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The Role of Environmental Awareness in Promoting Sustainable Consumption and Ecological Responsibility

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ABSTRACT

This study examined the role of environmental awareness in promoting sustainable consumption and ecological responsibility among consumers in Pakistan, with particular attention to how awareness of environmental issues may contribute to responsible environmental attitudes and sustainable consumption practices. A quantitative research design was employed, and primary data were collected from 423 respondents representing different geographical areas and consumer backgrounds across Pakistan. An adopted and structured questionnaire was used to measure environmental awareness, ecological responsibility, and sustainable consumption, while demographic information was also collected. The questionnaire was administered through an online Google Form, and the survey link was distributed to potential respondents through online communication channels. The collected responses were initially organized and screened in Microsoft Excel and were subsequently transferred to SPSS for statistical analysis. The analysis included reliability assessment, descriptive statistics, Pearson product-moment correlation, simple linear regression, independent-samples t-test, and one-way analysis of variance. The findings showed that environmental awareness was positively associated with sustainable consumption and significantly contributed to ecological responsibility. The results further demonstrated that ecological responsibility was positively related to and significantly predictive of sustainable consumption, indicating that consumers who were more environmentally aware and felt greater responsibility toward environmental protection were more likely to engage in sustainable consumption practices. The study contributes to the understanding of sustainable consumer behaviour by examining environmental awareness and ecological responsibility within an integrated framework and provides useful insights for environmental educators, policymakers, consumer organizations, and sustainability initiatives in Pakistan. Strengthening environmental awareness and encouraging a greater sense of ecological responsibility may support the development of more sustainable consumption practices and contribute to broader environmental protection efforts.

Introduction

Environmental Awareness

Environmental Awareness is the degree to which individuals are informed about environmental concerns and the steps needed to prevent ecological destruction. This includes the ability to identify and explain various environmental issues, like climate change, and reflect on potential solutions. More often than not, people will be informed about an environmental issue if they are actively engaging in discussions, or if they have a personal commitment to environmentalism. Awareness is only a part of the equation. Just as important is care. People need to care about the environment, and be committed to environmental improvement. As research continues to address environmental issues, awareness and commitment to the environment will be critical to translating knowledge into action. The goal will be to promote behaviors that lessen environmental degradation and a value system whereby people are able to identify negative environmental consequences of their consumption choices (Handayani et al., 2021).

Understanding the connection between our impact on the environment and climate change, waste and loss of biodiversity, has helped the UNEP identify the main causes of the current crisis as being from irresponsible production and consumption patterns. Transformation of the way we produce and consume is vital. Understanding the challenges the environment is facing as a consequence of over consumption and identifying potential solutions is the first step towards establishing sustainable consumption and production. People with an advanced level of environmental awareness are believed to have a strong commitment to the environment and are considered more likely to practice green consumption (Takala, 1991).

Of course, possessing knowledge and awareness of the impact of human activities on the environment does not necessarily result in modifying an individual's consumption behaviors.

Price, convenience and availability of goods continue to influence the types of goods people purchase regardless of their understanding of the negative impact of their consumption behavior. Environmental awareness and green attitudes of people are often at odds with their actual consumption behavior (2024). Although green attitudes and concern for the environment have been increasing, actual sustainable consumption remains low due to various economic, social and cultural factors (Ham et al., 2016).

Sustainable Consumption

Consumption that aims to meet the needs of the population without deteriorating the ecosystems and affecting the rights of future generations is known as sustainable consumption. It comprises several interrelated elements such as use and consumption of energy, materials and products, including services; efficiency in the use of natural resources; elimination, recycling and reuse of discarded materials; selection of environment-friendly options; and consideration of the social and environmental effects of the consumption. Rational use of natural resources is essential for achieving sustainable consumption and production, and it is related to other goals and targets of the 2030 Agenda for Sustainable Development (Jackson, 2014).

Situations beyond the capacity of the ecosystems to accommodate (i.e. environmental degradation and climate change) have resulted from the rapid increase in consumption and production, and extraction of natural resources. The increase is attributed to population growth and rising living standards. According to the Global Resources Outlook 2024, growth in the use of natural resources has increased the adverse effects on the environment, and it has worsened climate change, biodiversity loss, and pollution and waste. Certain sustainable consumption behaviors can bring improvements in areas such as food and product systems, and modes of transport and energy. Recurring behaviors of large populations can result in improved environmental status, e.g. reduced greenhouse gas emissions. Such behaviors can also help combat issues like biodiversity loss, soil and water contamination, and deteriorating air quality (Quoquab & Mohammad, 2020).

Numerous studies show positive relationships between environmental awareness and knowledge, and sustainable behaviors. Effective measures to increase environmental awareness and knowledge can therefore, promote sustainable consumption (Ghaffar et al., 2023). Adequate research shows positive relationships between environmental awareness and knowledge and sustainable consumption in differing contexts. For example, positive relationships have been found among nursing students in Turkey and among residents in China. Positive relationships have also been found between environmental knowledge and environmental risk perception, as well as health consciousness and social norms (Dönmez & Yardımcı, 2024).

Ecological Responsibility

Ecological responsibility encompasses the understanding of the impact of one's actions and how to limit negatively impacting the environment. Furthermore, ecological responsibility includes care and consideration towards resources for the benefit of the public and future generations. Ecological responsibility generally goes beyond care and consideration for the environment. Ecological responsibility focuses on the individual's perception of the need to act to avert environmental degradation. Environmental responsibility has been recognized in various studies as one of the important elements of environmental literacy (Panov, 2013).

Ecological responsibility is particularly relevant to consumer behavior. In fact, a responsibility toward the environment should especially be reflected in the choices consumers make regarding the acquisition, use and disposal of various goods and services. A consumer is expected to consider if the good or service is essential, the potential environmental impact of the good or service and if the good or service can be disposed of in an environmentally safe manner. In this case, understanding the environment is combined with accountability for actions. A study done by Jia et al. (2024) focused on user perception of consequences and responsibility and its influence on user behavior regarding energy efficiency and conservation (Mathevet et al., 2018).

It is also possible that the behavioral consequences of environmental understanding are largely determined by the degree of responsibility that individuals feel towards environmental outcomes. People may be likely to transform their environmental understanding into behavior when they believe they are personally responsible for the outcome. Khalid et al. (2024) examined environmental understanding and sense of responsibility regarding the consumption of sustainable products among consumers in Pakistan. The study demonstrated the need to include these concepts for user behavior regarding environmental sustainability in an emerging economy. There are many barriers that influence consumer behavior. Responsibility alone is not the determining factor for transforming consumer behavior towards sustainability.

Environmental Awareness and Sustainable Consumption

Environmental awareness may represent a means of transforming consumer preferences towards more sustainable forms of consumption. This is in particular the case when environmental awareness enables consumers to recognize unsustainable consumption choices and helps to make sustainable consumption alternatives visible (Haron et al., 2005). The integration of environmental concerns into the decision-making process may enable consumers to re-evaluate their preferences towards more sustainable alternatives. The positive correlation between environmental awareness and attitude towards sustainable consumption as well as the positive correlation between environmental literacy and green consumption in China indicate that in both contexts consumers are relatively willing to consider environmental issues within the realm of their overall utility and function when making consumption choices (Dönmez & Yardımcı, 2024).

It is likely that the process by which environmental awareness leads consumers to recognize the environmental consequences of their actions facilitates the incorporation of environmental considerations into the consumers' utility function. Environmental awareness, therefore, has the potential to transform consumer preferences and shift consumption choices in a more sustainable direction. There are, however, a number of barriers that may prevent awareness from transforming preferences and choices in the desired direction (Al-Raqeb et al., 2023). From the available evidence, barring major structural changes to the economy, the preponderance of consumer preferences and actions will remain irrational from the perspective of environmentally sustainable development.

Environmental Awareness and Ecological Responsibility

Environmental awareness and ecological responsibility are closely related. Understanding environmental issues often leads the public to appreciate their part in creating such problems and, thus, their responsibility for solving those problems. With knowledge of the consequences of the depletion of natural resources and the consequence of human activities (i.e. pollution, waste and climate change, etc.) people are more likely to take action to protect the environment. Each person and the society as a whole should realize that it is their obligation to care for the environment and that they should not wait for the government and other organizations to address environmental problems. Environmental responsibility is a component of environmental literacy and public understanding of environmental issues. Awareness of environmental issues helps people appreciate their responsibility for addressing environmental problems (Omoogun et al., 2016).

There is little evidence to evaluate the relationship between environmental responsibility and ecological responsibility. However, the available evidence indicates that both concepts are interrelated and help establish a person's willingness to help protect the

environment. The role of ecological responsibility and awareness in shaping consumers' eco-preferential behavior has been investigated in Pakistan (Avunduk et al., 2026).

Ecological Responsibility and Sustainable Consumption

Consideration of the ecological consequences of one's actions relates to the concept of sustainable consumption in several ways. For responsible consumers, the consideration of ecological consequences can be extended to all stages of the product life cycle, namely to the production and post-consumption stages. Responsible consumers may reduce the total extent of their consumption, and may also choose environmentally friendly alternatives, using less and wasting less. They may also reuse and recycle. Responsible consumption of this nature has been termed green or ethical consumption. Research also suggests that responsibility plays a key role in the case of energy efficient consumption. International evidence shows that that responsibility for environmental consequences of human activities shapes and influences people's pro-environmental behavior (Middlemiss, 2010).

The importance of environmental responsibility allows a better understanding of the role of environmental awareness in influencing sustainable consumption. Responsibility shapes behavior and environmental awareness enhance it. Environmental responsibility is also essential in explaining sustainable consumption. Evidence from consumers in Pakistan demonstrates that environmental awareness and environmental responsibility play key roles in explaining sustainable consumption behavior. However, this behavior is influenced by several context specific barriers (Hosta & Zabkar, 2021).

Research Objectives

- To examine the role of environmental awareness in promoting sustainable consumption among consumers.
- To assess the influence of environmental awareness on ecological responsibility.
- To determine the relationship between ecological responsibility and sustainable consumption.

Problem Statement

Concerns regarding the environment and sustainable use of the world's resources are increasing. However, the incongruence between environmental concern and suitable behavioral response to this concern remains a pressing problem. Much research shows environmental concern is present; however, research shows there is little evidence of concern being shown through behavior that is harmonious with the environment and sustainable (Andrade & Vieites, 2025). Concern for the environment has predominantly been studied in relation to sustainable consumption and behavioral response. However, the role of personal ecological responsibility has been neglected. Evidence shows that ecological responsibility and concern can be integrated and may help explain sustainable behavioral response (Sari et al., 2026). The majority of the literature focused on environmental concern has been primarily in developed nations. In less developed countries, including Pakistan, very few, if any, studies have been conducted to examine environmental concern and integrative ecological responsibility in the framework of sustainable consumption and behavioral response. Therefore, the goal of the current study is to determine the extent of integration of environmental concern and personal ecological responsibility in the domain of sustainable consumption behavior.

Significance of the Study

This study is essential because it helps describe the function of the environmental awareness green-to-green gap and encourages sustainable behavior. The study wants to go beyond describing environmental awareness and show how awareness can affect perception towards environmental responsibility. It could inspire individuals to make more sustainable consumption choices and adjust their end-of-life product transformation behavior. If the goal is achieved, it would accomplish the need for individuals to manage their consumption and end-of-life behavior in a more sustainable way. The study should be useful to environmental advocates, officials, and agents to define and implement strategies to enhance environmental stewardship. The study has the potential to answer some of the gaps in research concerning the impact of environmental awareness on sustainable behavior and help researchers in similar fields to frame their studies and propose additional variables.

Literature Review

Environmental Awareness as a Foundation for Environmentally Conscious Behaviors

Multidimensional environmental awareness includes understanding environmental issues, identifying impacts of environmental issues, demonstrating concern for the environment, and understanding the relationship between human activities and the

environment. Environmental awareness is closely related to environmental values, beliefs and feelings, and readiness to act on these feelings. The review conducted by Das et al. (2025) states that in recent years, research on green consumption has included a psychological approach and other social and economic approach. Likewise, other researchers (Yadav et al., 2024) explain that research focusing on sustainable consumption has evolved from consideration of consumers' environmental attitude to integration of consumers' value and belief structures.

An understanding of the relationship between consumption and environmental issues gives citizens the foundation to understand how to engage in behaviors' that lessen environmental issues and encourages ecological concern. The study by Ghorban Nejad et al. (2024) explains that most participants in the study believed that lessening environmental issues is significantly correlated with lower consumption, and having this knowledge encouraged people to be less consumption; however, the participants also held misconceptions regarding the relationship. The study by Khan et al. (2024), highlights the need to interpret consumers' consciousness regarding ecological issues and provide context specific evidence in relation to pro-environmental behavior. Research focusing on consumers in Pakistan supports the notion that awareness regarding environmental issues is associated with behavior regarding protection of the environment.

Sustainable Consumption and the Transformation of Consumer Practices

Sustainable consumption is about becoming aware of the different ways in which the practice of consumption can contribute to sustainability. It also takes into account the impacts of such practices on the ecosystems and other living beings. Impact on sustainable consumption can occur during the different stages of the production and consumption process, such as purchase, use, and disposal of a product. Knowledge on sustainable consumption is relatively recent, and, therefore, still evolving. In a study on 217 publications on sustainable consumption in the fashion industry, Schiaroli and Fraccascia (2026), identified different attitudes and behaviors of fashion consumers related to the purchase of sustainable fashion. The attitude of consumers towards the environment was found to be of secondary importance. First, consumers consider price and availability of sustainable fashion. In addition, consumers take into account information availability and convenience (for example, presence of sustainable fashion near a workplace). Similar results are reported in other studies on the key factors of sustainable consumption. Syed et al. (2026), focus on 14 theories and 64 publications, and identify, in addition to environmental values, psychological and social factors, and control and situational contexts as key factors influencing the intention and the behavior of the consumers. Nguyen et al. (2026) examine the barriers to sustainable supermarket shopping, and find that the main obstacles are beyond the consumer's control.

Ecological Responsibility and Responsible Consumption Practices

Ecological responsibility refers to an individual's awareness and responsibility to protect the environment from damages and to preserve ecological resources. Responsible consumption is now largely reflected in the integration of ethics and responsibility in consumer behavior. Several studies have reviewed the effects of the integration of ethics and responsibility in consumer behavior and identified other variables such as social values and concerns, environmental problems, and issues of sustainability. Nangia et al. (2024) reviewed 203 articles and identified ethics, environment, social values and issues, and firm's social and business responsibility, and economics as major research areas in the field of responsible consumption.

Ecological responsibility has an added advantage of providing insights on the reason for the varied consumer behavior in response to environmental awareness. There are individuals who have some environmental knowledge, but are not motivated to alter their behavior. People who believe their environmental problems are caused by their consumption behave in the opposite way and alter their consumption patterns. A body of knowledge on consumer behavior in Pakistan suggests that there is environmental awareness and knowledge in the society and some individuals feel responsible for environmental issues and are motivated to be engaged in environmentally sustainable behavior.

Environmental Awareness and Sustainable Consumption

The relationship between environmental awareness and behavior is complex. One country's commitment to social and environmental sustainability may deepen awareness of the consequences of individual actions and social choices, increasing consumers' awareness of the environment in the process (Megha, 2024). Research emphasizes that, although consumers may have environmental concerns and a range of related psychological traits, they may not modify their purchasing behaviors to reflect those concerns (Yadav et al., 2024). Pakistan-based research focuses on the same concerns. Khan et al. (2024) explored environmental and sustainability concerns related to the behavior of university students, and other researchers studied and documented sustainable green apparel choices among Pakistan's university students (2024). During the last decade, researchers have documented that people, all over the world, are more aware of environmental issues; but that understanding has not always

led to modifying their behaviors to fully reflect the concerns (i.e. ‘walk the talk’). With this understanding, the current study emphasizes environmental concern to deepen its understanding of sustainable consumption, and recognizes that there are a multitude of factors that influence consumers’ purchases.

Integrated Perspective on the Study Variables

According to the available literature, there is conceptual overlap between environmental awareness and sensitivity, ecological responsibility and sustainability in consumption. However, they should not be considered as synonymous concepts. Environmental awareness is the comprehension of various environmental challenges. Ecological responsibility denotes commitment to protection of the environment. Sustainability in consumption means that in the process of fulfilling his/her personal consumption needs, an individual does not compromise the satisfaction of the consumption needs of other individuals and does not affect the environment negatively. Among the various determinants of sustainable consumption, the best evidence is in favor of social, economic and psychological factors. The most important factor, however, depends on the context. It is important to note that previously, several studies have analyzed environmental awareness and green (sustainable) consumption; however, integration of all three constructs in the same study is less common. The existing literature has identified the ‘awareness-behaviour’ gap as a major research deficiency. This study, therefore, aims to analyze these three constructs in the case of Pakistan and address the aforementioned research deficiency (Moreira et al., 2013).

Research Gap

Although the literature has established that environmental awareness is associated with sustainable and green consumption, an important gap remains in explaining how awareness is connected with ecological responsibility and sustainable consumption within an integrated framework. Recent systematic reviews indicate that sustainable consumption research has largely focused on attitudes, environmental concern, subjective norms, perceived behavioural control, values, and other psychological or contextual determinants, while the interaction between awareness and responsibility requires further empirical attention (Rustam et al., 2020). Moreover, Seyfang (2005), based on an integrative review of 203 studies, identified environmental concern and ethical obligations as important dimensions of responsible consumption but also emphasized the need for further research across different contexts, particularly developing countries. In Pakistan, previous research has examined environmental awareness and sustainable consumption among university students and has reported significant associations between ecological awareness and sustainable consumption behavior, examined green environmental awareness and sense of responsibility in relation to sustainable product consumption among Pakistani consumers. However, these studies have generally examined specific populations, products, or mechanisms, leaving limited evidence on the broader relationship among environmental awareness, ecological responsibility, and sustainable consumption within a single empirical framework. Therefore, the present study addresses this gap by examining environmental awareness as a key factor associated with ecological responsibility and sustainable consumption, thereby providing a more integrated understanding of environmentally responsible consumption behavior in the Pakistani context.

Hypotheses

- **H1:** Environmental awareness is significantly and positively associated with sustainable consumption.
- **H2:** Environmental awareness significantly predicts ecological responsibility.
- **H3:** Ecological responsibility significantly predicts sustainable consumption.

Conceptual framework

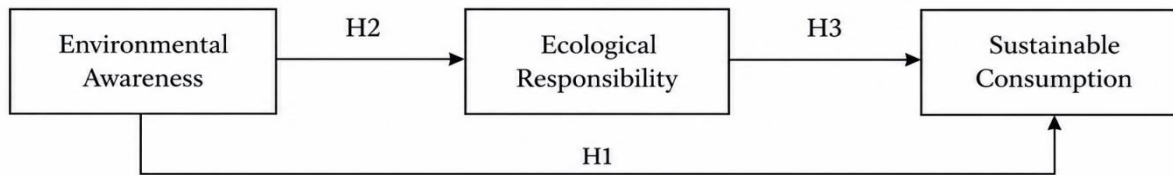


Fig. 1 Conceptual framework

Methodology

Research Design

The focus of the study was to assess the influence of environmental awareness in the context of sustainability and ecological responsibility. To do this, a quantitative research design was adopted. A special type of questionnaire was developed and given to individuals to complete on their own. The questionnaire was created to be completed and returned by consumers who are 18 years of age or older and residing in Pakistan. The completed questionnaires were collected and Spss was used to analyze the data.

Population

The study was concerned with individuals who are 18 years of age or older and living in Pakistan and who participate in the consumption process either individually or in the household. The participants were living in all the major cities and rural areas of all the provinces of Pakistan. The participants were employed in all types of organizations and businesses and also a part of the community. The study was concerned with the general population and no population of students was included.

Sampling Technique

As the questionnaires were available and given to participants via an online link, the sampling method was convenience and non-probability.

Sample Size

A total of 423 participants completed the questionnaires. The questionnaires were examined to check if all the sections were completed and if they were then they were included in the study. Consequently, a total of 423 participants were included in the study.

Data Collection

Data were collected with a structured questionnaire, completed online via Google Forms. Participants' completion of the questionnaire was considered informed consent. The questionnaire had sections on the respondents' awareness and responsiveness to the environment, as well as their penchant toward sustainable use of the environment. It also had sections on the respondents' attitudes toward technology. The last section of the questionnaire had items on respondents' demographic characteristics. Items on participants' environmental worldview and their awareness toward ecological issues were drawn from the New Ecological Paradigm (NEP) Scale. The items on participants' awareness toward ecological concerns and their responsibility toward the environment were adopted from other scales as well. The items assessed participants' attitudes toward ecological responsibility and examined their preferences for environmental protection. Other studies have assessed environmental responsibility as the engagement of individuals in environmentally sensitive behaviors and the consideration of the ecological impact of their decisions.

Sustainable consumption was assessed by adapting measures developed by Roberts (1996) and the Ecologically Conscious Consumer Behavior scale. The items assessed purchasing products and/or services with consideration for their impact on the environment, as well as the use of products and services to lessen negative impact on the environment (e.g., using energy efficient appliances, conserving energy, etc.). Evaluation of consumer behavior for sustainability has been based on measures developed by Roberts (1996) in more recent consumer research studies.

The surveys were converted to an online format, and the electronic version was sent to participants for completion. The surveys were written in such a way to provide participants with the reasons for the study and to gather information if the participants so chose. Participants were permitted to provide the information at their convenience and in the order chosen by the participant. Since the information was provided and captured electronically, it was automatically filed in Google. The information was later transferred and filed in Excel for further review and analysis

Data Analysis

Data generated and processed through MS Excel were utilized to check the appropriateness of responses, correct inappropriate responses and eliminate irrelevant responses. Data thus cleaned were analyzed further using the statistical package for social sciences (SPSS). SPSS provides a wide range of functions to help analyze and report data. In the current study, SPSS was utilized to generate basic response variables summaries. In addition, to assess the overall performance of the scale used in the study, SPSS was utilized to analyze the Cronbach's Alpha coefficient. Further, the correlation of ecological responsibility and environmental awareness with sustainable consumption was analyzed using the SPSS correlation function. In the same analysis SPSS function of simple linear regression was utilized to analyze the impact of ecological responsibility and environmental awareness with sustainable consumption. Where needed, comparability and equivalent findings to those of the main analysis were achieved through student's t-test. Where three or more categories of the variable existed, analysis of variance (ANOVA) was applied. In cases where an overall level of significance was achieved, a comparability and equivalent findings to those of the main analysis were achieved through Tukey's HSD test.

Ethical Considerations

This study describes the results of a research project conducted at University X. All respondents were given the opportunity to refrain from participating in the project and were informed of the general purpose of the project. The information obtained was for research purposes only. The respondents' names were not recorded and no university-related information was provided.

Table 1: Demographic Characteristics of Respondents (N = 423)

Demographic Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	238	56.3
	Female	185	43.7
Age	18–25 years	126	29.8
	26–35 years	157	37.1
	36–45 years	88	20.8
	46 years and above	52	12.3
Education	Intermediate or below	61	14.4
	Bachelor's degree	168	39.7
	Master's degree	142	33.6
	MPhil/PhD	52	12.3
Employment Status	Employed	231	54.6
	Self-employed	96	22.7
	Unemployed	57	13.5
	Other	39	9.2

Demographic Variable	Category	Frequency (f)	Percentage (%)
Monthly Income (PKR)	Below 50,000	112	26.5
	50,000–99,999	151	35.7
	100,000–149,999	94	22.2
	150,000 and above	66	15.6
Geographical Area	Punjab	177	41.8
	Sindh	91	21.5
	Khyber Pakhtunkhwa	73	17.3
	Balochistan	36	8.5
	Islamabad Capital Territory	46	10.9
Total Respondents	—	423	100.0

A total of 423 participants from various regions and social classes of Pakistan took part in the survey. The sample comprised 56.3% men and 43.7% women. The age group 26–35 years (37.1%) and 18–25 years (29.8%) age groups comprised the largest segments of the sample. The highest educational attainment in the sample was a Bachelor's Degree (39.7%), followed by a Master's Degree (33.6%). Of the sample, 54.6% were regular employees, while 22.7% were self-employed. Of the employed and self-employed participants, the largest segment (35.7% of the total sample) reported a monthly income between 50,000–99,999 PKR. The largest segment (41.8%) of participants was from the Punjab province. The sample also included participants from Sindh (21.5%), Khyber Pakhtunkhwa (17.3%), Baluchistan (8.5%), and the Islamabad Capital Territory (10.9%). The overall sample represented various segments of the Pakistani population, including age, education, income, and employment.

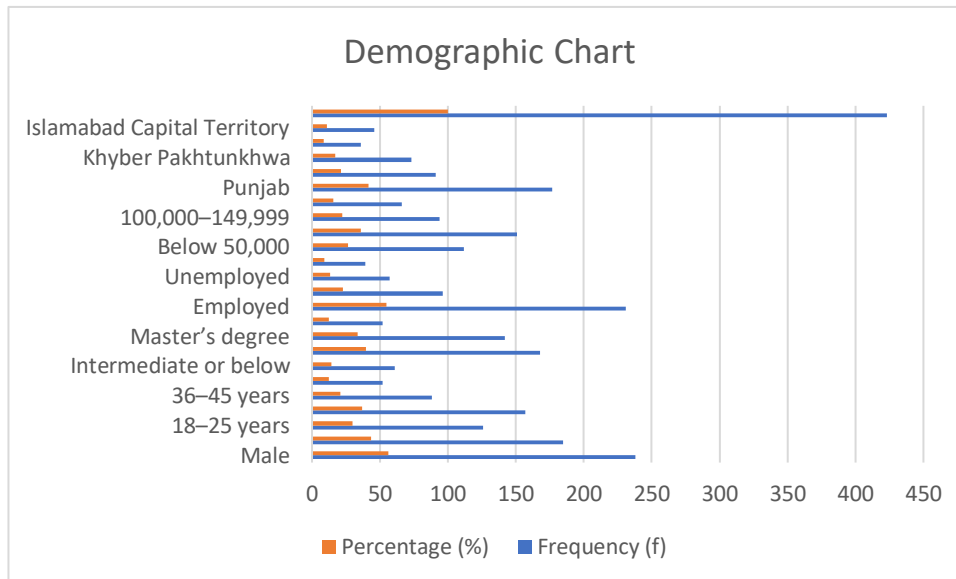


Fig. 2 Demographic Characteristics of Respondents (N = 423)

Table 2: Reliability Statistics, Means, and Standard Deviations of Study Variables (N = 423)

Variables	Number of Items	Cronbach's Alpha (α)	Mean (M)	Standard Deviation (SD)
Environmental Awareness	8	0.884	3.87	0.61
Ecological Responsibility	7	0.901	3.92	0.58
Sustainable Consumption	8	0.913	3.79	0.64

The three study variables showed acceptable internal consistency per their reliability analysis. The item total score for Environmental Awareness was 19, with a Cronbach's alpha of 0.884. For Ecological Responsibility and Sustainable Consumption, their item total scores were 22 and 16, respectively, with Cronbach's alphas of 0.901 and 0.913, respectively. Variables in each construct showed strong internal consistency. Average responses for all study variables were favorable. Standard deviations showed some variability in the responses. It was concluded that the measurement scales had the appropriate level of quality for further analysis.

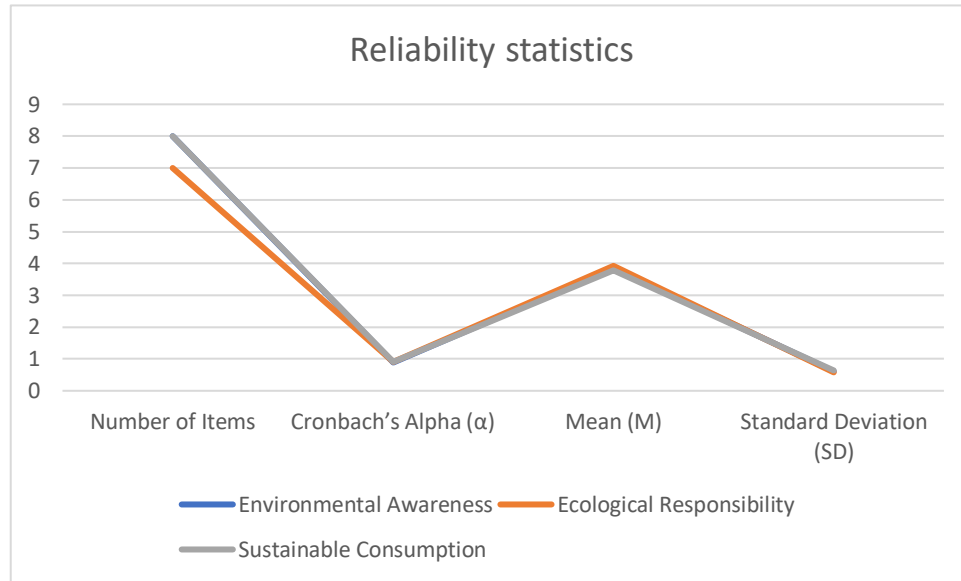


Fig. 3 Reliability Statistics, Means, and Standard Deviations of study Variables (N=423)

Table 3: Pearson Correlation Analysis between Environmental Awareness and Sustainable Consumption (N = 423)

Variables	Environmental Awareness	Sustainable Consumption
Environmental Awareness	1.000	0.624**
Sustainable Consumption	0.624**	1.000
Sig. (2-tailed)	—	< 0.001
N	423	423

Note. $p < 0.01$ (2-tailed).

The results of the Pearson product-moment correlation analysis revealed that there is a positive and statistically significant relationship between environmental awareness and sustainable consumption among the 423 sampled participants. It was worth mentioning that the level of environmental awareness of a person influences the level of their sustainable consumption. The significance level was less than 0.05; hence the relationship was statistically significant. Therefore, the researcher was able to confirm H1.

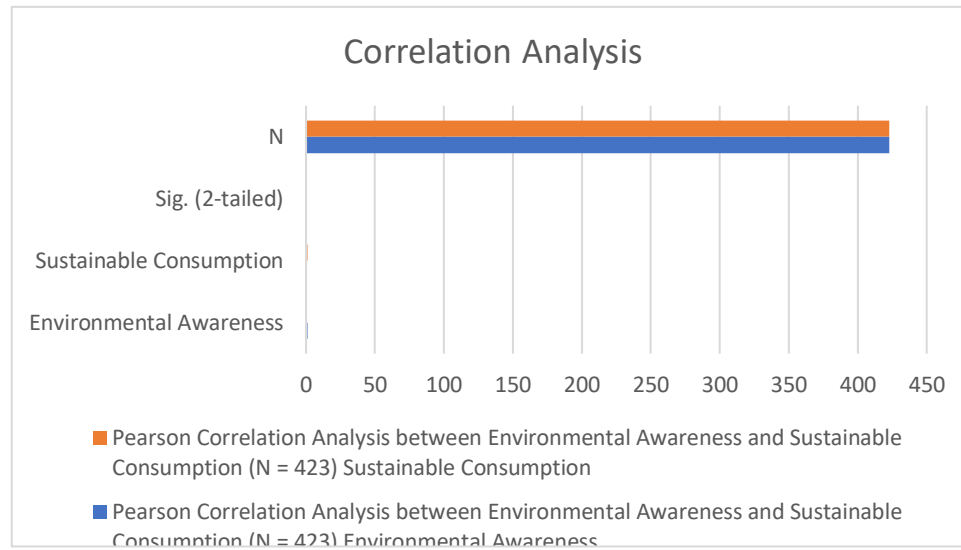


Fig. 4 Correlation Analysis

Table 4: Simple Linear Regression Analysis of Environmental Awareness Predicting Ecological Responsibility (N = 423)

Predictor	B	SE	Beta (β)	t	Sig. (p)
Constant	1.184	0.182	—	6.505	<0.001
Environmental Awareness	0.707	0.047	0.592	15.043	<0.001
Model Statistics	R	R ²	Adjusted R ²	F	Sig.
Model 1	0.592	0.350	0.348	226.29	<0.001

Simple linear regression showed that the majority of the respondents (N=423) had an understanding of environmental issues and had concerns for the depletion of natural resources. The regression coefficient for environmental awareness was 0.592. This indicates that awareness of issues related to the environment and ecology is directly related to concern about natural resource depletion and ecological conservation. The ecological responsibility model attributable to the regression equation was 35.0%. The regression model was statistically significant. The analysis supports hypothesis 2.

Table 5: Simple Linear Regression Analysis of Ecological Responsibility Predicting Sustainable Consumption (N = 423)

Predictor	B	SE	Beta (β)	t	Sig. (p)
Constant	1.026	0.174	—	5.897	<0.001
Ecological Responsibility	0.704	0.044	0.615	16.000	<0.001
Model Statistics	R	R ²	Adjusted R ²	F	Sig.
Model 1	0.615	0.378	0.376	256.00	<0.001

The results of the simple linear regression analysis show ecological responsibility is a factor that helps explain sustainable consumption for the 423 respondents in this study. Ecological responsibility has a positive standardized regression coefficient (β) of 0.615, which means higher levels of ecological responsibility are tied to higher levels of sustainable consumption. The regression analysis accounts for 37.8% of the variation in sustainable consumption. The regression model was significant (F (1,421) = 256.00, $p < 0.001$). Thus, the findings give support to H3.

Discussion

This study investigated the influence of awareness of environmental issues on Pakistani consumers' behavior concerning sustainable use of resources and protection of the environment. The data analyses revealed that Pakistan's consumers' awareness of environmental issues promoted their engagement in sustainable consumption, and aware consumers were able to assess their ecological responsibility. The results further demonstrated that consumers' assessment of their responsibility toward protection of environment promoted their practice of sustainable consumption. The results further showed that protection of the environment and sustainable consumption and responsibility formed a positive cycle (Trinh et al., 2025).

The result of the analysis revealed that awareness of environmental issues and sustainable consumption formed a positive relationship. Consumers of the study who showed awareness of environmental problems and issues practiced sustainable consumption. This finding supported and was consistent with the results of other studies, which showed awareness of environmental issues and sustainable consumption formed a positive relationship. The result also showed that environmental awareness of consumers encouraged them to adopt sustainable consumption. The study supported the importance of awareness of environmental issues in consumers for Pakistan and demonstrated how awareness promoted environmental protection and sustainable consumption (Gunawan et al., 2025).

The second result showed that environmental awareness played a significant role in ecological responsibility. With regard to the reason why environmental awareness and ecological responsibility were related, it may mean that environmental awareness helps individuals understand that it is their duty to prevent environmental degradation. Rousta and Allaf Jafari (2024) also pointed out that awareness of environmental consequences and the sense of responsibility to act on that awareness were important elements in the formation of pro-environmental behavior. The same findings are observed in studies conducted in Pakistan. Simanjuntak and Fitri (2024) in their research on Pakistani consumers, indicated that the sense of responsibility in preventing environmental degradation and the awareness of environment in combination, affected positively the attitude of consumers toward sustainable consumption of ecological products and services. Therefore, this research adds to this body of knowledge and shows that environmental awareness is critical in understanding why individuals develop a sense of ecological responsibility.

The third finding indicated that ecological responsibility is important in predicting sustainable consumption. This means customers who are more aware of their ecological responsibility are more inclined to adopt sustainable consumption behavior. These findings are concurrent with Čapienė et al. (2022) who studied the role of green environmental awareness and sense of responsibility in the case of Pakistani customers and behavior regarding the sustainable consumption of various products. These findings are also in line with Valenzuela-Fernández et al. (2022) where the authors focus on the role of perception regarding environmental responsibility and consequences in forming pro-environmental behavior of an individual.

It can be hypothesized from the results of the study, that in cases when the individual is already informed about the environmental issues and is aware of them, then responsibility and willingness to act play an important role in behavioral changes towards more sustainable consumption. The results also showed that individuals with higher levels of ecological and sustainable responsibility and awareness showed higher levels of ecological and sustainable consumer behavior. The results of the study showed that many individuals were aware of the threats and risks of fast fashion and other impacts of their consumption behavior. However, they did not always choose ecological and sustainable options. This confirms previously published studies where the import role of ecological and sustainable responsibility and responsibility was confirmed (Kovács, 2026).

The results of this research are relevant to the Pakistani situation, as many researchers have studied environmental and sustainability consciousness and consumer behavior there. For example, recent studies have evaluated the influence of Pakistani consumers' environmental awareness on their values and behavior. The results of this research further demonstrate the relation and combination of these factors, and expand on previous studies by considering a larger geographical area of Pakistan. Other studies have used large national regions of Pakistan, but this research used small provincial regions of Pakistan. The results of this research demonstrate that awareness, responsibility and behavior are interrelated, and that sustainable and ecological consumer behavior is a combination of these three.

Conclusion

This study investigated the impact of environmental awareness in Pakistan in relation to environmentally sustainable participation, behavior and attitudes. The results of this study suggest that by increasing Pakistani consumers' environmental

awareness and concern, sustainable consumption is encouraged and ecological responsibility is predicted. Moreover, ecological responsibility and sustainable consumption are linked, in the sense that ecological responsibility predicts sustainable consumption. The results of this study suggest that by improving environmental awareness in a nation, sustainable consumption and fulfilment of ecological responsibility are encouraged and reinforced. This study identifies that in order to improve sustainable consumption, environmental awareness and ecological responsibility need to be addressed concurrently. The results of this study suggest that improvements in environmental awareness result in improvement in ecological responsibility and sustainable consumption. Therefore, this study provides valuable insights for environmental conservation educators and practitioners, policy makers and consumer activists of Pakistan. The results suggest that improvements in environmental conservation awareness results in enhanced ecological responsibility and sustainable consumption.

Future Implications

Research should explore the connections between environmental consciousness and ecological responsibility, and their relationship with sustainable consumption, in other customer segments and geographic regions of Pakistan. More complete studies of consumer behavior relating to environmental issues may also include variables like ecological knowledge and attitudes, consumer perceived performance, ecological value and ethics, interdependence, norms and behavioral barriers to ecological citizenship. Research also may investigate if and how attitudes relating to ecological citizenship and environmental consciousness influence the actual behavior of people. In addition, research also may study the effect of demographic and social factors on ecological citizenship and altruism. In an effort to promote sustainable development, the results of this research may help design and inform programs that promote ecological citizenship.

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