

CONSUMER BEHAVIOR | RESEARCH ARTICLE

Impact of Perceived Social Responsibility on Consumers' Green Perception and Green Behavior: The Moderating Role of Personality Traits

Ghasem Zarei^{1*}, Khadijeh Mirzaei²

Abstract: Green behavior plays an essential role in the continuation of human life. This study aimed to investigate the effect of perceived social responsibility on green perception and behavior. The study was conducted using quantitative methods, sampling a questionnaire to 450 customers of various one-chain store branches in Iran through convenience sampling. The study was conducted from 16 May 2018 through 20 June 2018. Data from the moderating bootstrap analysis was used in PROCESS to analyze the data. The results indicated significant, positive correlations between social responsibility, on the one hand, and green perception and consumers' green behavior, on the other hand. In terms of strength, the coefficients indicated moderate relationships ($r=0.345$ and $r=0.288$, respectively). Indirect effects were studied using Macro bootstrap. It was revealed that green perception ($\beta=0.0652$) predicts consumers' green behavior and is a moderating variable. Additionally, the moderating impacts of extroversion and openness in the relationship between consumers' green perception and green behavior were identified. According to the research, in addition to increasing social responsibility, companies should try to increase customers' perception of this behavior to help green consumption.

Keywords: consumers' green behavior, green perception, personality traits, social responsibility

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PUBLIC INTEREST STATEMENT

Unfortunately, human actions are leading to the destruction of the earth. Green consumption is one of the measures that can be taken against this issue. Organizations can play a role in this by encouraging consumers to green behavior. Organizations can help increase green consumption by implementing programs tailored to each consumer's personality traits. The company's social responsibility programs can play a key role in this regard.



1. Introduction

Due to the growing impact of factors like greenhouse gases, acid rains, deforestation, and drought, public awareness of environmental issues have lately risen (Pizam, 2009). Thus, firms and researchers have received special attention from concepts like green behavior and environmentally friendly products. Attempts are made to understand better practices that will help corporate organizations develop business strategies that fulfill their green consumers' demands. Because the proportion of green consumers has increased, markets are paying more attention to such consumers as their target sector (Dagher, Itani & Kassar, 2015). Indeed, people have become more conscious about environmental issues, and ecological/environmental problems are receiving more attention nowadays. Over the past decade, consumers' sensitivity toward the environment has increased, and they are trying to terminate and reverse the environmental destruction caused by humans (Leonidou, Leonidou & Kvasova, 2010). Therefore, the importance of green behavior is constantly increasing. In Iran, this issue is overgrowing. Issues such as air pollution and environmental destruction threaten the future of life in Iran, like most countries in the world; Therefore, the importance of green behavior in Iran is more and more understood.

Some people adopt most green behaviors, while others selectively perform some of them and ignore the others, rejecting any suggestions (Stanley & Lasonde, 1996). Individuals may have a positive attitude toward the environment, but this attitude does not end up in consumers' green behavior. This contradiction, known as the attitude-behavior gap (Gordon-Wilson & Modi, 2015), is shaped due to consumers' perceptions and interpretations of provided stimuli (Tan, Johnstone, & Yang, 2016). Because of the spread of environmental crises, corporate organizations' approach toward the environment has become a critical factor in consumers' evaluation of products and firms, and their green perception may influence green purchase behavior.

Green purchase refers to the idea that, in addition to criteria like price and efficiency, consumers pay attention to environmental issues like minimizing harmful environmental effects and enhanced resource efficiency when they want to buy something (Ranaei & Boozanjani, 2012). The behaviors of consumers who support the environment differ from the general purchase behavior. General purchase behavior is done upon running an evaluation of costs and benefits. In contrast, it is unlikely that environmentally friendly behavior be carried out based on benefit or enjoyment. Instead, it is based on a futuristic perspective that will benefit the entire society and stems from the awareness of the environment. Accordingly, products and services that are environmentally friendly are purchased, and the primary focus is on environmentally friendly businesses (Kaufman & Orphanidou, 2012). Green consumers are the people who care about the environment in their market-related activities and consuming habits. These people care about the impact of their purchase behavior on the environment.

It should be noted that green consumers pay attention to the environment in buying both products and services. For example, they may also make environmentally friendly decisions when deciding the destination of their trip (Bahreinizadeh & Rezaei, 2016). However, people do not pay equal attention to environmental issues, and many psychological and demographic variables (e.g., age, gender, academic degree, and personality traits) may influence green behavior. Therefore, it seems that companies can increase the attention to green consumption by giving more importance to corporate social responsibility.

In today's competitive world, firms should explore new and more creative techniques to not only retain their market share but also gain a proportion of their rivals' share. One of these techniques is firms' particular influence on consumers' behavior. Firms can adopt responsible business, ethical, humanitarian, and environmental behaviors to affect consumers and societies. These behaviors are collectively known as corporate social responsibility (CSR) (Gu, Ryan, Bin, & Wei, 2013). Nowadays, CRS is both an ethical and an economic requirement (Sen & Bhattacharya, 2001; Baskentli, Sen, Du & Bhattacharya, 2019). In particular, to maintain and improve corporate

market performance, firms should consider CSR for long-term planning (Dumitrescu, Hughner & Shultz, 2018). CSR significantly influences staff members, shareholders, society, consumers, or product quality and will have various repercussions for the firm and society (Kacperczyk, 2009). CSR from consumers' perspectives is a recent subject among researchers and experts. Nowadays, societies expect corporate organizations to be accountable regarding their responsibilities toward stakeholders and society (Christopher, 2010). Firms' responsibilities are not limited to business and economic issues. Instead, they should also focus on social and environmental subjects to minimize or eradicate harmful effects in society and maximize benefits for people, various groups, and the whole society (Costa & Menichini, 2013).

Recent research findings indicate consumers' growing interest in CSR (Nielsen, 2008). Most consumers believe that firms should be involved in social programs and activities since they take advantage of such activities. Research findings further show that consumers are interested in CSR and consider it when they want to evaluate firms or buy products (Öberseder, Schlegelmilch, Murphy & Gruber, 2013).

Numerous studies have investigated the effect of different factors on people's activities in light of environmental preservation. For example, many studies have indicated a significant relationship between individuals' demographic features, psycholinguistic characteristics, personality, and attitude, on the one hand, and their tendency to preserve the environment, on the other hand (Haghighi & Khalili, 2011). Spear and Carver (2004) describe personality as a changing organization within a human's psychological system, which determines people's behavior, thoughts, and feelings. Using this definition and capitalizing on the idea that personality has an organization and is active, they tried to overcome many challenges about this psychological concept. The interconnectedness of personality and body shapes how people interact with the world (Maehle & Shneur, 2010). Research shows that personality traits are related to various human behaviors. In particular, concerning consumer-related research, it has been demonstrated that people with specific personality traits (out of the five personality traits) are more likely to buy particular products (Gordon & Modi, 2015). Previous studies have shown that people's behavior is caused by their perceptions. But the impact of perception on behavior is different among people (Gordon-Wilson & Modi, 2015). The effect of perception on behavior may be different in people with different personality traits (Hirsh & Dolderman, 2007). In this research, personality traits are considered moderators in the relationship between green perception and green behavior.

Although many independent studies have been conducted on corporate social responsibility and green consumer behavior. But the researchers did not show a study that examined the impact of corporate social responsibility on green consumer behavior with a moderating role of personality traits. Based on the existing theoretical foundations, there may be a relationship between CSR, green perception, green consumer behavior, and consumers' personality traits. This relationship may be even more critical in chain stores like Refah.

Based on the above, the question arises whether the company's social responsibility can increase the amount of green consumption among consumers and whether more attention to the company's social responsibility can help move consumers toward green consumption? What role do personality traits play in this? Accordingly, the primary purpose of the present study is to examine the effect of perceived social responsibility on green perception and the effect of green perception on consumers' green behavior. The study was also intended to examine the moderating role of personality traits.

2. Literature Review

2.1 Relationship between Perceived Social Responsibility and Green Behavior

Organizations that support sustainable environment-related attempts are commonly known as green or sustainable organizations (Renwick, Redman & Maguire, 2013). Moreover, environmentally friendly behavior (e.g., saving energy and water, or planting trees) accomplished by people is known as green behavior (Verma, Chandra & Kumar, 2019). In addition, various behaviors can be adopted to protect the environment, e.g., using green products, recycling, separating household waste by using appropriate procedures, or even voting for groups that support green policies (Stanley & Lasonde, 1996).

CSR is a self-regulatory business model helping firms to be socially responsible concerning themselves, their shareholders, and society (Lončar, Paunković, Jovanović & Krstić, 2019). CSR encompasses all activities that are taken by a business to impact society and the environment positively. However, it is mainly associated with attempts to improve or at least reduce the harmful effects on the environment (Su & Swanson, 2019). CSR initially originated in management studies and was subsequently adopted by marketing researchers and experts to analyze phenomena from consumers' perspectives. This marketing approach has primarily focused on two key dimensions. The first dimension includes operationalizing CSR to probe consumers' perceptions of a firm's social responsibility. The second one entails the effect of consumers' perceptions of CSR on their reactions. In other words, this second dimension examines how corporate organizations' social behavior influences consumers' cognitive, emotional, and behavioral reactions (García-Jiménez, Ruiz-de-Maya & López-López, 2017).

Various CSR levels affect consumers' purchase intention and green behavior (Peloza & Shang, 2011; Dumitrescu, Hughner & Shultz, 2018; Inoue, Funk & McDonald, 2017; Suki, Suki & Azman, 2016; Su & Swanson, 2019; DeRoeck & Farooq, 2017; Su & Swanson, 2019). Consumers may reject demonstrated organizations that do not adopt CSR approaches, and many people try to cooperate with organizations that implement environmentally friendly policies and plans (Kim, Lee & Kang, 2018; Bohas & Poussing, 2016; Verma, Chandra & Kumar, 2019). They are even more likely to pay higher prices to buy products and services from green organizations (Verma, Chandra & Kumar, 2019; Del Giudice et al., 2018). Achi et al. (2022) showed a positive relationship between green process innovation and CSR. Alsuwaid, Eid, and Agag (2021) showed that CSR is a crucial driver of green employee behavior. Yin et al. (2021) showed that environmental CSR could influence environmental citizenship behavior directly and indirectly.

2.2 Relationship between Perceived Social Responsibility and Green Perception

Palihawadana, Oghazi, and Liu (2016) demonstrated that consumers' perception of CSR influences their perception. More precisely, activities that a firm does to accomplish its social responsibilities affect consumers' attitudes (Peloza & Shang, 2011; Dumitrescu, Hughner & Shultz, 2018; Verma, Chandra & Kumar, 2019) since various CSR activities are indicative of high/low commitment to a cause, which will, in turn, lead to consumers' positive or negative response (Dumitrescu, Hughner & Shultz, 2018).

Green perception means people look at and understand green behaviors and how people look at green behavior. Cobbinah, Asibey, Zuneidu, and Erdiaw-Kwasie (2021) showed that the green perception of urban spaces could affect attitudes toward green management. According to Yin et al. (2021), CSR can affect consumer perception. Alsuwaidi et al. (2021) also stated that CSR could affect employees' perception and green behavior.

2.3 Relationship between Green Perception and Green Behavior

Given the influence of various media, people's awareness of environmental issues has considerably increased. Thus, there is a growing interest among countries, marketers, and consumers in preserving the environment (Gordon-Wilson & Modi, 2015). As a result, organizations are nowadays focusing on marketing techniques for green products (Kronrod, Grinstein & Wathieu, 2012) and trying to understand factors that motivate consumers to prefer green products (Griskevicius, Tybur & VandenBergh, 2010) and the consumers' behavior toward green products (Lin & Chang, 2012).

People's belief in the effect of their purchase behavior on the environment impacts their green behavior (Verma, Chandra & Kumar, 2019). Additionally, most green behaviors require time, money, or physical/psychological attempts, which may hinder people's positive attitudes toward the environment. For example, consumers may believe it is expensive to buy green products or time-consuming to recycle them. Thus, they may not project green behavior despite having a positive attitude toward the environment (Stanley & Lasonde, 1996).

Because of environmental destruction, consumers nowadays pay more attention to product environmental features (Chen, Xu, and Frey, 2016). Therefore, environmental perception positively influences consumers' purchase intention. Furthermore, consumers more sensitive to environmental quality consider the impact of products on the environment and prefer to gain more information about the environmental impacts of products (He, Zhan & Hu, 2018).

The perceived environmental impact of products/services significantly influences the intention to purchase green products/services (Jaiswal & Kant, 2018). If consumers feel that their behaviors will not affect the environment, they may avoid buying green products (even if they believe they can buy such products) (Tan, Johnstone & Yang, 2016). Wang, Huscroft, Hazen & Zhang (2018) revealed a positive connection between the perceived value of recycled products and consumers' intention to buy such products. Also, Zhang, Li, Cao, and Huang (2018) showed a positive association between perceived greenwashing behavior and green purchase intention in China.

Green behavior can be influenced by various factors Hou, Cham, Dong, and Yao (2022) showed that uncertainty in economic policies affects the green behavior of companies. Al-swidi et al. (2021) showed that green human resource management, leadership, and organizational culture affect the green behavior of employees. Amrutha and Geetha (2021) showed that green education could influence the green behavior of human resources. Yeşiltaş et al. (2022) showed that green organizational culture could affect the green behavior of hotel staff. People's behavior is affected by their perception, and this can be true in the effect of green perception on green behavior. Zhang et al. (2018) showed that greenwashing perception affects the intention to buy green. Lau et al. (2021) also showed that the perception of urban green spaces affects mental and physical health and people's behavior.

2.4 The Moderating Role of Personality Traits in the Relationship Between Green Perception and Green Behavior

Surprisingly, only a few studies on green-related subjects have tried to explore the impact of personality. For example, knowing how personality traits affect green behavior benefits marketers (Gordon-Wilson & Modi, 2015). Research has indicated that personality traits are associated with different types of behavior in various conditions (Gordon-Wilson & Modi, 2015; Hirsh & Dolderman, 2007; Balderjahn, 1988). Ramanaiah, Clump, and Sharpe observed differences in the green responsibility of people with high and low scores in a personality trait questionnaire. They concluded that differences in personality traits influence individuals' environmental responsibility. The effect on individuals' perception of purchase behavior depends on individual-related factors (Verma, Chandra & Kumar, 2019), and personality can function as a moderating variable.

3. Conceptual Framework

Following the research hypotheses, the conceptual model of the research is illustrated in Figure 1. In this model, perceived social responsibility is an independent variable. Consumers' green perception is a dependent variable about perceived social responsibility and an independent variable concerning consumers' green behavior. Personality traits also comprise the moderating variable in this relationship.

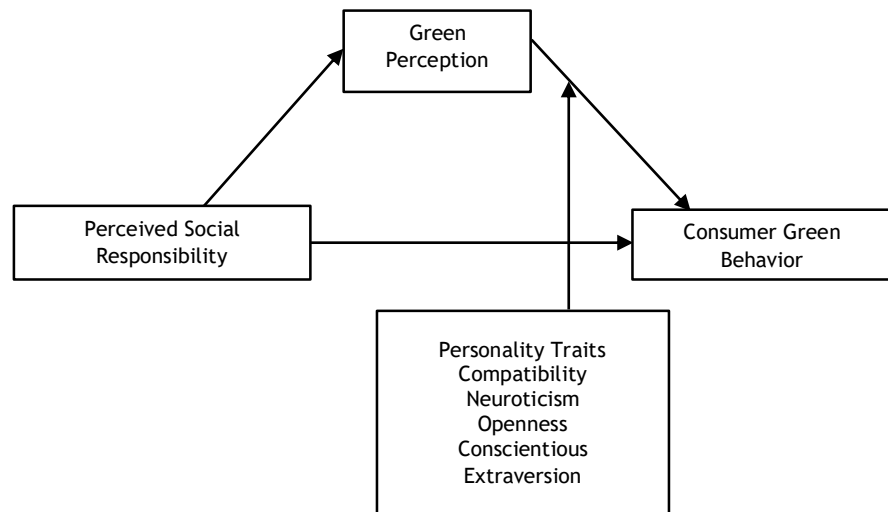


Figure 1. Conceptual Framework

According to what was discussed in the review of theoretical foundations, the following hypotheses are raised:

- H1: There is a significant relationship between perceived social responsibility and consumers' green behavior.
- H2: There is a significant relationship between perceived social responsibility and green perception.
- H3: There is a significant relationship between green perception and green behavior.
- H4: Green perception moderates the relationship between perceived social responsibility and green behavior.
- H5: Personality moderates the relationship between green perception and green behavior.

4. Methods

4.1 Participants

This research adopted an applied objective and a quantitative approach. The statistical population included the customers proceeding to the branches of Refah chain store in Ardabil city in Iran. The researchers in the branch randomly distributed the questionnaire among the people present in the branch. The main criterion in selecting the sample was over 18 years. Because of the large population size, the minimum sample size was estimated to be 384 people using Morgan's table. To gain more reliable results, 450 questionnaires were distributed to customers. The procedure was such that questionnaires were randomly distributed among the customers visiting each store branch. Data collection was carried out from 16 May 2018 through 20 June 2018. In total, 423 questionnaires were completed, and 392 were used for final analysis upon further inspection.

Refah is a chain store selling consumer goods across Iran. Refah chain store was founded in 1995. In February 2017, it had 225 branches across the country, offering customers consumer goods. There are three categories of Refah chain stores in Iran. There are three collaborative stores and 744 sales agents in Iran right now. A new generation of Refah chain stores has been designed at three levels with various

missions: Refah Express is intended to provide primary needs speedily, Refah Market is aimed at providing food, and Refah Extra sells office-related tools in addition to home-related stuff and clothes (Refah Service Center, 2017).

Ardebil contains seven branches of the Refah chain store and is, therefore, one of the densest cities in this regard. It is also the third city home to the new generation of Refah chain stores with electronic services in 2017. However, to our knowledge, no published study has been conducted on Refah consumers' features, especially their behaviors and green perception, in Ardebil (Refah Service Center, 2017).

4.2 Measurements

Palihawadana, Oghazi, and Liu's (2016) 10-item questionnaire was used to measure social responsibility. Furthermore, the green perception was gauged via the 4-item questionnaire developed by Tan, Johnstone, and Yang (2016), while consumers' green behavior was assessed using the two questionnaires devised by Zhao, Gao, Wu, Wang & Zhu (2014); Gordon-Wilson and Modi (2015) (6-items). Personality traits were also assessed using Soto and John's (2012) questionnaire, which has five dimensions and 17 questions. All questionnaires mentioned above used a five-point Likert scale. To ensure the validity of the questionnaires, domain experts' ideas were sought. Moreover, Cronbach's alpha correlation coefficients were higher than 0.7, combined reliability coefficients were more considerable than 0.6, and convergent validity was higher than 0.5, all of which confirm the instruments' reliability (Beland & Altman, 1997). Therefore, according to Table 1, the questionnaire responses enjoy acceptable reliability.

Table 1. Reliability of the research instrument

Module Index	Number of questions	CR	Cronbach alpha
Perceived CSR	10	-	0.895
Green Perception	4	0.823	0.936
Consumer Green Behavior	6	0.769	0.895
Compatibility	3	0.792	0.839
Neuroticism	4	0.819	0.936
Openness	3	0.836	0.790
Conscientious	3	0.763	0.791
Extraversion	4	0.819	0.834

One way to modify the measurement model is to examine the item's factor loading. If the factor loadings are lower than 0.4, the corresponding items may be deleted, hence revising the model. Furthermore, if the significance level of each item is greater than 0.05, it can be interpreted as an indicator of the unsuitability of the corresponding item; hence it should be omitted. In this model, save for items 15, 16, and 23, all the other items enjoyed a significance level of less than 0.001. The factor loading of the three items as mentioned above is less than 0.4. Therefore, they were unsuitable representatives of their corresponding item and were removed from the final model (Table 2).

Table 2. Path coefficients and significant factor loadings in the measurement model

	Loading Factor	Non-STD factor Loading	STD. Factor Loading	S.E.	C.R	P	Result
Perceived Social Responsibility	Q1 Refah activities should be in line with rules and instructions.	0.702	0.754	0.054	12.987	***	Valid
	Q2 Refah should be serious when it comes to fulfilling its legal commitments.	0.834	0.837	0.055	15.174	***	Valid
	Q3 Products presented in Refah chain stores should meet legal standards.	0.828	0.839	0.054	15.262	***	Valid
	Q4 Refah should voluntarily take part in charity affairs.	0.744	0.764	0.056	13.282	***	Valid
	Q5 Refah should voluntarily sponsor social events (e.g., cultural, sports, and artistic events).	0.762	0.710	0.064	11.961	***	Valid
	Q6 Refah should feel responsible for increasing life quality in society.	0.770	0.789	0.056	13.871	***	Valid
	Q7 The behaviors in Refah should align with ethical expectations and norms in society.	0.407	0.470	0.056	7.248	***	Valid
	Q8 Refah aims to maximize its profit margin in the activities it does.	0.757	0.804	0.053	14.261	***	Valid
	Q9 Refah should try to improve its economic performance.	0.772	0.892	0.046	16.812	***	Valid
	Q10 Refah should try to maintain its competitive edge.	0.745	0.855	0.048	15.667	***	Valid
Consumer Green Perception	Q11 Environmentally friendly products have a better performance.	0.691	0.821	0.047	14.715	***	Valid
	Q12 Environmentally friendly products are better for the environment.	0.665	0.802	0.047	14.205	***	Valid
	Q13 Environmentally friendly products use products that are less harmful to the environment.	0.739	0.828	0.050	14.911	***	Valid
	Q14 Environmentally friendly products are more reliable for the environment.	0.706	0.771	0.053	13.418	***	Valid

Table 2. Path coefficients and significant factor loadings in the measurement model (continue)

	Factor Loading	Non-STD factor Loading	STD. Factor Loading	S.E.	C.R	P	Result	
Consumer Green Behavior	Q15	I try to use bottles that can be submitted to recycling centers.	0.707	0.766	0.053	13.287	***	Valid
	Q16	When two products have the same quality, I select the less polluting one.	0.681	0.761	0.052	13.153	***	Valid
	Q17	If I notice a product is harmful to the environment, I won't buy it anymore.	0.638	0.740	0.050	12.653	***	Valid
	Q18	If I notice that a firm is negligent concerning environmental issues, I won't buy its products.	0.730	0.759	0.056	13.119	***	Valid
Personality Traits	Q19	I trust others.	0.553	0.478	0.075	7.381	***	Valid
	Q20	I am eager to help others.	0.687	0.660	0.063	10.862	***	Valid
	Q21	I am not comfortable and feel shy in interpersonal relations.	0.376	0.439	0.056	6.708	***	Valid
	Q22	I feel social anxiety in big crowds.	0.508	0.584	0.054	9.332	***	Valid
	Q23	I am weaker than others in terms of adaptability.	0.857	0.911	0.051	16.846	***	Valid
	Q24	I react emotionally to unimportant events.	0.855	0.907	0.051	16.739	***	Valid
	Q25	I execute new ideas and experiences.	-0.020	-0.018	0.077	-0.260	***	Valid
	Q26	I am a creative, innovative, and thoughtful person.	0.606	0.668	0.056	10.843	***	Valid
	Q27	I have a lot of negative and positive feelings.	1.025	0.892	0.062	16.403	***	Valid
	Q28	I am an accurate, punctual, and reliable person.	0.816	0.755	0.064	12.807	***	Valid
	Q29	I am incredibly committed to ethical principles.	0.599	0.551	0.069	8.658	***	Valid
	Q30	I am perseverant in achieving my goals.	0.910	0.837	0.060	15.108	***	Valid

Table 2. Path coefficients and significant factor loadings in the measurement model (continue)

	Factor Loading	Non-STD Factor loading	STD. Factor Loading	S.E.	C.R	P	Result	
Personality Traits	Q31	I express my ideas and criticisms toward others without any reservations.	1.084	0.915	0.062	17.529	***	Valid
	Q32	I am highly decisive and ambitious.	1.062	0.947	0.057	18.616	***	Valid
	Q33	I am a highly sociable and friendly person.	0.937	0.864	0.059	15.910	***	Valid
	Q34	I am highly energetic and active.	1.026	0.879	0.063	16.367	***	Valid

Table 3 displays the fitness indices of the measurement model. CFI is more extensive than 0.9, indicating the model's fitness. Also, RMSEA is lower than 0.6, showing that the confirmatory factor analysis model is economical. Furthermore, the ratio of chi-square to the degree of freedom is less than 3; hence the model enjoys good fitness.

Table 3. Fit Index of the Measurement Model

Measure	Interpretation	Threshold	Estimate
CMIN/DF	Excellent	Between 1 and 3	1.920
CFI	Need More DF	>0.090	0.898
SRMR	Acceptable	<0.08	0.098
RMSEA	Acceptable	<0.06	0.045

4.3 Analysis

The study used quantitative methods. In order to analyze the data, Pearson correlation coefficient, simultaneous multiple regression, sequential multiple regression, and simple slope analysis were exploited. SPSS 21 and PROCESS were used for data analysis.

5. Findings

5.1 Respondent characteristics

Based on the descriptive data, 195 males and 197 females participated in the study. Moreover, 46.4% were less than 30 years old, and the lowest proportion of the participants (2.6%) belong to the age range of over 51 years. Additionally, 35.2% had bachelor's, and, in terms of academic degrees, the category with the smallest sample size was participants who held Ph.D. Most of the respondents self-reported being Refah customers for over 15 years. Also, the highest percentage had a monthly income of 250 to 500 dollars.

5.2 Model Evaluation

Consumer green behavior is the dependent variable in this research, and we want to investigate the effect of perceived social responsibility through the mediation of green perception on consumer green behavior. As indicated in Table 4, there are significant positive relationships between green perception, on the one hand, and green behavior, openness, extroversion, and conscientiousness ($P < 0.01$), on the other hand. Furthermore, the results also showed significant positive relationships between social responsibility and adaptability, conscientiousness, extroversion, and openness.

Table 4. Internal correlation of research variables and significance levels

		Social Responsibility	Green Perception	Consumer Green Behavior	Compatibility	Neuroticism	Openness	Conscientious	Extraversion
Social Responsibility	PC*	1	.385**	.288**	.345**	.007	.240**	.167**	.175**
	Sig.		0.001	0.001	0.001	0.865	0.001	0.001	0.001
Green Perception	PC		1	0.290**	.256**	-0.062	.132**	.235**	.124*
	Sig.			0.001	0.001	0.221	0.009	0.001	0.014
Consumer Green Behavior	PC			1	.291**	0.03	.180**	.104*	.172**
	Sig.				0.001	0.56	0.001	0.04	0.001
Compatibility	PC				1	-.129*	.291**	.227**	.327**
	Sig.					0.011	0.001	0.001	0.001
Neuroticism	PC					1	.116**	-.106*	-.137**
	Sig.						0.022	0.035	0.007
Openness	PC						1	.318**	.350**
	Sig.							0.001	0.001
Conscientious	PC							1	.269**
	Sig.								0.001
Extraversion	PC								1
	Sig.								

Note: *PC=Pearson Correlation

Figure 2 illustrates the fitted structural equation model and the strength of the relationships. In a suitable structural model, the Chi-square should be statistically insignificant, the ratio of chi-square to the degree of freedom should be lower than 3, normalized fit indices and goodness of fit index should be over 0.80, and the adaptive fit index should be greater than 0.9, the root means square of the residuals should be smaller than 0.09, and the root means square of estimated error should be smaller than 0.08. For the fitted structural model, Chi-square was 103.885, the Chi-square to the degree of freedom ratio was 1.731, normalized, adaptive, and goodness of fit indices were 95.90, 0.0, and 0.93, respectively. The root means square of the residuals was 0.55, and the root means square of estimated error was 0.064. All the model fit indices were higher (or lower) than the required cut-off scores, indicating the model was fit enough.

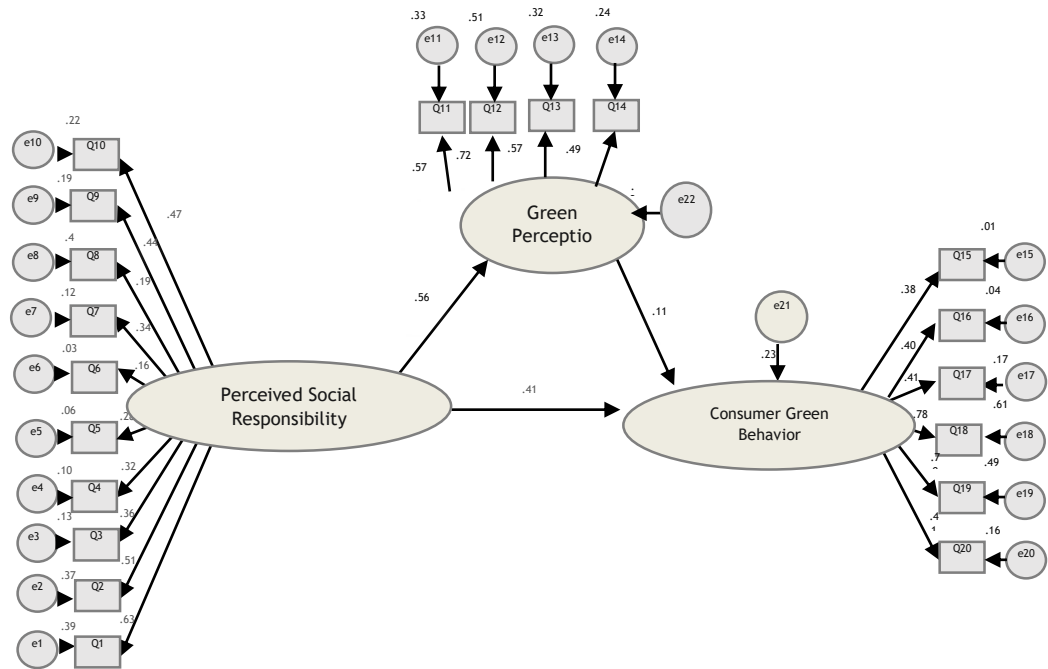


Figure 2. Structural equation pattern (structural model and measurement model)

In the fitted model, all direct impacts (i.e., the impact of perceived social responsibility on green perception, the impact of green perception on consumers' green behavior, and perceived social responsibility on consumers' behavior) were statistically significant ($t > 1.96$; $p < 0.05$). Therefore, the first three hypotheses are confirmed. P-value and t-value were used to test the research hypotheses. In order to have a significant relationship, the p-value should be smaller than 0.05, and the t-value should be out of the ± 1.96 interval. As observed in Table 5, all the hypotheses meet these requirements. Furthermore, as indicated in this model, the highest coefficient ($B = 0.56$) has to do with the effect of perceived social identity on green perception. Conversely, the weakest coefficient ($B = 0.11$) is related to the impact of green perception on consumers' green behavior. The coefficients in the model also show that around 31% of the variance in green perception is explained by the impact of perceived social responsibility, while around 23% of the variance in consumers' green behavior is accounted for by both the independent and moderating variables. Table 5 briefly presents the results of testing hypotheses 1-3.

Table 5. Summary of Test Hypotheses of Research

Results of Relationships	Standard Coefficient	Significant Number	Significant Level	Test Result
Perceived Social Responsibility ----> Green Perception	0.561	6.058	0.001	Significant
Green Perception ----> Consumer Green Behavior	0.115	2.959	0.041	Significant
Perceived Social Responsibility ----> Consumer Green Behavior	0.407	4.387	0.012	Significant

Considering the fact that all three research hypotheses are substantiated, the indirect impact of perceived social responsibility on green behavior and its significance level can be calculated. Bootstrap was used in the Hayes Macro program to test the indirect effect of perceived social responsibility on green behavior. In Table 5, the data refer to the direct impact of the original sample, and the boot has to do with the estimate of the indirect impact of bootstrap samples. Also, in this table, bias indicates the difference between data and boot, and standard error shows the standard deviation of indirect estimates in the bootstrap samples.

Based on Table 6, concerning the path from perceived social responsibility to green behavior via green perception, the low and high confidence interval points, respectively, are 0.0320 and 0.1041. Therefore, the significance level for this confidence interval is 95, and the number of bootstrap resampling is 1000. Since zero is out of this interval, the impact of perceived social responsibility to green behavior via green perception is significant.

Table 6. Intermediate pathway results

	Data	Boot	Bias	SE	Lower Limit	Upper Line
The Path of Perceived Social Responsibility to Green Behavior through green perception	0.652	0.650	-0.0001	0.0181	0.0320	0.1041

To test the fifth hypothesis (i.e., the indirect impact of green perception on green behavior via personality), a simple slope analysis was applied in PROCESS (which is an add-on software). The results of the Hayes PROCESS add-on program in regression analysis, comprising direct and interactive impacts of personality and green perception on predicting green behavior, are illustrated in Table 7.

Table 7. The effect of moderating personality components

	β	t-value	p-value	Bootstrapped CI (95%)		
				SE	LL	UL
Green Perception	0.3597	4.6879	0.001	0.0767	0.2089	0.5106
Compatibility	0.4036	4.7466	0.001	0.0850	0.2364	0.5708
Green Perception* Compatibility	-0.0065	-0.1807	0.8567	0.0358	-0.0768	0.0638
Green Perception	0.4507	5.9701	0.0001	0.0755	0.3023	0.5991
Neuroticism	0.0411	0.9208	0.3578	0.0447	-0.0467	0.1290
Green Perception* Neuroticism	0.0298	-1.400	0.1564	0.0210	-0.0710	0.0115
Green Perception	0.4224	5.5618	0.0001	0.0760	0.2731	0.5718
Openness	0.2527	2.9902	0.0030	0.0845	0.0866	11.3123
Green Perception* Openness	-0.0078	-.2045	0.8381	0.0382	-0.0829	0.0673
Green Perception	0.4502	5.7593	0.0001	0.0782	0.2965	0.6039
Conscientious	0.1143	1.0815	0.2801	0.1057	-0.0935	0.3221
Green Perception* Conscientious	-0.0585	-1.3487	0.1782	0.0433	-0.1437	0.0268
Green Perception	0.4063	5.4377	0.0001	0.0747	0.2594	0.5533
Extraversion	0.1514	2.5364	0.0116	0.0597	0.0340	0.2688
Green Perception* Extraversion	0.0771	3.0176	0.0027	0.0256	0.0269	0.1274

According to Table 7, the overall model of green behavior based on green perception and the interactive effect of adaptability and green perception were not significant ($\Delta R^2=0.0001$; $F_{(3, 388)}=0.326 > 0.8567$). Thus, based on the results presented in Table 7, adaptability (which is a personality trait) does not significantly moderate the relationship between green behavior and green perception. In other words, the difference in the relation between green perception and green behavior in high and low levels of adaptability is not statistically significant.

Based on the results displayed in Table 7, the overall model of green behavior based on green perception and the interactive effect of neuroticism and green perception were not significant ($\Delta R^2=0.0047$; $F_{(3, 388)}=2.0164>:0.1564$). Therefore, based on the results presented in Table 8, neuroticism (a personality trait) does not significantly moderate the relationship between green behavior and green perception. In other words, the difference in the relation between green perception and green behavior in high and low levels of neuroticism is not statistically significant. Furthermore, based on the results displayed in Table 4, the overall model of green behavior based on green perception and the interactive effect of openness and green perception were not significant ($\Delta R^2=0.0001$; $F_{(3, 388)}=0.0418>:0.8381$). Therefore, based on the results presented in Table 7, openness (which is a personality trait) does not significantly moderate the relationship between green behavior and green perception. In other words, the difference in the relation between green perception and green behavior in high and low levels of openness is not statistically significant.

Based on the results displayed in Table 4, the overall model of green behavior based on green perception and the interactive effect of conscientiousness and green perception were not significant ($\Delta R^2=0.0043$; $F_{(3, 388)}=1.8191>:0.1782$). Therefore, based on the results presented in Table 7, conscientiousness (which is a personality trait) does not significantly moderate the relationship between green behavior and green perception. In other words, the difference in the relation between green perception and green behavior in high and low levels of conscientiousness is not statistically significant.

Based on the results displayed in Table 4, the overall model of green behavior based on green perception and the interactive effect of extroversion and green perception were significant ($\Delta R^2=0.0206$; $F_{(3, 388)}=9.1061>:0.0027$). Therefore, based on the results presented in Table 7, extroversion (which is a personality trait) significantly moderates the relationship between green behavior and green perception. In other words, the difference in the relation between green perception and green behavior in high and low levels of extroversion is statistically significant.

6. Discussion

Research has demonstrated that various factors affect consumers' willingness to buy green products. Some of these factors include more access to environmental issues, firms' green advertisements about environmental concerns, and more considerable bulk of green products manufactured by social charity and environmental organizations (Osman, Othman, Salahudin & Abdullah, 2015). Exploring factors that affect consumers' green purchase behavior has profoundly influenced marketing studies. These studies began in the 1960s and focused on consumers' green purchase behavior by adopting a green marketing approach. However, a significant rise was observed in such studies in the 1980s when green branding became fashionable (Ritter, Borchardt & Vaccaro, Pereira, & Almeida, 2015). In addition, various studies have investigated factors that affect green consumption and purchase (Liobikiene & Bernatoniene, 2017).

Based on the results of the current study, perceived social responsibility influences consumers' green behavior. The findings in this regard are in line with the results obtained by Verma, Chandra, & Kumar (2019) and Bohas and Poussing (2016), who studied the effect of social responsibility perception on purchase intention, as well as the findings of Del Giudice et al. (2018), who focused on consumers' willingness to pay more money for buying the products who care about their social responsibilities. Moreover, the results of the current study indicated that perceived social responsibility is significant and positive with consumers' green behavior. This finding is in agreement with the results of Palihawadana, Oghazi, and Liu (2016), who discovered the impact of consumers' perception of firms' social responsibility on

consumers' perception of firms. Furthermore, Alsuwaidi et al. (2021) showed that CSR is a crucial driver of green employee behavior. Based on this, it can be said that this result is consistent with the result of the present study. Furthermore, the results of the present study are also consistent with the results of the research of Yin et al. (2021) is in line. These researchers showed that environmental CSR could influence environmental citizenship behavior directly and indirectly.

Zhang et al. (2018) showed that greenwashing perception affects the intention to buy green, which is consistent with the results of the present study. Lau et al. (2021) also showed that the perception of urban green spaces affects mental and physical health and people's behavior, and this issue can confirm the impact of green perception on consumer green behavior.

According to the results of this study, consumers' green perception affects their green behavior. This finding is in line with the results obtained by He, Zhan, and Hu (2018), who showed the impact of environment-related perception on consumers' purchase intention. According to Verma, Chandra, and Kumar (2019), the impact of individuals' perceptions on purchase behavior depends on personality-related factors. The results of the current study showed that personality traits comprise the moderator in the relationship between green perception and consumers' green behavior. Thus, the green perception will influence green behavior differently depending on people's personality traits.

Like any other study, the current research had some limitations. For example, only questionnaires were used to assess the variables. Another limitation of this study was that the study of Refah chain stores and limited to a region in Iran. Therefore, caution should be exercised in extending the results of this research to other regions and industries.

7. Conclusions

This study showed that corporate social responsibility, directly and indirectly, affect green consumer behavior. In addition, it also affects the green perception of the consumer. Therefore, turning to social responsibility by companies can be effective in strengthening green consumer behavior. In other words, companies' commitment to social responsibility leads to strengthening consumer perception of companies' green activities and strengthens green consumer behavior. Based on this, it can be said that corporate social responsibility can have an impact on the future of human life through its influence on green behavior.

According to this study's results, green perception affects green consumer behavior, and personality traits have a moderating role in the relationship between green perception and consumer green behavior. Accordingly, the effect of green perception on green behavior with different personality traits is different. In other words, the effect of green perception on green consumer behavior in people with different personality traits is not the same.

8. Recommendation

Based on the finding, it suggested that chain stores, prioritize environment-related issues in their out-of-home and internal advertising to affect consumers' green perception and behavior. They should pay more attention to issues like observing legal and ethical issues in ordering their plans and should adequately inform consumers about such attempts to enhance their perception of the chain store's social responsibility. Companies should also participate in charity activities, focusing on environmental issues to demonstrate their care for environment-related concepts. Refah store, as a popular chain store in Iran, should be sensitive to social events and

react appropriately to social issues. Paying attention to legal and ethical issues in the environmental field should be among the values of this store and reflect this issue in its advertisements and implement its ethical and legal obligations in the field of the environment at a high level. Refah store, as a popular chain store in Iran, should be sensitive to social events and react appropriately to social issues. Paying attention to legal and ethical issues in the environmental field should be among the values of this store and reflect this issue in its advertisements and implement its ethical and legal obligations in the field of the environment at a high level.

It is suggested that chain stores, use green packaging and allocate more space in their branches to environment-friendly products to raise consumers' green perception and affect their green behavior. Furthermore, to enjoy the benefits of adopting a green approach, they should also use environment-related mottos, symbols, and signs (e.g., subjects related to water shortage and aerosol crisis) in their branding and product advertisements. As a result, while planning for the future, chain stores should consider consumers' personality differences and plan about green perception in light of consumers' personalities.

Given the limitations of the research, it is suggested that future researchers use in-depth interviews and phenomenological studies to gain a more comprehensive understanding of the notion of *green* from chain store consumers' perspectives. Also, future studies may focus on other sectors. Moreover, this study concentrated on the relationship between various green-related concepts. Therefore, future studies can explore the effect of such concepts on other variables like consumers' satisfaction. Finally, only consumers' perceptions of green-related issues were taken into account in this study. It is therefore recommended that the same subject be investigated in the production and distribution sectors.

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