

Article

Religious Affiliation and Consumer Behavior toward Biodiversity Conservation in Europe

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Abstract: This study examines the relationship between religious affiliations and consumer behavior toward biodiversity conservation versus economic development. The data was collected from 27 countries in the European Union and the United Kingdom, which are particularly affected by biodiversity loss and have a diverse religious landscape. The researchers applied a cluster analysis to identify three segments: Uninformed, Conservationist, and Preservationist. The cluster membership of individuals was then predicted using a stepwise multinomial logistic regression based on ten socioeconomic indicators, including religious affiliation. Results showed that religious affiliation was the fourth most important socioeconomic factor in predicting European citizens' behaviors towards biodiversity. There was a significant relationship between religious affiliation and consumers' perceptions of the importance of biodiversity conservation, with agnostics, non-believers, and atheists being more likely to hold conservationist views and Christians, Orthodox, Catholics, and Muslims being the most prominent segments of the Preservationist. These findings provide insights into the potential role of Social Marketing in promoting pro-biodiversity attitudes and behaviors.

Keywords: religion; biodiversity; economic development; marketing



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1. Introduction

Biodiversity refers to the variety of life on Earth, including the different species, ecosystems, and genetic variation within those species. It is a vital aspect of the planet's functioning, providing essential services such as pollination, soil formation, and climate regulation. The loss of biodiversity is a primary concern for scientists and environmentalists, as it can have severe consequences for human society and the planet as a whole (Cardinale et al. 2012; London School of Economics and Political Science 2022). The 2019 Global Assessment Report on Biodiversity and Ecosystem Services published by the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES 2022) shows that at least one million species face extinction within decades unless urgent action is taken to stop and reverse the trend. The report states that biodiversity is declining faster than ever in human history and that societal values and behaviors underpin both direct and indirect drivers of these changes.

On the other hand, religion is a complex and multifaceted aspect of human culture, encompassing a wide range of beliefs, practices, and institutions that are associated with spiritual experiences and are influential in shaping human behavior towards the natural environment. Despite their apparent differences, however, biodiversity and religion can be related in several ways (Berkes 2013; Mikusiński et al. 2014).

One way they intersect is through the concept of stewardship (Dudley et al. 2009). Many religious traditions heavily emphasize the idea that humans are responsible for caring for and protecting the natural world. In the Judeo-Christian tradition, for example, the story of Adam and Eve in the book of Genesis describes how God placed them in

the Garden of Eden and charged them with cultivating and keeping it. Similarly, many indigenous cultures revere the natural world and view themselves as caretakers of the land. This sense of stewardship can extend to protecting biodiversity, as the health and well-being of the natural world are intimately connected to the well-being of human societies.

Another way in which religion and biodiversity intersect is through the concept of sacredness (Khan et al. 2008). Many religious traditions view some aspects of the natural world, such as mountains, rivers, and groves of trees, as sacred or holy. In many cases, these sacred spaces also happen to be biodiversity hotspots, harboring a high diversity of plant and animal life. In these cases, protecting biodiversity can also be seen as a way of protecting and preserving the sacred.

In addition to the positive relationship between biodiversity and religion, there can also be negative interactions. For example, certain religious beliefs can lead to practices that are harmful to biodiversity (Padhy 2018). Moreover, some religious traditions hold that certain species are “pests” or “vermin” and therefore believe in their elimination (Fraser 2006). Additionally, certain religious rituals may be performed in natural areas that disrupt or destroy the surrounding ecosystem (Smith 2011).

On the other hand, many religious communities are actively working to promote biodiversity conservation. For instance, many religious groups are involved in environmental advocacy and education (Bhagwat et al. 2011; Palmer and Finlay 2003), and some religious leaders have even taken an active role in conservation efforts (McLeod and Palmer 2015). Some Buddhist communities, among others, have established nature reserves to protect essential biodiversity areas (Jackson 1993).

Religion is a powerful force that shapes individuals’ values, beliefs, and attitudes, which can influence their decisions as consumers and citizens (Essoo and Dibb 2004; Agarwala et al. 2019; Delener 1994). The relationship between religion and environmental behavior has been a subject of much debate and discussion recently, with scholars and activists exploring how various forms of religious and spiritual belief can affect our relationship with the natural world (Ellingson 2016). Taylor (2009) argues that religion and environmental behavior are closely intertwined and that understanding this relationship is essential for creating a more sustainable future. The author acknowledges that different religions and spiritual traditions can have both positive and negative impacts on the environment and that there is no one-size-fits-all approach to understanding this complex relationship. Hence, religions have multiple interpretations and ways of engaging with the environment and thus cannot be categorized in a binary pro- or anti-environmental manner.

One example of a religion that has been associated with environmental degradation is Christianity. Some forms of Christianity have been criticized for promoting the belief that humans have dominion over the earth and are entitled to exploit its resources (White 1967). This perspective can lead to the exploitation and destruction of natural habitats and contribute to issues such as climate change and biodiversity loss (Taylor 1991).

However, Taylor (2009) notes that there are also Christian groups that are actively engaged in environmental activism and stewardship. For example, some Christian organizations have called for greater environmental protection and have advocated for policies that address climate change. These groups draw on Christian teachings such as stewardship and love of neighbor to support their environmental activism (Churches Together 2022).

Additionally, some Christian churches have incorporated environmental stewardship into their practices and rituals. For instance, some churches have implemented recycling programs, created community gardens, or organized educational events to raise awareness about environmental issues (Kidwell et al. 2018).

It is reasonable to assume that differences regarding biodiversity not only exist between different religious faiths but also within them. Like Christianity, some Islamic scholars argue that environmental protection is a religious duty; other interpretations may place greater emphasis on human needs and welfare (Bsoul et al. 2022). Furthermore, indigenous traditions and religions originating in Asia, especially Daoism and Buddhism, have been considered more ecologically friendly, but even within these traditions, there may be some

variations in beliefs and practices regarding biodiversity (Taylor 2020). Therefore, it is important to acknowledge the diversity within religious and cultural traditions when discussing their approaches to biodiversity conservation.

From the mid-to-late 1980s onward, there has been a growing involvement of religious leaders and organizations in the environmental movement, particularly in activities pertaining to climate change (Pew Research Center 2022). Popes and ecumenical patriarchs have been active in the environmental movement since then. In 1985, St. John Paul II linked environmentalism to the creation story in the Bible and the will of God (Pope John Paul II 1985), and in 1990 he warned about environmental threats (Pope John Paul II 1990). His successor, Benedict XVI, also took up the issue of environmentalism and discussed the meaning of God's command for humanity to have "dominion" over other creatures (Pope Benedict XVI 2010). Pope Francis has written an encyclical on climate change in which he states that climate change is one of the principal challenges facing humanity in our day (Pope Francis 2015). Environmentalism has also been a priority of Eastern Orthodox Christianity. In 1989, the ecumenical patriarch of Constantinople proclaimed September 1st as the day Orthodox Christians should pray for the planet (Patriarch Dimitrios 1989). His successor, Bartholomew, has become known as "the Green Patriarch" for his environmental efforts and has called polluting the air and water and causing changes to the earth's climate "sins." (Durante 2021). In the same vein, the Dalai Lama has spoken out about the importance of environmental conservation and has emphasized the interconnectedness of all living beings. In a 2015 speech, he stated, "The protection of nature and the environment is not just about ecology and preserving our planet; it is about safeguarding peace and preserving the life and well-being of all living beings." (Dalai Lama the 14th 2017) These are just a few examples of religious leaders who have taken steps to address environmental issues.

Although there is evidence of the greening of religion, particularly in statements by religious and political elites and efforts by individuals and groups within religious traditions, there is not much evidence that significant portions of religious individuals are following suit (Taylor 2019). Religious advocates for environmentalism are facing a significant challenge in the form of a modern ideology that treats money as sacred, views the pursuit of wealth as a divine right, sees economic growth as the means to achieve a utopian society, and relies on technology as a savior during difficult times (Taylor 2020). This ideology, often referred to as "the religion of the market," appears to be too powerful for green religions, whether they are focused on the human-centered light-green approach or the ecocentric dark-green approach (Foltz 2007). In highly industrialized societies where economic growth is a central tenet, there is little evidence to suggest that religion is playing a significant role in adapting to ecological concerns, regardless of the dominant economic system or religious beliefs.

Given the complexity and heterogeneity of religious beliefs and practices, it is essential to examine the relationship between religion and biodiversity attitudes at the individual level. While there are subsets within world religions that consider environmental protection a religious duty, the majority of religionists are not environmentally concerned, and some religious practices may even have negative environmental consequences (Taylor 1995). Therefore, it is important to understand how religion and biodiversity attitudes intersect for different individuals and segments within religious communities. By analyzing the varying attitudes and behaviors of individuals with different religious affiliations, we can gain a more nuanced understanding of the complex relationship between religion and biodiversity conservation. This approach can help identify potential barriers and opportunities for engaging different segments of religious communities in efforts to promote environmentally sustainable behaviors and attitudes. In turn, this could lead to more effective and targeted social marketing campaigns aimed at promoting biodiversity conservation and sustainable development.

In recent years, there has been growing interest in understanding the relationship between religion and consumer behavior from a marketing perspective (Mathras et al. 2016; Recio-Román et al. 2019; Benton 2016; Mottner and Ford 2010; Šmakova and Pilgrimienė

2021; Floren et al. 2020). Social marketing is the use of marketing principles and techniques to promote social causes, such as promoting sustainable behaviors. The goal of social marketing is to encourage individuals to adopt behaviors that will benefit both themselves and society as a whole. In the context of promoting biodiversity through religious affiliations, social marketing could be used to promote environmentally friendly behaviors and attitudes among religious communities. For example, campaigns could be designed to encourage religious leaders to incorporate environmental messages into their sermons or to encourage individual members to take actions to protect biodiversity, such as reducing their consumption of single-use plastics or participating in conservation efforts. However, while social marketing has been used in other areas to promote environmentally sustainable behaviors, such as reducing energy consumption or increasing recycling rates, it has not been widely used to promote biodiversity conservation through religious affiliations.

This article examines the relationship between religious affiliations and consumer behavior toward the biodiversity vs. economic development dilemma, focusing on the significance of religion as a socioeconomic predictor of consumer behavior toward biodiversity conservation. Additionally, we investigate the potential role of social marketing based on the insights obtained. Despite the increasing attention paid to the relationship between religion, nature, and biodiversity conservation in recent years (Bhagwat et al. 2011), the goal of our study is unique in that it focuses on an aspect of this relationship that has yet to be thoroughly examined. Previous research has explored how religion can influence people's perceptions and actions toward the environment and has investigated the role of religious institutions in protecting areas of spiritual or symbolic significance (Higgins-Zogib et al. 2010). However, our study aims to fill a gap in the existing literature by examining a specific aspect of this relationship that has not been previously studied. Our study is based on data collected from 27 countries in the European Union and the United Kingdom, which are particularly affected by biodiversity loss (European Environment Agency 2023), and have a diverse religious landscape (Hackett et al. 2012).

Religious affiliation can influence consumer knowledge, attitudes, and behaviors related to biodiversity conservation. Therefore, conservationists, private companies, governments, and other stakeholders must consider this when developing strategies for promoting biodiversity conservation and sustainable development across diverse communities. Failure to do so may result in ineffective or even counter-productive conservation efforts.

Conservationists may use religious teachings and practices to engage followers of different religions in conservation efforts. For example, they can use the concept of stewardship and responsibility for the natural world found in many religions to engage followers in conservation efforts. Alternatively, they can use the idea of the intrinsic value of living things in many faiths to promote conservation efforts and raise awareness about the importance of protecting biodiversity.

Moreover, conservationists can also tailor their communication and engagement strategies to be more effective with different religious communities. For instance, conservationists could use religious leaders and institutions as key stakeholders and partners in conservation efforts. Conservationists could also use religious symbols, rituals, and festivals to communicate conservation messages and engage different religious communities in conservation efforts.

Furthermore, conservationists could also use the idea of sacred natural areas, and the importance of preserving them, to engage followers of different religious faiths in conservation efforts.

For companies, incorporating religious teachings and principles into their sustainability efforts cannot only help to engage diverse communities, but it can also enhance the company's reputation and build trust with consumers. Companies can use religious teachings and symbols to communicate their sustainability efforts and engage employees, customers, and other stakeholders in conservation efforts. Companies can also collaborate with religious organizations and leaders to promote conservation and sustainable development.

For governments, understanding the role of religious affiliation in shaping attitudes towards biodiversity conservation can help to create more effective and inclusive conservation policies and practices. Governments can also use spiritual teachings and principles to engage diverse communities in conservation efforts through campaigns and education programs highlighting the importance of stewardship and responsibility for the natural world. Governments can partner with religious organizations and leaders to promote conservation and sustainable development.

In summary, incorporating religious teachings and principles into conservation and sustainable development efforts can be an effective way for conservationists, companies, governments, and other stakeholders to engage diverse communities and promote biodiversity protection. In addition, understanding the relationship between religious affiliation and attitudes toward biodiversity conservation can be used to create more effective and inclusive conservation policies and practices that engage diverse communities in biodiversity protection.

2. Hypotheses

All major religions have teachings and principles that promote the protection and conservation of biodiversity (Palmer and Finlay 2003; UNEP 2023). For example, many religions have teachings emphasizing the importance of stewardship and responsibility for the natural world and that all living things are created by a higher power and have intrinsic value. These teachings can be used to promote conservation efforts and raise awareness about the importance of protecting biodiversity (Dudley et al. 2009).

However, in reality, the attitudes and behaviors of followers of different religions towards biodiversity and conservation may vary. Research on how followers of different religions think about the various aspects of biodiversity is limited, but studies suggest that religious beliefs and practices may influence these perceptions (Negi 2005; Karanth et al. 2008; Grace and Sharp 2000). Therefore, we proposed the following hypothesis:

H1: *There is a significant relationship between religious affiliation and knowledge about biodiversity.*

In recent years, there has been growing concern about the impact of human activities on the environment, particularly in terms of the loss of biodiversity and the degradation of ecosystems (Cléménçon 2021). One of the major challenges in addressing these issues is the trade-off between economic development and environmental conservation (McShane et al. 2011). In this context, it is relevant to examine the role of religious affiliation in shaping attitudes and behaviors toward this dilemma.

Several studies have explored the relationship between religion and environmental attitudes, with varying results (Sherkat and Ellison 2007). For example, some research has found that religious affiliation is positively associated with environmental concern and pro-environmental behaviors (Felix et al. 2018; Hwang 2018), while other studies have found no significant or negative relationship between religion and environmental attitudes (Village 2020).

One possible explanation for these differing findings is that religious affiliation may be a proxy for other factors, such as cultural and political values, that are more directly related to environmental attitudes (Arbuckle 2017). For example, some religious traditions place a high value on stewardship of the environment, while others prioritize economic growth and development (Schultz et al. 2000).

In light of these differing results, further research is needed to explore the mechanisms underlying these differences. It is plausible to hypothesize that non-religious individuals, such as non-believers, agnostics, and atheists, may have different attitudes and behaviors toward the biodiversity vs. economic development dilemma compared to individuals who declare a religious affiliation. This hypothesis is supported by research suggesting that non-religious individuals are more likely to hold pro-environmental attitudes and engage in pro-environmental behaviors than religious individuals (Hope and Jones 2014; Arli et al. 2022).

H2: *Biodiversity attitudinal profiles differ among the different religious affiliations.*

H3: *Non-believers/agnostics/atheists are more likely to hold pro-environmental attitudes and engage in pro-environmental behaviors regarding the biodiversity vs. economic development dilemma than individuals who declare a religious affiliation.*

It is important to note that the relationship between religion and consumer behavior is complex. Other factors such as income, culture, education, and personal values may influence consumers' decision-making. Therefore, the analysis will control these variables to clarify the relationship between religious affiliation and the hypotheses mentioned above.

3. Data and Methodology

It is important to note that this study is secondary research that utilized data from the Eurobarometer 90.4 that was carried out between the 4th and the 20th of December 2018, at the request of the European Commission, Directorate-General for Communication, Media Monitoring and Eurobarometer Unit. The dataset was accessed through GESIS (Leibniz-Institute für Sozialwissenschaften). The Eurobarometer covers the population of the respective nationalities of the European Union member states, residents in each of the member states, and aged 15 years and over. The basic sample design applied in all states is a multi-stage, random (probability) one.

To segment European citizens' behavior towards biotechnology, we will use two questions from those collected in this survey. The first deals with the respondent's knowledge of biodiversity—"Have you ever heard of the term 'biodiversity'?"—with four response items—"1. You have heard of it and you know what it means; 2. You have heard of it but you do not know what it means; 3. You have never heard of it; 4. Don't Know". We recoded these four items in a binary variable taking the value 0 for items 2, 3 and 4 and labeled as "Don't know what biodiversity is", and taking the value 1 for item 1 and naming as "Know what biodiversity is". The second selected question seeks to know the interviewee's stance on the conflict between biodiversity and economic development—"Sometimes economic development results in damage or destruction of nature in protected areas such as Natura 2000 sites. Which of the following statements comes closest to your opinion?"—with four response items—"1. This is acceptable because economic development takes precedence; 2. This should be prohibited because these are our most important nature; 3. This is only acceptable for projects of major public interest and if the damage is fully compensated for (e.g., through restoration or mitigation measures) areas; 4. Don't know". Each of them is coded as binary. The religious faith of each interviewee is directly queried through a question—"Do you consider yourself to be...?"—with multiple response options—"1. Catholic; 2. Orthodox Christian; 3. Protestant; 4. Other Christian; 5. Jewish; 6. Muslim-Shia; 7. Muslim-Sunni; 8. Other Muslim; 9. Sikh; 10. Buddhist; 11. Hindu; 12. Atheist; 13. Non-believer/Agnostic; 14. Other; 15. Refusal (SPONTANEOUS); 16. Don't know". We collapsed all the Muslims' response options into one item—Muslims, the minority religions in Europe—Sikh, Buddhist, and Hindu—were added up to the item "Other", and the refusal to answer option was added up to the "Don't know" alternative. Other sociodemographic variables used were Country, Education, Social Class, Economic Difficulties felt by the interviewee, Life Satisfaction, Gender, Occupation, Political orientation, and Age. Table A1 (Appendix A), under the Total column, depicts detailed information about the item response options and their relevance in the sample.

We used a cluster segmentation approach to determine the presence of cross-European segments based on individuals' bio-diversity knowledge and economic development vs. diversity conflict positioning. We clustered the first two questions from the previous paragraph using the best method (hierarchical, K-Means, or PAM) based on three internal clustering validation measures (Connectivity, Dunn, and Silhouette). The optimal number of segments was selected based on compactness, separation, connectivity, and interpretability and were described and labeled. Then, we conducted a multinomial logistic regression to examine the relationship between declared religion and the biodiversity segments found,

including all other socioeconomic variables as predictors. A stepwise (forward) multinomial logistic regression was then performed to reduce the unexplained variance from the base model.

4. Results

For choosing the best clustering method, we used the package “clValid” from R (Brock et al. 2008). Hierarchical methods performed better than K-Means and PAM for the three internal measures of clustering validation (Connectivity, Dunn, and Silhouette). Considering the compactness, separation, connectivity, and interpretability, the three-cluster solution performed the best. Table 1 depicts the results of the hierarchical clustering approach (using the squared Euclidean distance and the Ward method).

Table 1. Biodiversity segments’ profile (number of cases).

Segments	Biodiversity Knowledge		Economy Is Superior		Prohibited		Compensated		Total
	Don’t Know	Know	No	Yes	No	Yes	No	Yes	
Preservationist	7596	4864	12,460	0	0	12,460	12,460	0	12,460
Uninformed	9228	671	8235	1664	9899	0	2679	7220	9899
Conservationists	0	5277	5277	0	5277	0	0	5277	5277
Total	16,824	10,812	25,972	1664	15,176	12,460	15,139	12,497	27,636

The characteristics of each of the found segments were:

1. Preservationists (45.1% of the sample). Their primary feature was that they all responded that economic development causing harm or destruction to nature should be banned. It is also remarkable that most (61%) declared not knowing what biodiversity was.
2. Uninformed (35.9% of the total sample). Nearly all of them stated that they were unaware of what biodiversity was (93.2%). They took a moderate stance because a large portion of members (72.9%) chose the option that stated economic development resulting in damage was only acceptable for major public interest projects and only if the damage was fully compensated.
3. Conservationists (19% of the sample). They all revealed an understanding of biodiversity and adopted an intermediate position in the conflict between economic development and biodiversity.

Two of the three segments identified in this study have received their names based on their beliefs and actions toward the protection of biodiversity in the face of economic development. The first segment, called “Preservationists”, is characterized by a strong belief in protecting biodiversity, and they are willing to go to great lengths to ensure its preservation, even if that means banning economic activities that cause harm to nature. The third segment, named “Conservationists”, takes a more moderate stance toward the issue. They acknowledge the importance of economic development, but they also understand the need to conserve biodiversity. They adopt an intermediate position that tries to balance economic development and biodiversity conservation. The names given to the two segments, Preservationists and Conservationists, are widely accepted and recognized in both academic and organizational settings. These terms have been used for decades to describe different attitudes toward biodiversity conservation and economic development (Minteer and Miller 2011; Norton 1986; National Geographic 2023). By naming the segments based on their beliefs and actions, the study aims to better understand their attitudes towards biodiversity and the role of economic development in its protection.

Once we had our biodiversity segments, we proceeded to answer if religious faith declared by individuals was related to them and what was the relative importance of this relationship compared with other socioeconomic indicators. As there were many predictors, we first selected the best variables to introduce in the model and in which order. In doing

so, we started with a model that only included the intercept (base model). Then we ran one separate model for each of the socioeconomic variables considered. Table 2 in the column ‘Individual’ depicted the results. First, we saw the unexplained variance reduction from the base model in -2 Log Likelihood terms. The next column, p , showed the statistical significance (<0.05 to be considered). Results were ordered from maximum to minimum variance reduction. Religion had the fourth position for explaining the variability found in the biodiversity segments. Afterward, we run a stepwise (forward) multinomial logistic regression introducing at each step the socioeconomic variable in the order that resulted from the ‘Individual’ procedure. Table 2 in the column ‘Stepwise (forward)’ showed the results. All the socioeconomic variables included were statistically significant, reducing the -2 Log Likelihood by 3183.198 points. We used the ‘nnet’ library from R for these computations (Venables and Ripley 2002).

Table 2. Stepwise selection of biodiversity segments’ predictors.

Predictors	Individual		Stepwise (Forward)	
	Unexplained Variance Reduction from the Base Model	p	Unexplained Variance Reduction from the Base Model	p
Country	1744.636	0	1744.636	0
Education	1019.229	0	2588.744	0
Social Class	639.4204	0	2770.068	0
Religion	461.6466	0	2905.35	0
Economic Difficulties	312.1969	0	2961.739	0
Life Satisfaction	310.3848	0	3001.959	0
Gender	118.9246	0	3081.198	0
Occupation	97.2024	0	3102.561	0
Political Orientation	69.7458	<0.01	3130.824	0
Age	47.0744	<0.01	3179.823	0

Note: Base model residual deviance 45,362.93.

Table A2 (Appendix A) presents the multinomial logistic regression results in terms of odds. The Conservationist group was selected as the reference category for the biodiversity segments variable. The first predictor considered was Country, with Sweden as the reference category. Sweden had the highest percentage of Conservationists among all countries studied (10.3% of the total sample, refer to Table A1 in Appendix A). There were no significant differences in odds for having a low percentage of Uninformed compared to Sweden in Bulgaria, Croatia, France, Greece, Luxembourg, and Portugal. On the other hand, there were countries with significant differences and high odds (greater than 3), such as Austria, Czech Republic, Denmark, Estonia, Finland, Latvia, Poland, and Romania. Some countries, which were in the midway of the two other groups, had significant differences compared to Sweden, but with odds not as high (between 1 and 3), such as Belgium, Cyprus, Germany, Hungary, Ireland, Italy, Lithuania, Malta, Slovenia, Spain, The Netherlands, and the United Kingdom. Regarding Preservationist, we can observe in Table A2 (Appendix A) that there were no statistically significant differences between the situation shown by Sweden (low percentage level) and those of countries like Bulgaria, Germany, Greece, Luxembourg, The Netherlands, and the United Kingdom. In contrast, some countries exhibited significant disparities and high odds (above 3), such as Austria, Italy, Malta, Poland, and Slovakia. Certain countries located between the other two groups displayed substantial differences in comparison to Sweden, however, with probabilities not as elevated (ranging from 1 to 3) like Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Hungary, Ireland Lithuania, Latvia, Portugal, Romania, Slovenia, and Spain.

Education was related to the biodiversity segments. Greater education had significantly smaller odds of belonging to Uninformed or Preservationist segments. People with no full-time education had the highest odds of belonging to the Uninformed or the Preservationist when compared with the category that holds greater education—

20 years and older when they stopped full-time education. As we can observe in Table A2 (Appendix A), as the age at which the interviewee stopped full education was lower, the odds of belonging to the Uninformed and Preservationist were higher. Individuals who reported still studying did not show any significant differences in odds from the reference group across any identified segments.

Social Class, the third socioeconomic variable analyzed, also demonstrated a significant ability to predict the biodiversity segments (see Table A2 (Appendix A)). As individuals moved up the social ladder (the working class was the reference group), the odds of belonging to the Uninformed segment were lower than one and decreased. The same happened to the Preservationist group. Hence, the working class had the highest odds of belonging to these segments.

Religious faith was related to the biodiversity segments found. Taking the Non-Believer/Agnostic as the reference group, we see in Table A2 (Appendix A) that all the religious faiths analyzed, except Protestant and Other, had significantly greater odds of belonging to the Uninformed segment. The most salient group was Muslim, followed by Jewish and Christian faiths, except Protestant, with non-significant results. Atheists had 15.7% fewer odds than the Non-Believer/Agnostic to pertain to the Uninformed segment. This pattern repeated for the Preservationist segment, except that Jewish results were non-significant, and Other had significant results. In summary, religious affiliation is associated with a higher likelihood of being Uninformed or part of the Preservationist group.

An individual's economic standing was linked to their biodiversity cluster classification. Those who reported occasional bill payment issues had higher odds of belonging to the Uninformed segment. For the Preservationist segment, both categories obtained significantly higher odds of belonging to it. This indicates that as personal economic conditions deteriorate, the likelihood of belonging to the Preservationist and Uninformed segments increases.

Life satisfaction was also significant in determining an individual's classification into a biodiversity segment. As people were less satisfied with their lives, they had higher odds of belonging to the Uninformed or Preservationist when compared to people that were very satisfied with their lives.

Gender was significant for predicting biodiversity segment composition. Women had higher odds of belonging to the Uninformed and Preservationist segments.

The results showed that occupation did not have a significant effect as a predictor. A potential explanation is that the previous socioeconomic indicators introduced in the Stepwise (forward) analytical procedure for performing the multinomial logistic regression may play a more dominant role in determining the likelihood of being Uninformed or Preservationist, thus obscuring the effect of occupation. The only category that produced meaningful results was the Non-working group, which had higher odds of belonging to the Uninformed segment.

The study found that an individual's political orientation had an impact on their likelihood of belonging to the Uninformed segment, with those who were right-wing or centrist having higher odds than the left-oriented persons. On the other hand, people who were Preservationists did not show significant results.

Finally, age was inversely related to the likelihood of belonging to the Uninformed and the Preservationist segments: as the people grew older, the odds of belonging to these groups were lower than the reference group—people between 15 and 24 years old.

5. Discussion

The balance between conservation objectives and the economic consequences of achieving them is one of biodiversity management's most crucial challenges. Whether conservation targets should be socially acceptable from the start or based solely on the best available science and expert opinion is complex and requires careful consideration (Svancara et al. 2005).

On the one hand, incorporating social acceptability into conservation targets from the start ensures that conservation measures are more likely to be implemented successfully (Robinson 2006). This is because people are more likely to support and cooperate with measures they believe are in their best interest or at least not infringe too heavily on their rights and freedoms (McShane et al. 2011). On the other hand, by considering social acceptability early on in the conservation planning process, Conservationists can identify potential areas of conflict and work to find solutions that will satisfy the interests of all stakeholders (Gavin et al. 2018). This can help to avoid the kinds of conflicts and resistance that can arise when conservation targets are imposed without adequate consultation and engagement with affected communities.

On the other hand, there are also strong arguments for basing conservation targets solely on the best available science and expert opinion (Noss et al. 2012). This approach prioritizes ecological values and ensures that conservation targets are set with a clear understanding of the biological and environmental needs of the region or species in question. It also avoids the danger of setting targets too low to achieve meaningful conservation outcomes or that fail to address the most pressing threats facing a given ecosystem or species. By setting ambitious conservation targets based on the best available science and expert opinion, Preservationists can ensure they do everything possible to protect the natural world for future generations (Wilhere 2021).

However, even when preservation targets are based solely on scientific evidence and expert opinion, it is crucial to address practicality and social acceptability later in the planning process. This is because preservation measures that are not practically feasible or that lack social support are unlikely to succeed in the long term (Otero et al. 2020). For example, a conservation target that requires the relocation of entire communities or the cessation of traditional land use practices may be ecologically sound, but it is unlikely to be socially acceptable or practically feasible. By addressing these issues later in the planning process, Preservationists can work to find solutions that are both scientifically rigorous and socially acceptable.

Whether conservation targets should be socially acceptable from the start or based solely on the best available science and expert opinion is complicated. Both approaches have advantages and disadvantages, and there is no easy answer. Ultimately, the best process will likely be a hybrid one combining scientific research insights with the local community's needs and desires. By working together, conservationists and local communities can find scientifically sound and socially acceptable solutions, ensuring conservation efforts' long-term success (Edwards and Jenkins 2020; Conservation International 2023; Earth.Org 2021).

Religion can play a significant role in shaping the social acceptability of conservation measures. In many cultures, religious beliefs and values are closely tied to ideas of morality, ethics, and social norms. When religious leaders and organizations advocate for conservation measures, they can influence their followers' attitudes and behaviors toward environmental protection. However, the influence of religion on environmental issues is complex, and it is not always easy to predict the extent to which religious individuals will adopt pro-environmental behaviors. Since the late 1980s, religious organizations and leaders have been increasingly involved in environmental movements, particularly concerning climate change. While some religious and political elites have expressed support for green initiatives and certain groups within religious traditions have made efforts towards sustainability, there is little evidence to suggest that a significant number of religious individuals have adopted these practices, particularly in highly industrialized societies where economic growth is prioritized over environmental concerns. Despite the growth of the "greening of religion" movement, the influence of the "religion of the market" remains potent, making promoting eco-friendly beliefs and practices challenging.

Results from our investigation depicted a significant relationship between religious affiliation and consumers' perception of the importance of biodiversity conservation. Furthermore, Religion was the fourth most relevant socioeconomic factor for predicting the European citizens' behaviors toward biodiversity.

When compared with the Non-Believer/Agnostic group, all the religious faiths analyzed had significantly greater odds of belonging to the Uninformed or Preservationist segments. The odds would be even higher if the comparison were made with Atheist. Being a conservationist is often considered better than being an Uninformed or Preservationist because moderation promotes balance and consideration of all perspectives, which leads to more effective and sustainable conservation practices, as we have already seen previously. Uninformed conservationists may hold incorrect or incomplete views on conservation issues, leading to ineffective or harmful conservation efforts. Preservationists, on the other hand, may have extreme ideas that can lead to conflict with other stakeholders and can be challenging to implement (McShane et al. 2011). Based on these results, the third hypothesis (H3) is supported, as it suggests that individuals who identify as Agnostic, Non-believer, or Atheist are more likely to hold conservationist views, which are equivalent to having pro-environmental attitudes and engaging in pro-environmental behaviors.

Christian Orthodox, Catholics, and Muslims being the most prominent segments of the Preservationist can be attributed to several factors. One reason is the influence of traditional beliefs in these religions. Many members of these religious groups hold on to traditional values and firmly attach to their cultural and religious heritage, which can drive them to support preservationist policies and resist change. Environmental conservation can lead to resistance to new technologies, such as renewable energy sources (Pasqualetti 2011), and a preference for maintaining the status quo (Hope and Jones 2014; Feygina et al. 2010). Another factor is the emphasis on community and the interdependence of humans and nature in these religions. Many of these religions have a strong spiritual connection to the environment, which can lead individuals to a more preservation-oriented mindset (Glacken 1992). This perspective is particularly true for Christians Orthodox, who have a rich history of environmentalism, with some of the earliest environmental movements led by Eastern Orthodox communities (Glacken 1992; Negrov and Malov 2021). Finally, the role of religious leaders and institutions in shaping environmental attitudes is also a possible explaining factor. Religious leaders and institutions can play an influential role in shaping the beliefs and values of members, and in some cases, they can use their influence to promote environmental conservation (Arbuckle and Konisky 2015). This is particularly true for Catholicism, where Pope Francis strongly advocates for environmental protection and climate action (Diamant 2022). These results imply the attitudinal profiles toward biodiversity found differences among the different religious affiliations, supporting our second (H2) hypothesis.

Lack of knowledge about what biodiversity means is predominant across all of Europe—60.9% of the respondents to the Eurobarometer survey that we used answered that they did not know what biodiversity meant. It has to be a matter of concern for all the stakeholders connected to biodiversity. Individuals who follow a religion have higher odds of belonging to the Uninformed segment. It could be explained through the promotion of confirmation bias and resistance to new ideas and scientific advancements. Religion has always been a source of comfort and guidance for many individuals. Still, it can also contribute to the spread of misinformation, especially in a world where access to information is easier than ever. Religious beliefs and teachings often go against scientific findings and can create a filter bubble that limits exposure to diverse perspectives and knowledge. This can result in individuals accepting misinformation that aligns with their beliefs and spreading false information (Novak et al. 2022). Religious beliefs and teachings can also lead to resistance to new ideas and scientific advancements. In the context of environmental conservation, this can lead to a rejection of scientific evidence on topics such as climate change, which can promote false information (Zaleha and Szász 2015). In contrast, Atheists and Agnostics are less likely to be influenced by religious beliefs and institutions, which can lead to a more critical evaluation of information and a greater willingness to accept scientific evidence.

Protestants being the most uninformed group can be attributed to the diversity of beliefs within Protestantism, the influence of conservative political ideology, and the

emphasis on individual interpretations of religious texts. The diversity of beliefs within Protestantism can result in a wide range of interpretations and teachings. This diversity can lead to a lack of consensus on certain issues, such as climate change, and the spread of misinformation (Coakley 2009). The second factor is the influence of conservative political ideology on some Protestant denominations. Some Protestant groups have a strong conservative political orientation, which can lead to a rejection of scientific evidence on topics such as climate change (van Leeuwen 2019). Additionally, some Protestant groups strongly emphasize the individual interpretation of religious texts, which can result in a rejection of scientific evidence and greater promotion of disinformation. This emphasis on personal interpretation can also lead to a denial of the authority of religious institutions, which can result in a greater acceptance of false information that aligns with individual beliefs (Bartkowski 1996).

Individuals who did not belong to the main religions in Europe—labeled as Other—were the second most uninformed group. It can be attributed to several factors. One reason is the lack of representation and resources for these religious groups. In addition, these religions may not have a strong institutional presence or well-established religious leaders, resulting in limited dissemination of accurate information and a greater reliance on sources that may spread misinformation (Wright 1997). Another factor is the limited access to education and resources. Individuals who belong to smaller or less established religious groups may also have limited access to educational and informational resources (Cummins 2001). Additionally, these individuals may face more significant social and cultural barriers, limiting their exposure to diverse perspectives and accurate information (Yang and Ebaugh 2001).

Therefore, as we mentioned, our results support the first hypothesis (H1). There is a significant relationship between religious affiliation and knowledge about biodiversity, with individuals who follow a religion being more likely to be disinformed compared to Atheists and Agnostics. Our results also showed differences in the knowledge exhibited among different religious affiliations, with Protestants and individuals belonging to “Other” religions being the most uninformed.

The results also revealed a noteworthy observation: religion plays a significant role in determining the biodiversity profile of the interviewees, ranking fourth among all the socioeconomic indicators studied, following Country, Education, and Social Class. Religion is a crucial factor.

The literature indicates that there are significant variations across countries in terms of the impact of religious affiliation on perspectives regarding climate change issues (Tjernström and Tietenberg 2008). European countries exhibit diverse attitudes towards biodiversity that could be explained by a variety of reasons, including cultural, historical, political, and economic factors. Additionally, each country’s industrialization, urbanization, and socioeconomic development level can also impact its approach to biodiversity conservation. A country can serve as a general indicator of its citizens’ behavior toward biodiversity, as the policies and regulations of a government often influence the values and actions of its citizens (Seippel et al. 2012). However, individual beliefs, experiences, and socioeconomic factors can also significantly shape a person’s views on biodiversity conservation. Therefore, it is crucial to consider both country-level and individual-level factors when analyzing attitudes toward biodiversity (Johansson and Henningsson 2011).

The results showed a clear relationship between education and the biodiversity segments. Individuals with higher levels of education had significantly lower odds of belonging to the Uninformed or Preservationist segments. Education is a powerful tool for shaping an individual’s understanding of the world and can play a crucial role in promoting informed and balanced views on biodiversity conservation. Higher levels of education may provide individuals with a deeper understanding and appreciation for biodiversity and its importance, leading them to hold less uninformed or extreme views on the subject.

The study also showed that a person’s social class is related to their views on biodiversity. The higher a person’s social class, the less likely they are to hold uninformed or

extreme opinions. People in the working class were found to have the highest chance of having these types of views. However, as people move up the social ladder, their odds of having uninformed or extreme opinions decrease. One reason for this relationship could be access to education and information (Laidley 2013). Higher social class individuals are more likely to have access to resources and information that allow them to develop informed perspectives on environmental issues. They may have greater exposure to environmental science and conservation efforts, leading them to hold more moderate and informed views on biodiversity (Kemmelmeyer et al. 2002). On the other hand, individuals in lower social classes may have less access to environmental education and information, leading to a greater likelihood of holding uninformed or preservationist views on the issue (Kennedy and Givens 2019).

According to our research results, as personal economic conditions worsen, the odds of an individual belonging to the Preservationist and Uninformed segments also increase. The link between an individual's economic situation and their biodiversity cluster classification highlights the complex and interrelated nature of economic and environmental issues. This relationship raises essential questions about how economic factors impact people's perceptions and beliefs about environmental issues and their behavior and actions. One reason why economic difficulties may lead to an increased likelihood of belonging to the Preservationist or Uninformed segments is financial stress (Christie et al. 2012). Individuals struggling to pay their bills or make ends meet may have less time and energy to focus on environmental issues, leading to a decline in their knowledge and understanding of these issues. This can result in misinformation and misguided beliefs about conservation, often amplified by media and political rhetoric (Turpie 2003). Another reason is the lack of resources. Economically disadvantaged people may not have access to the same resources as those who are more financially stable. This could include access to environmental education and information and participation in environmental activities and organizations (Shumba et al. 2008). A lack of access to these resources may result in a lack of understanding and appreciation of environmental issues and an increased likelihood of subscribing to Preservationist or Uninformed views. Additionally, economic difficulties can also lead to a sense of powerlessness and frustration (Prawitz et al. 2013). Individuals struggling financially may feel they have little control over their own lives and the world around them. This can result in a desire to find someone or something to blame for their problems, and environmental issues may become a convenient target. In this context, preservationist or uninformed views may be seen as a way to assert control and make sense of a complex and challenging situation.

Life satisfaction also played a significant role in determining an individual's classification into a biodiversity segment. Research suggests that when people are less satisfied with their lives, they are more likely to belong to the Uninformed and Preservationist segments. Several factors can explain this phenomenon. Firstly, negative emotions such as stress, frustration, and anger can impact critical thinking and decision-making, leading to a higher likelihood of subscribing to preservationist or uninformed views (Weeks 2015). Secondly, life dissatisfaction can lead to a lack of purpose and direction, causing individuals to seek answers through more extreme ideas (Peterson et al. 2005). Additionally, stress can impact a person's mental and physical well-being, making it difficult to focus on environmental issues and make informed decisions (Young et al. 2019). Finally, negative emotions and stress can also lead to cognitive biases such as confirmation bias, which involves searching for and interpreting information to confirm existing beliefs, leading to an increased likelihood of subscribing to preservationist or uninformed views (Mathews et al. 1997).

Gender had a significant impact on predicting an individual's classification into a biodiversity segment. Research suggests that women are more likely to belong to the Uninformed and Preservationist segments. This phenomenon can be attributed to several reasons. Societal expectations and gender roles can limit women's exposure to environmental information and experiences, leading to a higher likelihood of subscribing to uninformed or preservationist views (Strapko et al. 2016). Women may also be underrepresented in

STEM fields, limiting their access to environmental information and influencing their thoughts on biodiversity (Cho et al. 2014). Additionally, women may have different life experiences and perspectives compared to men, which can impact their understanding of environmental issues and influence their views on biodiversity. Women's traditional roles as caretakers of families and communities may shape their views on environmental issues and make them more likely to prioritize issues such as water quality and air pollution that have a direct impact on their daily lives and the well-being of their families (Hunter et al. 2004).

The study found that one's occupation did not significantly influence cluster prediction. Other socioeconomic factors may have more influence. The only group that showed a significant result was non-working individuals, who were more likely to be uninformed. The non-working group may have unique characteristics that make them more susceptible to disinformation. For example, they may have more free time to consume media or be more isolated from diverse sources of information (Feuls et al. 2014).

The research found an association between an individual's political views and their likelihood of being uninformed. People with right-wing or centrist views had a higher probability of belonging to the Uninformed segment, whereas those Preservationist views showed no significant impact. Studies have indicated that people with right-wing or conservative views tend to be more likely to believe in misinformation, anti-scientific claims, and conspiracy theories compared to moderates and those on the political left (Enders and Uscinski 2021; Morosoli et al. 2022). The relationship between political orientation and attitudes toward environmental issues, including biodiversity conservation, has received some attention in the social science literature. However, this area of research is still in its early stages, and there is limited evidence on the specific relationship between political orientation and attitudes toward biodiversity. Further research is needed to understand better the relationship between political orientation and attitudes towards biodiversity and to determine the most effective ways to engage individuals with different political views in efforts to conserve biodiversity.

This study's findings also indicate that age may play a role in shaping individuals' attitudes toward biodiversity issues and that older individuals may be less likely to belong to the Uninformed or Preservationist segments. This may suggest that as people age, they become more knowledgeable and informed about environmental issues and may be more willing to engage in moderate and informed discussions about these issues. These findings align with prior studies that have discovered trim yet general relationships, suggesting that as people age, they are more apt to interact with nature, steer clear of environmental harm, and preserve raw materials and natural resources (Wiernik et al. 2013).

6. Conclusions

Biodiversity is an unknown concept among most European citizens. All stakeholders related to biodiversity must address the high percentage of people who say they are unaware of what the term biodiversity means (69% of the total sample). Fortunately, although they are unaware of its meaning, many have a moderate view of environmental conservation (35.9% of the total sample). Disinformation about the importance of biodiversity can lead to a lack of support for conservation efforts and a general lack of interest in preserving endangered species and ecosystems. Furthermore, biodiversity plays a crucial role in mitigating the effects of climate change, so disinformation about its importance can have far-reaching impacts on our ability to address this global challenge.

A second concern is the enormous relevance of the Preservationist (45.1% of the total sample) and the much lower importance of the Conservationist (19% of the total sample). It is crucial to find a balance between protecting biodiversity and ensuring that conservation efforts are carried out in a way that is socially and economically acceptable. This requires a nuanced approach that considers multiple perspectives and considers the issue's complexities. A significant number of conservationists can help promote this balance and facilitate the development of effective conservation strategies. However, a large portion

of the population holding polarized views on conservation can lead to a divided society, making it difficult to have constructive discussions and find common ground.

Religion was the fourth most important socioeconomic factor for predicting European citizens' behaviors toward biodiversity. When compared to the Non-Believer/Agnostic group, all of the analyzed religious faiths had higher odds of belonging to the Uninformed or Preservationist segments. These odds would be even higher if the comparison were made with Atheists. Christian Orthodox, Catholics, and Muslims were the most prominent segments of the Preservationist. Protestants were the most Uninformed religious faith. Therefore, despite the ideas of stewardship and sacredness being present in many religious traditions, it can lead to the spread of disinformation or extremist views among its followers. This issue presents a challenge for those trying to protect and conserve biodiversity. Our results support Taylor's stance on Christians when saying that many of them have pro-environmental attitudes, as many of them belong to the Preservationist segment (Taylor 2016).

When considering the results as a whole, a question may arise: how can individuals exhibit such strong pro-environmental and conservationist attitudes while the outcomes of various conservation policies implemented in Europe fall short of their intended goals? It could be partly explained by the fact that self-reported measures of environmental behavior may not always accurately reflect actual behavior. In other words, individuals may overestimate their own environmentally conscious actions or not translate their attitudes into real behavioral changes. This phenomenon has been observed in various studies and could explain why some conservation policies fail to achieve their intended objectives despite widespread support for environmental protection and conservationist values. Furthermore, other factors such as inadequate policy design or implementation, lack of resources, or stakeholder resistance may also contribute to the low success rate of European conservation policies. Therefore, it is essential to consider these factors and further explore the reasons behind the discrepancies between individual attitudes and collective outcomes in environmental conservation efforts.

The "religion of the market" (Taylor 2020) may also explain the mismatch between attitudes and behaviors. In modern Western society, the values and beliefs of capitalism and free-market ideology have become dominant, often at the expense of environmental concerns. The "religion of the market" prioritizes economic growth and material consumption above all else, resulting in resistance to pro-biodiversity behaviors that could impede economic development. Moreover, the "religion of the market" may promote individualism and self-interest, which can discourage collective action toward pro-biodiversity behaviors. Stakeholders may prioritize their own economic interests over the greater good of biodiversity conservation, leading to a lack of cooperation and coordination among actors. It is worth noting that even when individuals are directly asked about their willingness to trade-off biodiversity protection and economic development, as in our research, their real behaviors may remain hidden.

Furthermore, this hidden relationship between attitudes and behaviors could jeopardize the connection between biodiversity segments and religious affiliation. Suppose individuals are not behaving in line with their professed beliefs and values towards environmental conservation. In that case, it is possible that the association between religious affiliation and pro-biodiversity behaviors observed in the survey may not hold in practice. This emphasizes the need for more accurate measures of actual behavior, rather than relying solely on self-reported measures, to better understand the complex dynamics between religious affiliation, socio-economic factors, and pro-biodiversity behaviors.

If the trade-off between biodiversity protection and economic development is indeed at the heart of why conservation policy objectives are not being achieved, then it underscores the importance of designing effective social marketing campaigns that promote voluntary behavioral change toward biodiversity protection. Such campaigns could be designed to address the underlying values and beliefs that may be inhibiting pro-biodiversity behaviors, including the "religion of the market" and the individualistic values it promotes.

Social marketing can play an important role in promoting a balanced approach to conservation. The segmentation analysis results we reached could enable stakeholders to understand and target specific groups within the population, which can help increase the campaigns' impact and effectiveness. Factors such as location, education, social class, religion, financial struggles, life satisfaction, gender, political views, and age are major indicators of belonging to biodiversity groups and can be utilized as criteria for segmentation. Several strategies, such as awareness campaigns, behavioral change campaigns, partnership building, influencer marketing among religious leaders, and storytelling actions, can be implemented to address the issue of disinformation and extremist views among religious followers concerning biodiversity conservation.

Designing these social marketing campaigns to consider the stakeholders affected is essential. The first stakeholder is the religious community, which must be educated on the importance of biodiversity and its role in protecting it. This can be conducted through religious leaders, who can disseminate accurate information and promote conservation efforts within their communities. It is important to note that religious leaders and organizations are doing important work in raising awareness about the issue of biodiversity loss and promoting conservation efforts. However, there is still a gap in effectively reaching and educating their followers. This could be due to a lack of resources, limited access to information, or resistance to change among some followers. The problem of disinformation and extremist views among religious followers can be addressed through collaboration and education. By working together, religious leaders, environmental organizations, educational institutions, and local communities can help promote a conservation culture and ensure the long-term protection of biodiversity.

Another stakeholder is the government, which is responsible for promoting conservation efforts and protecting biodiversity. This can be conducted through policies and regulations that support conservation efforts and promote education on the importance of biodiversity. Additionally, governments can work with religious organizations to promote conservation efforts and reduce the spread of misinformation.

The media is another stakeholder that can play a significant role in addressing this issue. The media can educate the public on the importance of biodiversity and the role of religion in promoting conservation efforts. They can also promote accurate information and counter misinformation that is spread by religious groups.

Finally, environmental organizations and non-governmental organizations (NGOs) are key stakeholders in this issue. These organizations can work with religious communities and governments to promote conservation efforts and reduce the spread of misinformation. They can also provide education and training programs on biodiversity conservation and the role of religion in promoting conservation efforts.

Despite the growing recognition of religion's role in shaping attitudes and behaviors toward biodiversity conservation, there remains a paucity of research in this area, particularly regarding the potential for social marketing to address disinformation and extreme opinions among religious followers. Currently, very little empirical data has been collected on the relationship between religion and biodiversity conservation, making it challenging to draw definitive conclusions about the nature of this relationship. As a result, there is an urgent need for more research to be conducted in this area to provide evidence-based decision-making for conservation efforts and to explore the potential of social marketing as a tool for promoting conservation among religious followers. Further investigation is necessary to understand the underlying mechanisms behind the relationship between religion and conservation, including the extent to which religious beliefs and practices influence attitudes and behaviors and the factors that may contribute to the spread of misinformation or radicalization among religious followers. Such research can provide critical insights into how religion can be leveraged to promote conservation efforts and inform the development of effective strategies to protect biodiversity, including social marketing campaigns.

The limitations of this study should be taken into account. One of the main limitations is the reliance on predefined items from the Eurobarometer. However, Eurobarometer

surveys are suitable for research like the one performed because they offer several advantages that make them ideal for social science research. Firstly, they are large-scale surveys, meaning that they cover a large and representative sample of the population, which helps to ensure that the results are representative and statistically significant. Secondly, they are conducted by reputable international organizations, such as the European Commission, which gives the data high credibility and reliability. Thirdly, they use standardized sampling methods, which helps to reduce the risk of bias and ensure that the data is comparable across different countries and regions. Fourthly, the Eurobarometer surveys have a long history of being used for research on a wide range of social and political issues, making them a well-established and trusted source of data for researchers. Fifthly, self-reported measures of environmental behavior may not always accurately reflect actual behavior. Finally, one important limitation of this study is that the data used for analysis were collected exclusively from European countries, which may limit the generalizability of our conclusions to other regions and cultural contexts. Therefore, it is necessary to explicitly state that the conclusions drawn in this study apply specifically to the European audience, and caution should be exercised when extending the findings to other populations.

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Appendix A

Table A1. Sample characteristics (number of cases and percentage of total).

		CLUSTER						Total	
		Conservationist		Uninformed		Preservationist		N	%
		N	%	N	%	N	%		
Country	Austria	115	2.5%	290	4.0%	429	4.5%	834	3.9%
	Belgium	229	5.0%	310	4.2%	444	4.6%	983	4.6%
	Bulgaria	176	3.9%	159	2.2%	381	4.0%	716	3.3%
	Croatia	211	4.6%	212	2.9%	464	4.8%	887	4.1%
	Cyprus (Republic)	38	0.8%	77	1.0%	161	1.7%	276	1.3%
	Czech Republic	128	2.8%	360	4.9%	428	4.5%	916	4.3%
	Denmark	194	4.3%	466	6.4%	251	2.6%	911	4.2%
	Estonia	120	2.6%	291	4.0%	239	2.5%	650	3.0%
	Finland	175	3.8%	373	5.1%	345	3.6%	893	4.2%
	France	201	4.4%	167	2.3%	326	3.4%	694	3.2%
	Germany	354	7.8%	501	6.8%	477	5.0%	1332	6.2%
	Greece	144	3.2%	177	2.4%	447	4.7%	768	3.6%
	Hungary	146	3.2%	379	5.2%	392	4.1%	917	4.3%
	Ireland	181	4.0%	303	4.1%	324	3.4%	808	3.8%
	Italy	108	2.4%	175	2.4%	457	4.8%	740	3.4%

Table A1. Cont.

		CLUSTER						Total	
		Conservationist		Uninformed		Preservationist			
		N	%	N	%	N	%	N	%
Education	Latvia	84	1.8%	341	4.6%	223	2.3%	648	3.0%
	Lithuania	126	2.8%	233	3.2%	258	2.7%	617	2.9%
	Luxembourg	135	3.0%	74	1.0%	158	1.6%	367	1.7%
	Malta	35	0.8%	82	1.1%	201	2.1%	318	1.5%
	Poland	61	1.3%	300	4.1%	301	3.1%	662	3.1%
	Portugal	80	1.8%	148	2.0%	446	4.6%	674	3.1%
	Romania	87	1.9%	313	4.3%	318	3.3%	718	3.3%
	Slovakia	56	1.2%	250	3.4%	453	4.7%	759	3.5%
	Slovenia	167	3.7%	221	3.0%	295	3.1%	683	3.2%
	Spain	163	3.6%	267	3.6%	409	4.3%	839	3.9%
	Sweden	470	10.3%	193	2.6%	366	3.8%	1029	4.8%
	The Netherlands	353	7.8%	360	4.9%	271	2.8%	984	4.6%
	United Kingdom	216	4.7%	313	4.3%	333	3.5%	862	4.0%
	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%
	16–19	1477	32.4%	3433	46.8%	4403	45.9%	9313	43.3%
	20 years and older	2523	55.4%	2267	30.9%	3197	33.3%	7987	37.2%
Social Class	No full-time education	5	0.1%	96	1.3%	63	0.7%	164	0.8%
	Still Studying	281	6.2%	356	4.9%	504	5.3%	1141	5.3%
	Up to 15 years	267	5.9%	1183	16.1%	1430	14.9%	2880	13.4%
	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%
	The working class of society	702	15.4%	2118	28.9%	2613	27.2%	5433	25.3%
	The lower middle class of society	623	13.7%	1101	15.0%	1613	16.8%	3337	15.5%
	The middle class of society	2484	54.6%	3590	48.9%	4692	48.9%	10,766	50.1%
Religion	The upper middle class of society	660	14.5%	412	5.6%	534	5.6%	1606	7.5%
	The higher class of society	53	1.2%	46	0.6%	58	0.6%	157	0.7%
	Other (SPONTANEOUS)	6	0.1%	10	0.1%	22	0.2%	38	0.2%
	None (SPONTANEOUS)	25	0.5%	58	0.8%	65	0.7%	148	0.7%
	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%
	Atheist	521	11.4%	479	6.5%	727	7.6%	1727	8.0%
	Non-believer/Agnostic	930	20.4%	1055	14.4%	1293	13.5%	3278	15.3%
	Catholic	1591	34.9%	3104	42.3%	4248	44.3%	8943	41.6%
	Protestant	698	15.3%	1089	14.8%	973	10.1%	2760	12.8%
	Orthodox Christian	478	10.5%	876	11.9%	1481	15.4%	2835	13.2%
Economic Difficulties	Other Christian	190	4.2%	413	5.6%	448	4.7%	1051	4.9%
	Muslim	34	0.7%	111	1.5%	161	1.7%	306	1.4%
	Jewish	6	0.1%	16	0.2%	14	0.1%	36	0.2%
	Other	63	1.4%	96	1.3%	139	1.4%	298	1.4%
	DK	42	0.9%	96	1.3%	113	1.2%	251	1.2%
	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%
	Almost never/never	3542	77.8%	5177	70.6%	6116	63.7%	14,835	69.0%
	From time to time	789	17.3%	1653	22.5%	2590	27.0%	5032	23.4%
	Most of the time	222	4.9%	505	6.9%	891	9.3%	1618	7.5%
	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%
Life Satisfaction	Not at all satisfied	73	1.6%	239	3.3%	362	3.8%	674	3.1%
	Not very satisfied	402	8.8%	1048	14.3%	1412	14.7%	2862	13.3%
	Fairly satisfied	2504	55.0%	4109	56.0%	5625	58.6%	12,238	57.0%
	Very satisfied	1574	34.6%	1939	26.4%	2198	22.9%	5711	26.6%
Gender	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%
	Man	2479	54.4%	3405	46.4%	4302	44.8%	10,186	47.4%
	Woman	2074	45.6%	3930	53.6%	5295	55.2%	11,299	52.6%
Occupation	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%
	Self-employed	393	8.6%	465	6.3%	680	7.1%	1538	7.2%
	Employed	2196	48.2%	3077	41.9%	4453	46.4%	9726	45.3%
	Not working	1964	43.1%	3793	51.7%	4464	46.5%	10,221	47.6%
	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%

Table A1. Cont.

		CLUSTER						Total	
		Conservationist		Uninformed		Preservationist			
		N	%	N	%	N	%	N	%
Political Orientation	Left	1496	32.9%	1956	26.7%	3023	31.5%	6475	30.1%
	Centre	1923	42.2%	3478	47.4%	4222	44.0%	9623	44.8%
	Right	1134	24.9%	1901	25.9%	2352	24.5%	5387	25.1%
	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%
Age	15–24 years	307	6.7%	557	7.6%	730	7.6%	1594	7.4%
	25–39 years	894	19.6%	1383	18.9%	1935	20.2%	4212	19.6%
	40–54 years	1232	27.1%	1684	23.0%	2479	25.8%	5395	25.1%
	55 years and older	2120	46.6%	3711	50.6%	4453	46.4%	10,284	47.9%
	Total	4553	100.0%	7335	100.0%	9597	100.0%	21,485	100.0%

Table A2. Predictors of Biodiversity segments Multinomial logit estimation (Odds, 95% CI and SE).

	Biodiversity Segments (ref. Conservationist)	
	Uninformed	Preservationist
	(1)	(2)
Countries (ref. Sweden)		
Austria	3.200 *** [2.376–4.227] (0.150)	2.925 *** [2.227–3.781] (0.135)
Belgium	1.972 *** [1.523–2.569] (0.134)	1.679 *** [1.338–2.117] (0.117)
Bulgaria	0.702 * [0.495–1.000] (0.180)	0.876 [0.641–1.185] (0.158)
Croatia	1.011 [0.759–1.351] (0.148)	1.451 *** [1.131–1.850] (0.126)
Cyprus (Republic)	2.065 *** [1.271–3.382] (0.250)	2.218 *** [1.420–3.441] (0.226)
Czech Republic	4.330 *** [3.271–5.720] (0.143)	2.894 *** [2.227–3.712] (0.130)
Denmark	6.447 *** [5.017–8.279] (0.128)	1.820 *** [1.428–2.319] (0.124)
Estonia	3.970 *** [2.989–5.308] (0.147)	1.679 *** [1.277–2.201] (0.139)
Finland	4.450 *** [3.437–5.743] (0.131)	2.247 *** [1.772–2.844] (0.121)
France	1.148 [0.863–1.533] (0.147)	1.317 ** [1.032–1.675] (0.124)
Germany	2.043 *** [1.621–2.562] (0.117)	1.163 [0.945–1.423] (0.104)
Greece	0.981 [0.680–1.432] (0.191)	1.251 [0.899–1.733] (0.168)
Hungary	2.518 *** [1.903–3.320] (0.142)	1.723 *** [1.325–2.208] (0.131)
Ireland	2.190 *** [1.673–2.911] (0.142)	1.510 *** [1.178–1.950] (0.129)
Italy	1.815 *** [1.317–2.518] (0.166)	3.031 *** [2.275–3.978] (0.143)
Lithuania	2.164 *** [1.594–2.928] (0.155)	1.521 *** [1.146–2.005] (0.143)
Luxembourg	1.000 [0.705–1.426] (0.180)	1.290 * [0.966–1.716] (0.147)
Latvia	5.427 *** [4.006–7.401] (0.157)	2.006 *** [1.484–2.696] (0.152)

Table A2. Cont.

	Biodiversity Segments (ref. Conservationist)	
	Uninformed	Preservationist
Malta	2.419 *** [1.549–3.832] (0.231)	4.227 *** [2.817–6.328] (0.207)
Poland	6.076 *** [4.306–8.609] (0.177)	4.033 *** [2.893–5.575] (0.168)
Portugal	1.238 [0.871–1.762] (0.180)	2.663 *** [1.942–3.570] (0.156)
Romania	3.105 *** [2.163–4.509] (0.188)	1.713 *** [1.207–2.412] (0.177)
Slovenia	1.570 *** [1.184–2.107] (0.148)	1.387 ** [1.072–1.792] (0.131)
Slovakia	5.142 *** [3.610–7.331] (0.181)	6.025 *** [4.321–8.302] (0.167)
Spain	1.771 *** [1.343–2.357] (0.144)	1.800 *** [1.397–2.293] (0.127)
The Netherlands	2.498 *** [1.975–3.170] (0.121)	0.984 [0.789–1.226] (0.112)
United Kingdom	1.796 *** [1.393–2.322] (0.131)	1.148 [0.910–1.444] (0.118)
Education (ref. 20 years and older)		
No full-time education	11.872 *** [4.769–29.492] (0.464)	7.659 *** [3.059–19.224] (0.469)
Up to 15 years	3.988 *** [3.383–4.698] (0.084)	2.759 *** [2.356–3.238] (0.081)
16–19	2.156 *** [1.959–2.370] (0.049)	1.743 *** [1.592–1.903] (0.046)
Still Studying	0.850 [0.659–1.103] (0.131)	0.949 [0.744–1.207] (0.124)
None (SPONTANEOUS)	1.000 [0.613–1.666] (0.254)	0.919 [0.572–1.507] (0.246)
Other (SPONTANEOUS)	0.645 [0.223–1.865] (0.543)	1.098 [0.422–2.841] (0.487)
Social Class (ref. The working class of society)		
The lower middle class of society	0.677 *** [0.589–0.777] (0.071)	0.772 *** [0.676–0.880] (0.067)
The middle class of society	0.688 *** [0.614–0.771] (0.058)	0.745 *** [0.666–0.830] (0.056)
The upper middle class of society	0.416 *** [0.350–0.496] (0.090)	0.476 *** [0.404–0.561] (0.084)
The higher class of society	0.525 *** [0.342–0.807] (0.219)	0.594 ** [0.396–0.891] (0.207)
Religion (ref. Non-believer/Agnostic)		
Atheist	0.843 ** [0.716–0.990] (0.083)	0.954 [0.82–1.11] (0.076)
Catholic	1.379 *** [1.211–1.576] (0.067)	1.163 ** [1.027–1.317] (0.063)
Protestant	1.093 [0.937–1.277] (0.079)	1.056 [0.909–1.227] (0.077)
Orthodox Christian	1.521 *** [1.191–1.939] (0.124)	1.715 *** [1.358–2.155] (0.118)
Other Christian	1.413 *** [1.149–1.738] (0.105)	1.519 *** [1.243–1.855] (0.102)
Muslim	3.330 *** [2.235–5.076] (0.209)	3.039 *** [2.071–4.540] (0.200)
Jewish	2.761 ** [1.033–7.600] (0.507)	1.708 [0.643–4.741] (0.508)
Other	1.131 [0.797–1.588] (0.176)	1.460 ** [1.052–2.003] (0.165)

Table A2. Cont.

	Biodiversity Segments (ref. Conservationist)	
	Uninformed	Preservationist
DK	1.572 ** [1.062–2.312] (0.199)	1.508 ** [1.034–2.191] (0.192)
Economic difficulties (ref. Almost never/never)		
From time to time	1.180 *** [1.057–1.315] (0.056)	1.305 *** [1.179–1.446] (0.052)
Most of the time	1.147 [0.951–1.385] (0.096)	1.383 *** [1.164–1.648] (0.089)
Life satisfaction (ref. Very satisfied)		
Not at all satisfied	2.074 *** [1.537–2.791] (0.152)	1.817 *** [1.370–2.414] (0.145)
Not very satisfied	1.483 *** [1.270–1.736] (0.080)	1.342 *** [1.160–1.563] (0.076)
Fairly satisfied	1.126 ** [1.024–1.239] (0.049)	1.156 *** [1.058–1.267] (0.046)
Gender (ref. Man)		
Woman	1.260 *** [1.165–1.366] (0.041)	1.396 *** [1.297–1.508] (0.039)
Occupation (ref. Self-Employed)		
Employed	0.950 [0.813–1.108] (0.079)	0.993 [0.859–1.143] (0.073)
Not working	1.232 ** [1.041–1.449] (0.085)	1.070 [0.916–1.248] (0.079)
Political orientation (ref. Left)		
Centre	1.164 *** [1.060–1.279] (0.048)	0.967 [0.885–1.056] (0.045)
Right	1.162 *** [1.042–1.295] (0.056)	0.973 [0.878–1.078] (0.052)
Age (ref. 15–24 years)		
25–39 years	0.728 *** [0.582–0.906] (0.113)	0.789 ** [0.636–0.971] (0.108)
40–54 years	0.545 *** [0.434–0.682] (0.115)	0.651 *** [0.523–0.805] (0.110)
55 years and older	0.547 *** [0.428–0.676] (0.059)	0.655 *** [0.521–0.807] (0.056)
Constant	0.553 *** [0.384–0.766] (0.180)	1.009 [0.718–1.354] (0.165)
Akaike Inf. Crit.	42,431.730	42,431.730

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

References

- Agarwala, Ridhi, Prashant Mishra, and Ramendra Singh. 2019. Religiosity and Consumer Behavior: A Summarizing Review. *Journal of Management Spirituality & Religion* 16: 32–54. [\[CrossRef\]](#)
- Arbuckle, Matthew. 2017. The Interaction of Religion, Political Ideology, and Concern About Climate Change in the United States. *Society and Natural Resources* 30: 177–94. [\[CrossRef\]](#)
- Arbuckle, Matthew, and David M. Konisky. 2015. The Role of Religion in Environmental Attitudes. *Social Science Quarterly* 96: 1244–63. [\[CrossRef\]](#)
- Arli, Denni, Patrick van Esch, and Yuanyuan Cui. 2022. Who Cares More About the Environment, Those with an Intrinsic, an Extrinsic, a Quest, or an Atheistic Religious Orientation?: Investigating the Effect of Religious Ad Appeals on Attitudes Toward the Environment. *Journal of Business Ethics* 185: 427–48. [\[CrossRef\]](#) [\[PubMed\]](#)
- Bartkowski, John P. 1996. Beyond Biblical Literalism and Inerrancy: Conservative Protestants and the Hermeneutic Interpretation of Scripture. *Sociology of Religion* 57: 259–72. [\[CrossRef\]](#)
- Benton, Raymond, Jr. 2016. Introduction to the Special Issue: Religion and Macromarketing. *Journal of Macromarketing* 36: 373–76. [\[CrossRef\]](#)
- Berkes, Fikret. 2013. Religious Traditions and Biodiversity. In *Encyclopedia of Biodiversity*, 2nd ed. Edited by Samuel M. Scheiner. Waltham: Academic Press, pp. 380–88. [\[CrossRef\]](#)

- Bhagwat, Shonil A., Alison A. Ormsby, and Claudia Rutte. 2011. The Role of Religion in Linking Conservation and Development: Challenges and Opportunities. *Journal for The Study of Religion, Nature and Culture* 5: 39–60. [CrossRef]
- Brock, Guy, Vasyi Pihur, Susmita Datta, and Somnath Datta. 2008. CValid: An R Package for Cluster Validation. *Journal of Statistical Software* 25: 1–22. [CrossRef]
- Bsoul, Labeeb, Amani Omer, Lejla Kucukalic, and Ricardo H. Archbold. 2022. Islam's Perspective on Environmental Sustainability: A Conceptual Analysis. *Social Sciences* 11: 228. [CrossRef]
- Cardinale, Bradley J., J. Emmett Duffy, Andrew Gonzalez, David U. Hooper, Charles Perrings, Patrick Venail, Anita Narwani, Georgina M. Mace, David Tilman, David A. Wardle, and et al. 2012. Biodiversity Loss and Its Impact on Humanity. *Nature* 486: 59–67. [CrossRef]
- Cho, Alyssa H., Shelly A. Johnson, Carrie E. Schuman, Jennifer M. Adler, Oscar Gonzalez, Sarah J. Graves, Jana R. Huebner, D. Blaine Marchant, Sami W. Rifai, Irina Skinner, and et al. 2014. Women Are Underrepresented on the Editorial Boards of Journals in Environmental Biology and Natural Resource Management. *PeerJ* 2: e542. [CrossRef] [PubMed]
- Christie, Michael, Ioan Fazey, Robert Cooper, Tony Hyde, and Jasper O. Kenter. 2012. An Evaluation of Monetary and Non-Monetary Techniques for Assessing the Importance of Biodiversity and Ecosystem Services to People in Countries with Developing Economies. *Ecological Economics* 83: 67–78. [CrossRef]
- Churches Together. 2022. Environment—Churches and Christian Organisations. Available online: <https://ctbi.org.uk/environment-churches-and-christian-organisations/> (accessed on 7 January 2023).
- Cléménçon, Raymond. 2021. Is Sustainable Development Bad for Global Biodiversity Conservation? *Global Sustainability* 4: e16. [CrossRef]
- Coakley, John. 2009. A Political Profile of Protestant Minorities in Europe. *National Identities* 11: 30–39. [CrossRef]
- Conservation International. 2023. Sustainable Development Goals. Available online: <https://www.conservation.org/priorities/sustainable-development-goals%7D> (accessed on 9 January 2023).
- Cummins, Jim. 2001. HER Classic Reprint: Empowering Minority Students: A Framework for Intervention. *Harvard Educational Review* 71: 649–76. [CrossRef]
- Dalai Lama the 14th. 2017. *Dalai Lama on Environment. Collected Statements 1987–2017*, 6th ed. Dharamsala: Environment and Development Desk, The Tibet Policy Institute, Central Tibetan Administration. Available online: <https://tibetpolicy.net/wp-content/uploads/2018/12/Dalailama-on-Environment-1987-2017.pdf> (accessed on 9 January 2023).
- Delener, Nejdett. 1994. Religious Contrasts in Consumer Decision Behaviour Patterns: Their Dimensions and Marketing Implications. *European Journal of Marketing* 28: 36–53. [CrossRef]
- Diamant, Jeff. 2022. Involvement by Religious Groups in Debates over Climate Change. Pew Research Center. Available online: <https://www.pewresearch.org/religion/2022/11/17/sidebar-involvement-by-religious-groups-in-debates-over-climate-change/#fn-38390-8> (accessed on 2 December 2022).
- Dudley, Nigel, Liza Higgins-Zogib, and Stephanie Mansourian. 2009. The Links between Protected Areas, Faiths, and Sacred Natural Sites. *Conservation Biology* 23: 568–77. [CrossRef]
- Durante, Chris. 2021. The Green Patriarch and Ecological Sin. Public Orthodoxy. Available online: <https://publicorthodoxy.org/2021/09/03/green-patriarch-and-ecological-sin/> (accessed on 2 December 2022).
- Earth.Org. 2021. Why Conservation Efforts Need to Support Community Livelihoods. Available online: <https://earth.org/why-conservation-efforts-need-to-support-community-livelihoods/> (accessed on 14 January 2023).
- Edwards, David P., and Richard K. B. Jenkins. 2020. Why Communities Must Be at the Heart of Conserving Wildlife, Plants, and Ecosystems. Available online: <https://theconversation.com/why-communities-must-be-at-the-heart-of-conserving-wildlife-plants-and-ecosystems-132416%7D> (accessed on 7 February 2023).
- Ellingson, Stephen. 2016. *To Care for Creation: The Emergence of the Religious Environmental Movement*. Chicago: University of Chicago Press.
- Enders, Adam M., and Joseph E. Uscinski. 2021. Are Misinformation, Antiscientific Claims, and Conspiracy Theories for Political Extremists? *Group Processes & Intergroup Relations* 24: 583–605.
- Essoo, Nittin, and Sally Dibb. 2004. Religious Influences on Shopping Behaviour: An Exploratory Study. *Journal of Marketing Management* 20: 683–712. [CrossRef]
- European Environment Agency. 2023. Ecosystem Coverage in Europe. Available online: <https://www.eea.europa.eu/ims/ecosystem-coverage-in-europe> (accessed on 22 February 2023).
- Felix, Reto, Chris Hinsch, Philipp A. Rauschnabel, and Bodo B. Schlegelmilch. 2018. Religiousness and Environmental Concern: A Multilevel and Multi-Country Analysis of the Role of Life Satisfaction and Indulgence. *Journal of Business Research* 91: 304–12. [CrossRef]
- Feuls, Miriam, Christian Fieseler, and Anne Suphan. 2014. A Social Net? Internet and Social Media Use during Unemployment. *Work, Employment & Society* 28: 551–70.
- Feygina, Irina, John T. Jost, and Rachel E. Goldsmith. 2010. System Justification, the Denial of Global Warming, and the Possibility of 'System-Sanctioned Change'. *Personality & Social Psychology Bulletin* 36: 326–38. [CrossRef]
- Floren, Jessen, Tareq Rasul, and Azmat Gani. 2020. Islamic Marketing and Consumer Behaviour: A Systematic Literature Review. *Journal of Islamic Marketing* 11: 1557–78. [CrossRef]
- Foltz, Richard. 2007. The Religion of the Market: Reflections on a Decade of Discussion. *Worldviews* 11: 135–54. [CrossRef]

- Fraser, Anthony. 2006. *Public Attitudes to Pest Control: A Literature Review*; Wellington: Science & Technical Publishing. Available online: <https://www.doc.govt.nz/documents/science-and-technical/drds227.pdf> (accessed on 15 March 2023).
- Gavin, Michael C., Joe McCarter, Fikret Berkes, Aroha Te Pareake Mead, Eleanor J. Sterling, Ruifei Tang, and Nancy J. Turner. 2018. Effective Biodiversity Conservation Requires Dynamic, Pluralistic, Partnership-Based Approaches. *Sustainability* 10: 1846. [CrossRef]
- Glacken, Clarence J. 1992. Reflections on the History of Western Attitudes to Nature. *GeoJournal* 26: 103–11. [CrossRef]
- Grace, Marcus, and John G. Sharp. 2000. Young People's Views on the Importance of Conserving Biodiversity. *The School Science Review* 82: 49–56.
- Hackett, Conrad, Brian J. Grim, Marcin Stonawski, Vegard Skirbekk, Michaela Potančoková, and Phillip Connor. 2012. *The Global Religious Landscape*. Washington, DC: Pew Research Center. [CrossRef]
- Higgins-Zogib, Liza, Nigel Dudley, Josep-Maria Mallarach, and Stephanie Mansourian. 2010. Beyond Belief: Linking Faiths and Protected Areas to Support Biodiversity Conservation. In *Arguments for Protected Areas*. London: Routledge, pp. 165–84.
- Hope, Aimie L. B., and Christopher R. Jones. 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. [CrossRef]
- Hunter, Lori M., Alison Hatch, and Aaron Johnson. 2004. Cross-National Gender Variation in Environmental Behaviors. *Social Science Quarterly* 85: 677–94. [CrossRef]
- Hwang, Hyesun. 2018. Do Religion and Religiosity Affect Consumers' Intentions to Adopt pro-Environmental Behaviours? *International Journal of Consumer Studies* 42: 664–74. [CrossRef]
- IPBES. 2022. 2019 Global Assessment Report on Biodiversity and Ecosystem Services. Available online: <https://ipbes.net/global-assessment> (accessed on 1 March 2023).
- Jackson, Rodney. 1993. Nature Reserves of the Himalaya and the Mountains of Central Asia. *Mountain Research and Development* 15: 190–91. [CrossRef]
- Johansson, Maria, and Marianne Henningsson. 2011. Social-Psychological Factors in Public Support for Local Biodiversity Conservation. *Society & Natural Resources* 24: 717–33.
- Karanth, Krithi K., Randall Kramer, Song S Qian, and Norman L Christensen. 2008. Examining Conservation Attitudes, Perspectives, and Challenges in India. *Biological Conservation* 141: 2357–67. [CrossRef]
- Kemmelmeier, Markus, Grzegorz Król, and Young Hun Kim. 2002. Values, Economics, and Proenvironmental Attitudes in 22 Societies. *Cross-Cultural Research* 36: 256–85. [CrossRef]
- Kennedy, Emily Huddart, and Jennifer E. Givens. 2019. Eco-Habitus or Eco-Powerlessness? Examining Environmental Concern across Social Class. *Sociological Perspectives* 62: 646–67. [CrossRef]
- Khan, Mohammed, Ashalata Devi Khumbongmayum, and Radhey Tripathi. 2008. The Sacred Groves and Their Significance in Conserving Biodiversity: An Overview. *International Journal of Ecology and Environmental Sciences* 34: 277–91.
- Kidwell, Jeremy, Franklin Ginn, Michael Northcott, Elizabeth Bomberg, and Alice Hague. 2018. Christian Climate Care: Slow Change, Modesty and Eco-Theo-Citizenship. *Geo: Geography and Environment* 5: e00059. [CrossRef]
- Laidley, Thomas M. 2013. The Influence of Social Class and Cultural Variables on Environmental Behaviors. *Environment and Behavior* 45: 170–97. [CrossRef]
- London School of Economics and Political Science. 2022. What Are the Extent and Causes of Biodiversity Loss? Available online: <https://www.lse.ac.uk/granthaminstitute/explainers/what-are-the-extent-and-causes-of-biodiversity-loss/> (accessed on 1 March 2023).
- Mathews, Andrew M., Bundy Mackintosh, and Eamon P. Fulcher. 1997. Cognitive Biases in Anxiety and Attention to Threat. *Trends in Cognitive Sciences* 1: 340–45. [CrossRef] [PubMed]
- Mathras, Daniele, Adam B. Cohen, Naomi Mandel, and David Glen Mick. 2016. The Effects of Religion on Consumer Behavior: A Conceptual Framework and Research Agenda. *Journal of Consumer Psychology* 26: 298–311. [CrossRef]
- McLeod, Elizabeth, and Martin Palmer. 2015. Why Conservation Needs Religion. *Coastal Management* 43: 238–52. [CrossRef]
- McShane, Thomas O., Paul D. Hirsch, Tran Chi Trung, Alexander N. Songorwa, Ann Kinzig, Bruno Monteferri, David Mutekanga, Hoang Van Thang, Juan Luis Dammert, Manuel Pulgar-Vidal, and et al. 2011. Hard Choices: Making Trade-Offs between Biodiversity Conservation and Human Well-Being. *Biological Conservation* 144: 966–72. [CrossRef]
- Mikusiński, Grzegorz, Hugh P. Possingham, and Malgorzata Blicharska. 2014. Biodiversity Priority Areas and Religions—A Global Analysis of Spatial Overlap. *Oryx* 48: 17–22. [CrossRef]
- Minteer, Ben A., and Thaddeus R Miller. 2011. The New Conservation Debate: Ethical Foundations, Strategic Trade-Offs, and Policy Opportunities. *Biological Conservation* 144: 945–47. [CrossRef]
- Morosoli, Sophie, Peter Van Aelst, Edda Humprecht, Anna Staender, and Frank Esser. 2022. Identifying the Drivers Behind the Dissemination of Online Misinformation: A Study on Political Attitudes and Individual Characteristics in the Context of Engaging with Misinformation on Social Media. *American Behavioral Scientist*. [CrossRef]
- Mottner, Sandra, and John B. Ford. 2010. International Journal of Nonprofit and Voluntary Sector Marketing: Special Issue on Marketing and Religion. *International Journal of Nonprofit and Voluntary Sector Marketing* 15: 301–4. [CrossRef]
- National Geographic. 2023. Preservation. Available online: <https://education.nationalgeographic.org/resource/preservation/> (accessed on 13 March 2023).

- Negi, Chandranandani. 2005. Religion and Biodiversity Conservation: Not a Mere Analogy. *International Journal of Biodiversity Science & Management* 1: 85–96.
- Negrov, Alexander, and Alexander Malov. 2021. Eco-Theology and Environmental Leadership in Orthodox and Evangelical Perspectives in Russia and Ukraine. *Religions* 12: 305. [CrossRef]
- Norton, Bryan G. 1986. Conservation and Preservation: A Conceptual Rehabilitation. *Environmental Ethics* 8: 195–220. [CrossRef]
- Noss, Reed F., Andrew P. Dobson, Robert F. Baldwin, Paul Beier, Cory R. Davis, Dominick A. Dellasala, John M. Francis, Harvey Locke, Katarzyna Nowak, Roel Lopez, and et al. 2012. Bolder Thinking for Conservation. *Conservation Biology* 26: 1–4. [CrossRef] [PubMed]
- Novak, Christoph, Miriam Haselbacher, Astrid Mattes, and Katharina Limacher. 2022. Religious ‘Bubbles’ in a Superdiverse Digital Landscape? Research with Religious Youth on Instagram. *Religions* 13: 213. [CrossRef]
- Otero, Iago, Katharine N. Farrell, Salvador Pueyo, Giorgos Kallis, Laura Kehoe, Helmut Haberl, Christoph Plutzer, Peter Hobson, Jaime García-Márquez, Beatriz Rodríguez-Labajos, and et al. 2020. Biodiversity Policy beyond Economic Growth. *Conservation Letters* 13: e12713. [CrossRef] [PubMed]
- Padhy, Sachidananda. 2018. Over-Religious Activity, a Threat to Biodiversity: Ethical Restrictions against Animal Cruelty to Protect the Environment—A Review. *Journal of Biodiversity* 9: 1–13. [CrossRef]
- Palmer, Martin, and Victoria Finlay. 2003. *Faith in Conservation: New Approaches to Religions and the Environment*. Washington, DC: World Bank Publications, pp. 1–166.
- Pasqualetti, Martin J. 2011. Social Barriers to Renewable Energy Landscapes. *Geographical Review* 101: 201–23. [CrossRef]
- Patriarch Dimitrios. 1989. Encyclical Letter on the Day of Protection of the Environment. Available online: https://www.orth-transfiguration.org/wp-content/uploads/2016/05/Lecture_HAH-1989-Patr.-Dimitrios-on-Day-of-Prayer-for-Envir.pdf (accessed on 5 February 2023).
- Peterson, Christopher, Nansook Park, and Martin E. P. Seligman. 2005. Orientations to Happiness and Life Satisfaction: The Full Life versus the Empty Life. *Journal of Happiness Studies* 6: 25–41. [CrossRef]
- Pew Research Center. 2022. How Religion Intersects with Americans’ Views on the Environment. Available online: <https://www.pewresearch.org/religion/2022/11/17/how-religion-intersects-with-americans-views-on-the-environment/> (accessed on 22 July 2023).
- Pope Benedict XVI. 2010. Message of His Holiness Pope Benedict XVI for the Celebration of the World Day of Peace. Available online: https://www.vatican.va/content/benedict-xvi/en/messages/peace/documents/hf_ben-xvi_mes_20091208_xliii-world-day-peace.html (accessed on 22 January 2023).
- Pope Francis. 2015. Encyclical Letter Laudato Si’ of the Holy Father Francis on Care for Our Common Home. Available online: https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html (accessed on 12 January 2023).
- Pope John Paul II. 1985. Address of Pope John Paul II to the Members of the Agency of the United Nations. Available online: https://www.vatican.va/content/john-paul-ii/en/speeches/1985/august/documents/hf_jp-ii_spe_19850818_centro-nazioni-unite.html (accessed on 22 January 2023).
- Pope John Paul II. 1990. Message of His Holiness Pope John Paul II for the Celebration of the World Day of Peace. Available online: https://www.vatican.va/content/john-paul-ii/en/messages/peace/documents/hf_jp-ii_mes_19891208_xxiii-world-day-for-peace.html (accessed on 5 January 2023).
- Prawitt, Aimee D., Julie C Kalkowski, and Judith Cohart. 2013. Responses to Economic Pressure by Low-Income Families: Financial Distress and Hopefulness. *Journal of Family and Economic Issues* 34: 29–40. [CrossRef]
- Recio-Román, Almudena, Manuel Recio-Menéndez, and María Victoria Román-González. 2019. Religion and Innovation in Europe: Implications for Product Life-Cycle Management. *Religions* 10: 589. [CrossRef]
- Robinson, John G. 2006. Conservation Biology and Real-World Conservation. *Conservation Biology* 20: 658–69. [CrossRef]
- Schultz, P. Wesley, Lynnette Zelezny, and Nancy Justin Dalrymple. 2000. A Multinational Perspective on the Relation between Judeo-Christian Religious Beliefs and Attitudes of Environmental Concern. *Environment and Behavior* 32: 576–91. [CrossRef]
- Seippel, Ørnulf, Bruna De Marchi, Per Arild Gårnasjordet, and Iulie Aslaksen. 2012. Public Opinions on Biological Diversity in Norway: Politics, Science, or Culture? *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography* 66: 290–99. [CrossRef]
- Sherkat, Darren E., and Christopher G. Ellison. 2007. Structuring the Religion-Environment Connection: Identifying Religious Influences on Environmental Concern and Activism. *Journal for the Scientific Study of Religion* 46: 71–85. [CrossRef]
- Shumba, Overson, Rukia Faki Kasembe, Ck Mukundu, and Chipso Muzenda. 2008. Environmental Sustainability and Quality Education: Perspectives from a Community Living in a Context of Poverty. *The Southern African Journal of Environmental Education* 25: 81–97.
- Šmakova, Vytautė, and Žaneta Piligrimienė. 2021. Religion in Consumer Behavior Research: A Systematic Literature Review. In *Eurasian Business and Economics Perspectives*. Edited by Mehmet Huseyin Bilgin, Hakan Danis, Ender Demir and Gokhan Karabulut. Cham: Springer International Publishing, pp. 179–91. [CrossRef]
- Smith, Frederick M. 2011. A Brief History of Indian Religious Ritual and Resource Consumption: Was There an Environmental Ethic? *Asian Ethnology* 70: 163–79.
- Strapko, Noel, Lynn M. Hempel, Kelsea MacIlroy, and Keith Douglas Smith. 2016. Gender Differences in Environmental Concern: Reevaluating Gender Socialization. *Society & Natural Resources* 29: 1015–31.

- Svancara, Leona K., Ree Brannon J., Michael Scott, Craig R. Groves, Reed F. Noss, and Robert L. Pressey. 2005. Policy-Driven versus Evidence-Based Conservation: A Review of Political Targets and Biological Needs. *BioScience* 55: 989–95. [CrossRef]
- Taylor, Bron. 1991. The Religion and Politics of Earth First! *The Ecologist* 21: 258–66.
- Taylor, Bron. 1995. *Ecological Resistance Movements: The Global Emergence of Radical and Popular Environmentalism*. Albany: State University of New York Press.
- Taylor, Bron. 2009. *Dark Green Religion: Nature Spirituality and the Planetary Future*. Oakland: University of California Press.
- Taylor, Bron. 2016. The Greening of Religion Hypothesis (Part One): From Lynn White, Jr and Claims That Religions Can Promote Environmentally Destructive Attitudes and Behaviors to Assertions They Are Becoming Environmentally Friendly. *Journal for the Study of Religion, Nature and Culture* 10: 268–305. [CrossRef]
- Taylor, Bron. 2019. Religion and Environmental Behaviour (Part One): World Religions and the Fate of the Earth. *The Ecological Citizen* 3: 71–76.
- Taylor, Bron. 2020. Religion and Environmental Behaviour (Part Two): Dark-Green Nature Spiritualities and the Fate of the Earth. *The Ecological Citizen* 3: 135–40.
- Tjernström, Emilia, and Thomas Tietenberg. 2008. Do Differences in Attitudes Explain Differences in National Climate Change Policies? *Ecological Economics* 65: 315–24. [CrossRef]
- Turpie, Jane K. 2003. The Existence Value of Biodiversity in South Africa: How Interest, Experience, Knowledge, Income and Perceived Level of Threat Influence Local Willingness to Pay. *Ecological Economics* 46: 199–216. [CrossRef]
- UNEP. 2023. Faith and Biodiversity. Available online: <https://www.unep.org/faith-and-biodiversity> (accessed on 7 December 2022).
- van Leeuwen, Evert Jan. 2019. Religious Traditions in Politics: Protestantism. In *Oxford Research Encyclopedia of Politics*. Oxford: Oxford University Press.
- Venables, William N., and Brian D. Ripley. 2002. *Modern Applied Statistics with S*, 4th ed. New York: Springer. Available online: <https://www.stats.ox.ac.uk/pub/MASS4/> (accessed on 22 January 2023).
- Village, Andrew. 2020. Psychological and Theological Predictors of Environmental Attitudes among a Sample of UK Churchgoers. *Journal of Empirical Theology* 33: 220–44. [CrossRef]
- Weeks, Brian E. 2015. Emotions, Partisanship, and Misperceptions: How Anger and Anxiety Moderate the Effect of Partisan Bias on Susceptibility to Political Misinformation. *Journal of Communication* 65: 699–719. [CrossRef]
- White, Lynn. 1967. The Historical Roots of Our Ecologic Crisis. *Science* 155: 1203–7. [CrossRef] [PubMed]
- Wiernik, Brenton M., Deniz S. Ones, and Stephan Dilchert. 2013. Age and Environmental Sustainability: A Meta-Analysis. *Journal of Managerial Psychology* 28: 826–56. [CrossRef]
- Wilhere, George F. 2021. A Paris-like Agreement for Biodiversity Needs IPCC-like Science. *Global Ecology and Conservation* 28: e01617. [CrossRef]
- Wright, Stuart A. 1997. Media Coverage of Unconventional Religion: Any ‘Good News’ for Minority Faiths? *Review of Religious Research* 39: 101. [CrossRef]
- Yang, Fenggang, and Helen Rose Fuchs Ebaugh. 2001. Religion and Ethnicity Among New Immigrants: The Impact of Majority/Minority Status in Home and Host Countries. *Journal for the Scientific Study of Religion* 40: 367–78. [CrossRef]
- Young, Nathan, Steven J Cooke, Scott G. Hinch, Celeste Digiovanni, Marianne Corriveau, Samuel Fortin, Vivian M. Nguyen, and Ann-Magnhild Solås. 2019. ‘Consulted to Death’: Personal Stress as a Major Barrier to Environmental Co-Management. *Journal of Environmental Management* 254: 109820. [CrossRef]
- Zaleha, Bernard Daley, and André Szász. 2015. Why Conservative Christians Don’t Believe in Climate Change. *Bulletin of the Atomic Scientists* 71: 19–30. [CrossRef]

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