

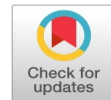
Predicting Pro-environmental Behaviors of Green Electronic Appliances' Users

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Abstract: Grounded in the Stimulus-Organism-Response (SOR) model, the current study examines the direct and indirect impact of green advertisement as an external stimulus and pro-environmental self-identity and perceived environmental responsibility as internal stimuli on consumers' pro-environmental behaviors via an underlying mechanism of their engagement in sustainable consumption for green electronics. A quantitative research approach with a snowball sampling technique was applied to collect data from 477 consumers buying and using green electronics. Data were analyzed using Partial Least Square Structural Equation Modeling (PLS-SEM). Results showed the positive association of environmental advertisement, pro-environmental self-identity, and perceived environmental responsibility with consumers' pro-environmental behaviors. Moreover, results also revealed that consumers' engagement in sustainable consumption acts as an internal derive (organism) that transmits the effect of various internal and external stimuli to consumers' responses in the form of green buying and curtailment behaviors. In addition to examining the mediatory role of a unique construct of consumers' engagement in sustainable consumption, the current study also extended the existing theory and literature by examining the impact of external as well as internal stimuli on consumers' pro-environmental behaviors. Furthermore, several theoretical and practical implications are discussed in detail.

Keywords: Pro-environmental behaviours, Consumers' engagement, Green advertisement, Pro-environmental self-identity, Perceived environmental responsibility, SOR model

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INTRODUCTION

The world is facing continuous environmental degradation due to the over-exploitation of natural resources, enhanced construction, and excessive industrialization (Kaur, Kumar, Syan, & Parmar, 2021). Besides, the excessive emission of greenhouse gases and air pollution have impacted the natural habitats and biodiversity, changed the climate, and created severe health issues (Mansoor & Paul, 2021). According to the World Health Organization (WHO), every year, because of air pollution, around 7 million people die all over the globe. Simultaneously, household air pollution and ambient (outdoor) air pollution collectively result in about 7 million premature deaths every year (Kaur et al., 2021). Besides, electronic/electric waste is among the major causes of air pollution (Ali, Ashfaq, Begum, & Ali, 2020). Based on the harmful impacts of e-waste on the environment and individuals' health, there is a dire need to promote pro-environmental behaviors among consumers (Dhir, Koshta, Goyal, Sakashita, & Almotairi, 2021). For that, there is a need to shift consumers' traditional buying behaviors to green buying behaviors and encourage them to curtail the use of energy and non-renewable resources (Danish, Ali, Ahmad, & Zahid, 2019).

In connection to that, the current study examines the extent to which the shift of consumers' traditional behaviors to pro-environmental behaviors is based on the external stimulus, i.e., environmental advertisement and internal stimuli, i.e., pro-environmental self-identity, and perceived environmental responsibility. Environmental advertisement has been conceptualized as the marketing of the green product are services to consumers (de Ruyter & Feinberg, 2015). Besides, by highlighting the consequences of traditional products, environmental advertisements explain the ecological features of the green product that attract consumers to buy such products (Pittman, Oeldorf-Hirsch, & Brannan, 2021). Previously, environmental advertisement has been reported as an

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important predictor of green buying intentions (Amallia, Effendi, & Ghofar, 2021; Sun, Luo, Wang, & Fang, 2021) and behaviors (Kaur et al., 2021). However, the current study advances the existing literature suggesting the environmental advertising as an external stimulus that positively influences consumers' pro-environmental behaviors.

Pro-environmental self-identity has been defined as an individuals' reflection of themselves with the environment (Oyserman, 2009). Research shows that individuals who perceive themselves as a reflection of their environment are conscious buyers (Dermody, Hanmer-Lloyd, Koenig-Lewis, & Zhao, 2015). Likewise, Dermody, Koenig-Lewis, Zhao, and Hanmer-Lloyd (2018) reported consumers' pro-environmental self-identity as an emerging concept in making them responsible for their consumption patterns. Besides, Sharma and Gupta (2020) suggested studying the impact of pro-environmental self-identity in determining consumers' pro-environmental behaviors. Additionally, research depicts the significance of perceived environmental responsibility in promoting eco-friendly behaviors (Paço & Gouveia Rodrigues, 2016). Besides, Johri and Sahasakmontri (1998) defined perceived environmental responsibility as individuals' intention towards being less harmful towards environment." At the same time, Piligrimienė, Žukauskaitė, Korzilius, Banytė, and Dovalienė (2020) suggested studying the role of perceived environmental responsibility in environmental-friendly behaviors. Hence, responding to the research calls, the current study examines the impact of consumers' pro-environmental self-identity and perceived environmental responsibility on their pro-environmental behaviors.

The current study also examined the role of consumers' engagement in sustainable consumption as a bridge between the association of internal and external stimuli with consumers' pro-environmental behaviors. Consumers' engagement in sustainable consumption is a unique construct and depicts individuals' enthusiasm to be involved in sustainable consumption based on their environmental concerns (Piligrimienė et al., 2020). Researchers further asserted the need to examine the predictors and consequences of consumers' engagement in sustainable consumption in various contexts (Banytė, Šalčiuvienė, Dovalienė, Piligrimienė, & Sroka, 2020; Piligrimienė et al., 2020), which has been considered in the current study.

Moreover, the research reveals that along with many nations that have taken environmental issues seriously and encouraged pro-environmental behaviors, numerous behavioral changes can be seen among the consumers of Pakistan (Danish et al., 2019). Simultaneously, Sherwani, Sherwani, Iqbal, Ain, and Alvi (2021) reported that the people of Pakistan have realized the importance of green consumption and limiting the use of natural resources hence they are incorporating the green practice in their actions. Besides, Mansoor and Paul (2021) suggested studying the various factors impacting energy-efficient pro-environment behaviors among developing nations like Pakistan. Therefore, the focus of the current study is the green electronics consumers of Pakistan and their pro-environmental behaviors.

Furthermore, The current study is established in the SOR model (Woodworth, Barber, & Schlosberg, 1954), which suggests that environmental advertisement as external Stimulus (S) and pro-environmental self-identity and perceived environmental responsibility as internal stimuli impacting consumers' internal state, i.e., their engagement in sustainable consumption acting as the Organism (O) to generate a Response (R) in the form of their pro-environmental behaviors. Moreover, the current study provides a base for the researchers/scholars to explore more factors that impact the individuals' sustainable buying and curtailment behaviors. Besides utilizing environmental advertisement as a marketing tool, organizations can persuade consumers to buy environmentally friendly products for long-term resources sustainability. Finally, established on the SOR model, the current study aims to answer the following questions.

- To what extent the environmental advertisement, pro-environmental self-identity, and perceived environmental responsibility affect consumers' pro-environmental behavior?
- To what extent the environmental advertisement, pro-environmental self-identity, and perceived environmental responsibility affect the consumers' engagement in sustainable consumption?
- Does consumers engagement in sustainable consumption positively influence their pro-environmental behaviors?
- Does the consumers' engagement in sustainable consumption mediate the association of environmental advertisement, pro-environmental self-identity, and perceived environmental responsibility with their pro-environmental behaviors?

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Environmental Advertising, Consumers' Engagement in Sustainable Consumption and Pro-environmental Behaviors

Pro-environmental behaviors refer to the consumers' protective actions towards the environment (Sharma & Gupta, 2020). It further reflects the consumers' green buying and curtailment behavior (Dermody et al., 2015). Besides, pro-environmental behaviors show that consumers not only purchase environmental-friendly products but also limit their use of natural resources, i.e., energy use, closing water tabs while not using, use of the limited amount of water during the bath, switching off the electronic devices while not using, etc. (Amoah & Addoah, 2021). Simultaneously, environmental advertising is a marketing tool that companies can utilize in the form of threat appeals to warn people regarding the dangers of environmental degradation and its consequences (Kaur et al., 2021). Besides, through environmental advertisement, organizations can show their sensitivity towards the environment and gain a competitive edge (Paço & Gouveia Rodrigues, 2016). At the same time, researchers also highlighted the importance of effective green advertisement in underlining the benefits of environmental-friendly consumption (Sun et al., 2021). Therefore, based on the available literature and above arguments and establishing on the SOR model, the current study assumes environmental advertisement as an external stimulus that will positively affect consumers' internal state in the form of engagement in sustainable consumption leading to their pro-environmental behaviors.

H1a: Environmental advertisement is positively associated with consumers' pro-environmental behaviors.

H2a: Environmental advertisement is positively associated with consumers' engagement in sustainable consumption.

Pro-environmental Self-identity, Perceived Environmental Responsibility, Consumers' Engagement in Sustainable Consumption and Pro-environmental Behaviors

Consumers' concern about their environment motivates them to behave in a pro-environmental manner (Issock, Mpinganjira, & Roberts-Lombard, 2019). Besides, research shows that various factors act as stimuli to impact consumer behaviors (Vergura, Zerbini, & Luceri, 2020). Research also indicates that these stimuli can be external or internal, like consumers' emotions and attitudes (Alamsyah, Othman, & Mohammed, 2020). Among the internal stimuli that affect consumer behaviors, the current study considered the impact of consumers' pro-environmental self-identity and perceived environmental responsibility on their pro-environmental behaviors. Pro-environmental self-identity depicts that individuals relate themselves with their environment based on their actions' effects on the environment (Abbas & Bashir, 2020). Besides, there are limited studies revealing the impact of pro-environmental self-identity on consumers' pro-environmental behaviors. In addition, pro-environmental self-identity has been considered an important determinant of consumers' green buying (Dermody et al., 2015) and curtailment behaviors (Dermody et al., 2018). Whereas in the current study, we intend to examine its impact on consumers' engagement in sustainable consumption along with their pro-environmental behaviors, including green buying and the curtailment behavior, especially in the context of efficient energy use and purchase of green electronics. The current study also examines the impact of consumers' perceived environmental responsibility on their engagement in sustainable consumption and pro-environmental behaviors. Previously perceived environmental responsibility has been reported as a significant predictor of consumers' buying behaviors (Saraiva, Fernandes, & von Schwedler, 2021). Research also demonstrated that an environmentally responsible person shows enthusiasm to protect his environment and perform such actions that are environmental-friendly (Klekner, 2013). Thus, based on the above arguments, literature support, and the SOR model, which suggests the positive impact of various stimuli on consumer behaviors, it has been hypothesized that;

H1 b and c: There is a positive association of a) consumers' pro-environmental self-identity and b) perceived environmental responsibility with their pro-environmental behaviors.

H2 b and c: There is a positive association of consumers a) consumers' pro-environmental self-identity and b) perceived environmental responsibility with their engagement in sustainable consumption.

Consumers' Engagement in Sustainable Consumption and Pro-environmental Behaviors

Consumers' pro-environmental behaviors depict behaviors initiated to preserve the environment from degradation and resources from depletion. Previously various factors have been studied as important predictors of

consumers’ environmental behaviors. For instance, attitude towards green products (Zheng, Siddik, Masukujjaman, Alam, & Akter, 2021), self-expressive benefits (Zheng et al., 2021), and perceived consumer effectiveness (Higuera-Castillo, Liébana-Cabanillas, Muñoz-Leiva, & García-Maroto, 2019). In the current study, we have examined the impact of consumers engagement in sustainable consumption on consumers’ pro-environmental behaviors. Consumers’ engagement in sustainable consumption has been defined as individuals’ engagement in such consumption patterns that do not contaminate the environment, i.e., consumption of efficient and renewable goods and services (Pilgrimiené et al., 2020). Besides, consumers’ engagement in sustainable consumption is a unique construct that combines engagement and consumption in a single variable, which has been introduced by (Pilgrimiené et al., 2020). They further examined and stated that consumers’ engagement in sustainable consumption significantly impacts consumers’ green buying behavior. Hence extending the same line of study with the help of the SOR model, the current study proposes that;

H3: Consumers’ engagement in sustainable consumption is positively associated with their pro-environmental behaviors.

Consumers’ Engagement in Sustainable Consumption as Mediator

Along with studying the direct associations, this study also has examined the indirect relationship of internal and external stimuli with consumers’ pro-environmental behavior through consumers’ engagement in sustainable consumption as a mediator. Literature shows that the consumers who relate themselves with their environment and are consistent in their behaviors get engaged in sustainable consumption (Trudel, 2019). Besides, based on the uniqueness of the construct of consumers’ engagement in sustainable consumption, the marketing scholars are actively exploring the factors that impact its predictors to behave in a pro-environmental manner (Banyté et al., 2020; Pilgrimiené et al., 2020). Moreover, consumers’ engagement in sustainable activities has been considered an important factor in spreading awareness regarding environmental issues among the masses (Brulle, 2010). Pilgrimiené et al. (2020) studied the mediating role of consumers’ engagement in sustainable consumption between green buying behavior. Whereas, extending the existing body of literature based on the SOR model, the current study considers the environmental advertisement as an external stimulus and consumers’ pro-environmental self-identity and perceived environmental responsibility as internal stimuli that affect consumers’ engagement in sustainable consumption (O), resulting in pro-environmental behavior. Thus, based on the above arguments, literature review, and the SOR model, it has been hypothesized that;

H4a: Consumers’ engagement in sustainable consumption mediates the association between environmental advertisement and consumers’ pro-environmental behaviors.

H4 b and c: Consumers’ engagement in sustainable consumption mediates the association of a) consumers’ pro-environmental self-identity and b) perceived environmental responsibility with their pro-environmental behaviors.

Theoretical Framework of the Study

Figure 1 represents the theoretical framework of the current study established on a detailed literature review, the SOR model, and the Social Ideal theory.

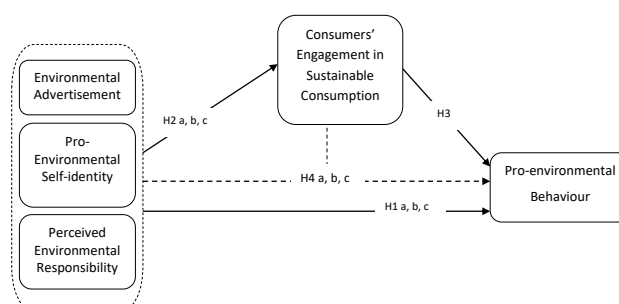


Figure 1: Theoretical Framework of the study

METHODOLOGY

Following the purposive sampling technique, a quantitative research approach was used to collect data from green consumers visiting the various electronics markets of Rawalpindi and Islamabad, Pakistan. A random interaction question was asked from the consumers about their environmental knowledge and purchase/use of green electronics. The author explained the purpose of the study to those who responded positively. They were further requested to participate in the survey. The authors further requested the agreed respondents to fill a questionnaire comprised of three parts. Part 1, consisting of three screening questions, i.e., “1. Are you aware of green electronic brands? 2. Do you use green electronics? 3. Which green electronic/electronics do you use?” Part 2, consisting of the measures related to the demographic characteristics of the respondents, and Part 3, consisting of 30 items related to the study constructs. The author started the data collection procedure on March 15th, 2021, and until August 15th, 2021, 870 people were contacted. Besides, 650 cleared the initial screening question, whereas 510 agreed to participate in the survey and filled the questionnaire. These 510 responses were further screened for outliers and missing values before preceding the analysis part. As a result of screening, we found 20 unengaged and 13 questionnaires with missing values. Hence the remaining 477 questionnaires were used in the further analysis, generating a final response rate of 54.82%.

Measurement and Scales

A seven-item scale of [Whitmarsh and O’Neill \(2010\)](#) was used to assess pro-environmental behavior, including items for sustainable buying and curtailment behavior. To measure the consumers’ engagement in sustainable consumption, a twelve-item scale of [Pilgrimienè et al. \(2020\)](#) was used. Besides, a three-item scale of [Chan \(2004\)](#) was used to measure the environmental advertisement. Moreover, the perceived environmental responsibility was measured with a seven-item scale by [Lee \(2009\)](#). Finally, a four-item scale of [Whitmarsh and O’Neill \(2010\)](#) was used to measure pro-environmental self-identity. All the items were measured on a “7-point Likert scale ranging from 1- strongly disagree to 7- strongly agree.”

Sample Profile

The sample characteristics depict a significantly larger number of males (61.2%) than females (38.8%), participated in the survey. The majority of the respondents were married. Besides, the respondents’ average was 41 years, and the average income was 79K. In addition, there was an almost equal distribution of respondents among three educational levels, i.e., 31.6%, 35.3%, and 33.1% respondents were undergraduates, graduates, and post-graduates, respectively. Finally, most of the respondents (67.9%) were employees or self-employed.

RESULTS

Measurement Model Assessment

SmartPLS3 software was used to conduct reliability, validity, and simulation analysis. The simulation results revealed that respondents’ education and income positively impacted their pro-environmental behaviors; therefore, the education and income level of the respondents were controlled in the further analysis. The measurement model results reflected that factor loadings for all the items of the study variables were above zero point 70. In addition, the reliability of the variables was reported based on the values of “Average Variance Extracted (AVE)” ([Hair, Black, Babin, Anderson, & Tatham, 2006](#); [Mansoor & Paul, 2021](#)), “Cronbach’s Alpha (CA),” “Composite Reliability (CR).” All the AVE, CA, and CR values were under the prescribed range, i.e., >0.50, >0.70 and >0.70, respectively ([Mansoor, Awan, & Syed, 2020](#)). Hence, the convergent validity of the measures was established. The summary of the measurement model results has been given in Table 1

Table 1: Measurement model

Constructs/indicators	Factor Loadings					AVE	CR	CA
	1	2	3	4	5			
Pro-environmental behaviors						0.589	0.909	0.780
PEB1	0.801							
PEB2	0.771							
PEB3	0.732							
PEB4	0.711							
PEB5	0.812							
PEB6	0.790							
PEB7	0.749							
Consumers' Engagement in Sustainable Consumption						0.618	0.951	0.812
CESC1		0.716						
CESC2		0.745						
CESC3		0.721						
CESC4		0.783						
CESC5		0.810						
CESC6		0.803						
CESC7		0.869						
CESC8		0.760						
CESC9		0.741						
CESC10		0.789						
CESC11		0.892						
CESC12		0.781						
Environmental Advertisement						0.614	0.864	0.745
EA1			0.780					
EA2			0.753					
EA3			0.811					
EA4			0.790					
Pro-environmental Self-Identity						0.620	0.887	0.769
PESI1				0.862				
PESI2				0.740				
PESI3				0.754				
PESI4				0.787				
Perceived Environmental Responsibility						0.606	0.915	0.804
PER1					0.775			
PER2					0.747			
PER3					0.762			
PER4					0.871			
PER5					0.834			
PER6					0.710			
PER7					0.740			

Note: CR, composite reliability; AVE, average variance extracted

Research also shows the importance of discriminant validity to be established for all the study constructs (Ringle, Sinkovics, et al., 2009; Mansoor, Awan, & Alobidyeen, 2020) to establish discriminant validity; we considered the values of the Heterotrait-Monotrait Ratio and Fornell-Larcker-Criterion (Ringle et al., 2009). The measurement

model assessment revealed that the “square root of each construct’s AVE was higher than its correlation with another construct,” Hence establishing the Fornell-Larcker-Criterion. Moreover, the values for HTMT ratio were less than 0.90 as suggested by. hence the discriminant validity of the study majors was established and is shown in Table 2.

Table 2: Heterotrait-monotrait ratio

Constructs	Mean	STD.	1	2	3	4	5
PEB	5.29	1.21	0.767				
CESC	5.78	0.98	0.620	0.786			
EA	5.84	0.93	0.581	0.589	0.783		
PESI	5.41	1.11	0.513	0.575	0.610	0.787	
PER	5.56	1.15	0.478	0.532	0.477	0.537	0.778

Note: The square roots of AVEs of the constructs are shown in bold in diagonal. And depict the discriminant validity of the constructs.

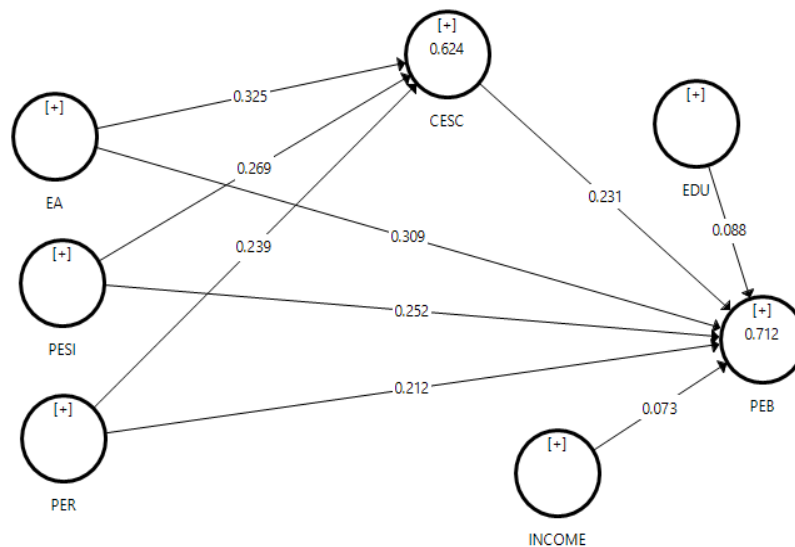


Figure 2: Measurement model

Structural Model Assessment

We assessed the structural model to examine and validate the hypothesized relationships using SmartPLS3. Besides, a bootstrapping technique applying 500 subsamples was utilized to generate more accurate results (Sarstedt, Ringle, & Hair, 2017). In addition, “β -coefficient, p-value, and t-value.” were reported to reveal the significance of the hypothesized relationships and the strength of the relationships. Moreover, the overall fitness of the study’s theoretical framework was assessed using “the Coefficient of Determination (R²)”. The findings as shown in Figure 2 depict a 62.4% variance in consumers’ engagement in sustainable consumption based on external and internal stimuli. Whereas a variance of 71.2% was observed for the consumers’ pro-environmental behaviors initiated due to the environmental advertisement, consumers’ pro-environmental self-identity, perceived environmental responsibility and their engagement in sustainable consumption. These results depict the overall good fitness of the proposed model.

Direct Hypothesis

The study results revealed the positive association of environmental advertisement ($\beta = .309^{***}, t = 6.570$), pro-environmental self-identity ($\beta = .252^{***}, t = 5.163$), and perceived environmental responsibility ($\beta = .212^{**}, t = 3.739$) with pro-environmental behaviors. The study results also revealed the significant and positive association of environmental advertisement ($\beta = .325^{***}, t = 7.216$), pro-environmental self-identity ($\beta = .269^{***}, t = 5.283$),

and perceived environmental responsibility ($\beta = .239^{**}$, $t = 4.546$) with consumers engagement in sustainable consumption. The results also showed a positive association between consumers’ engagement in sustainable consumption and their pro-environmental behaviors ($\beta = .231^{**}$, $t = 4.719$). Besides, despite the significant impact of all the internal and external stimuli on consumers’ engagement in sustainable consumption and pro-environmental behaviors, we found that environmental advertisement as an external stimulus has the highest impact revealing the significance of advertisement activities to spread awareness among the people and persuading them to use environmental-friendly appliances and curtail the use of their energy and non-renewable resources use. Hence, the results supported all the direct hypotheses, i.e., H1a, b; H2a, b; and H3. Moreover, Figure 3 depicts the significance level of all the hypothesized paths.

Mediation Hypothesis

Results also showed that environmental advertisement ($\beta = .260^{***}$, $t=5.201$), pro-environmental self-identity ($\beta = .287^{***}$, $t = 6.120$), and perceived environmental responsibility ($\beta = .242^{***}$, $t = 4.623$) positively affect consumers pro-environmental behavior via consumers’ engagement in sustainable consumption as a mediator. Hence, the hypotheses 4 a, b and c were also supported by the results. A detailed summary of all the direct and indirect associations and their impact size has been reported in Table 3.

Table 3: Hypothesis testing results

	Hypotheses	Std. Beta	t-Value	p-values	Supported
H1a	EA PEB	0.309	6.570	0.000	Yes
H1b	PESI PEB	0.252	5.163	0.000	Yes
H1c	PER PEB	0.212	3.739	0.007	Yes
H2a	EA CESC	0.325	7.216	0.000	Yes
H2b	PESI CESC	0.269	5.283	0.000	Yes
H2c	PER CESC	0.239	4.546	0.001	Yes
H3	CECSCPEB	0.231	4.179	0.003	Yes
H4a	EA CESCPEB	0.260	5.201	0.000	Yes
H4b	PESI CESCPEB	0.287	6.120	0.000	Yes
H4c	PER CESCPEB	0.242	4.623	0.001	Yes

Where: TIK= Teachers’ Indigenous knowledge; TCC= Teachers’ Cultural Competencies; StE= Students’ Engagement; LO= Learning Outcomes.

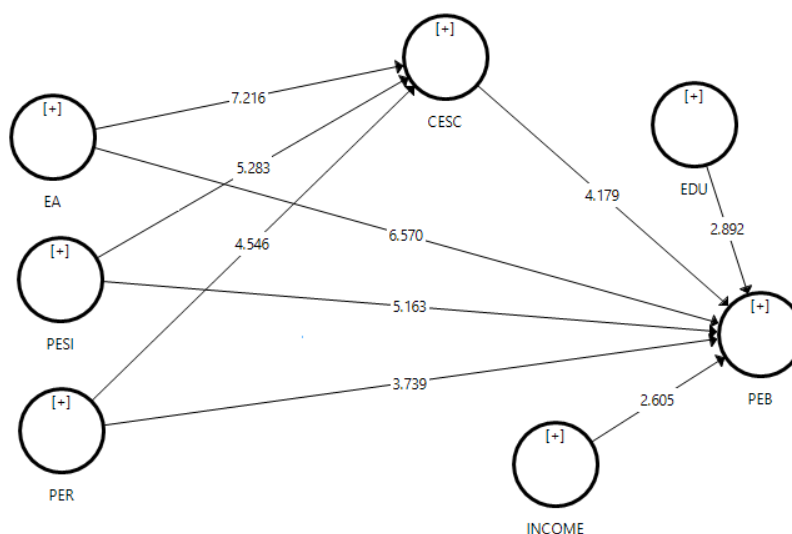


Figure 3: Structural model

DISCUSSION

Results revealed a positive association of environmental advertisement with consumers' engagement in sustainable assumption and pro-environmental behaviors. These results are in line with the previous studies, highlighting the significance of environmental advertisement enhancing the product image and promoting a sustainable lifestyle to attract consumers to buy sustainable products (Hussain, Haq, & Soomro, 2020). Besides, based on the findings of the current study, it can be stated that the organizations that use environmental advertisement to spread awareness among the consumers regarding environmental issues help promote pro-environmental behaviors. Moreover, by utilizing environmental advertisement as a marketing tool, companies not only persuade consumers to buy green electronics but also motivate them to curtail the use of energy and non-renewable resources. Results also revealed the positive association of pro-environmental self-identity and perceived environmental responsibility with consumers' engagement in sustainable consumption and pro-environmental behaviors. These results are in line with Dermody et al. (2018) and Yamaqupta (2018), who stated the importance of consumers' positive attitudes towards the environment and realization of their responsibility to protect the environment. This study results further demonstrate that the consumers who relate themselves with the environment and feel responsible for the environment do not only buy and consume the greener products but also try their level best to limit their use of resources to keep them sustainable for their future generations. Moreover, results also revealed the positive association of consumers' engagement in sustainable consumption with their pro-environmental behaviors, reflecting the significance of sustainable consumption patterns. These results further support the previous findings related to the consumers' engagement with environmentally-friendly behaviors (Piligrimiené et al., 2020). The results also show that when consumers realize the significance of their behaviors can impact the environment, they tend to engage themselves in such behaviors and consumption patterns that are protective towards the environment. Finally, adding to the existing literature, the results showed the significant mediatory role of consumers' engagement in sustainable consumption between the external stimulus, i.e., environmental advertisement, and internal stimuli, i.e., pro-environmental self-identity, and perceived environmental responsibility with their pro-environmental behaviors. This further shows that consumer engagement acts as a bridge to transfer their positive emotions and feelings and external knowledge into their environmental-friendly behaviors that help preserve resources.

Theoretical Implications

This research contributes to the theory in multiple ways. First, established in the SOR model, the current study suggested that external and internal stimuli can affect consumers' internal state to initiate positive behaviors. In this regard, a unique combination of external and internal stimuli in the form of environmental advertisement, pro-environmental self-identity, and perceived environmental responsibility has been analyzed to check the consumers' pro-environmental behaviors in the form of green buying and curtailment of energy and non-renewable resources use. Second, the unique construct of consumers' engagement in sustainable consumption has been started as an underlying mechanism to transmit the positive impacts of internal and external motivators/ stimuli to consumers' environmental-friendly behaviors. Third, the current study measured the environmental advertisement as a warning tool as well as a motivating factor to influence the behaviors of consumers towards the environment. This further shows that if organizations utilize environmental advertisement significantly, they can extract favorable results. Finally, the current study is conducted to check the impact of various factors that encourage sustainable consumption of green electronics, which is a valuable contribution to the existing body of knowledge based on the continuous increase of e-waste, particularly enveloping nations.

Practical Implications

This study also offers multiple policy insights and practical implications. For instance, the current study has reflected the importance of environmental advertisement as a marketing tool that organizations can utilize to persuade consumers to buy environmentally friendly products even if they have to pay some extra premium for long-term resources sustainability. Besides, organizations can use the positive features of the green products and warn the individuals about the environmental issues and the consequences of their non-sustainable consumption patterns that can impact their health and expensive life. In addition, the significant impact of pro-environmental self-identity and perceived environmental responsibility on consumers' pro-environmental behaviors will help marketers to not only utilize the marketing tools to motivate consumers but also spread awareness regarding

the environmental issues to the individuals so that they can change their spending patterns. For that, they can organize seminars, workshops, events, etc., by providing entertainment and information to motivate people to buy and use sustainable products and curtail the use of energy and non-renewable resources. Moreover, nations all over the globe should collectively formulate policies, guidelines, frameworks, and laws for environmental protection. Besides, governments worldwide should also make stringent environmental policies while restricting their citizens from using products that drastically affect the environment. In addition, governments also should spread environmental awareness among the citizens via multiple agencies and non-governmental organizations (NGOs). These governmental guidelines, policies, and awareness drives will help to shift individual behaviors.

Limitations and Future Research Directions

This study also has some limitations which can be addressed. The main focus of the current study remains the energy efficiency behavior and the purchase of green electronics. In contrast, in the future, the consumers of other product categories, i.e., cosmetics, organic food, apparel, and footwear, can be focused to check the drivers of their sustainable consumption patterns. The current study focused on environmental advertisement as an external drive that can motivate consumers to respond in a pro-environmental manner. In contrast, in the future, other marketing tools like eco-labels and eco-brands can also be utilized as external stimuli to investigate their impact on the internal state of consumers to generate positive behavioral responses. Moreover, the current study has collectively analyzed the impact of various internal and external stimuli on their pro-environmental behavior as a whole. In contrast, researchers can examine the impact of these stimuli on buying and curtailment behaviors separately in the future. Finally, future studies can consider the contingent impact of various variables in between the association of various stimuli and consumers' green behaviors, i.e., the moderating role of social norms can be studied as a social stimulus impacting the consumers' pro-environment behaviors.

CONCLUSION

Considering the importance of environmental protection and preserving the natural resources, and establishing in the SOR model, the current study examines direct and indirect impacts of environmental advertisement, pro-environmental self-identity and perceived environmental responsibility on consumers' engagement in sustainable consumption leading to their pro-environmental behaviors for green electronics. A quantitative research approach with a snowball sampling technique was applied to collect data from the consumers of green electronics and was analyzed using smartPLS3 software. Results showed that individuals who perceive their actions are valuable to the environment and consider themselves responsible towards the environment engage in sustainable consumption and pro-environmental behaviors. The study findings also suggest the importance of spreading awareness among the citizens regarding the environmental benefits via environmental advertisement. Moreover, individuals can be motivated to limit their energy use and buy green electronics by highlighting the damaging impacts of traditional electrical appliances at the individual, organizational and governmental levels. This can further help in achieving a sustainable and prospering society.

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