

Study on the Driving Factors of Consumer Green Consumption Behavior

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Abstract

With the increasing intensity of global climate change and environmental pollution, Sustainable development has become the focus of global social attention, Green consumption behavior is widely recognized as one of the important ways to promote environmental protection and sustainable development, This paper uses the theory of planning behavior, Value identification with the individual norm model theory as the framework, Applying the multiple linear regression, Examined the influence of environmental protection attitudes on green consumption behavior, The research results show that: first, environmental protection attitude has a positive impact on green consumption behavior, Second, green consumption willingness and green literacy play a partial intermediary role between environmental protection attitude and green consumption behavior, The third study results failed to verify the mediating role of personal values between environmental attitudes and green consumption behavior, Suggesting that other factors may have a more significant impact on consumers' green consumption behavior. This finding points to the direction of future research to further explore other potential mediating variables and influencing factors to gain a more comprehensive understanding of the mechanisms influencing environmental attitudes on green consumption behavior.

Keywords

Environmental Protection Attitude; Green Consumption Behavior; Planning Behavior Theory; Value Identification and Personal Specification Model.

1. Introduction

On October 16, 2022, General Secretary Xi Jinping proposed in his 20th CPC National Congress report to promote green development and promote harmonious coexistence between man and nature. The general Secretary pointed out that nature is the basic condition on which human beings live and develop. Respecting, conforming to and protecting nature is an inherent requirement of building a modern socialist country in all respects. We must firmly establish and practice the concept that lucid waters and lush mountains are mountains of gold and silver, and plan development from the height of harmonious coexistence between man and nature.

With the increasing problem of global climate change and environmental pollution, sustainable development has become the focus of the global society. In order to meet these challenges, green consumption behavior is widely recognized as one of the important ways to promote environmental protection and sustainable development. In this context, it is very important to understand the impact of consumers' environmental attitudes on green consumption behavior.

This study aims to explore the influence of consumer environmental attitudes on green consumption behavior under the two-carbon target, based on the framework of planning behavior theory and the theory of individual normative model. Through the analysis of factors such as consumer attitude, subjective norms, perceptual behavior control, and values and ethics,

this paper will reveal the relationship between consumers' environmental intention and green consumption behavior, and provide useful insights and suggestions for promoting green consumption and sustainable development.

2. The Study Hypothesis

With the theory of planning behavior and the theory of personal normative model of value identification, this paper discusses the mechanism of environmental attitude on green consumption behavior. Environmental protection attitude refers to the individual's cognition, evaluation and view on environmental protection and sustainable development issues. It reflects a person's attention to environmental protection, the attention to environmental issues and the support and tendency to environmental behavior. For example, people with more positive attitudes towards green behavior activities were considered to show positive judgments about the environment. A person with a sense of responsibility for sustainable products may have a positive attitude to make more environmental decisions. Ji Junrong (2019) also mentioned that the more important consumers are to environmental issues, the higher their green consumption intention[1]. Zhang Yiwei and Xu Aiping (2022) show that as long as consumers have a deeper understanding of environmental protection, they will have a better attitude towards green consumption, thus generating higher willingness to consume and more actively adopt green consumption behaviors[7]. So this article makes the following assumptions:

H1: Environmental protection attitude positively affects green consumption behavior

H2: Green consumption willingness plays an intermediary role between environmental protection attitude and green consumption behavior, that is, environmental protection attitude positively influences green consumption willingness and promotes green consumption behavior.

According to the model of value identification, individual environmental attitudes are influenced by individual values and moral norms. Individual values of respect for the environment, sustainable development, equality and justice, which can shape the individual's degree of recognition of environmental protection issues. Green literacy, green consumption attitude, personal values and subjective norms of conduct can be regarded as the important components of individual values and ethics in the formation process of environmental protection attitude. McBride B B (2013) mentioned that green literacy is "one's awareness and concern about environmental and environmental problems, as well as knowledge, skills and motivation dedicated to solving environmental problems. Just as through the role of these intermediary factors, individual values and ethics can indirectly influence individual green consumption behavior through shaping environmental attitudes[2].

According to the theory of planned behavior, an individual's behavioral intention and actual behavior are jointly determined by attitudes, subjective norms, and behavioral perception.

Personal attitude towards environmental protection refers to the positive or negative evaluation of environmental issues and green consumption. Individuals' environmental protection attitude will affect their attitude towards green consumption behavior, that is, the cognition, emotion and value judgment of the results of green consumption behavior. Personal values refer to individual beliefs and evaluation of important things, including the importance of environmental protection. Personal environmental protection attitude will indirectly affect the green consumption behavior by influencing their personal values. If one highly values environmental protection and sees it as part of their personal values, then they are more likely to adopt green consumption behavior. Subjective norms of behavior refer to the expectations and pressure of individuals from important others around them. Individual environmental protection attitude will indirectly influence the green consumption behavior by influencing

individuals' subjective behavior norms on the green consumption behavior. If a person thinks that others value environmental protection and expects him to adopt green consumption behavior, then he may be more motivated to actually adopt such behavior. Wang Liping (2016) mentioned that the residents' subjective attitude towards environment-friendly products positively affects the residents' objective behavior towards environment-friendly products [[13]. The research results of Dong Yali, Du Zhentao and Li Zhiguo (2011) show that both face-oriented values and fashion-oriented values have a significant positive impact on consumption intention and consumption behavior[4].

In conclusion, based on the model of individual norms and the theory of planned behavior, the following assumptions are proposed:

H3a: Green literacy plays an intermediary role between environmental protection attitude and green consumption behavior.

H3b: Personal values and subjective behavior norms play an intermediary role between environmental attitudes and green consumption behavior.

H3c: Green consumption attitude plays an intermediary role between environmental protection attitude and green consumption behavior.

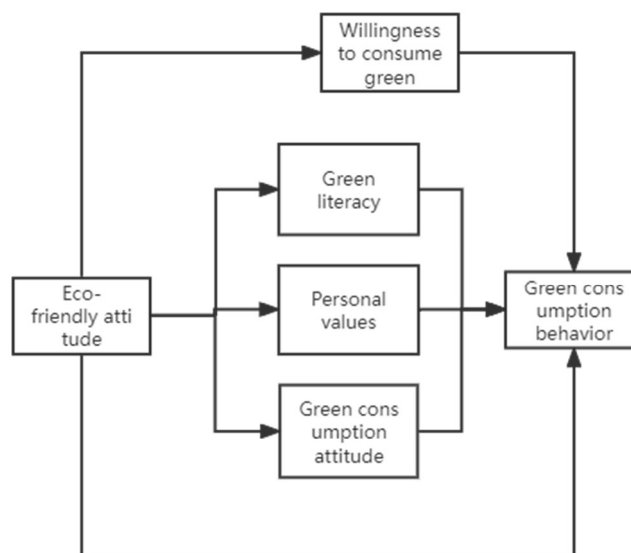


Figure 1. conceptual model Fig

3. Data Collection

3.1. Sample and Data Collection

This paper mainly uses the questionnaire star questionnaire and the Credamo questionnaire platform to carry out the network survey.

The questionnaire Star questionnaire was distributed in the campus, and the Credamo questionnaire was conducted online survey. A total of 210 questionnaires were distributed, and 196 questionnaires were recovered, with an effective recovery rate of 93%. The average answer time of the respondents was 3 minutes and 10 seconds. See Table 1 for the specific demographic statistics.

Table 1. Is as described in this demographic characteristics table

	class	number of people	proportion
sex	man	99	50.5%
	woman	97	49.5%
age	Age 20 and below	57	29.1%
	21-30 Years old	64	32.7%
	31 To 40 years old	55	28.1%
	Over 40 years old	20	10.2%
educational status	Junior college below	41	20.9%
	junior college	43	21.9%
	undergraduate course	69	35.2%
	Master's degree or above	43	21.9%
marriage	married	76	38.8%
	unmarried	120	61.2%

3.2. Measurement Tools

Table 2. Dimension questionnaire

explanatory variable		1-7 Points Extreme disagree- extremely agree
Environmental attitude	1 For the importance of environmental protection, your score is	
	2 Your score for your tendency to buy green and environmentally friendly products is	
	3 The level you value on energy and water conservation is	
	4 Your rating for the importance of supporting and promoting environmental policies and regulations is	
Green literacy	5 I am sensitive to the challenges facing the environment and the challenges you give are	
	6 I have the knowledge and understand the challenges facing the environment	
	7 I have a positive attitude towards the environment and care about the environment, trying to keep the environment quality you give is	
	8 I have the skills to help alleviate environmental problems. Your score is	
Personal values	9 Your score on promoting green development and reducing carbon emissions is	
	10 Your score for the importance of the professional ethics and the code of conduct in the green industry is	
	11 For advocating energy conservation and emission reduction measures and resource recycling codes of conduct, your score is	
	12 Your score for the importance of actively supporting and promoting green products and services is	
Green consumption attitude	13 For me, choosing a green hotel when traveling is a good act. Your score is	
	14 For me, choosing green hotels are worth doing while traveling. Your score is	
	15 For me, staying in the Green hotel is pleasant when traveling. Your score is	
	20 For me, staying in the Green hotel is pleasant when traveling. Your score is	
Green consumption willingness	16 I prefer to stay at the green hotel while the rating you give is	
	17 When I plan to travel to stay at the Green Hotel, the rating you give is	
	18 I will try to stay in the green hotel while the rating you give is	
	19 I would like to spend more money staying at the Green Hotel where the rating you give is	
Green consumption behavior	20 Will I take the initiative to choose low-carbon transportation to green hotels (such as public transportation, walking, cycling, etc.)? Your score is	
	21 Will I actively use the environmental protection facilities and services (such as garbage recycling, water-saving measures, energy-saving lamps, etc.) provided by the hotel? Your score is	
	22 Would I be willing to pay higher prices to choose green hotels to support environmental protection and sustainable development? Your score is	
	23 Would I recommend green hotels to others and encourage them to spend green money? Your score is	

The questionnaire is all from the foreign literature maturity scale and used translation and retranslation methods to ensure the accuracy of the questionnaire. In addition, through interviewing experts, this paper makes appropriate adjustments to the content of individual volumes. In this paper, the 7-point scale is used, "17" means "extremely disagree" - "extremely consent", and the score of each construct is obtained by calculating the mean. Because the green consumption behavior involves a wide range, focusing on a specific green consumption behavior can help the respondents to have a clearer understanding of their choices. Therefore, the main situation of this survey will focus on green hotel consumption. There are three main reasons for choosing green hotel consumption as the main scenario of this questionnaire. First, there is a relatively mature scale for green hotels for reference, which is helpful to the effectiveness of the questionnaire. Second, the premium of color hotels is higher, and it brings inconvenience to consumers. Consumers who choose to stay in green hotels usually show a stronger willingness to make green consumption. Third, the research of domestic green hotels belongs to a new research field, which can expand relevant research. The clonal Bach Alpha coefficient was 0.848, KMO coefficient was 0.802, the significance of Bartlett test was less than 0.001, χ^2 is 323.685, The Green Literacy Scale has the clonal Bach Alpha coefficient of 0.829, KMO coefficient of 0.791, the significance of Bartlett test were less than 0.001, and χ^2 of 280.111, The individual values scale was 0.840, KMO coefficient 0.806, the significance of Bartlett test was less than 0.001, and χ^2 was 308.487, The clonal Bach Alpha coefficient of the green consumption attitude scale was 0.880, KMO coefficient 0.827, the significance of Bartlett test was less than 0.001, and χ^2 was 405.823, The clone Bach Alpha coefficient of the green consumption willingness scale was 0.851, KMO coefficient 0.797, the significance of Bartlett test was less than 0.001, and χ^2 was 354.123, The clone Bach Alpha coefficient of the green consumption behavior scale was 0.832, KMO coefficient 0.793, the significance of Bartlett test was less than 0.001, and χ^2 was 294.658, Suggest that the questionnaire had good validity and internal consistency. (See Table 3 for the results.)

Table 3. Questionnaire validity test

dimension	Bartlett-Test			KMO checkout	Clone Bach of Alpha	number of terms
	chi-square	free degree	conspicuousness			
Environmental attitude	323.685	6	0.00	0.802	0.848	4
Green literacy	280.111	6	0.00	0.791	0.829	4
Personal values	308.487	6	0.00	0.806	0.840	4
Green consumption attitude	405.823	6	0.00	0.827	0.880	4
Green consumption willingness	354.123	6	0.00	0.797	0.851	4
Green consumption behavior	294.658	6	0.00	0.793	0.832	4
Overall scale	3896.243	276	0.00	0.931	0.964	24

3.3. Multiple Collinearity Test

To avoid the multicollinearity problem, the variance expansion coefficient (VIF) is used to test the multicollinearity problem. The value of VIF is usually 10 as the judgment boundary. When $VIF < 10$, there is no multicollinearity problem; when $10 < VIF < 100$, there is a large multicollinearity problem; when $VIF > 100$, there is a serious multicollinearity problem. Using the synlinear diagnosis (L) test, EA, GL, PV, GCA, and GCI were 2.922, 3.971, 4.304, 4.756, and 4.475, respectively, well below the level of 10, indicating that the model does not have multicollinearity problems.

4. Empirical Analysis

4.1. The Intermediary Role of Green Consumption Willingness

In this paper, stepwise regression was used to test the mediation effect of green consumption willingness.(See Table 4) First, this paper analyzes the influence of green consumption willingness on green consumption behavior. In Model1, this paper found that the green willingness to consume significantly and positively affected the green consumption behavior ($\beta = 0.841, p < 0.001$). Secondly, this paper analyzes the influence of environmental protection attitude on green consumption intention. The results of Model3 show that environmental protection attitude will significantly affect consumers' willingness on green consumption ($\beta = 0.713, p < 0.001$). Finally, this paper also considers the influence of green consumption willingness and environmental protection attitude on consumers' green consumption behavior. Model2 It shows that environmental protection attitude and green consumption willingness both positively affect consumers' green consumption behavior, and they are significant at the level of 0.1%. Because $\beta_{GCI} = 0.736 < \beta_{GCI} = 0.841$, the stepwise regression method indicated that green consumption willingness has a partial mediating role in the relationship between environmental attitude and green consumption behavior, so H1H2 was verified.

Table 4. Mediation effects were tested by the stepwise regression method

variable	dependent variable		dependent variable
	GCB		GCI
	Model1 Coeff	Model2 Coeff	Model3 Coeff
EA		0.158***	0.713***
GCI	0.841***	0.736***	
Constant	0.911	0.600	1.620
R ²	0.739	0.752	0.477
Adsted R ²	0.738	0.749	0.474

Note: * * * equals $p < 0.001$ EA= environmental protection attitude GCI = green consumption intention GCB = green consumption behavior

This paper found that there were significant positive correlation between environmental protection attitude, green literacy, personal values, green consumption attitude and green consumption behavior.(See the results in Table 5).

Table 5. Pearson correlation analysis

	Environment al attitude	Green literacy	Personal values, and subjective norms of conduct	Green consumption attitude	Green consumption willingness	Green consumption behavior
Environmental attitude	1					
Green literacy	0.734**	1				
Personal values	0.783**	0.829**	1			
Green consumption attitude	0.715**	0.757**	0.760**	1		
Green consumption willingness	0.690**	0.763**	0.728**	0.865**	1	
Green consumption behavior	0.675**	0.747**	0.671**	0.772**	0.860**	1

Because the stepwise regression method was relatively low, the Bootstrap method was used to test the mediation effect. The Bootstrap method is a repeated sampling from a sample, indicating the presence of a mediation effect if the confidence interval of the mediation effect does not include 0. This is a better test of the mediation effect than the traditional method. Because the stepwise regression method can only test the mediation effect of the two variables separately, and can not determine the common effect of the two variables, this paper also needs to test the multiple mediation effect, using SPSS process plugin and model 6 to implement Bootatrap2000 multiple mediation effect test.(See Figure 2 and Table 4 for the results)

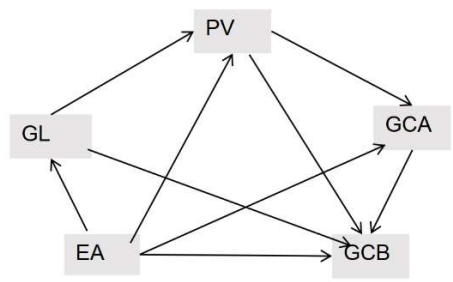


Figure 2. Variable path diagram

Table 6 shows the indirect effects, direct effects and total effects of environmental attitudes on green consumption behaviors.

The results show that green literacy plays a mediating role in the influence of environmental attitude on green consumption behavior (LLCI = 0.0794, ULCI = 0.4608, excluding 0), and personal values play a mediating role in the image of environmental attitude on green consumption behavior (LLCI = 0.0179, ULCI = 0.2797, excluding 0), so H2a, H2c were verified.

More green literacy, personal values, green consumption attitude, can see from the picture is the most direct attitude is to improve green literacy rather than green consumption attitude $\beta_{GL}=0.2783 > \beta_{GCA} = 0.1907$, this does not mean the green consumption attitude intermediary effect is not obvious, environmental attitude not only through green literacy and green consumption attitude, and through the green literacy to promote green consumption attitude the chain intermediary role promote green consumption will. That is to say, green consumption attitude plays an intermediary role, not only because green education directly improves green consumption attitude, but also because of the role of green literacy on green consumption attitude. Here, personal values and subjective norms of behavior (-0.1348,0.0799) $\beta_{PV} = -0.0461$, so the total intermediary effect should be $0.3966(0.2783+0.1907-0.0461)$

Table 6. Test of the mediation effect

effect	Estimate	SE	LLCI	ULCI
Indirect effect of EAGLGCB	0.2783	0.0922	0.0794	0.4608
EA→PV→GCB	-0.0461	0.0525	-0.1348	0.0799
EA→GCA→GCB	0.1907	0.0670	0.0179	0.2797
EA →GL →PV →GCA →GCB	0.0547	0.0341	-0.0162	0.1218
Total indirect effect	0.3966	0.0892	0.3761	0.7215
direct effect	0.1635	0.0718	0.0240	0.0218
gross effect	0.6821	0.0535	0.001	0.5766

Note: EA= environmental protection attitude GL= green literacy PV= personal values and subjective behavior norms GCA green consumption attitude, GCB = green consumption behavior.

5. Conclusion and Suggestions

5.1. Main Conclusion

Through the literature and summary, through the empirical analysis, and based on the plan behavior theory and the value of personal specification model theory framework, verify the influence of the green consumption behavior and green consumption will, green literacy, personal values and green consumption attitude in the intermediary role between environmental attitude and green consumption behavior.

The results show that environmental protection attitude can promote green consumption behavior, while green consumption willingness, green literacy, personal values and green consumption attitude all play an intermediary role between environmental protection attitude and green consumption behavior. However, the personal values between environmental attitudes and green consumption behavior has not been verified, this may be due to the influence of other intermediary variables more significant, the limitation of measuring tools, the particularity of the research method, such as the failure to verify the hypothesis, the future I will improve the measurement tools, expand the representativeness of the study sample, using more detailed research methods to explore the personal values between environmental attitudes and green consumption behavior.

5.2. Suggestions

(1) Enhance public awareness of environmental protection and green literacy

The government and social organizations should strengthen the publicity and education of environmental awareness, popularize environmental protection knowledge through various media, educational activities, community activities and other channels, and improve the public's attention to and awareness level of environmental protection issues. At the same time, we should pay attention to cultivating the green literacy of the public, guide the public to develop green consumption habits, and form a healthy and environmentally friendly lifestyle.

(2) Guide enterprises to actively fulfill their social responsibilities

As market entities, enterprises should actively fulfill their social responsibilities, promote green production, research and develop green products, and provide consumers with more high-quality green choices. At the same time, enterprises should strengthen the cooperation with the government and social organizations to jointly promote the development of the green consumer market.

(3) Improve the policy system for green consumption

The government should formulate and improve the green consumption policy system, including green product certification, green tax, green subsidies, green credit and other aspects, to promote the popularization of green consumption behavior by policy means. At the same time, we will strengthen supervision of the green consumer market to ensure the quality and safety of green products.

(4) Strengthen education and training on green consumption

Schools and various educational institutions should strengthen the education and training of green consumption for students, integrate the concept of green consumption into their daily education, and cultivate students' environmental awareness and green consumption habits. At the same time, enterprises are encouraged to carry out green consumption training for employees to improve their green literacy and green consumption ability.

(5) Innovate the model of promoting green consumption

We will explore and innovate models for promoting green consumption, and use the Internet, big data, artificial intelligence and other modern scientific and technological means to build a green consumption service platform, and provide consumers with a convenient and efficient

green consumption experience. At the same time, encourage enterprises to carry out green marketing activities to improve the popularity and influence of green products.

To sum up, promoting the popularization and sustainable development of green consumption behavior requires the joint efforts of the government, enterprises, social organizations and the public. By enhancing public awareness of environmental protection and green literacy, guiding enterprises to actively fulfill their social responsibilities, improving the green consumption policy system, strengthening green consumption education and training, and innovating the promotion mode of green consumption various measures, we can jointly promote the popularization and sustainable development of green consumption behavior.

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