The Role of Religiosity in Shaping Sustainable Behavior: A Global Perspective

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Abstract

This study investigates the complex interplay between religiosity and sustainable behavior within the broader context of global sustainability, with a particular focus on income as a moderating factor. Utilizing a comprehensive dataset encompassing 46 countries and 53,000 respondents, we introduce income as a crucial socio-demographic variable, thereby illuminating an unexplored facet of this multifaceted relationship. Our methodological approach employs Pooled OLS regression with robust standard errors to address the central research question. The empirical findings reveal a nuanced relationship: while religiosity in isolation appears to exert a negative influence on sustainable behaviors, its interaction with income paradoxically enhances pro-sustainability tendencies. This study posits that the achievement of sustainability is contingent upon the intricate interplay of personal beliefs, societal norms, environmental attitudes, and economic factors. Our research contributes to the existing literature by elucidating the moderating role of income in the religiosity-sustainability nexus. The findings underscore the importance of addressing basic economic needs and integrating religious values in fostering responsible environmental behavior. These insights have significant implications for policymakers and environmental advocates in designing effective strategies to promote sustainable practices across diverse socio-economic and cultural contexts.

Keywords: religiosity, sustainable behavior, individual income, sustainability and religion

Introduction

In the contemporary era, our world confronts many pressing environmental challenges including, but not limited to, issues such as air pollution, water scarcity, and the ominous specter of global warming.

These concerns seriously threaten our planet's overall well-being and security (Kahle and Gurel-Atay, 2014). A recent survey conducted by Nielsen and D'haen (2014), encompassing 25,000 individuals from 51 different countries, has highlighted a noteworthy trend. It reveals that a substantial 66% of consumers worldwide harbor genuine apprehensions regarding climate change and global warming. Among these concerns, some of the most prominent are anxieties related to water scarcity, excessive packaging waste, and the use of pesticides in food production and agriculture. Furthermore, a staggering three-quarters of the survey's respondents expressed apprehension about the adverse impacts of air and water pollution (Frighetto, 2011). Given the concerns around sustainability within the consciousness of consumers, and the recognition that excessive consumption is a pivotal threat to the sustainability paradigm, comprehending the fundamental drivers of consumer behavior, such as core values, becomes an imperative prerequisite for fostering widespread adoption of sustainable practices.

The proliferation of environmental predicaments and their detrimental impacts worldwide underscores the urgent need for swift and effective solutions. Given that the bulk of today's environmental issues can be traced back to human activities and conduct, the effective deployment of remedies for these burgeoning problems necessitates a fundamental shift in behavior and the active engagement of entire populations (Onel and Mukherjee, 2015). Therefore, the effective resolution of these issues is contingent upon the alteration of said behaviors and the discernment of behavioral remedies, as noted by scholars such as Hirsch (2010), Ramkissoon et al. (2013), and Steg et al. (2014).

Thus, it becomes evident that identifying and comprehensively analyzing the determinants influencing individuals' pro-environmental behaviors hold paramount significance (Mancha and Yoder, 2015; Bergek and Mignon, 2017; Ramkissoon et al., 2013; Karimi, 2019). Researchers have explored a range of external, individual, psychological, and societal factors (Gifford and Nilsson, 2014; Karimi, 2019; Kumar, 2019; Karimi and Saghaleini, 2021). However, it is noteworthy that one pivotal factor, namely religiosity, has been relatively underexplored within this context (Ghazali et al., 2018). Religion stands as one of the most pervasive

and influential social institutions, intricately interwoven within the tapestry of nearly every culture and society, as emphasized by Ives and Kidwell (2019). A report issued by the Pew Research Center reveals that a remarkable 84% of the global populace subscribe to one of the established religions (Pew Research Center, 2017). Another estimate reinforces this overarching influence, indicating that approximately 68% of the world's inhabitants acknowledge the substantial role of religion in shaping their daily lives (Diener et al., 2011). Religiosity, in this context, forms a foundational pillar, giving rise to social norms, molding individual behaviors, and underpinning the very cornerstones of social structures, ethical principles, and legal systems, as shown by Cohen (2009).

Considering the environmental context, then, it is reasonable to anticipate that religiosity wields a profound impact on individuals' pro-environmental behaviors, environmental concerns, and attitudes, as indicated by Greeley (1993), Stern et al. (1999), Bhuian and Sharma (2017), and Hwang (2018). Religiosity, characterized by the belief in the existence of a divine entity and adherence to a set of divine principles that guide human conduct and earthly actions, as defined by McDaniel and Burnett (1990), emerges as a significant wellspring of environmental ethics, as affirmed by Rice (2006) and Vitell (2009). This research builds upon the work of Karimi et al. (2022), who investigated the effect of religiosity on pro-environmental behavior (PEB) among Iranian rural female facilitators. While Karimi et al. (2022) provided valuable insights into the relationship between religiosity and PEB in a specific context, our study aims to broaden this perspective and address a critical gap in the literature by examining the phenomenon on a global scale and introducing an additional crucial factor: income.

Specifically, this research investigates the causal relationship between religiosity and sustainable behavior (analogous to PEB in Karimi et al.'s study) in 46 countries, encompassing 53,877 respondents worldwide. Unlike previous studies, including Karimi et al. (2022), which focused on specific populations or regions, our study examines the phenomenon from a broader perspective, which helps generalize the findings. Furthermore, this study extends the framework by considering religiosity in relation to income to offer insights into how religiosity can

complement income in shaping sustainable behavior amongst the studied individuals. This interaction between religiosity and income represents a novel contribution to the field, addressing a gap in our understanding of how these factors jointly influence sustainable behaviors.

This study pooled data from World Value Surveys conducted by the World Value Survey Association during seven-time periods (1981 – 1984, 1990 – 1994, 1995 – 1998, 1999 – 2004, 2005 – 2009, 2010 – 2014, and 2017 – 2022). This extensive dataset allows for a comprehensive analysis of trends and patterns over time, further enhancing the robustness of our findings. By expanding upon Karimi et al.'s (2022) work and incorporating the income factor, our research aims to provide a more nuanced and comprehensive understanding of the complex interplay between religiosity, income, and sustainable behavior on a global scale. This approach not only builds upon existing knowledge but also addresses a significant gap in the literature, offering valuable insights for policymakers, environmental advocates, and researchers alike. Our paper is structured as follows: Section 2 reviews the academic literature that substantiates the potential causal relationship between religiosity and sustainable behavior. Section 3 examines the data, empirical models, summary statistics, and the employed estimation strategy. Moving on to Section 4, we discuss the results pertaining to how religiosity influences sustainable behaviors. Finally, Section 5 encapsulates our study with concluding remarks.

Literature Review

In an era characterized by burgeoning population growth and diminishing resources, the imperative to foster sustainable behavior has garnered significant attention within the academic discourse. This study builds upon the work of Karimi et al. (2022), extending their research by introducing income as a moderating variable in the relationship between religiosity and sustainable behavior. Grounded in the Theory of Planned Behavior (Ajzen, 1985), this investigation seeks to elucidate the complex interplay of factors influencing sustainable practices. Before delving into the determinants of sustainable behavior, it is crucial to establish a clear conceptualization of sustainability. Originally denoting longevity,

the term has evolved to encompass notions of long-term support, acceptance, and assurance. Across various domains—political, technological, economic, and environmental—sustainability entails striking a balance between present and future objectives without compromising future viability (Di Fabio and Maree, 2016). The United Nations' seminal definition, articulated in the Brundtland Report (1987), encapsulates sustainability as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Empirical research has explored both extrinsic and intrinsic motivators for sustainable behavior. Extrinsic factors include cost savings and policy-driven incentives, while disincentives encompass penalties for non-sustainable practices (Thøgersen, 2005). Intrinsic motivators, such as personal satisfaction derived from environmental conservation, have also been examined (Kahle, 1996; Kahle and Xie, 2008; Sheth, 1983). However, it is noteworthy that many studies in this domain rely on student samples or experimental designs, potentially introducing bias and obscuring genuine intrinsic motivations. Stern's (2000) Value-Belief-Norm (VBN) theory posits that the adoption of environmentally friendly behaviors is underpinned by a strong moral obligation. This comprehensive framework synthesizes value theory (Schwartz, 1992), the New Environmental Paradigm (Dunlap et al., 2000), and norm-activation theory (Schwartz, 1977). The VBN theory delineates a sequential process wherein individuals progress from fundamental values and general environmental concerns to specific beliefs about adverse consequences and personal responsibility, ultimately triggering norms that endorse sustainable behavior.

Numerous studies have provided substantial support for the utility of the Value-Belief-Norm (VBN) theory in predicting a range of sustainable behaviors, as posited by Steg and Vlek (2009). For example, an empirical inquiry involving 112 residents of the Dutch city of Groningen illuminated the efficacy of the VBN model in demonstrating the acceptability of energy policies aimed at reducing household CO2 emissions, as demonstrated by Steg et al. (2005). Similarly, De Groot and Steg (2009) reported that the VBN theory-based model exhibited a commendable fit with the observed data. The VBN framework has also proven instrumental in forecasting attitudes and behaviors related to choices in transportation

modes. De Groot and Steg (2009) disclosed that individuals' recognition of the environmental ramifications stemming from their transportation choices and their sense of responsibility for these outcomes were closely tied to a moral imperative to curtail car usage.

This study is grounded in the Theory of Planned Behavior (TPB) (Ajzen, 1985). TPB posits that behavioral intentions are influenced by attitudes toward behavior, subjective norms, and perceived behavioral control. These intentions, in turn, are the immediate antecedents for behavior itself. By incorporating the TPB framework, this research shows the complex interplay between religiosity, income, and sustainable behavior, offering a nuanced understanding of the factors that drive environmentally conscious actions. In a comparative analysis, which integrated variables from the Theory of Planned Behavior (Ajzen, 1985) and Norm Activation Theory, Abrahamse et al. (2009) revealed that commuters' car selections were shaped by perceived behavioral control and attitudes, while intentions to diminish car usage were strongly associated with personal norms. Moreover, the cross-cultural applicability of the VBN theory was substantiated by its suitability in predicting sustainable behaviors in Argentina, underscoring its cross-cultural pertinence, as demonstrated by Jakovcevic and Steg (2013).

Religion, as one of the most pervasive and influential social institutions, delineates social norms, shapes individual behaviors, and lays the groundwork for ethical principles and legal frameworks (Christopher and Kidwell, 2019; Cohen, 2009). Within the environmental context, religion and religiosity assume pivotal roles, wielding considerable sway over individuals' pro-environmental behaviors (PEBs), environmental concerns, and attitudes (Greeley, 1993; Stern et al., 1999; Bhuian and Sharma, 2017; Hwang, 2018). Contemporary psychosocial research has also illuminated the interplay between religiosity and sustainable behavior (Pihkala, 2018; Shin and Preston, 2019). Individuals' stances on social and political issues often align with the prevailing viewpoints advocated by religious authorities (Djupe and Hunt, 2009; Wald et al., 1988). When religious institutions sanctify and endorse particular beliefs, they can exert considerable influence over a range of matters (Huckfeldt and Sprague, 1995; Wald et al., 1988; Djupe and Hunt, 2009; Mathras et al., 2015).

Here, the introduction of income as a moderating variable in the relationship between religiosity and sustainable behavior represents a significant advancement in understanding the complex dynamics of environmental stewardship. Income levels can substantially influence an individual's capacity to engage in sustainable practices, potentially altering the nature and strength of the religiosity-sustainability connection (Gifford and Nilsson, 2014). Higher income often correlates with increased access to resources and information, which may facilitate the adoption of environmentally friendly behaviors (Panzone et al., 2016). Conversely, lower-income individuals may face structural barriers to sustainability, regardless of their religious convictions (Büchs and Schnepf, 2013; Beck and Gunderson, 2016). The moderating role of income is further supported by the concept of post-materialist values, which suggests that as societies become more affluent, they tend to prioritize quality-of-life issues, including environmental concerns, over economic and physical security (Inglehart, 1995). In the context of religiosity, income may influence how individuals interpret and act upon religious teachings related to environmental stewardship. For instance, higher-income religious individuals might have the means to align their faith-based environmental values with concrete actions, such as investing in renewable energy or purchasing eco-friendly products (Minton et al., 2015). Conversely, lower-income religious individuals might prioritize immediate economic needs over long-term environmental considerations, despite potential religious motivations for sustainability (Hope and Jones, 2014). By examining income as a moderator, this study provides a more nuanced understanding of how socioeconomic factors interact with religious beliefs to shape sustainable behaviors, contributing to the growing body of literature on the determinants of pro-environmental actions (Stern, 2000; Steg & Vlek, 2009; Bettendorf and Dijkgraaf, 2009). This literature review underscores the complex interplay of factors influencing sustainable behavior, with a particular focus on the role of religiosity. Our findings underscore the multifaceted relationship between religion, belief systems, and sustainable behavior, inviting further exploration into how faith and spirituality can be harnessed to promote a more sustainable future.

Table 1. Summary of the Academic Literature on Religiosity and Sustainable Behaviour

Author(s)	Methodology			Measures	Findings	Control Variables
	Sample Size	Sample Period	Country			
Agudelo and Cortes – Gomez (2021)	1 Country (Columbia) 450 Individuals	1997 - 2018	Columbia	Religiosity (Degree of Religious Commitment). Prosocial Conduct. Environmental Awareness and Knowledge. Sustainable Practices.	This research suggests that belief systems, prosocial tendencies, and environmental awareness influence sustainable behavior.	Age Gender Educational Attainment Income Status Number of Dependents Marital Status Residential Location.
Minton, Kahle, and Kim (2015)	388 Consumers	1994 – 2012	South Korea and USA	Level of religiosity. Eco-friendly purchase and disposal behaviors. Indirect sustainable behaviors. Low-carbon diet behaviors.	The results show that religiosity plays a moderating role, with consumers with stronger religious beliefs being more inclined to engage in sustainable behaviors, such as buying eco-friendly cleaning products, recycling, and purchasing organic foods.	Age Gender Employment Status Household Income Education Marital Status Status as a Primary Shopper

Author(s)	Methodology			Measures	Findings	Control Variables
	Sample Size	Sample Period	Country			
Karimi, Liobikiene, and Alitavakoli (2022)	110 Rural Female Facilitators	2022	Iran	Religiosity. Attitudes. Subjective Norms. Perceived Behavioral Control. Intentions. Pro-environmental Behavior.	The research findings revealed that religiosity had a direct and indirect impact on pro-environmental behaviors within the cohort of rural female facilitators in Iran. These effects were mediated through factors including perceived behavioral control, subjective norms, and environmental attitudes. Religiosity emerged as a significant determinant in molding their pro-environmental intentions and subsequent actions.	Age Educational Qualifications Family Size Marital Status
Leonidou, Gruber, and Schlegelmilch (2022)	541 Individuals (USA) 305 Individuals (China)	2000	USA and China	Generativity. Materialism. Religiosity. Family Values. Interdependence. Environmental Sustainability Beliefs. Environmental Sustainability Activism.	The authors establish a correlation between religiosity, interdependence, and beliefs in environmental sustainability.	Gender Age Occupation Education Religion Denomination Marital Status Number of Children

Author(s)	Methodology		Country	Measures	Findings	Control Variables
	Sample Size	Sample Period				
Leary, Minton, and Mittelstaedt (2016)	1,101 Individuals.	2016	USA	Religiosity. Stewardship. Dominion. Willingness to Pay for Eco–Friendly Products. Eco – Conscious Buyer Behaviour. Post-Consumption behavior.	Religious individuals typically embrace "dominion" beliefs, whereas their non-religious counterparts tend to gravitate toward "stewardship" beliefs. Stewardship beliefs exhibit a positive correlation with involvement in sustainable behaviors, whereas dominion beliefs do not demonstrate such a connection. Furthermore, these belief systems serve as mediators in the relationship between religiosity and behavior, with dominion beliefs exerting a weaker and adverse influence compared to the positive impact of stewardship beliefs.	Age Gender Political Affiliation Political Perspective Household Income Marital Status Education.
Muñoz-Garcia and Villena-Martinez (2020)	720 Individual Students.	2019	Spain	Expression of Religion/Spirituality Religious Orientation. Image of God. Sustainability.	The findings support the idea that religion and less conventional forms of spirituality are connected to environmentally friendly actions.	Age Sex Educational Level Income Level

Author(s)	Methodology			Measures	Findings	Control Variables
	Sample Size	Sample Period	Country			
Wahab (2017)	264 Muslim Employees	2017	Malaysia	Religious Work Values. Sustainable Work Behaviors. Sustainable Energy Consumptions.	The findings indicated a notable connection between religious values, represented as IWVs, and both sustainable work behaviors and sustainable energy consumption.	Government Spending on State Personal Income Education Employment
Elshaer, Sobaih, Alyahya, and Elnasr (2021)	1,135 Individual Respondents.	2021	Saudi Arabia	Cultural Patterns of Food Consumption. Religious Commitment. Intentions to Reduce Food Waste.	The results suggested a slight adverse influence of religiosity on the inclination to waste food. In contrast, a robust and statistically significant positive link was observed between food consumption culture and the propensity to waste food.	Gender Marital Status Age Education

Empirical Methodology and Data

In this segment, we delve into our data, outline the empirical model, present summary statistics, and provide a rationale for our estimation approach.

Data

The data utilized for this study is sourced from the World Values Survey (WVS) conducted by the World Value Survey Association. This dataset encompasses seven time periods:

1. Cohort 1 (1981 - 1984): 14,840 respondents
2. Cohort 2 (1990 - 1994): 29,174 respondents
3. Cohort 3 (1995 - 1998): 77,818 respondents
4. Cohort 4 (1999 - 2004): 60,041 respondents
5. Cohort 5 (2005 - 2009): 83,975 respondents
6. Cohort 6 (2010 - 2014): 89,565 respondents
7. Cohort 7 (2017 - 2022): 153,950 respondents

From this extensive pool, a judiciously selected sample comprising 53,877 respondents from 46 countries was chosen, as shown in Table 2, predicated upon data availability for the pertinent variables. The list of countries with individual samples extracted from each country is attached in Table 2 below. This sample constitutes a robust 10.57% of the overall survey population, a proportion deemed sufficient for this study. This selection criterion aligns with the approach taken by Beck and Gunderson (2016) in their examination of the influence of religiosity on income and by Bettendorf and Dijkgraaf (2009) in their analysis of 25 Western countries.

Table 2. Distribution of Data

Countries	No. of Observations	Countries	No. of Observations
Albania	754	Montenegro	172
Argentina	1001	New Zealand	1015
Armenia	1790	Nigeria	1794
Australia	1963	Norway	1113
Azerbaijan	1873	Peru	1047
Bangladesh	1217	Philippine	1165
Belarus	1865	Poland	1075
Bosnia	1086	Puerto	1126
Brazil	1143	Romania	962
Bulgaria	775	Russia	1666
Chile	942	Serbia	1143
China	1247	Slovakia	932
Croatia	1067	Slovenia	913
Czechia	970	South Africa	2662
Dominica	336	South Korea	1230
Estonia	880	Spain	1162
Finland	934	Sweden	937
Georgia	1973	Taiwan	704
Germany	1923	USA	1466
Hungary	621	Uruguay	940
India	1415	Venezuela	1141
Japan	883	Total	53877
Lithuania	753		
Macedonia	783		
Mexico	1318		

In addition to providing data on the variables of interest, the dataset also includes various demographic characteristics, including age, gender, marital status, region, income, and education. The variables of interest were measured through the utilization of the specific survey questions detailed below in Table 3:

Table 3. Measurement of Focus Variables

Latent Variable	Position	Observed Measurements
Sustainable Behaviour	Dependent Variable	I chose products that are better for the environment.
		I prefer recycling products.
		I prefer actions that reduce water consumption.
		I attend meetings and sign petitions that support environmental protection.
		I contribute to environmental organizations that support environmental protection.
Religiosity	Independent Variable	How I rank the importance of religion in life.
		Religion gives me strength and comfort in life.
Income I		The reported income is in bottom 50% of the country's population.
Income II		The reported income is in top 50% of the country's population.

Descriptive Statistics

Table 4 provides a comprehensive overview of the summary statistics for the studied sample. The dataset encompasses a significant demographic diversity. Firstly, the mean *Age* of the 53,877 observations is approximately 41.02 years, signifying a predominant presence of relatively mature individuals within the dataset. Further examination of the *Gender* distribution reveals a marginal gender imbalance, with a mean value of approximately 0.481 for the *Gender* variable. This indicates a slightly higher representation of individuals coded as male (1) than their female counterparts (0). Moreover, the *Marital* variable exhibits a notable trend, with a mean value of 0.651, indicating that a substantial portion

of the dataset consists of respondents in a married relationship (coded as 1). The *region*, with an average value of around 0.691, suggests a predominant representation of individuals residing in a specific region or category (coded as 1), marking a noteworthy geographical concentration.

To delve into the temporal dynamics, two dummy variables, *C1* and *C2*, representing distinct time periods, warrant consideration. *C1* encapsulates three periods (1990 – 1994, 1995 – 1998, and 1999 – 2004) and is benchmarked against the initial time period (1981 – 1984). This indicates that approximately 46.8% of the sample respondents belong to these three specified time periods. Meanwhile, *C2* corresponds to three time periods (2005 – 2009, 2010 – 2014, and 2017 – 2022) and is similarly benchmarked against the initial time period. The data shows that roughly 49% of the sample respondents align with these three specific time periods.

Turning to economic attributes, the *Income I* variable, with a mean value of approximately 0.436, signifies the substantial presence of respondents within the medium income per capita category (coded as 1), benchmarked against the lowest income per capita stratum. On the other hand, the *Income II* variable, with a mean value of about 0.151, highlights a smaller segment of the dataset falling within a higher income category (coded as 1). Educational diversity emerges as an important dimension. *Education I*, with an average value of 0.229, signifies a subset of respondents attaining a secondary level of education (coded as 1), benchmarked against the lowest education stratum, representing primary education. Conversely, *Education II*, with a mean value of 0.557, signifies a larger segment of respondents achieving a higher level of education (coded as 1), indicating attainment of university education.

Furthermore, the dataset manifests substantial dimensions of religiosity, with the *Religiosity* variable exhibiting a mean value of approximately 0.664. This suggests that, on average, respondents in the dataset demonstrate a relatively high level of religiosity, as inferred from the composite average score of observed measures. Finally, *Sustainable Behavior*, with a mean value of about 0.348, indicates respondents exhibiting moderate, sustainable behavior based on the composite average score of observed measures. These summary statistics provide insights into the central tendencies and characteristics of the dataset, which can inform further analysis and interpretation of the study.

Table 4. Summary Statistics for Demographic and Focus Variables

	Observations	Mean
Age	53,877	41.021
Gender	53,877	.481
Marital	53,877	.651
Region	53,877	.691
C1	53,877	.468
C2	53,877	.490
Income I	53,877	.436
Income II	53,877	.151
Education I	53,877	.229
Education II	53,877	.557
Religiosity	53,877	.664
Sustainable Behaviour	53,877	.348

Note: *Age* denotes the average Age of the respondent(s). *Gender* represents the respondent(s) with 0 representing females and 1 representing males. *Marital* measures the relationship status of the respondent(s) where 0 represents single and 1 denotes married. *The region* represents the regional orientation of the respondents, as 0 reflects rural and 1 for urban. *C1* denotes time cohort 1, representing three cohorts (1990 – 1994, 1995 – 1998, and 1999 – 2004). This dummy variable is benchmarked with the first-time wave 1981 – 1984. *C2* indicates time cohort 2, representing three cohorts (2005 – 2009, 2010 – 2014, and 2017 – 2022). This dummy variable is benchmarked with the first-time cohort in 1981 – 1984. *Income I* denotes the population which falls in the medium strata of per capita income. This dummy variable is benchmarked with the people who fall in the lowest income strata. *Income II* indicates the population that falls in the highest strata of per capita income. This dummy variable is benchmarked with the people who fall in the lowest income strata. *Education I* reflect the respondent from the medium strata of education, which reflects the respondent having attained secondary education. This dummy variable is the benchmark from the first strata, which is primary education. *Education II* imitates the respondent who belongs to the highest strata of education, which reflects the respondent attaining a university education. This dummy variable is also benchmarked from the first stratum, which is primary education. *Religiosity* encapsulates the composite average score of the two observed measures of religiosity mentioned in Table 2. *Sustainable Behavior* represents the composite average score of the five observed measures of sustainable behavior mentioned in Table 2.

Empirical Models

For the purpose of this study, two primary equations have been formulated: a baseline equation and an extended equation. These equations are presented below:

$$Sustainable\ Behavior_i = \alpha 0 + \alpha 1Age_i + \alpha 2Gender_i + \alpha 3Marital_i + \alpha 4Region_i + \alpha 5C1_i + \alpha 6C2_i + \alpha 7IncomeI_i + \alpha 8IncomeII_i + \alpha 9EducationI_i + a10EducationII_i + \alpha 11Religiosity_i + \varepsilon_i$$

Baseline Equation (i)

$$Sustainable\ Behavior_i = \alpha 0 + \alpha 1Age_i + \alpha 2Gender_i + \alpha 3Marital_i + \alpha 4Region_i + \alpha 5C1_i + \alpha 6C2_i + \alpha 7IncomeI_i + \alpha 8IncomeII_i + \alpha 9EducationI_i + a10EducationII_i + \alpha 11Religiosity_i + a12Religiosity{\times}Income_i + \varepsilon_i$$

Extended Equation (ii)

Age denotes the log age of the respondent(s), and for *Gender* 0 represents female and 1 for male. *Marital* measures the relationship status of the respondent(s), where 0 represents single and 1 denotes married. *The region* represents the regional orientation of the respondents, as 0 reflects rural and 1 for urban. *C1* denotes time cohort 1, representing three periods (1990 – 1994, 1995 – 1998, and 1999 – 2004). This dummy variable is benchmarked with the first-time wave 1981 – 1984. *C2* indicates time cohort 2, representing three periods (2005 – 2009, 2010 – 2014, and 2017 – 2022). This dummy variable is benchmarked with the first-time cohort in 1981 – 1984. *Income I* denotes the population which falls in the medium strata of per capita income. This dummy variable is benchmarked with the people who fall in the lowest income strata. *Income II* indicates the population that falls in the highest strata of per capita income. This dummy variable is benchmarked with the people who fall in the lowest income strata. *Education I* reflects the respondents from the medium strata of education, which reflects that the respondents have completed secondary education. This dummy variable is the benchmark from the first strata, which is primary education. *Education II* imitates the respondents who belong to the highest strata of education, which reflects the respondents completing

a university education. This dummy variable is also benchmarked from the first stratum, which is primary education. *Religiosity* encapsulates the composite average score of the two observed measures of religiosity mentioned in Table 3. *Sustainable Behavior* represents the composite average score of the five observed measures of sustainable behavior mentioned in Table 2. ε denotes the Robust error term, assumed to be independently distributed. Furthermore, equation (ii) extends equation (i) with an interaction of *Religiosity×Income,* which represents the level of an individual's religiosity interacting with the per capita income level.

This research investigates the influence of an individual's religiosity on their engagement in sustainable behaviors within the sample countries. There exists a limited body of empirical research exploring the impact of a person's religiosity on their attitudes toward sustainability. In the study conducted by Minton et al. (2015), a systematic examination was carried out to discern how a person's religious beliefs and values shape their consumption behaviors in a sustainable context. The study's results indicated a moderating effect of religiosity, with highly religious consumers exhibiting a greater propensity to participate in sustainable practices. Moreover, Karimi et al. (2022) employed the renounce theory of planned behavior to investigate the relationship between religiosity and the pro-environmental conduct of rural female facilitators in the Qom province of Iran. Their findings illuminated the pivotal role of religiosity as a social influence factor in determining pro-environmental behavior among the sampled individuals. Wahab (2017) investigates the impact of religious work values, specifically Islamic work values (IWVs), on the manifestation of sustainable work behaviors and employees' utilization of sustainable energy within a workplace context. Their findings reveal a statistically significant association between religious values, particularly IWVs, and sustainable work behaviors and energy consumption. Notably, the observed influence on sustainable work behaviors was found to be more pronounced than its impact on sustainable energy consumption.

Studies investigating the impact of religion on sustainable and prosocial behaviors have yielded diverse findings, as demonstrated by the works of Eckberg and Blocker (1996), Kearns (1996), Kirchmaier et al. (2018), and Vaidyanathan et al. (2018). The majority of existing research has primarily

concentrated on the correlation between religious beliefs and eco-friendly attitudes, leaving the underlying mechanisms that connect religion and environmentally responsible actions relatively underexplored. For instance, Greeley (1993) discovered a negative correlation between a commitment to environmental spending and biblical literalism but a positive correlation with being Catholic. Hayes and Marangudakis (2000) conducted a cross-country survey and identified significant inter-denominational variations within the Christian tradition concerning environmental attitudes. In this vein, Robina and Pulido (2018) have highlighted that recent research outcomes have not elucidated the precise mediating factors in the relationship between religiosity and a more favorable attitude toward nature. They advocate for further investigations to investigate this relationship and consider religiosity as a mediator of other constructs, such as prosocial behaviors. This underscores the complexity and importance of understanding the multifaceted interplay between religion and various dimensions of human behavior and attitudes, including sustainability-related ones.

This study possesses a distinctive and pioneering aspect by delving into the role of religiosity in shaping sustainable behaviors, leveraging an extensive microdata repository featuring a substantial sample size of 53,877 respondents hailing from 46 countries across diverse global regions. What sets this investigation apart is its scale. To date, no prior research has comprehensively examined this phenomenon using microdata on such a massive scale. Existing studies in this domain have typically been confined to single-country contexts or limited, relatively homogenous samples (e.g., Wahab, 2017; Karimi et al., 2022; Leonidou et al., 2022). These limitations have constrained the breadth and applicability of their findings. By contrast, our study, characterized by its broad nature, holds the potential to offer insights and implications that transcend national boundaries, making its findings relevant and applicable to countries across diverse sociocultural backgrounds worldwide.

Estimation Strategy

The estimation strategy for both equations employs Pooled Ordinary Least Squares (OLS) regression, supplemented by Robust standard

errors to address potential heteroscedasticity. To validate the suitability of this approach, a Breusch-Pagan Test was first conducted to detect heteroscedasticity in the sample dataset. The test results confirmed its presence, justifying the use of Robust standard errors alongside Pooled OLS regression as a robust corrective measure. This method is particularly beneficial when examining complex relationships across distinct groups or time points. Similar estimation strategies have been employed in prior research, as demonstrated by Lin (2019) and Becerra et al. (2013), further supporting its relevance and applicability in research methodology.

The Robust standard errors approach provides a useful alternative to conventional standard error calculations, effectively mitigating the impact of heteroscedasticity on our statistical inferences. The Robust standard errors operates by relaxing the assumption of homoscedasticity inherent in OLS regression, instead allowing for a more flexible error variance structure. Specifically, it estimates the variance-covariance matrix of the coefficients without imposing restrictive assumptions about the error term's behavior. This method adjusts the standard errors to account for potential heteroscedasticity, ensuring that our hypothesis tests and confidence intervals remain valid even in the presence of non-constant error variance. By implementing the Robust standard errors approach, we provide more reliable parameter estimates and statistical inferences across potentially heterogeneous subgroups within our diverse, multi-country sample. This approach aligns with best practices in econometric analysis for cross-sectional data, where heteroscedasticity is often a concern due to the inherent variability in large-scale, diverse datasets (White, 1980; MacKinnon and White, 1985).

Robustness Check

To ensure the robustness and credibility of our devised model, we conducted a robustness test by substituting our primary focal variable, Religiosity, with Disbelief (measured religiosity inversely). This strategic adjustment enables us to validate the reliability of our findings derived from the main model.

$$Sustainable\ Behavior_i = \alpha 0 + \alpha 1Age_i + \alpha 2Gender_i + \alpha 3Marital_i + \alpha 4Region_i + \alpha 5C1_i + \alpha 6C2_i + \alpha 7IncomeI_i + \alpha 8IncomeII_i + \alpha 9EducationI_i + a10EducationII_i + \alpha 11Disbelief_i + \varepsilon_i$$

Robustness Check - Baseline Equation (i)

$$Sustainable\ Behavior_i = \alpha 0 + \alpha 1Age_i + \alpha 2Gender_i + \alpha 3Marital_i + \alpha 4Region_i + \alpha 5C1_i + \alpha 6C2_i + \alpha 7IncomeI_i + \alpha 8IncomeII_i + \alpha 9EducationI_i + a10EducationII_i + \alpha 11Disbelief_i + a12Disbelief{\times}Inco_i + \varepsilon$$

Robustness Check - Extended Equation (ii)

This robustness test serves as a critical step in affirming the reliability and consistency of our model's outcomes by examining the impact of Disbelief as an alternative focal variable, reinforcing our research findings' credibility.

Results and Discussion

Tables 5 and 6 present the results from the baseline and extended equation estimations, respectively. As explained above, to address the significant variability in the data, robust pooled ordinary least squares (OLS) regression was employed, incorporating Robust standard errors to account for heteroscedasticity.

Table 5. Pooled OLS (with Robust Standard Errors) Regression Results – Baseline Equation

	Pooled OLS Regression with Robust Standard Errors
Sustainable Behavior	Coefficient
Age	.0004***
Gender	-.0244***
Marital	.0101***
Region	.0190***
C1	-.0035

	Pooled OLS Regression with Robust Standard Errors
C2	.0588***
Income I	.0774***
Income II	.1353***
EducationI	.0121***
EducationII	.0128***
Religiosity	-.0456***
Constant	9.653***
Observations	53,877
R2	0.0533

Note: *** denotes significance at 0.01 - ** denotes significance at 0.05 - * denotes significance at 0.10

Table 6. Pooled OLS (with Robust Standard Errors) Regression Results – Extended Equation

	Pooled OLS Regression with Robust Standard Errors
Sustainable Behavior	Coefficient
Age	.0004***
Gender	-.0245***
Marital	.0105***
Region	.0192***
C1	-.0045
C2	.0584***
Income I	.0434***
Income II	.1025***
EducationI	.0119***
EducationII	.0126***
Religiosity	-.0759***

	Pooled OLS Regression with Robust Standard Errors
Religiosity×Income	.0490***
Constant	9.653***
Observations	53,877
R2	0.0533

Note: *** denotes significance at 0.01 - ** denotes significance at 0.05 - * denotes significance at 0.10

Non – Focus Variables

Apart from C1 *(Coefficient Estimate: -.0035, p value: >0.05)*, all other factors substantially affect the sustainable behavior of individuals in the studied sample. *Age (CE: .0004, p value: <0.01)* has a significant positive impact in determining sustainable behavior amongst the studied individuals in the study. This finding denotes that people are more responsible in making sustainable choices with increasing age. Older individuals tend to have accumulated knowledge and life experiences, which often include a deeper understanding of the long-term consequences of their actions on the environment (Piligrimienė et al., 2020; Quoquab et al., 2019). With *Age*, people become more aware of environmental issues through exposure to information and firsthand experiences, further motivating them to engage in sustainable practices. Additionally, as individuals age, they typically achieve greater financial stability, allowing them to make more sustainable choices, even if these choices involve higher upfront costs but yield long-term savings (Sheoran and Kumar, 2022).

Furthermore, *Gender (CE: -.0244, p value: <0.01)* has a significant negative impact in defining sustainable behavior amongst the studied data observations. The findings suggest that being female has a negative significant impact on sustainable behavior, a complex issue that can be understood through various socio-cultural and economic lenses. Traditional gender roles and responsibilities often assign to women the bulk of household chores and childcare duties, which may limit their time and opportunities to engage in sustainability-related activities

outside the home (Panzone et al., 2016). Gender disparities in education and access to information can further compound this issue, with men potentially having greater exposure to sustainable practices. Economic disparities and gender wage gaps can hinder women's ability to invest in sustainable technologies or practices that may require initial financial investments (Bhutto et al., 2021).

The *Marital (CE: .0101, p value: <0.01)* variable represents that married individuals are more responsible with regard to sustainability. Marriage often fosters a sense of shared responsibility between spouses, including household tasks and decision-making. In the context of sustainability, this shared responsibility can lead to joint efforts to adopt eco-friendly practices, such as energy conservation, waste reduction, and sustainable consumption. Couples may find encouraging each other to make environmentally conscious choices easier, creating a positive influence within the household (Saphores et al., 2012). Moreover, the economic stability often accompanying marriage can significantly impact sustainable behavior. Married couples typically pool their financial resources, resulting in a higher combined income. This economic stability allows them to invest in sustainable technologies and practices that may have initial upfront costs, such as solar panels or energy-efficient appliances. This financial capacity empowers them to make choices that align with sustainability goals (Wan et al., 2014). Family values and the prospect of starting or raising a family can also play a pivotal role. Many couples who plan to have children develop a heightened sense of responsibility toward the environment. They aspire to create a sustainable and healthy environment for their offspring's future, which serves as a powerful motivator to engage in sustainable behaviors (Boztepe, 2012).

The observation that people from *urban (CE: .0190, p value: <0.01)* areas exhibit a positive and significant impact on sustainable behavior can be explained by several factors. Urban residents typically have better access to resources and services conducive to sustainability, including public transportation and recycling facilities (Topal et al., 2021). Environmental awareness is heightened in cities due to visible pollution and resource scarcity. Higher levels of education, greater economic stability, and the convenience of sustainable practices in urban

environments further encourage eco-friendly choices (Soopramanien et al., 2023). Moreover, time cohort 2 (*C2*) *(CE: .0588, p value: <0.01)* significantly shapes sustainable behaviour of the studied respondents. When comparing the time cohort 2 (2005 – 2009, 2010 – 2014, and 2017 – 2022) with the benchmark time cohort (1981 – 1984), a clear elevation in individuals' sustainable behavior can be observed. This phenomenon is attributed to several factors. During the C2 period, there was a notable rise in global environmental awareness, driven by increased attention to issues like climate change and resource depletion (Kollmuss and Agyeman, 2002; Vainio and Paloniemi, 2014). Advances in information dissemination, educational initiatives, and technological innovations facilitated greater access to sustainability-related knowledge and eco-friendly practices (Radziszewska, 2019). Moreover, the implementation of supportive policies, evolving social and cultural norms, and the influence of younger generations prioritizing sustainability have collectively contributed to a discernible elevation in sustainable behavior within the C2 cohort (Wan et al., 2014). This empirical evidence underscores the dynamic nature of sustainable behavior and the profound influence of temporal and contextual factors on individual'' proclivity towards sustainability.

Income dummy variables (*Income I and Income II*) *(CE: .0434, p value: <0.01 ; CE: .1353, p value: <0.01)* show a significant positive impact of income in determining sustainable behaviors amongst the studied population. This outcome aligns with existing empirical literature that has consistently classified income as a paramount factor in influencing sustainable practices among households (Panzone et al., 2016; Sheoran and Kumar, 2022). The reasoning behind this correlation is rooted in the fact that higher income levels provide individuals and households with the financial means to invest in sustainable technologies, products, and lifestyle choices (Bhutto et al., 2021). With greater economic resources at their disposal, individuals are more capable of adopting eco-friendly practices, such as purchasing energy-efficient appliances, opting for renewable energy sources, and engaging in environmentally responsible consumption patterns (Wu et al., 2016). Therefore, the observed positive relationship between income and sustainable behavior underscores the

pivotal role that economic prosperity plays in promoting sustainability within a given population, substantiating the academic consensus on this matter.

Lastly, the results of *Education* dummy variables (*Education I* and *Education II*) *(CE: .0121, p value: <0.01 ; CE: .0128, p value: <0.01)* suggest that an increase in the level of education has a significant positive impact in promoting sustainable behaviors amongst the studied population. This outcome aligns with the established body of research that underscores the crucial role of education in fostering sustainability. The reasoning behind this correlation is that higher levels of education equip individuals with greater knowledge, critical thinking skills, and awareness of environmental issues. Educated individuals are more likely to comprehend the long-term consequences of their actions on the environment and society, thus motivating them to engage in eco-conscious practices (Pimdee, 2020). Furthermore, education often exposes individuals to sustainability-related information and encourages them to adopt responsible consumption patterns, energy-efficient practices, and eco-friendly technologies (Kollmuss and Agyeman, 2002; Vainio and Paloniemi, 2014). Hence, the observed positive relationship between education and sustainable behavior reaffirms the scholarly consensus on the significance of education as a catalyst for promoting sustainability within a given population, highlighting the pivotal role of knowledge and awareness in driving pro-environmental actions.

Variable of Interest

Examining the result that religiosity *(CE: -.0456, p value: <0.01)* has a significant negative impact on sustainable behavior is a complex issue, as it involves the intersection of personal beliefs, cultural norms, and environmental attitudes. To discuss this result in detail, we can consider various factors and provide analysis, while also recognizing that individual interpretations and practices of religion can vary widely. How individuals interpret religious texts and teachings can greatly influence their views on environmental stewardship (Steg et al., 2005). Some interpretations may emphasize human dominion over nature, potentially

leading to a perception that environmental concerns are less important (James, 2004; Rice, 2006). However, it is crucial to note that religious texts can be interpreted in multiple ways, and some religious traditions emphasize the importance of caring for the earth as part of their faith. Secondly, cultural practices and traditions that are intertwined with religious beliefs can also affect sustainable behavior. For example, certain cultural practices may involve rituals or ceremonies that produce waste or consume resources, potentially conflicting with sustainability principles. However, many religious traditions also have rituals emphasizing respect for nature and promoting environmental conservation (Corraliza and Berenguer, 2000; Kollmuss and Agyeman, 2002).

Religious leaders and authorities wield considerable influence over the beliefs and conduct of their followers. When religious leaders fail to prioritize environmental concerns or actively discourage sustainable practices, it can shape the behavior of their congregants, as indicated by Sarre (1995). Conversely, some religious leaders strongly advocate for environmental stewardship and endorse sustainable living as an integral aspect of their faith, as demonstrated by Minton et al. (2015). Empirical investigations examining the relationship between religiosity and sustainable behavior have yielded varied results. Some studies have identified a negative association between religiosity and pro-environmental actions, while others have uncovered no significant connection or even a positive correlation in certain instances, as evidenced by Agudelo and Cortes-Gomez (2021), Karimi et al. (2022), Leary et al. (2016), Leonidou et al. (2022), and Muñoz-Garcia and Villena-Martinez (2020). These disparities underscore the intricate nature of this issue and highlight the significance of taking into account additional contributing factors.

The interaction between religiosity and income introduces a nuanced dimension to our analysis, revealing a complex interplay between these factors in shaping sustainable behavior *(CE: .0490, p value: <0.01)*. This finding suggests that the influence of religiosity on sustainable behavior is not uniform across socioeconomic strata, but rather is moderated by individuals' income levels. This relationship can be developed through the lens of Maslow's (1943) Hierarchy of Needs, a theoretical framework that posits a hierarchical structure of human motivations. At the

foundation of Maslow's hierarchy lies physiological needs—fundamental requirements such as nutrition, hydration, and shelter—which are essential for basic survival. These needs take precedence over higher-order concerns, including environmental stewardship. Consequently, the fulfillment of these elemental physiological needs is a prerequisite for individuals to engage in sustainable practices, which often require additional resources, both cognitive and material.

Higher income levels typically correlate with enhanced access to resources that facilitate sustainable living. This improved access can manifest itself in various ways, such as the financial capacity to invest in energy-efficient appliances and technologies, the ability to afford organic or locally-sourced products (which often come at a premium), increased educational opportunities leading to greater environmental awareness, and residential choices that offer proximity to recycling facilities or public transportation. Thus, as income increases, individuals are better positioned to overcome the economic barriers that might otherwise impede the adoption of sustainable behaviors (Kollmuss and Agyeman, 2002). The positive interaction between religiosity and income in our model suggests that at higher income levels, the previously observed negative effect of religiosity on sustainable behavior is mitigated. This mitigation effect could be attributed to several factors. First, higher-income individuals may have the means to align their religious values with sustainable practices, even if such practices require additional investment. Second, increased income often correlates with higher education levels, potentially leading to a more nuanced understanding of religious teachings in relation to environmental stewardship. Third, higher-income religious communities might place greater emphasis on environmental responsibility as part of their social doctrine. Lastly, with basic needs met, individuals can focus on higher-order concerns, including environmental sustainability, without any perceived conflict with religious obligations.

The interaction between religiosity and income in shaping sustainable behavior can be further considered through the lens of the Theory of Planned Behavior (TPB) (Ajzen, 1985), particularly in relation to Perceived Behavioral Control (PBC). Within the TPB framework, PBC represents an individual's perception of the ease or difficulty of

performing a particular behavior, taking into account past experiences and anticipated obstacles. In the context of our findings, income emerges as a critical factor influencing PBC with respect to sustainable behaviors. Higher income levels are likely to enhance an individual's PBC by increasing their access to resources and opportunities that facilitate sustainable practices. For instance, higher-income individuals may perceive greater ease in purchasing energy-efficient appliances, investing in renewable energy sources, or choosing eco-friendly transportation options. This increased PBC, in turn, may mitigate the potential negative effects of religiosity on sustainable behavior. As individuals with higher incomes feel more capable of engaging in sustainable practices, they may be more likely to align their religious values with environmental stewardship, regardless of the specific tenets of their faith. This interpretation aligns with recent research by Pieters et al. (2023), who found that improved access to sustainability-enabling amenities indirectly bolsters environmentally responsible behaviors. Our study extends this understanding by demonstrating how such access, proxied by income levels, interacts with religiosity to influence sustainable behavior through the mechanism of enhanced PBC. This insight contributes new knowledge to the field of religion and ecology, deepening our understanding of the complex interplay between religiosity, socioeconomic factors, and pro-environmental behaviors.

Existing scholarly literature posits that individuals with pronounced religiosity tend to possess lower income levels (Bettendorf and Dijkgraaf, 2009; Bettendorf and Dijkgraaf, 2005; Heath et al., 1995; Lipford and Tollison, 2003). Therefore, it is arguably unrealistic to expect that individuals contending with the challenges of meeting basic survival needs will simultaneously demonstrate a sincere dedication to environmental preservation. It is imperative to emphasize that characterizing religiosity as inherently antagonistic to sustainable behaviors represents an overly reductionist assertion, as the primary factor frequently influencing an individual's inclination towards sustainable practices tends to be their foundational income level. For instance, it is worth noting that nations that have ardently championed sustainable behaviors and practices have, in fact, precipitated significant environmental degradation during past

industrial revolutions (Martinez, 2005). Paradoxically, these nations, having attained requisite levels of development and living standards, are now proponents of sustainability, calling upon less-developed nations, many of which espouse higher levels of religiosity, to adopt similar environmental conservation efforts. Labeling religiosity as an inherently adverse influence on environmental stewardship is a biased inference.

Consequently, a more prudent conclusion is that the inclination toward sustainable practices within a society is intricately tied to the prevailing level of economic development and living standards. Furthermore, the interplay between religiosity and these sociodemographic factors may potentially serve to augment, rather than diminish, the impetus for sustainable behavior (Steg et al., 2015; Nguyen et al., 2016). For example, religiosity often includes values of compassion, charity, and generosity. Higher-income individuals who are also religious may feel a stronger moral obligation to engage in sustainable and charitable acts. Their religious values might align with the idea of responsible stewardship of resources and assisting those in need, encouraging them to support sustainability initiatives and engage in philanthropy (Muñoz-Garcia and Villena-Martinez, 2020). Income levels significantly affect an individual's ability to afford sustainable practices and technologies. Higher-income individuals have greater financial resources to invest in renewable energy sources, energy-efficient appliances, and sustainable transportation options (Panzone et al., 2016; Sheoran and Kumar, 2022). Religious values may further motivate them to make these eco-conscious choices, knowing they have the means to do so.

Robustness Analysis

For increased robustness in our analysis, we have replaced our primary focal variable *Religiosity* with its inverse counterpart *Disbelief*. The outcomes of this substitution are illustrated in Table 7. The replacement of religiosity with disbelief has substantiated the results obtained from our principal empirical models. Notably, the coefficients associated with disbelief exhibit a statistically significant positive impact on sustainable behavior and a significant negative impact when interacting with income

levels. These findings support our overarching analysis, suggesting that when income levels are held constant among individuals with high religiosity and those with a high degree of disbelief, the former tend to exhibit a greater propensity toward sustainable behavior than the latter. Notably, these findings align with the conclusions of previous studies by Filippini and Srinivasan (2019) and Mo et al. (2023). Therefore, it can be inferred that providing economic support to individuals with high religiosity can contribute positively to achieving sustainable environmental goals.

Table 7. Pooled OLS (with Robust Standard Errors) Regression Results for the Robustness Check– Baseline and Extended Equations

	Pooled OLS Regression with Robust Standard Errors	Pooled OLS Regression with Robust Standard Errors
Sustainable Behavior	Coefficient	Coefficient
Age	.0003***	.0003***
Gender	-.0209***	-.0209***
Marital	.0094***	.0095***
Region	.0214***	.0214***
C1	-.0033	-.0035
C2	.0597***	.0596***
Income I	.0802***	.0856***
Income II	.1399***	.1454***
Education I	.0135***	.0135***
Education II	.0132***	.0132***
Disbelief	.0225***	.0290***
Disbelief×Income	-	-.0111***
Constant	.2082***	.2054***
Observations	53,877	53,877
R2	0.0509	

Note: *** denotes significance at 0.01 - ** denotes significance at 0.05 - * denotes significance at 0.10

Concluding Remarks

This study examined the impact of religiosity on sustainable behavior using extensive data from 46 countries and 53,877 respondents, making it one of the most comprehensive investigations of its kind. It has introduced an innovative perspective by incorporating income as a crucial socio-demographic factor and demonstrated that the relationship between religiosity and sustainability is nuanced. While religiosity alone appears to have a negative impact on sustainable behavior, when religiosity is considered alongside income, it positively influences sustainable behavior. This underscores the complexity of the interaction between personal beliefs, cultural norms, and environmental attitudes. It suggests that achieving sustainability goals requires addressing basic physiological needs and creating conditions where religious values can guide individuals toward environmentally responsible actions.

In summary, this research significantly advances our understanding of how religiosity and income intersect to shape sustainable behavior. It emphasizes the importance of improving individuals' well-being to a level where basic needs are met, allowing religious principles to play a constructive role in fostering a sustainable future. Rather than attributing environmental challenges solely to impoverished religious communities, policymakers should focus on creating an environment where religious values can positively contribute to sustainability efforts.

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Endnotes

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