

Original Researcher Article

How Consumers Social Responsibility and Personal Traits Drive Ethical Consumer Choices?

Khansa Zaman¹, Yang Sun², Herbert Sima³ and Na Luo^{*4}

¹Faculty of Management Sciences, Szabist University, Islamabad, Pakistan

²School of Public Administration, Dongbei University of Finance & Economics, Dalian, 116025, China

³Department of Marketing, Business School, The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand

⁴School of Public Administration, Dongbei University of Finance & Economics, Dalian, 116025, China

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Abstract

Consumer social responsibility (CNSR) is a critical determinant influencing consumer's socially conscious purchasing behavior. This study operationalizes the concept of CNSR, empirically predicts consumers' inclination towards socially responsible products, and examines the impact of personal traits on consumers' preferences for such products. An exploratory sequential mixed-method approach is employed to validate the proposed sequential mediation model. Data were collected from 613 consumers who are aware of product social friendliness, and key results were further validated through two-round semi-structured interviews. The findings contribute to understanding the relationship between consumer personality traits, CNSR, and consumer purchasing behavior.

Keywords: environmental-friendly products; purchasing behavior; purchasing intention; personality; consumer social responsibility

Summary Statement of Contribution: Our findings contribute to the theoretical exploration of the association between consumer personality traits, CNSR, and consumer purchasing behavior. It examines the predictive impact of personality traits on consumers' purchasing behavior toward socially responsible products, offering a fresh perspective on existing research regarding CNSR and the purchasing of socially responsible products. By investigating CNSR as an intermediary variable, this research also provides enterprises with insights and strategies for manufacturing, marketing, and promoting socially conscious products.



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INTRODUCTION

Environmental and social drawbacks associated with consumer purchasing behavior have been widely discussed in academic and practice (1), which necessitate active consumer engagement in addressing environmental issues and mitigating the damage and threats to the environment through modifications in current purchasing and consumption patterns (2). Previous studies have demonstrated that environmentally responsible consumer actions can safeguard the environment from further harm or detrimental impacts, with the adoption of environmental-friendly products such as green consumer goods (3). Environmental-friendly products, also known as green products, refer to a category of goods that imposes minimal ecological harm on resources like water, minerals, land, and air throughout their production and consumption processes (4). Consumer attitudes, perceptions, and behaviors towards green products are progressively evolving to exhibit heightened concern for such items (Soule and Egea, 2024; Dangelico et al., 2024). This implies a

gradual reduction in preference for environmentally harmful products while fostering a greater inclination towards consuming green or socially friendly alternatives in the future. These environmentally conscious attitudes and norms will serve as guiding principles driving consumers' choices towards socially friendly product purchases (5). The change in consumers' purchasing behavior is a tangible manifestation of their awareness of social responsibility (6).

Consumer social responsibility (CNSR) can be defined as an individual's voluntary commitment to assisting others without expecting any reciprocation (7), which also refers to the capacity of consumers to minimize adverse impacts and maximize long-term societal benefits when acquiring, utilizing, and disposing of products (8). A review of previous literature studies reveals that various stakeholders, including regulators, media outlets, NGOs, consumers, and governments, have

increasingly focused on social responsibility due to diverse ecological, social, and environmental concerns (9). The study of CNSR has gained significant attention as it enables the prediction of consumer purchasing behavior (10). The rationale behind studying CNSR lies in the fact that if consumers do not favor socially responsible products pursued by organizations, these organizations will cease providing such products ultimately leading to long-term harm for society.

There are multiple factors that influence consumers' preference for socially responsible products. Previous research has examined this phenomenon from various perspectives, such as gender difference socially responsible products consumption (11), cultural dimensions (12), branding and images of the green products (13), and consumers' technological personality and segments (14). However, limited attention has been given to the influence of consumer personality traits on their purchase intentions and behaviors towards socially responsible products, and there is a lack of systematic theoretical analysis regarding the relationship between consumer personality characteristics and their purchase intentions for such products (15).

Addressing the outlined research gaps, this exploratory study aims to offer three novel contributions to the current body of literature on consumer behavior. First, drawing on the theory of planned behavior, this study contributes to the theoretical exploration of the association between consumer personality traits, CNSR, and consumer purchasing behavior. Second, this paper considers consumers' personality traits as the antecedent for studying CNSR and socially responsible product behavior. It examines the predictive impact of personality traits on consumers' purchasing behavior towards socially responsible products, thereby offering a fresh perspective to existing research on CNSR and socially responsible product purchasing behavior, and establishing a more comprehensive theoretical framework. Finally, this paper underscores the pivotal role of consumer society's social responsibility as an intermediary variable, offering a more comprehensive elucidation for validating and quantifying consumers' social responsibility while affirming the significance of planned behavior theory. By investigating the intermediary variable of CNSR, it also furnishes enterprises with insights and approaches to manufacture, market, and promote socially conscious products.

The structure of this study is outlined as follows. Section 2 presents a theoretical background of this research, and Section 3 examines the existing literature on CNSR, purchasing behavior, and personality traits. Section 4 provides a detailed description of our research methods. Section 5 analyses the data we collected. Finally, Section 6 summarizes the findings of this study while also discussing its limitations and suggesting future research directions.

Theoretical background

Theory of planned behavior

The Theory of Planned Behavior (TPB) posits that an individual's behavior is determined by their attitude, which subsequently influences their will or intention (16). Intention plays a pivotal role in predicting the relationship between attitude and behavior, with its effectiveness contingent upon the individual's efforts to achieve a specific goal (17). When the attitude measure aligns closely with the behavior measure, it facilitates the establishment of an attitude-behavior relationship as a singular or general attitude measure (such as environmental concern) diminishes its association with behavior. TPB encompasses an additional dimension known as perceived behavioral control, which serves as the primary determinant of behavioral intent and is correspondingly linked to control beliefs (18).

Perceived behavioral control (PBC) represents an individual's ability to perceive the difficulty or ease associated with engaging in a particular behavior, which pertains to consumer confidence when purchasing green products or items and can encompass processes such as recycling, socially responsible procurement practices, and utilizing public transportation (19). PBC can influence consumers' pro-environmental behaviors leading to purchase decisions or intentions often referred to as environmental citizenship (20).

The theory of planned behavior and perceived behavior control highlight the interconnectedness between attitude, intention, and behavior. In the realm of green consumption, consumers' environmentally friendly attitudes, willingness, and capabilities significantly influence their adoption of green consumption behaviors. The synergy among environmental attitudes, beliefs, and abilities collectively propels consumers towards embracing sustainable consumption practices.

Conceptual framework

According to the Theory of Planned Behavior (TPB), consumers' behavioral intentions are influenced by their attitudes towards behavior and subjective norms (21). By applying TPB to green consumption behavior, scholars aim to encourage consumers to engage in purchasing or adopting green goods/products by considering various factors, thereby promoting the implementation of such behavior. For instance, (22) demonstrated a positive correlation between the components of TPB (i.e., attitude, perceived behavioral control, subjective norms) and customers' behavior when choosing inconveniently located but reasonably priced green hotels.

Therefore, based on TPB, this study examines how consumer personality traits influence consumption behavior with a specific focus on CNSR and preference for environmental-friendly products. This research elucidates the impact of consumer personality factors on green preferences and provides insights into predicting consumers' green purchasing behavior.

Literature review and hypothesis development

The impact of CNSR on consumers' purchasing behavior

CNSR has been primarily defined in terms of behavior, while the aspect of consumers' attitude towards socially responsible purchasing behavior has been overlooked (23). Within the realm of environmental protection, individual actions to safeguard the environment are contingent upon one's intention and capability. Carrington propose that ethical consumer behaviors are predominantly rooted in core cognition and beliefs serve as predictors of attitudes, which subsequently influence behavioral intentions.

The mediating role of consumer intention in shaping environmentally-related attitudes and behaviors has been demonstrated in extant literature (24). The general attitude held by consumers towards the environment, specifically their concern for potential societal harm, is crucial due to its significant emotional investment in environmental issues (24). Environmental concern is deemed an important psychological variable according to (25) emphasises that consumers should adopt pro-environmental behaviors to ensure long-term sustainability amidst environmental changes. Recently, an increasing number of researchers have expressed concerns regarding consumers' attitudes, perceptions, abilities, and behaviors in relation to the green environment (26). Overall, these environmental attitudes and norms will significantly influence consumers' purchasing intentions and behaviors towards environmentally friendly products or socially responsible products.

Socially responsible product purchasing behavior refers to consumers' preference for products that contribute to environmental protection (27). Extant studies show that consumers are not entirely rational in their decision-making process; instead they are influenced by social and environmental awareness (28). The significant impact of human activities on the environment has led more consumers to recognise how their consumption habits affect natural resources depletion such as energy resources and forests (29). Consequently, an increasing number of consumers are demonstrating social responsibility (30). Environmental attitudes and norms shape customers' behavior and intention to purchase goods or products. According to above discussion, we propose that,

H1: CNSR and consumers' purchasing intention can positively affect consumer's buying behavior toward societal friendly products.

The impact of personality traits on CNSR and purchasing behavior

Numerous researchers have established connections between personality and individual conduct in diverse dimensions; nevertheless, fundamental personality characteristics are seldom employed to forecast

behavior, and the studies on personality prediction of environmental concerns are limited.

Previous research has attempted to explore the factors through which personality predicts environmentally responsible behavior. However, it has been found that the Big Five models are reliable in examining individual differences as predictors of environmental attitudes. For instance, individuals with high levels of conscientiousness tend to possess strong environmental affinity and concerns, thus exhibiting positive behaviors towards trustworthy brands and displaying favorable purchasing behaviors towards such brands. Personality has been utilised to predict the causes behind environmental behavior, a causal effect that longitudinal studies have confirmed along with previous theoretical studies on the relationship between personality and behavior. Given that personality plays a central role in motivating values, beliefs, and attitudes, it is reasonable to expect its influence on attitudes and behaviors towards socially or environmentally responsible products. Therefore, we posit that:

H2: Personality exert a significant influence on CNSR and possess predictive power over consumers' purchasing behavior towards socially responsible products.

Configuration of personality traits

To explore the relationship between the personal characteristics and the consumers' socially responsible products purchasing behavior, this study innovatively adopts a configuration to evaluate the personal traits following by recent research (31). This approach conceptualises personality traits or characteristics through the Big Five model which has been extensively embraced as a theoretical framework for comprehending these traits (32), which includes openness to experience, neuroticism, agreeableness conscientiousness, and extroversion.

Personality and social friendly product buying behavior

The term "personality" originates from the Latin word *persona*, which means mask, and is regarded as a crucial component encompassing thoughts, emotions, actions, and motivations (33). Personality comprises psychophysiological systems that give rise to attitudes, thoughts, emotions, and behavioral patterns (34). Consumers' personal characteristics exert a significant influence on their purchasing behavior. Individuals with distinct personality traits exhibit varying purchasing behaviors. This paper will provide an overview of the aforementioned personality traits derived from The Big Five model.

Openness and social friendly product buying behavior

Openness encompasses exposure to novel ideas, creativity, innovation, logical reasoning, and inquiry. Individuals possessing open characteristics are exposed

to a broader range of knowledge pertaining to innovation and emerging concepts. They exhibit greater flexibility and motivation towards acquiring new skills and exploring diverse opportunities for growth (35). Research indicates that individuals with traits of openness display a willingness to join new organizations due to their receptiveness towards learning fresh information, receiving feedback on interpersonal relationships, and adapting effectively within unfamiliar organizational contexts (36). Experience of openness exerts a positive influence on green consumption behavior as consumers high in openness demonstrate an inclination towards engaging in environmentally conscious consumption practices. (37) highlight the significance of openness to experience as a robust predictor of carbon emission reduction behavior.

H3a: Openness to experience has a significant positive impact on CNSR.

H3b: CNSR mediates the relationship between openness to experience and consumer's intention to buy social friendly products.

Conscientiousness and social friendly product buying behavior

Conscientiousness is a measure of an individual's level of motivation, persistence, and goal-oriented behavior within an organizational context. Higher scores indicate greater reliability and diligence, reflecting traits such as self-discipline, responsibility, obligation, and adherence to regulations and social norms (38). Highly conscientious individuals bear a greater responsibility for environmental protection and are expected to strictly adhere to policies promoting sustainability, such as plastic bans. Conversely, less conscientious individuals may be more inclined to overlook or disregard these initiatives (39). Consumers exhibiting conscientious personality traits tend to favor trustworthy brands and exhibit positive purchasing behaviors towards them (40). The relationship between conscientiousness and environmental participation, concern, as well as its impact on consumer behavior remains inconclusive. found no significant effect of the sense of responsibility on people's environmental behavior while suggest a negative correlation between the sense of responsibility and compulsive buying behavior.

H4a: Conscientiousness has a significant positive impact on CNSR.

H4b: CNSR mediates the relationship between conscientiousness and consumer's intention to buy societal friendly products.

Extraversion and social friendly product buying behavior

Extraversion refers to an individual's degree, quantity, and level of engagement in interpersonal interactions (41). Individuals with higher levels of extraversion

exhibit more positive attitudes, optimism, affectionate behavior, and talkativeness. Research has demonstrated that personality traits associated with extraversion have a significant impact on consumers' purchasing behaviors (42) argue that there exists an indirect relationship between extraversion and pro-environmental behaviors while emphasizing the crucial role played by extraversion in shaping consumer attitudes towards green products as well as their willingness to purchase environmentally friendly items.

H5a: Extraversion has a significant positive impact on CNSR.

H5b: CNSR mediates the relationship between extraversion and consumer's intention to buy societal friendly products.

Agreeableness and social friendly product buying behavior

Agreeableness, also referred to as empathy, encompasses traits such as friendliness, affability, and warmth (43). It comprises qualities like kindness, compassion, and trustworthiness. The dimension of agreeableness evaluates an individual's interpersonal orientation on a spectrum ranging from empathy to antagonism in their emotions, thoughts, and behaviors. Individuals with high levels of agreeableness tend to be inclined towards assisting others and demonstrate attentiveness towards the needs of both individuals and the natural environment. Moreover, they are more likely to engage in environmentally conscious consumption practices due to their belief in contributing towards societal progress.

H6a: Agreeableness has a significant positive impact on CNSR.

H6b: CNSR mediates the relationship between agreeableness and consumer's intention to buy societal friendly products.

Neuroticism and social friendly product buying behavior

Neuroticism measures an individual's inclination towards psychological distress, excessive impulsivity, and unrealistic thoughts (Costa and McCrae, 1992; Tarka and Harnish). It reflects the propensity to experience negative emotions such as fear, annoyance, anxiety, and psychological distress. Neuroticism represents one's capacity for maintaining equilibrium and stability; at one end of the spectrum are individuals with stable and low levels of anxiety while at the other end are those with unstable and high levels of anxiety. Neurotic individuals tend to be highly sensitive and easily frustrated. Consequently, emotionally unstable individuals exhibit less willingness to purchase environmental-friendly products. Although some studies have suggested a positive association between neuroticism and environmentally conscious consumption in green

societies, more research has found a negative correlation between neuroticism and pro-environmental behavior.

H7a: Neuroticism has a significant impact on CNSR.

H7b: CNSR mediates the relationship between neuroticism and consumer's intention to buy societal friendly products.

The mediating role of CNSR on the relationship between personality traits and consumers' purchasing behavior

By devising an 8-point scale to assess socially conscious consumers, Webster (1975) substantiated that personality traits and attitudes significantly predict the environmental behaviors exhibited by such individuals. Derived from the two dimensions of social concern and environmental concern, consumers with diminished sense of social responsibility perceive every product purchase as potentially exerting positive or negative impacts on the environment; moreover, most environmental attitudes manifest themselves through typical statements pertaining to environmental concerns so as to address diverse ecological issues; however, scant attention has been paid or deliberate neglect has been shown towards matters concerning social responsibility.

Previous studies have confirmed that attitudes, such as environmental concern, significantly influence environmentally responsible behavior (46). The extent of engaging in environmentally responsible behavior varies and relies on predictive motivation factors. To induce behavioral change in individuals, it is essential to alter their environmental attitudes through educational initiatives, personal experiences, and active participation in environmental activities. Simultaneously, consumer concerns regarding environmental and social issues have resulted in a positive inclination towards marketing campaigns and strategies that were previously overlooked within the realm of social responsibility.

Existing research indicates an increasing emphasis among scholars on addressing consumers' social responsibility to influence their behavior (47). We further conducted 36 semi-structured interviews to

explore the relationship between consumers' social responsibility and their purchase intention, and we identified that:

- 1) the willingness of consumers to buy organic foods is influenced by both public motivations (such as the environmental sustainability of organic farming) and private motivations (such as the safety and health aspects of organic foods);
- 2) only through ecological organic food production systems can species diversity be preserved and environmental pollution be avoided;
- 3) consumers exhibit a strong interest in purchasing these organic foods due to their sense of social responsibility and recognition of the associated environmental benefits.

Scholars argue that ordinary consumers' awareness regarding social responsibility significantly impacts their inclination towards buying green and organic food products (48). According to our semi-structured interviews, we noticed that:

- 1) by examining consumers' awareness concerning social responsibility related to green and organic food, responsible purchasing behaviors can be fostered;
- 2) if marketers claim to offer environmentally friendly products, but in reality, they lack social responsibility, consumers will resist purchasing these products;
- 3) consumers identify themselves with product attributes that set them apart from others. Consumers who prioritise environmental concerns are more likely to choose socially responsible products as it aligns with their personal values and distinguishes them from non-green consumers. Therefore, the purchase of green products enables individuals to fulfill their motivation for social responsibility and holds symbolic significance for consumer traits.

Based on the findings from literature and the results of our semi-structured interviews, we propose our key hypothesis as follows:

H8: CNSR exerts a significant influence on consumer purchasing behavior, and it acts as an intermediary variable between personal characteristics and the purchase of socially desirable products.

The conceptual framework of this research is depicted in **Figure 1**.

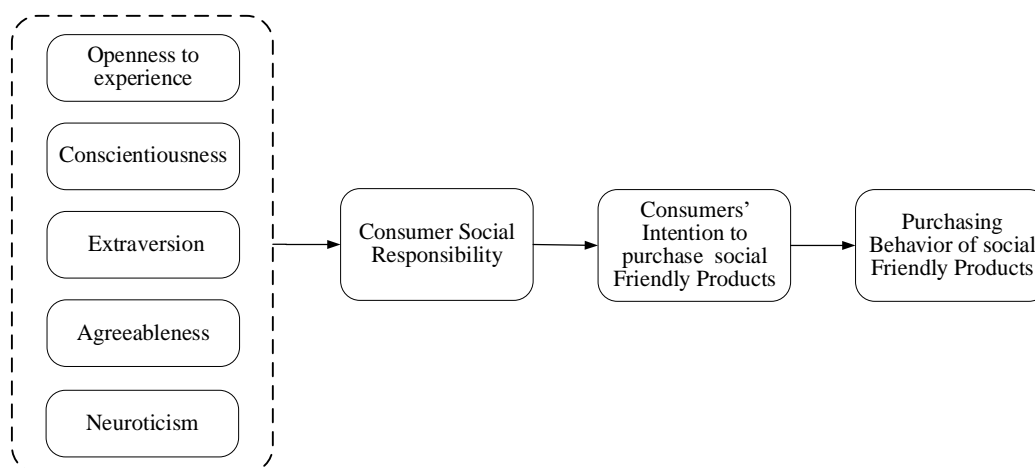


Figure 1. Conceptual framework

METHODOLOGY

We have conducted two studies: an exploratory survey to examine the hypotheses proposed above and semi-structured interviews to test and verify the results of the surveys.

Study-I -- Exploratory survey

The research model and hypothesis were tested using a structural equation model in this study. Structural equation modeling (SEM) is a crucial tool for conducting multivariate analysis and examining the relationships between variables (49). SEM has been extensively employed in studies on personality traits (Lindblom et al., 2020) and consumer behavior (Liu et al., 2023). Several reasons justify the selection of SEM as the research method. Firstly, SEM encompasses statistical procedures for measurement, prediction, and causal hypotheses (Jin et al., 2020). Secondly, SEM allows for analyzing multiple potential multidimensional structures while considering measurement errors, thereby ensuring accurate model estimation (50).

Measurement items

This study utilises the personality traits questionnaire developed and adapts it into a framework suitable for this particular research. The measurement items employed in this study include Openness, Conscientiousness, Agreeableness, Extraversion, and Neuroticism (Table 1). A comprehensive scale was utilised to measure these traits using a five-point Likert scale (where 1 indicates strong disagreement and 5 indicates strong agreement).

Table 1. Scale for Personality Traits, intention and buying behavior

Construct	Variable	Measurement items
Openness (OPN)		Strongly disagree (1)/Strongly agree (5)
	OPN1	I see myself someone who has artistic interests.
	OPN2	I see myself someone who is original
Conscientiousness (CON)		Strongly disagree (1)/Strongly agree (5)
	CON1	I see myself someone who does a thorough job.
	CON2	I see myself someone who is efficient.
Extraversion (EXT)		Strongly disagree (1)/Strongly agree (5)
	EXT1	I see myself someone who is reserved.
	EXT2	I see myself someone who is outgoing, socialable.
	EXT3	I see myself someone who is communicative.
Agreeableness (AGR)		Strongly disagree (1)/Strongly agree (5)
	AGR1	I see myself someone who is rude.
	AGR2	I see myself someone who is forgiving.
	AGR3	I see myself someone who is kind.
Neuroticism (NEU)		Strongly disagree (1)/Strongly agree (5)
	NEU1	I see myself someone who is relaxed, handle stress well.
	NEU2	I see myself someone who gets nervous easily.
	NEU3	I see myself someone who gets worried.

Purchase attention (PI)		Strongly disagree (1)/Strongly agree (5)
	PI1	I would buy social/environment products in order to save money.
	PI2	I will consider to purchase the social/environment products.
	PI3	I will definitely consider buying a social/environment product.
Buying behavior (BH)		Strongly disagree (1)/Strongly agree (5)
	BH1	I often buy social/environment products.
	BH2	I often buy products that are labeled as socially/environmentally safe
	BH3	I often buy products that contain no or fewer chemical Ingredients.
	BH4	I often buy products that support fair community trades.
	BH5	I often buy products that use recycled/ recyclable Packaging.

Openness means expose to new ideas, creativity, innovative, being logical and inquiring. The measurement of openness mainly includes the innovative dimension, (Simha et al, 2020) which refers to whether consumers try new things provided by the organization and take corresponding actions, specifically expressed as consumers think that they (1) are interested in art and (2) are original.

Conscientiousness measures an individual's degree of motivation, persistence, organization of goal directed behavior, higher the scores are higher the level of reliability and hardworking. Researchers found that conscientiousness have an impact on purchase intentions (49). The measurement of conscientiousness is described from two aspects: (1) whether the task can be completely completed and (2) whether the task can be completed efficiently.

Extroversion is characterised as an individual's intensity and quantity of interpersonal interaction and the level of activity. The higher person scores, higher the individual is social, active, optimistic, affectionate and talkative (50). The measurement of Extroversion is mainly achieved by whether consumers are good at socializing, specifically (1) consider themselves introverted (2) consider themselves extroverted and good at socializing, and (3) consider themselves good at communication.

Agreeableness evaluates an individual's quality of interpersonal orientation along a continuum from compassion to antagonism in feelings, thoughts, and actions. Individuals high in agreeableness will be higher in willingness to buy products which are safer to environment because they will prove it as a social task to help society to grow more positively (51). The measurement of Agreeableness is mainly about whether consumers think their personality is (1) rude, (2) forgiving and (3) kind.

Neuroticism is the last personality trait of Big Five personality model. Neuroticism evaluates an individual's tendency to psychological distress, excessive urges, and unrealistic ideas. Neuroticism is ability of an individual to become balanced and stable. This trait shows person's stability and low level of anxiety and person's instability and high level of anxiety at another end (52). Neuroticism is mainly measured in terms of coping with stress, that is, (1) whether they think they can effectively

cope with stress, (2) easy to be nervous and (3) easy to feel worried.

The purchasing intention is characterised mainly by the attitude of buying social friendly products, that is, (1) would buy social/environment products in order to save money, (2) will consider to purchase the social/environment products and (3) will definitely consider buying a social/environment product. The measurement of buying behavior includes the following aspects:

- 1) often buy social/environment products;
- 2) often buy products that are labeled as socially/environmentally safe;
- 3) often buy products that contain no or fewer chemical Ingredients;
- 4) often buy products that support fair community trades;
- 5) often buy products that use recycled/ recyclable Packaging.

Survey design and data collection

Due to the limited understanding of consumer social responsibility and environment-friendly purchasing behavior among individuals with low education levels in Pakistan, we specifically chose college students and graduates as our interviewees. College students were also commonly included in previous research findings (53). Our sampling framework consisted of current and former students from Islamabad and Rawalpindi in Pakistan. The distribution of questionnaires took place in the end of 2018. Convenience and snowball sampling methods were employed to identify potential respondents.

The questionnaire we issued consists of three parts. The first part of the questionnaire describes the background and purpose of the survey, and tells the interviewees that their identity information and questionnaire answers will be kept confidential so that they can truly answer the corresponding questions. The second part of the survey

includes information such as the demographics of respondents. Finally, the third part includes the measurement items in Table 1. Respondents were asked to rate each item on the given Likert scale. To ensure the quality of the obtained survey data, several duplicated

but reverse-scaled items were included in the survey questionnaire. Responses that scored high (low) on the item and high (low) on the equivalent item were considered to be invalid and voided.

A total of 900 questionnaires were distributed, and 613 valid questionnaires were obtained after the missing or partially completed questionnaires were processed. Table 2 shows the characteristics of the respondents and the distribution of social purchase behavior.

Table 2. Respondents' demographics and the characteristics of social friendly buying behavior

Characteristics	Observations	Frequency	Percentage
Gender	Male	347	56.6%
	Female	266	43.4%
Age	20-25	378	61.7%
	26-30	184	30.0%
	>30	51	8.3%
Race	Punjabis	370	60.4%
	Sindhis	110	17.9%
	Others	133	21.7%
Education level	Master	401	64.9%
	M. Phil degree	253	25.4%
	PhD	15	8.9%
Location	ISB	348	56.7%
	Rawalpindi	198	32.3%
	Others	67	10.9%
Product type	Clothes from recycled material	11	1.8%
	Recycled utensils	133	21.5%
	LED Bulbs	262	42.4%
	Solar Panels	171	27.7%
	Portable Solar Charging Station	36	5.8%

Study-II -- Semi-structured interviews

The utilization of semi-structured interviews is an appropriate approach for comprehending unstructured phenomena (54). In this article, we conducted semi-structured interviews to validate the results from the exploratory survey and to gain a deeper understanding of the underlying factors driving consumer purchase decisions for socially responsible products. We conducted in-depth interviews at two distinct time points to assess changes in consumption patterns following a comprehensive understanding of socially responsible consumption. The first interview was conducted in February 2022, and the second took place in August 2023.

We contacted 60 respondents who were formerly residing in Istanbul. Of these, 36 agreed to participate in our first-round interviews, and 32 participated in our second-round interviews. Among the participants, 61.1% were female and 38.9% were male. ZOOM meetings were used as the platform for interviewing participants. In the first-round interview, we spent approximately 30 to 60 minutes with each participant, engaging in meaningful conversations to gain insights into their personality traits and spending patterns, while also providing a comprehensive introduction to CNSR and socially responsible consumption. In the second-round online interview session, our primary focus was on examining any changes in their consumption behaviors since the first-round interview. The interview notes were returned to the respondents prior to conducting the data analysis. With their consent, content analysis was employed for data organization.

DISCUSSION

In this section, based on the results of the survey, we present the preliminary findings on the relationship between consumer personality traits, consumer social responsibility, and purchase intentions and behaviors toward socially responsible products. We then analysed the outcomes from semi-structured interviews to further validate these findings.

Key findings of the survey

This section is divided into two subsections. The first subsection assesses the reliability and validity of the measurement items. The second subsection examines the mediating effects, addresses four inquiries, and explores the direct and indirect impacts of consumer personality traits on CNSR and the willingness to purchase socially responsible products.

Reliability and validity analysis

It is essential to select an appropriate and reliable research design to ensure accurate and precise data analysis. We used SPSS and AMOS to check the reliability and validity of the data respectively (Cheung et al, 2023). Table 3 presents the Cronbach's alpha (α), Guttman's lambda (λ), average variance extracted (AVE), and composite reliability (CR) for the constructs. The Cronbach's alpha coefficients range from 0.747 to 0.930, confirming that the values meet the acceptable standard for alpha reliability. The values for the latent variables indicate that the Guttman coefficients range from 0.686 to 0.940 for CNSR. The composite reliability values range from 0.77 to 0.94, exceeding the acceptable threshold of 0.70 (Hair 2010).

Table 3. Confirmatory factor analysis results

Latent Variables	α	λ	AVE	CR
OPN	0.747	0.747	0.52	0.77
CON	0.78	0.780	0.58	0.83
EXT	0.837	0.709	0.63	0.89
AGR	0.825	0.686	0.62	0.87
NEU	0.892	0.732	0.73	0.93
CNSR	0.930	0.940	0.77	0.94
PI	0.876	0.771	0.86	0.91
BH	0.891	0.853	0.80	0.92

The validity of a measure is assessed through both convergent validity and discriminant validity. Table 4 presents the AVE, correlations, and squared correlations for the constructs. First, the AVE values for the variables exceed the recommended threshold of 0.50, indicating convergent validity (Kline, 2023). Additionally, the AVEs for each pair of variables are higher than their squared correlations, suggesting that the measurement items are more strongly related to their intended constructs than to other constructs, thus demonstrating discriminant validity.

Table 4. AVE, correlations, and squared correlations of the constructs

	OPN	CON	EXT	AGR	NEU	CNSR	PI	BH
OPN	0.52 a	0.778 c	0.701	0.683	0.646	0.695	0.649	0.661
CON	-0.6 b	0.58	0.835	0.789	0.818	0.872	0.856	0.850
EXT	-0.49	-0.69	0.63	0.774	0.791	0.872	0.824	0.836
AGR	-0.466	-0.622	-0.599	0.62	0.711	0.804	0.746	0.810
NEU	-0.417	-0.669	-0.625	-0.505	0.73	0.822	0.840	0.836
CNSR	-0.478	-0.76	-0.76	-0.641	-0.675	0.77	0.877	0.922
PI	-0.421	-0.732	-0.641	-0.558	-0.705	-0.769	0.86	0.855
BH	-0.436	-0.772	-0.698	-0.656	-0.698	-0.85	-0.73	0.80

a AVE values are along the main diagonal.

b Correlations between constructs are below the main diagonal.

c Squared correlations between constructs are above the main diagonal.

Path analysis

The findings presented in Table 5 demonstrate the direct impacts among the variables. Specifically, it is observed that openness exhibits a significant negative influence on CNSR ($\beta = -0.052$, $p=0.000$), indicating a negative correlation between experiential openness and CNSR. Conversely, conscientiousness displays a significant positive impact on CNSR ($\beta = 0.059$, $p = 0.000$), highlighting its crucial role in shaping consumers' sense of responsibility with an effect size of 0.59 units. On the other hand, extroversion does not exhibit any significant positive effect on CNSR ($\beta = 0.029$, $p = 0.209$), suggesting that extroversion does not directly contribute to consumers' engagement in fulfilling their societal obligations. Similarly, agreeableness also lacks a significant positive effect on CNSR ($\beta = 0.013$, $p = 0.564$). These findings indicate that agreeableness is not among the determining factors influencing consumers' adoption of their social responsibilities. In contrast, neuroticism demonstrates a noteworthy positive effect in motivating consumers to fulfill their societal obligations ($\beta = 0.062$, $p = 0.000$). This implies that neuroticism can enhance individuals' commitment level by approximately 0.062 units. The above findings indicate that consumer personality significantly influences consumers' social responsibility, with openness exhibiting a negative impact and conscientiousness, extraversion, and neuroticism demonstrating a positive impact. The findings from Table 5 also indicate a significant positive correlation between CNSR and the purchase intention and behavior of socially responsible products. Specifically, the independent variable of CNSR exhibits a substantial positive impact on purchase intention ($\beta = 0.398$, $p = 0.000$). Similarly, consumers' inclination to buy environmental-friendly products significantly influences their actual purchasing behavior ($\beta = 0.789$, $p = 0.000$). To summarise, it can be

inferred that consumers' individual characteristics exert a substantial influence on their sense of CNSR, which in turn significantly impacts their purchasing behavior.

Table 5. Direct effects

Variables (Relationships)	β	t	p	VIF
OPN—CNSR	-0.052	-3.632	0.000	2.751
CON—CNSR	0.059	2.472	0.014	6.866
EXT—CNSR	0.029	1.257	0.209	5.799
AGR—CNSR	0.013	0.577	0.564	4.912
NEU—CNSR	0.062	3.641	0.000	3.885
CNSR—PI	0.398	9.278	0.000	5.093
PI—BH	0.789	40.721	0.000	1.000

The results presented in Table 6 demonstrate the mediating role of CNSR between consumers' personality characteristics and their purchase intention towards environmental-friendly products.

Table 6. Indirect effects and total effects

Variables (Relationships)	Total Effect	Direct effect a	Indirect effect b	95% CI c	
				Lower Level	Upper Level
OPN—CNSR—PI	0.6284	0.0318	0.5500	0.4981	0.6024
CON—CNSR—PI	0.8606	0.0434	0.4785	0.4052	0.5486
EXT—CNSR—PI	0.8897	0.0456	0.6210	0.5519	0.6917
AGR—CNSR—PI	0.8174	0.0383	0.6880	0.636	0.7418
NEU—CNSR—PI	0.8085	0.0383	0.4550	0.3765	0.5331

Firstly, we examined the mediating effect of CNSR on the relationship between openness and consumers' purchase intention of environmental-friendly products. The total effect was found to be significant ($\beta=0.624$, $p=0.000$), indicating a strong association. Additionally, the indirect effect was also significant ($\beta=0.550$, $p=0.000$).

Secondly, we explored the mediating role of CNSR in conscientiousness and its impact on consumers' purchase intention towards environmental-friendly products. The total effect was found to be significant ($\beta = 0.860$, $p = 0.000$), suggesting a substantial influence of conscientiousness on purchase intention when mediated by CNSR. Similarly, the indirect effect was also significant ($\beta = 0.478$, $p = 0.000$). Moreover, the direct effect supported partial mediation as indicated by significant values ($\beta = 0.0434$ and $p = 0.000$).

Third, consider the mediating role of CNSR in the relationship between extraversion and consumers' purchase intention towards environmental-friendly products. The total effect is statistically significant ($\beta = 0.8897$, $p = 0.000$), indicating a strong association between these variables. Additionally, the indirect effect is also significant ($\beta = 0.621$, $p = 0.000$). Furthermore, the direct effect supports partial mediation as evidenced by its significance ($\beta = 0.0456$, $p = 0.000$).

Fourthly, examine the mediating role of CNSR in the association between agreeableness and consumers' purchase intention towards environmental-friendly products. The total effect demonstrates statistical significance ($\beta = 0.8174$, $p = 0.000$), suggesting a substantial impact of agreeableness on consumers' intentions to buy socially responsible products. Moreover, the indirect effect is also significant ($\beta = 0.688$, $p = 0.000$). Importantly, the direct effect remains statistically significant with $\beta = 0.0383$ and $p=0.000$, indicating that partial mediation exists.

Finally, we examine the mediating role of CNSR in the relationship between neuroticism and consumers' purchase intention towards environmental-friendly products. The total effect is statistically significant ($\beta = 0.8085$, $p = 0.000$), indicating that there is a strong association between these variables. Additionally, the indirect effect is also significant ($\beta = 0.455$, $p = 0.000$). Furthermore, the direct effect reveals a significant relationship between CNSR and purchase intention ($\beta = 0.0383$, $p = 0.000$).

Based on the aforementioned description, it can be inferred that CNSR plays an intermediary role in linking the five personality characteristics of consumers to their purchase intention for environmental-friendly products. The above findings support the acceptance of both hypothesis 1 and hypothesis 2.

In addition, since all values of VIF are less than ten, there is no multicollinearity problem in the table. The values of Durbin Watson confirm that there is no issue of auto-correlation as the values are close to 1.

Key findings of the semi-structured interview

The findings from our semi-structured interviews illuminate the correlation between consumers' personality traits and their socially responsible purchasing behaviors.

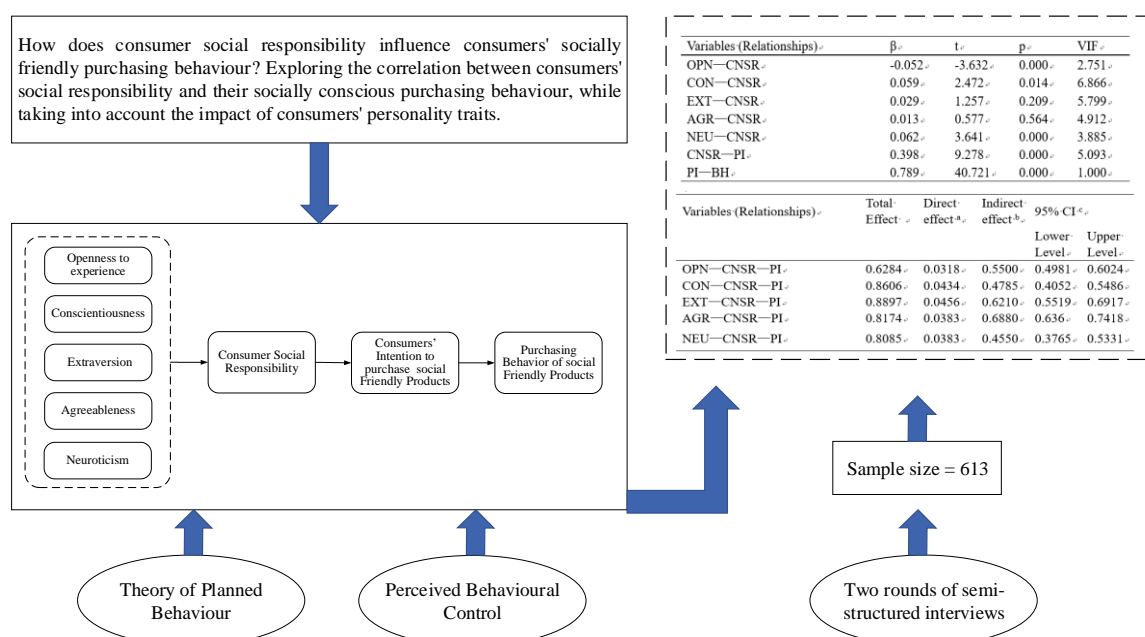
According to the model applied in the exploratory survey and the definitions of the five personality traits, we grouped our interviewees into: "Openness consumer", "Conscientiousness consumer", "Extroversion consumer", "Agreeableness consumer" and "Neuroticism consumer". The outcomes of our analysis on the collected interview data unveil the key findings as follows:

The existing literature demonstrates the significance of personality traits as influential factors in consumer behavior (Nguyen et al., 2019). However, our findings indicate that consumers with distinct personalities exhibit varying attitudes towards socially responsible consumption. Specifically, individuals with openness, conscientiousness, and neuroticism display a preference for products that have minimal adverse effects on communities, society, the environment, and fellow consumers. Further details can be found in Table 7.

Table 7. The influence of personality traits on the consumption of socially friendly products

Consumer segmentation	Number (February 2022)	Number (August 2023)	Average proportion of consumption of socially friendly products (February 2022)	Average proportion of consumption of socially friendly products (August 2023)
Openness consumers	7	6	3.6%	4.2%
Conscientiousness consumers	9	7	31.1%	51.3%
Extroversion consumer	7	7	13.4%	12.7%
Agreeableness consumer	7	7	16.3%	15.4%
Neuroticism consumer	6	5	42.8%	47.2%
Total interviewees	36	32		

Graphical abstract



In the first-round of interviews, the group of "open consumers" consisted of seven individuals, out of which five respondents admitted having limited experience in

Openness consumer

purchasing socially friendly products (the participants number reduced to six in the second-round interviews). These alterations can be attributed to the fact that open consumers exhibit higher receptiveness towards novel concepts; however, these new ideas tend to have a relatively shorter-lasting impact on them.

The case of Consumer 5 is illustrative. Prior to the first-round interview, consumers were unfamiliar with socially responsible consumption, which led them to purchase fewer socially responsible products and express intentions to explore such alternatives. However, in the second-round interview, the consumer reported a lack of active engagement in socially responsible consumption. Consumer 5 stated:

"Prior to this, there was a lack of understanding regarding socially responsible consumption and limited purchasing of environmentally friendly products. Through the first-round interview, I gained insight into the significant impact consumer behavior has on society and the environment, which prompted me to consider purchasing environmentally beneficial products. However, after the first-round interview, I contemplated acquiring socially responsible goods but found that most lacked innovation and artistic value, leading to infrequent purchases".

Conscientiousness consumer

The study identified a total of nine individuals classified as "conscientiousness consumers" in the first-round interviews (this number reduced to seven in the second-round interview), out of which eight respondents reported a transition towards socially conscious consumption. Consumer responsibility emerged as the primary driver behind these shifts.

Consumer 11 exemplifies a prototypical "responsible consumer", having demonstrated a thorough understanding of the social and environmental significance of socially conscious consumption behavior during the first-round interview. In the second-round interview, he reported engaging in multiple instances of socially responsible product consumption. Consumer 11 indicated:

"Previously, green products were purchased only sporadically and for reasons unrelated to socially responsible consumption behaviors (e.g., discounts, subsidies), indicating a limited understanding in this area. However, through the first and second round discussions, I have come to realise that most current consumption behaviors are detrimental to the environment. As a result, there is growing recognition of the importance of socially responsible consumption practices. Therefore, it is essential to prioritize the purchase of socially responsible products in the consumption process".

Extroversion consumer

The consumption behavior of four out of the seven extroverted consumers was reported to be less socially friendly both in the first and second rounds of interviews. This can be attributed to these particular consumers.

Consumer 20 is a typical example of an "extroversion consumer" who does not engage in socially friendly consumption. In the first-round interview, the consumer expressed a potential inclination towards socially responsible consumption behavior. However, in the second interview, she exhibited less socially responsible consumption patterns. She stated:

"The comparison between conventional and socially responsible products has continued to be influenced by sales personnel. For example, conventional products are often priced lower than eco-friendly alternatives, and sales staff sometimes undermine the importance of social responsibility to consumers. As a result, there has been a decreased inclination toward adopting socially responsible consumption since the first-round interview".

Agreeableness consumer

The consumption patterns of four out of the seven consistent consumers were found to be less socially friendly due to their susceptibility to peer influence.

The consumer labeled as Consumer 29 exemplifies a typical case of a "agreeableness consumer" who does not actively engage in socially responsible consumption behavior. In the first-round interview, this consumer expressed potential interest in adopting socially friendly consumption practices. However, during the second-round interview, she admitted to making limited socially responsible purchases. She said:

"After the first-round interview, I was initially inclined toward opting for socially conscious consumption. However, the majority of my acquaintances preferred purchasing inexpensive products or engaging in local consumption, which led them to choose less socially responsible alternatives".

Neuroticism consumer

The sample consisted of six "neuroticism consumers" in the first-round interview (this number reduced to five in the second-round interviews), among whom four respondents indicated a frequent purchase for socially responsible products in both first and second-round interviews. Consumer 33 stated:

"After learning about the detrimental impact of certain consumption behaviors on the environment during the first-round interview, I became increasingly concerned about environmental degradation. Subsequently, following the first-round interview and further discussions, I made a conscious decision to choose environmentally friendly products whenever possible".

The conclusions of Study 1 were therefore further substantiated through the use of semi-structured interviews.

CONCLUSION

Earlier studies have posited that the social responsibility of enterprises and NGOs exerts an influence on consumers' purchasing behavior towards environmental-friendly products (56). Previous research has primarily focused on examining the relationship between consumers' personality traits and their purchasing behavior (Lindblom et al., 2020). In contrast, our study broadens the scope by investigating how consumers' sense of social responsibility impacts their preference for environmental-friendly products. Additionally, we also explore the mediating effect of consumer personality traits on green purchasing behavior when considering consumer personality as a precursor. Drawing on the theory of planned behavior, this study proposes a theoretical model that elucidates the connection between CNSR and the inclination towards socially friendly product preferences driven by personality characteristics. At its core, this model posits that CNSR significantly impacts both consumption intentions and purchasing behaviors related to environmental-friendly products. By catering to the diverse personality traits exhibited by different consumers, it is possible to enhance their demand for environmental-friendly products.

The proposed mediation model was tested in this study through data collection from 613 consumers in Pakistan who were familiar with the concept of socially responsible products. According to the research findings of a structural equation model, personality traits serve as a crucial prerequisite for consumer purchasing behavior, aligning with previous scholarly conclusions and the findings from our semi-structured interviews (Khan et al., 2023; Lu et al., 2015). Furthermore, this study also reveals that personality characteristics play a significant role in predicting consumers' intention to purchase socially responsible products, with consumers' sense of social responsibility acting as an intermediary in this relationship. This finding adds further significance to the exploration of this association.

Theoretical contributions

The main theoretical contribution of this paper lies in the operability, measurement, and verification of CNSR, which opens up new avenues for expanding the existing literature on consumer behavior. Firstly, this study establishes a framework including exploratory survey and semi-structured interviews to illustrate consumer personality characteristics as a pre-factor influencing CNSR, an aspect that has not been previously explored. The framework reflects an approach to understanding and developing CNSR by examining consumers' willingness to purchase environmental-friendly products based on their attraction towards certain personality

traits. Additionally, the tendency to buy environmental-friendly products is found to increase when consumers perceive behavioral control and experience influence or pressure from family and friends. This comprehensive explanation provides further validation and measurement of CNSR while confirming the implications of the theory of planned behavior.

Managerial implications

Over the years, extensive research and implementation have been conducted on the concept of corporate social rationality. The company is dedicated to developing, selling, and promoting products that contribute to societal well-being. However, the effectiveness of these endeavors relies heavily on consumers' positive evaluation of the company's initiatives. This study offers valuable insights for all companies engaged in corporate social responsibility activities by emphasizing that consumers in developing countries also perceive environmental protection as a responsibility towards safeguarding society, communities, the environment, and fellow consumers; thus, prioritizing this aspect. To encourage consumer purchase of socially responsible products, companies or government departments should devise strategies to enhance consumer awareness regarding social responsibility. By selecting brand ambassadors who share similar traits with their target consumers such as openness, extroversion, and neuroticism; businesses can effectively communicate their communication strategies.

Limitations and future research

This study examines consumer personality characteristics as a precursor to CNSR and investigates the impact of consumer personality characteristics on both CNSR and the mediating effect of CNSR on socially friendly product purchasing behavior. However, this study has several limitations. Firstly, it does not extensively explore the moderating variables between consumer personality characteristics and CNSR. In future research, we can focus on investigating how demographic variables such as age, gender, income, race, and other moderating factors influence both consumer personality characteristics and CNSR in order to gain a better understanding of the concept of CNSR. Additionally, future studies could also examine the role of government and media in predicting social responsibility and effectively stimulating consumers' green purchasing behavior.

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