanwhile, 60,734 public schools make up 80.1% of the total formal education institutions (Ministry of National Education, 2023). No statistically significant relationship between education and environmental prioritization is found for Turkey. This might be due to the limited scope of environmental education in public schools.

Economic conditions are important factors in shaping people's opinions about environmental protection. Rather than macroeconomic indicators such as high or low growth rates or GDP levels, people are more concerned about wage fluctuations, job insecurity and unemployment. Indeed, when unemployment rises, people tend to be less concerned about protecting the environment and give it a lower priority (Kenny, 2020). That is, not all economic problems, but economic problems that directly affect their daily lives, are of primary concern to people. Therefore, problems with long-term consequences, such as climate change and global warming, lose priority for people when they are confronted with economic issues that have an immediate impact on their routines. As the economic and financial burden of the crisis continues to mount, people prioritize their economic wellbeing over the environment. A decline in concern about climate change and its adverse effects in the Western world between 2008 and 2011 (Ratter et al., 2012), following the Great Recession of 2008, is a case in point. That is the reason why demographic characteristics, individual values, and societal values are the subject of this research. Although the question used for dependent variable includes economic growth as a macro-level, a personal touch is still there, that is condition of job scarcity. The positive coefficients for income, life satisfaction, post-materialism, trust in civil society, and the value attributed to democratic governance are indicators of how individuals prioritize their higher needs after ensuring their basic needs, economic and physical security as Inglehart (1971) suggests. The positive relationship between town size, which can be seen as an indicator of urbanization and modernization, and environmental prioritization is another indication of this. Furthermore, prioritizing the environment over the economy and taking measures to avoid environmental pollution have become a necessity rather than a luxury. This is especially important in the current context of accelerating global warming.

Empirical evidence suggests that religiosity is positively correlated with pro-environmental views. This finding reflects the unique characteristics of Turkey, including the effects of the stewardship understanding of Islam and the belief in the afterlife. Additionally, prioritizing economic growth over the environment is directly related to holding the view that the country is governed democratically and being on the right side of the political spectrum. However, in Turkey, nationalism is uniquely positively correlated with pro-environmental views. The concept of nationalism defined on the basis of citizenship identity serves as a unifying factor for both left-wing and right-wing political parties. Additionally, statist preferences in business and industry are positively associated with pro-environmental views.

In Turkey, as well as in other parts of the world, it is important to implement concise and clear environmental goals that are targeted and easily understandable. This will enable a large number of people to adopt these goals. While long-term goals are necessary, short-term goals are also important. Feedback can be used to refine and adjust these goals. To achieve these goals, civil society should be encouraged to participate in policymaking. Additionally, the private sector, particularly the manufacturing sector, needs to be involved. The prioritization of the economy in Turkey, especially by those with individualistic and more capitalist views, may be based on the belief that the interests of the private sector and the individuals may conflict with environmental protection. However, it is essential that employers unite in the view that a sustainable development approach is possible not only through environmental degradation but also through environmental improvement.

Civil society needs to be involved in the implementation of such solutions. However, for these policies to be widely embraced and for environmental awareness to flourish in Turkey, it is imperative that environmental education be made a priority in public schools. Only in this way can education have the transformative effect it has in developed countries. Education is crucial because today's young

cohorts will be the ones to transform society soon. It is essential to ensure job security and address material needs while prioritizing the environment over economic growth by focusing on higher, post-material needs. Effective environmental policies can be achieved through a democratic environment that supports public policies with education, that has a coherent legal structure entrenched with civil society and environmental organizations, and that builds strong and credible institutions. Private enterprises and civil society should have equal participation and influence with those from the public sector, ensuring a balanced approach to environmental policies.

References

Abramson, P. R., & Inglehart, R. (1995). *Value Change in Global Perspective.* Ann Arbor: The University of Michigan Press.

Aldrich, J. H., & Nelson, F. D. (1984). *Linear Probability, Logit, and Probit Models* (Vols. 07-045). Beverly Hills, California: Sage Publications.

Alp, E., Ertepinar, H., Tekkaya, C., & Yilmaz, A. (2008). A Survey on Turkish Elementary School Students' Environmental Friendly Behaviours and Associated Variables. *Environmental Education Research, 14*(2), 129-143. doi:10.1080/13504620802051747

Bentley, J. H. (2013). Environmental Crises in World History. *Procedia - Social and Behavioral Sciences, 77*, 108-115. doi:10.1016/j.sbspro.2013.03.067

Berberoglu, G., & Tosunoglu, C. (1995). Exploratory and Confirmatory Factor Analyses of an Environmental Attitude Scale (EAS) for Turkish University Students. *The Journal of Environmental Education, 26*(3), 40-43. doi:10.1080/00958964.1995.9941444

Birch, S. (2020). Political Polarization and Environmental Attitudes: A Cross-National Analysis. *Environmental Politics, 29(*4), 697-718. doi:10.1080/09644016.2019.1673997

Booth, D. E. (2017). Postmaterialism and Support for the Environment in the United States. *Society & Natural Resources, 30(*11), 1404-1420. doi:10.1080/08941920.2017.1295501

Braudel, F. (1983). *Civilization and Capitalism 15th-18th century Volume II: The Wheels of Commerce*. London: Book Club Associates.

Braudel, F. (1985). *Civilization and Capitalism 15th-18th Century Volume I: The Structures of Everyday Life.* London: William Collins Sons & Co Ltd.

Čábelková, I., Smutka, L., Mareš, D., Ortikov, A., & Kontsevaya, S. (2023). Environmental Protection or Economic Growth? The Effects of Preferences for Individual Freedoms. *Frontiers in Environmental Science, 11*, 1129236. doi:10.3389/fenvs.2023.1129236

Chin, Y., De Pretto, L., Thuppil, V., & Ashfold, M. J. (2019). Public Awareness and Support for Environmental Protection—A Focus on Air Pollution in Peninsular Malaysia. *PLoS ONE, 14*(3), e0212206. doi:10.1371/journal.pone.0212206

Clapp, B. W. (2013). An Environmental History of Britain Since the Industrial Revolution. Abingdon, Oxon: *Routledge*. doi:10.4324/9781315843827

Çolak, E., & Sunar, F. (2020). Evaluation of Forest Fire Risk in the Mediterranean Turkish Forests: A Case study of Menderes Region, İzmir. *International Journal of Disaster Risk Reduction, 45*, 101479. doi:10.1016/j.ijdrr.2020.101479

Crippa, M., Guizzardi, D., Pagani, F.; Banja, M., Muntean, M., E., Schaaf, Becker, W., Monforti-Ferrario, F., Quadrelli, R., Risquez Martin, A., Taghavi-Moharamli, P., Köykkä, J., Grassi, G., Rossi, S., Brandao De Melo, J., Oom, D., Branco, A., San-Miguel, J., Vignati, E. (2023). GHG Emissions of All World Countries – JRC/IEA 2023 Report. Luxembourg: Publications Office of the European Union. doi:10.2760/953332, JRC134504

De Pretto, L., Acreman, S., Ashfold, M. J., Mohankumar, S. K., & Campos-Arceiz, A. (2015). The Link between Knowledge, Attitudes and Practices in Relation to Atmospheric Haze Pollution in Peninsular Malaysia. PLoS ONE, 10(12), e0143655. doi:10.1371/journal.pone.0143655

DeCanio, S. J. (1997). Economic Modeling and the False Tradeoff between Environmental Protection and Economic Growth. *Contemporary Economic Policy, 15*(4), 1-122. doi:10.1111/j.1465-7287.1997.tb00485.x

Demaris, A. (1992). *Logit modeling: Practical applications* (Vols. 07-086). Newbury Park, California: Sage Publications.

Drews, S., & van den Bergh, J. C. (2016). Public Views on Economic Growth, The Environment and Prosperity: Results of a Questionnaire Survey. *Global Environmental Change, 39*, 1-14. doi:10.1016/j.gloenvcha.2016.04.001

Dunlap, R. E., Scarce, & Rik. (1991). Poll Trends: Environmental Problems and Protection. *The Public Opinion Quarterly, 55*(4), 651-672.

Dunlap, R. E., & Jones, R. E. (2002). Environmental Concern: Conceptual and Measurement Issues. In R. E. Dunlap, & W. Michelson (Eds.), *Handbook of Environmental Sociology* (pp. 482-524). Westport CN: Greenwood Press.

Dunlap, R. E., & McCright, A. M. (2008). A Widening Gap: Republican and Democratic Views. *Environment: Science and Policy for Sustainable, 50(*5), 26-35. doi:10.3200/ENVT.50.5.26-35

Dunlap, R. E., & York, R. (2008). The Globalization of Environmental Concern and The Limits of The Postmaterialist Values Explanation: Evidence from Four Multinational Surveys. *The Sociological Quarterly, 49*(3), 529-563. doi:10.1111/j.1533-8525.2008.00127.x

Economist Intelligence Unit. (2023). Democracy Index 2022: Frontline Democracy and the Battle for Ukraine. Economist Intelligence Unit. (Retrieved: June 01, 2023), https://www.eiu.com/n/campaigns/democracy-index-2022/

Egan, P. J., & Mullin, M. (2017). Climate Change: US Public Opinion. *Annual Review of Political Science, 20*, 209-227. doi:10.1146/annurev-polisci-051215-022857

Egondi, T., Kyobutungi, C., Ng, N., Muindi, K., Oti, S., Vijver, S. V., Ettarh, R., Rocklöv, J. (2013). Community Perceptions of Air Pollution and Related Health Risks in Nairobi Slums. *International Journal of Environmental Research and Public Health, 10*(10), 4851-4868. doi:10.3390/ijerph10104851

Ekins, P. (2000). *Economic Growth and Environmental Sustainability: The Prospects for Green Growth.* London: Routledge.

Eom, K., Tok, T. Q., Saad, C. S., & Kim, H. S. (2021). Religion, Environmental Guilt, and Pro-Environmental Support: The Opposing Pathways of Stewardship Belief and Belief in a Controlling God. *Journal of Environmental Psychology, 78*, 101717. doi:10.1016/j.jenvp.2021.101717

Feiock, R. C., & Stream, C. (2001). Environmental Protection Versus Economic Development: A False Trade-Off? *Public Administration Review*, 259-382. doi:10.1111/0033-3352.00032open_in_new

Franzen, A. (2003). Environmental Attitudes in International Comparison: An Analysis of the ISSP Surveys 1993 and 2000. *Social Science Quarterly, 84*(2), 297-308. doi:10.1111/1540-6237.8402005

Franzen, A., & Meyer, R. (2010). Environmental Attitudes in Cross-National Perspective: A Multilevel Analysis of the ISSP 1993 and 2000. *European Sociological Review, 26*(2), 219-234. doi:10.1093/esr/jcp018

Freedom House. (2023). Freedom in the World 2023: Marking 50 Years in the Struggle for Democracy. Freedom House. (Retrieved: June 05, 2023), https://freedomhouse.org/report/freedom-world/2023/marking-50-years

Gelissen, J. (2007). Explaining Popular Support for Environmental Protection: A Multilevel Analysis of 50 Nations. *Environment and Behavior, 39*(3), 392-415. doi:10.1177/0013916506292014

Gifford, R., & Nilsson, A. (2014). Personal and Social Factors that Influence Pro-Environmental Concern and Behaviour: A Review. *International Journal of Psychology, 49(*3), 141-157. doi:10.1002/ijop.12034

Grossman, G. M., & Krueger, A. B. (1995). Economic Growth and the Environment. *The Quarterly Journal of Economics, 110(*2), 353-377. doi:10.2307/2118443

Guber, D. L. (2013). A Cooling Climate for Change? Party Polarization and the Politics of Global Warming. *American Behavioral Scientist, 57*(1), 93-115. doi:10.1177/0002764212463361

Guiso, L., Sapienza, P., & Zingales, L. (2003). People's Opium? Religion and Economic Attitudes. *Journal of Monetary Economics, 50*(1), 225-282. doi:10.1016/S0304-3932(02)00202-7

Gwartney, J., Lawson, R., Hall, J., & Murphy, R. (2021). Economic Freedom of the World: 2021 Annual Report. Fraser Institute. (Retrieved: July 10, 2023), https://www.fraserinstitute.org/sites/default/files/economic-freedom-of-the-world-2021.pdf

Hamilton, L. C. (2011). Education, Politics and Opinions about Climate Change Evidence for Interaction Effects. *Climatic Change, 104*(2), 231-242. doi:10.1007/s10584-010-9957-8

Harring, N., & Sohlberg, J. (2017). The Varying Effects of Left–Right Ideology on Support for the Environment: Evidence from A Swedish Survey Experiment. *Environmental Politics, 26*(2), 278-300. doi:10.1080/09644016.2016.1244965

Hope, A. L., & Jones, C. R. (2014). The Impact of Religious Faith on Attitudes to Environmental Issues and Carbon Capture and Storage (CCS) Technologies: A Mixed Methods Study. *Technology in Society, 38*, 48-59. doi:10.1016/j.techsoc.2014.02.003

Hughes, J. D. (2011). Ancient Deforestation Revisited. *Journal of the History of Biology*, 43-57. doi:10.1007/s10739-010-9247-3

Inglehart, R. (1971). The Silent Revolution in Europe: Intergenerational Change in Post-Industrial Societies. *American Political Science Review, 65(*4), 991-1017. doi:10.2307/1953494

Inglehart, R. (1988). The Renaissance of Political Culture. *American Political Science Review, 82*(4), 1203-1230. doi:10.2307/1961756

Inglehart, R. (1990). *Culture Shift in Advanced Industrial Society.* Princeton, NJ: Princeton University Press.

Inglehart, R. (1995). Public Support for Environmental Protection: Objective Problems and Subjective Values in 43 Societies. PS*: Political Science & Politics, 28(*1), 57-72. doi:10.2307/420583

Inglehart, R., & Abramson, P. R. (1999). Measuring Postmaterialism. *American Political Science Review, 93*(3), 665-677. doi:10.2307/2585581

Inglehart, R. F. (2008). Changing Values among Western

Publics from 1970 to 2006. *West European Politics, 31*(1-2), 130-146. doi:10.1080/01402380701834747

Inglehart, R., & Abramson, P. R. (1994). Economic Security and Value Change. *American Political Science Review, 88(*2), 336-354. doi:10.2307/2944708

Inglehart, R., Haerpfer, C., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., Lagos, M., Norris, P., Ponarin, E., Puranen, B. (Eds.). (2022). *World Values Survey: All Rounds - Country-Pooled Datafile Dataset Version 3.0.0*. Madrid, Spain & Vienna, Austria. doi:10.14281/18241.17

Johnson, T. M., & Grim, B. J. (2023). World Religion Database. (T. M. Johnson, & B. J. Grim, Eds.) Leiden/Boston. (Retrieved: 30.05.2023), World Religion Database: https://www.worldreligiondatabase.org/

Jost, J. T., & van der Toorn, J. (2012). System Justification Theory. In P. A. Van Lange, A. W. Kruglanski, E. T. Higgins, P. A. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of Theories of Social Psychology: Volume Two* (pp. 313-343). London: Sage Publications.

Jost, J. T., Hawkins, C. B., Nosek, B. A., Hennes, E. P., Stern, C., Gosling, S. D., & Graham, J. (2014). Belief in a Just God (and a Just Society): A System Justification Perspective on Religious Ideology. *Journal of Theoretical and Philosophical Psychology, 34(*1), 56-81. doi:10.1037/a0033220

Jost, J. T., Ledgerwood, A., & Hardin, C. D. (2007). Shared Reality, System Justification, and the Relational Basis of Ideological Beliefs. *Social and Personality Psychology Compass, 2(*1), 171-186. doi:10.1111/j.1751-9004.2007.00056.x

Kajsa, E., Johansson, H., & Wennerhag, M. (2020). Frame Disputes or Frame Consensus? "Environment" or "Welfare" First Amongst Climate Strike Protesters. *Sustainability, 12*(3), 882. doi:10.3390/su12030882

Kanagy, C. L., & Willits, F. K. (1993). A "Greening" of Religion? Some Evidence from a Pennsylvania Sample. *Social Science Quarterly, 74*(3), 674-683.

Kaplowitz, M. D., Lupi, F., Yeboah, F. K., & Thorp, L. G. (2011). Exploring the Middle Ground between Environmental Protection and Economic Growth. *Public Understanding of Science, 22(*4), 413-426. doi:10.1177/0963662511424545

Kenny, J. (2020). Economic Conditions and Support for the Prioritisation of Environmental Protection During the Great Recession. *Environmental Politics, 29*(6), 937-958. doi:10.1080/09644016.2019.1680074

Kim, H.-S., & Lee, Y. (2018). Acceptable Tradeoffs between Economic Growth and Environmental Protection. Working Paper. (Retrieved: July 01, 2023), https://globalgovernanceprogramme.eui.eu/wp-content/uploads/2019/09/Acceptable-Tradeoffs-between-Economic-Growth-and-Environmental-Protection.pdf

Klineberg, S. L., McKeever, M., & Rothenbach, B. (1998). Demographic Predictors of Environmental Concern: It Does Make a Difference How It's Measured. *Social Science Quarterly, 79*(4), 734-753.

Kvaløy, B., Finseraas, H., & Listhaug, O. (2012). The Publics' Concern for Global Warming: A Cross-National Study of 47 Countries. *Journal of Peace Research, 49*(1), 11-22. doi:10.1177/0022343311425841

Lewis, G. B., Palm, R., & Feng, B. (2019). Cross-National Variation in Determinants of Climate Change Concern. *Environmental Politics, 28*(5), 793-821. doi:10.1080/09644016.2018.1512261

Maddison, A. (2001). *The World Economy.* Paris: OECD Publishing. doi:10.1787/9789264189980-en.

Marquart-Pyatt, S. T. (2012). Contextual Influences on Environmental Concerns Cross-Nationally: *A Multilevel Investigation. 41(*5), 1085-1099. doi:10.1016/j.ssresearch.2012.04.003

McCright, A. M., & Dunlap, R. E. (2011). The Politicization of Climate Change and Polarization in the American Public's Views of Global Warming, 2001–2010. *The Sociological Quarterly, 52*(2), 155-194. doi:10.1111/j.1533-8525.2011.01198.x

McNeill, J. R. (2001). *Something New Under the Sun: An Environmental History of the Twentieth-Century World.* New York, NY: WW Norton & Company.

Menard, S. (2002). *Applied Logistic Regression Analysis* (Vols. 07-106). Thousand Oaks, California: Sage Publications.

Ministry of National Education. (2023). National Education Statistics: Formal Education 2022/'23. Ankara: Ministry of National Education Strategy Development Presidency. (Retrieved January 01, 2024), https://sgb.meb.gov.tr/www/icerik_goruntule.php?KNO=508

Nadeau, R., Lachapelle, E., & Bergeron, T. (2022). Environment versus Economy Policy Preferences: Follow-up Questions Reveal Substantial Heterogeneity within the Environmental Coalition. *International Journal of Public Opinion Research, 34*(4), 1-8. doi:10.1093/ijpor/edac031

Neumayer, E. (2004). The Environment, Left-Wing Political Orientation and Ecological Economics. *Ecological Economics, 51*(3-4), 167-175. doi:10.1016/j.ecolecon.2004.06.006

Pampel, F. C. (2000). *Logistic Regression: A Primer* (Vols. 07-132). Thousand Oaks, California: Sage Publications.

Qian, X., Xu, G., Li, L., Shen, Y., He, T., Liang, Y., Yang, Z., Zhou, W. W., Xu, J. (2016). Knowledge and perceptions of air pollution in Ningbo, China. BMC *Public Health, 16,* 1-7. doi:10.1186/s12889-016-3788-0

Ratter, B. M., Philipp, K. H., & von Storch, H. (2012). Between Hype and Decline: Recent Trends in Public Perception of Climate Change. *Environmental Science & Policy, 18,* 3-8. doi:10.1016/j.envsci.2011.12.007

Rotko, T., Oglesby, L., Künzli, N., Carrer, P., Nieuwenhuijsen, M. J., & Jantunen, M. (2002). Determinants of Perceived Air Pollution Annoyance and Association Between Annoyance Scores and Air Pollution (PM2.5, NO2) Concentrations in the European EXPOLIS Study. *Atmospheric Environment, 36*(29), 4593-4602. doi:10.1016/S1352-2310(02)00465-X

Runnels, C. N. (1995). Environmental Degradation in Ancient Greece. *Scientific American, 272*(3), 96-99.

Saniotis, A. (2012). Muslims and Ecology: Fostering Islamic Environmental Ethics. *Contemporary Islam, 6(*2), 155-171. doi:10.1007/s11562-011-0173-8

Semenza, J. C., Wilson, D. J., Parra, J., Bontempo, B. D., Hart, M., Sailor, D. J., & George, L. A. (2008). Public Perception and Behavior Change in Relationship to Hot Weather and Air Pollution. *Environmental Research, 107(*3), 401-411. doi:10.1016/j.envres.2008.03.005

Stokes, L. C. (2015). Electoral Backlash against Climate Policy: A Natural Experiment on Retrospective Voting and Local Resistance to Public Policy. *American Journal of Political Science, 60(*4), 958-974. doi:10.1111/ajps.12220

Sudarmadi, S., Suzuki, S., Kawada, T., Netti, H., Soemantri, S., & Tugaswati , A. T. (2001). A Survey of Perception, Knowledge, Awareness, and attitude in Regard to Environmental Problems in a Sample of two Different Social Groups in Jakarta, Indonesia. *Environment, Development and Sustainability, 3(*2), 169-183. doi:10.1023/A:1011633729185

Taskin, O. (2009). The Environmental Attitudes of Turkish Senior High School Students in The Context of Postmaterialism and the New Environmental Paradigm. *International Journal of Science Education, 31*(4), 481-502. doi:10.1080/09500690701691689

The ARDA. (2023). National/Regional Profiles. Retrieved May 30, 2023, from The Association of Religion Data Archives: https://www.thearda.com/world-religion/national-profiles

The World Bank. (2023a). GDP (current US$). Retrieved 07 15, 2023, from World Bank Open Data: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD

The World Bank. (2023b). Population, total. Retrieved 07 10, 2023, from World Bank Open Data: https://data.worldbank.org/indicator/SP.POP.TOTL?view=chart

The World Bank. (2023c). GDP (constant 2015 US$). (Retrieved: July 10, 2023), DataBank: https://data.worldbank.org/indicator/NY.GDP.MKTP.KD

The World Bank. (2023d). GNI per capita, Atlas method (current US$). (Retrieved: June 01, 2023), DataBank: https://data.worldbank.org/indicator/NY.GNP.PCAP.CD

Tranter, B. (2011). Political Divisions over Climate Change and Environmental Issues in Australia. *Environmental Politics, 20*(1), 78-96. doi:10.1080/09644016.2011.538167

Tuncer, G. (2008). University Students' Perception on Sustainable Development: A Case Study from Turkey. *International Research in Geographical and Environmental Education, 17*(3), 212-226. doi:10.1080/10382040802168297

Tuncer, G., Ertepinar, H., Tekkaya, C., & Sungur, S. (2005). Environmental Attitudes of Young People in Turkey: Effects of School Type and Gender. *Environmental Education Research, 11*(2), 215-233. doi:10.1080/1350462042000338379

UNDP. (2022). Human Development Report 2021/2022: Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World. New York, NY: United Nations Development Programme. (Retrieved: July 01, 2023), https://hdr.undp.org/system/files/documents/global-report-document/hdr2021-22pdf_1.pdf

Van Liere, K. D., & Dunlap, R. E. (1980). The Social Bases of Environmental Concern: A Review of Hypotheses, Explanations and Empirical Evidence. *Public Opinion Quarterly, 44(*2), 181-197. doi:10.1086/268583

Wang, R., Yang, Y., Chen, R., Kan, H., Wu, J., Wang, K., . .Lu, Y. (2015). Knowledge, Attitudes, and Practices (KAP) of the Relationship between Air Pollution and Children's Respiratory Health in Shanghai, China. *International Journal of Environmental Research and Public Health, 12*(2), 1834-1848. doi:10.3390/ijerph120201834

Willcox, G. H. (1974). A History of Deforestation as Indicated by Charcoal Analysis of Four Sites in Eastern Anatolia. *Anatolian Studies, 24,* 117-133. doi:10.2307/3642603

Wong, T. K., & Wan, P. (2011). Perceptions and Determinants of Environmental Concern: The Case of Hong Kong and Its Implications for Sustainable Development. *Sustainable Development, 19(*4), 235-249. doi:10.1002/sd.429

World Values Survey Association. (2018). World Values Survey Wave 7 (2017-2020) Turkey v3.0. (Retrieved

January 15, 2023), World Values Survey: https://www.worldvaluessurvey.org/WVSDocumentationWV7.jsp

Yilmaz, O., Boone, W. J., & Andersen, H. O. (2004). Views of Elementary and Middle School Turkish Students Toward Environmental Issues. *International Journal of Science Education, 26*(12), 1527-1546. doi:10.1080/0950069042000177280

Zhao, C., Dong, X., & Dong, K. (2023). Renewable Energy, Carbon Emissions, and Economic Growth: The Comparison between EKC and RKC. (In): M. Shahbaz, D. B. Lorente, R. Sharma, M. Shahbaz, D. B. Lorente, & R. Sharma (Eds.), *Economic Growth and Environmental Quality in a Post-pandemic World: New Directions in the Econometrics of the Environmental Kuznets Curve* (pp. 81-106). Abingdon, Oxon: Routledge.