Causal Factors that Influence Green Consumption Behavior with Green Product Prices as a Moderator in China

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Received: August 30, 2025 Revised: November 21, 2025 Accepted: December 25, 2026

Abstract

The objectives of this study were 1) to study how consumer innovativeness affects green consumption intention. 2)To study how government guidance affects green consumption intention. 3)To study how perceived behavior effectiveness affects green consumption intention and green consumption behavior. 4)To study how perceived risk affects green consumption intention and green consumption behavior. 5)To study how green consumption intention plays a mediating role in the impact of perceived behavior effectiveness and perceived risk on green consumption behavior. 6)To study the price of green products plays a moderating role in the influence of green consumption intention on green consumption behavior. This research was mixed. The conceptual framework of this research was derived from the Theory of Planned Behavior (TPB), the Attitude-Behavior-Condition (ABC) model, the Value-Belief-Norm (VBN) theory, and related theories. The population consists of Chinese urban residents. The samples were from urban residents in five representative cities in China; the sample size was determined by Hair, Anderson, Babin, & Black (2010). The research instrument was a Likert 5-

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point scale. Statistics used for data analysis included the mean, standard deviation, correlation analysis, regression analysis, and structural equation modeling. The result of this study found that: 1) Consumer innovativeness positively affects green consumption intention. 2) Government guidance has a significantly positive effect on green consumption intention. 3) Perceived behavior effectiveness has a significant effect on green consumption intention and green consumption behavior. 4) Consumers' perceived risk has no significant impact on green consumption intention and green consumption behavior. 5) Green consumption intention has a significant mediating effect on green consumption behavior. 6) Green product price has a significant moderating effect on green consumption intention and green consumption behavior.
Keywords: Green product price, Green consumption intention, Green consumption behavior

Introduction

In the late 1980s, green consumption originated in the United Kingdom, with the "green consumer Movement" as a starting point, the purpose of the movement is to encourage consumers to buy more environmentally beneficial goods. Subsequently, relevant scholars conducted research on green consumption behavior. In recent years, although the green consumption intention has been significantly improved, it does not mean that the green consumption intention of these consumers can be completely transformed in the actual green consumption. The problem of high barriers is still the main feature of consumers in consumption, and the low sense of consumer security is the most important obstacle in green consumption (Michael R. Solomon et al.,2008).At present, the imbalance and uncoordination in the development of green consumption in China are still the main problems, and it is urgent to consider how to promote the transformation of green consumption in social life and related consumption fields (Ren Yong et al.,2020).

Based on the above green consumption background, in today's environment, issues can not be ignored; it is the requirement of The Times to promote the change of people's consumption concept and consumption mode. However, multiple factors often constrain consumers' green consumption behavior. A large number of scholars have carried out a lot of discussion and research on the topic of green consumption, but there are the following problems:

1. Most scholars equate consumers' green consumption intention with green consumption behavior in their research, and do not further divide green consumption behavior.

2. Most research conclusions on green consumption behavior are based on the people of European and American countries. There is a lack of in-depth analysis of green purchasing behavior of consumers in China's consumption environment.

This paper takes Chinese urban residents as the research object, based on the theory of planned behavior and the theory of attitude - behavior - situation, focuses on green purchasing behavior, and adds moderating variables in the process of transforming green purchasing intention into behavior, so as to explore the factors affecting the green consumption behavior of urban residents. According to the results of the model, the influence degree and influence path of each factor are explored, and corresponding countermeasures and suggestions are put forward. It has strong theoretical and practical significance.

Theoretical significance. Further enrich the theoretical research on the influencing factors of consumption behavior in China's consumption environment.

Practical significance. It provides a reference for the government to formulate green consumption related policies, publicity and education, and economic stimulus. It can effectively promote the process of green consumption and accelerate the construction of ecological civilization and

sustainability. On the other hand, it can help green production enterprises to have a clearer understanding of consumers, optimize green marketing, and reduce corporate risks.

Objectives

(1) To study the impact of government guidance on green consumption intention.

(2) To study the impact of perceived behavior effectiveness on green consumption intention.

(3) To study the price of green products plays a moderating role in the influence of green consumption intention on green consumption behavior.

Literature review

1. Planned behavior theory

Ajzen(1991) found in his research that individual behavior is not completely voluntary, but influenced by many factors. Therefore, Ajzen& Fishbein(1988, 1991) extended the rational behavior theory and proposed the concept of "perceived behavior control" for the first time. Thus, a new behavioral theory research model -- planned behavior theory is constructed. The model has been widely used in sociology, management, psychology, environmental behavior and other fields.

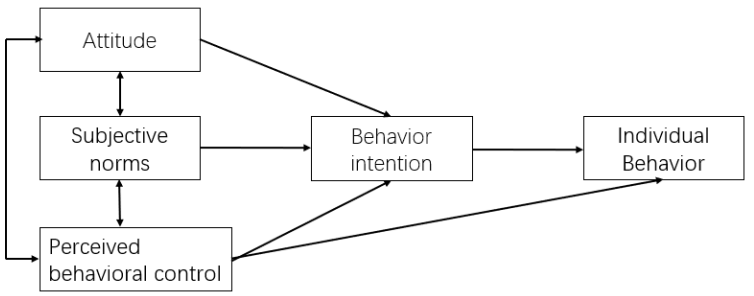

Figure 1 TPB model

Therefore, it is not reasonable to replace green consumption behavior only with intention. Based on the theoretical model of planned behavior, this paper further embodies perceived behavior control as perceived behavior effectiveness.

2. Attitude - behavior - conditions theory

Guagnano (1995) and other scholars improved the environmental behavior model proposed by Stern&Oskamp(1987) and put forward the "attitude - behavior - conditions theory" (ABC theory) in the analysis of domestic waste recycling behavior. Guagnano et al. believe that when external factors are highly favorable to individuals, they will promote the occurrence of individual environmental behaviors. On the contrary, when external factors have a very negative impact on individuals, it will seriously hinder the occurrence of individual ecological behaviors, and the influence and explanatory power of environmental attitudes on environmental behaviors will be significantly weakened.

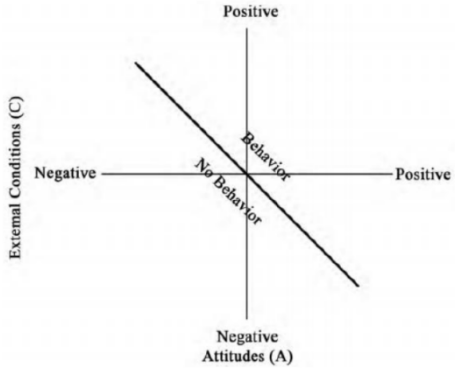

Figure 2: Figure ABC model

This paper argues that the ABC theory can serve as a reference for the purchase behavior of green products examined in this study. Some resources, conditions, or other external factors may strengthen or weaken consumers' green purchasing intentions or further affect green purchasing behavior. For example, factors such as the price of green products and government guidance can lead to a gap between consumers' green purchase intentions and actual purchase behavior.

3. Green consumption behavior

Although many scholars have defined the connotation of green consumption behavior, its meaning remains unclear. Many scholars do not distinguish between "green consumption" and "green buying".

Based on the studies of Mainieri(1997), Shrum(1995), Thompson& Barton (1994), and Raukov (2013), green consumption behavior refers to

the process of selecting, purchasing, using, and disposing of green goods by individuals or organizations to not only meet their own needs, but also to meet the needs of others. At the same time, we should prioritize environmental sustainability.

At present, the exploration of influencing factors of green consumption behavior is still in its infancy, and there are not many relevant research results. Stern(2000) pointed out in his study that the influencing factors of environmental behavior include four categories: attitude variable, situation factor, individual ability variable, habit and routine. Guo Lijing and Zhao Jin (2014) took straw treatment behavior as an example to analyze the influencing factors of farmers' pro-environment behaviors, and the research results suggested that the influencing factors of farmers' pro-environment behaviors included four categories: psychological cognition, behavioral cost, social constraints, and industrial regulations.

Most scholars believe that among the five influencing factors of green consumption behavior, individual psychological variables have the greatest impact, followed by external situational factors, social and cultural factors, and demographic variables and other factors are rarely mentioned. Building on prior research, this paper examines external situational factors, such as government guidance and green product prices.

4. Green consumption intention

Mullet (1985) argues that consumers' purchase intention comprises two components: their attitude toward a particular product or brand and external factors. Dodds (1996) proposes that consumption intention refers to the subjective probability of an individual purchasing a specific product or service. Hao Jing (2009) defines consumption intention as the likelihood of an individual's willingness to buy.

Although scholars hold differing views on the definition of consumption intention, it is generally understood as the probability of a consumer's consumption behavior.

The research on the influencing factors of green consumption intention mainly focuses on two aspects. On the one hand, it concerns

the influence of internal characteristics on consumer intention to consume, such as demographic variables and environmental awareness. Granzin and Olsen (1991) found that married people pay more attention to energy conservation, and the number and frequency of purchasing environmentally friendly products are proportional to the number of children at home. According to Wier (2003), highly educated consumers hold positive attitudes toward organic food. They not only seek to understand the processes and methods of producing organic food, but also accept its higher price. Wang Jianming (2015) found that both positive and negative green emotions significantly affect green purchases.

On the other hand, it examines the influence of external factors on consumers' purchase intention. For example, product factors. Padel, Foster (2005), and Efthimia (2008) both confirmed that product health characteristics are the most important factors influencing consumer consumption. By synthesizing scholars' research findings, this paper lays the foundation for selecting variables and constructing the model.

5. Government guidance

At present, there is little literature on government intervention strategies directly targeting green consumption behaviors. Still, some scholars have analyzed government intervention in similar fields, such as low-carbon consumption and energy protection behaviors. Combined with the studies of Abrahamse (2005), Steg(2008), and other scholars, government behavior refers to the government's use of economic means, regulations and policies, environmental protection or green consumption publicity, and other means to improve consumers' awareness of green consumption and guide them to carry out environmentally beneficial consumption behaviors.

Shen Xiaoyue et al. (2014) pointed out that China's green consumption policies are mainly managed and regulated by economic means such as financial subsidies and and sorted out the current China's main green consumption policy tools. Yue Ting et al. (2013) examined the underlying determinants of urban residents' energy-saving behaviors in Jiangsu Province, and their findings indicated that publicity and education

significantly influenced these behaviors. Wang Jianming and He Aizhong (2011) analyzed and argued that consumers' low-carbon consumption behavior can be promoted through economic incentive strategies.

Although many scholars have analyzed policy interventions related to green consumption behavior, most studies have employed qualitative methods and lack empirical analyses to explore the mechanisms by which policy variables affect individual psychology.

6. Perceived behavior effectiveness

Perceived behavioral effectiveness refers to consumers' confidence that their consumption behavior can solve ecological and environmental problems. Roberts(1996) and Straughan&Roberts(1999) found that, compared with other general environmental attitude variables, perceived behavior effectiveness has stronger explanatory and predictive power on green consumption behavior, and can explain more than 30% of the variance of consumption behavior, which is much higher than the explanatory power of other variables. Kim&Choi(2005) used the empirical method of structural equation to analyze the relationship between collectivism, environmental concern, consumer perceived effectiveness, and green purchasing behavior. The results show a significant positive relationship between perceived consumer effectiveness and green purchasing behavior. Gupta and Ogden (2008) found, through empirical research, that consumer perception effectiveness can bridge the gap between consumer attitudes and green purchasing behaviors. In analyzing green buying behavior, Kim (2011) finds that consumer perception effectiveness has no significant moderating effect on consumer attitudes or green buying behavior.

The literature review supports the use of perceived behavior as a variable in studies of green consumption behavior. Secondly, there is considerable scope for research on the determinants of perceived behavioral effectiveness.

7. Green product price

Coddington (1990) and Suchard and Polonsky (1991) found, in their respective surveys, that 67% of Americans and environmentally conscious

consumers were willing to pay a 5%-10% premium and a 15%-20% premium for ecologically friendly products, respectively. Their income level often influences consumers' willingness to pay a premium. Chen Kai and Li Huajing (2019) pointed out in their research on intervention strategies to promote low-carbon consumption behavior that the government should reduce the prices of low-carbon consumer products through tax relief. There are few direct studies on the effect of green product price on green consumption intention and behavior, and there is a lack of research on the underlying mechanisms. This paper presents a research framework in which product price serves as the regulating variable for consumption behavior.

Conceptual Framework

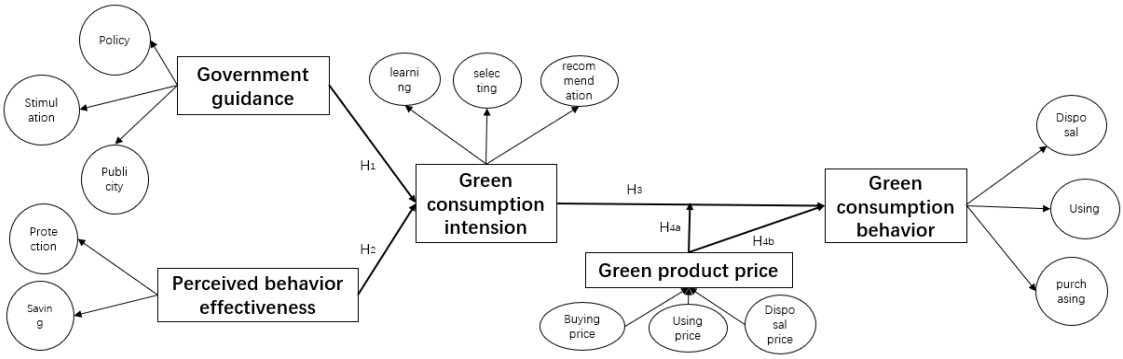

Figure3 Conceptual Framework

Drawing on reviews of domestic and international research on green consumption behavior and the gap between green consumption intention and behavior, and informed by TPB theoretical models and the actual green consumption situation in China, the perceptual behavior control component of the planned behavior model is further specified as the effectiveness variable of perceived behavior. Drawing on ABC theory, the variables of government guidance and green product price, which influence consumers' attitudes towards green products, are introduced into the model construction. Based on these findings, this study puts forward the following hypotheses:

H1: Government guidance affects green consumption intention.

H2: Perceived behavior effectiveness affects green consumption intention.

H3: Green consumption intention affects green consumption behavior.

H4a: The price of green products has a moderating effect on the influence of green consumption intention on green consumption behavior.

H4b: The price of green products affects green consumption behavior.

Methodology

This study, combined with China's actual consumption situation, examined green product consumption behavior. The influencing factor model is constructed, and the hypothesis is verified using questionnaire data to support the research conclusion. The following research methods are involved in this process. Using a theoretical research approach that integrates TPB and ABC theories, an influencing factor model is constructed. A literature review was conducted to clarify the research direction and provide a solid foundation for subsequent model development. Using the questionnaire survey method. Using a validated scale as a reference and integrating it with the actual consumption situation in China, a questionnaire on green purchasing behavior was developed. Valid sample data were obtained for subsequent model analysis and verification. Test the reliability, validity, regression, and moderating effect by using empirical research methods, and finally complete the validation of the hypothesis.

Population and sample

Sample Size for Structural Equation Modeling (SEM). The sample size is prescribed to comprise at least 10-20 examples per parameter (Hair, Anderson, Babin, & Black, 2010). This covers the size of the sample group and is appropriate for the data analysis (n>200) for the purpose of generating a structural model formula(Madden & Dillon, 1982)

Population: In this study, researchers distributed questionnaires to urban residents aged 18-65 in five Chinese cities (Beijing, Shanghai, Guangzhou, Chongqing, and Chengdu).

Sample: For this study, the sample size is 350.

Research Instruments

The questionnaire in this study uses a 5-point Likert scale, and the 5-point willingness scale is refined to improve accuracy. The green consumption questionnaire is divided into three parts.

The first part clarifies the study's purpose and defines green household appliances.

The second part, variable measurement.

The measurement of green consumption behavior primarily refers to the items used in the studies by Kim (2011) and Kim & Choi (2005). It is based on consumers' consideration of the nature and impact of products when making purchases.

The measurement of green consumption intention variables is primarily based on the green purchase intention scale developed by Chan (2001) and Raukov (2013).

The measurement of perceived behavioral effectiveness is primarily based on the scale used to assess consumers' perceptions of their own behaviors in studies by Kim & Choi (2005) and Kim (2011), which focuses on the specific utility consumers derive from their own behaviors.

The measurement of government behavior variables is primarily based on the scales used in studies by Han Na (2015) and Yue Ting (2013), which focus on policies and regulations, publicity, and economic incentives.

The measurement of the price variable for green products is primarily based on Magot (2012) and the Angle of barriers.

The third part investigates the basic properties of the fillers. (Gender, age, education, income, etc.)

Data collection

The questionnaire is primarily distributed via the "Juanxing APP". The questionnaire uses an anonymous system, and respondents' personal

information will not be disclosed, which significantly improves the response rate among consumers. All questionnaires are required; submission is contingent on completion of all answers. This method can effectively ensure that each recovered green purchasing behavior questionnaire exhibits high completion integrity and reduce subsequent research impact from excessive missing values.

The survey was completed from October 1, 2023, to December 10, 2023. A total of 350 questionnaires on green consumption behavior were distributed, and 323 were returned, representing 92.29% of the total distributed.

Data Analysis

1. Reliability test

SPSS 22 is used to assess data reliability and to test the hypothesis and the path relationships among the variables. According to Crocker (1986), $\alpha > 0.7$ was reported in his study, indicating good reliability and supporting subsequent studies.

2. Validity test

The KMO and Bartlett's sphericity tests in SPSS 22 were used to assess the suitability of factor analysis for the questionnaire data. KMO>0.7, sig<0.05 means passing the test. Then principal component analysis was carried out. According to the standard proposed by Bagozzi et al. (1988), the factor loadings of each measurement item on each common factor were>0.5, indicating that the variables were well explained. Fornell & Larcker (1981) identified the basis for assessing convergence validity. Factor load value >0.5, CR>0.6, AVE>0.5, indicating that the questionnaire data convergence validity is good, of reliable quality. Finally, the AVE for each variable is compared with its correlation coefficient; the criterion for passing the discriminant validity test is that the AVE is larger. It indicates that the measurement items corresponding to latent variables are distinguishable.

According to the above criteria, the questionnaire data were analyzed, and variables and items that did not meet the standards were

removed or modified to mitigate the impact of potential bias in the questionnaire design on the research results.

3. Structural equation model

AMOS constructed the structural equation model. According to RMSEA>0.08, GFI>0.9, AGFI>0.9, CFI>0.9, Chi/DF<5, and other fitting indexes, the fitting degree of the model was determined, and the path coefficients of each variable were obtained.

4. Regression analysis

Construct interactive terms of Green product price multiplied by Green consumption intention, and use SPSS22 for hierarchical regression to verify the regulating effect of green product price. If the interaction term is significant and the R2 increases, this suggests an adjustment effect.

Results

Demographic Characteristics

By gender, the numbers of male and female respondents accounted for 37.5% and 62.5% of the total adequate sample, respectively. At the age level, the number of people in the 26-35 age group was 151, accounting for 46.7% of the total. There were 99 people aged 36-45, accounting for 30.7% of the total, and those under 55 accounted for more than 95%. By education level, respondents with bachelor's degrees, master's degrees, or higher accounted for 45.5% and 36.5% of the total number of valid samples. Most samples are concentrated at the bachelor's degree or higher level, accounting for 82% of the total, whereas other education levels are underrepresented. In terms of income, 47.4% of respondents have a monthly disposable income of 3001-5000 yuan, 28.2% of respondents have less than 3000 yuan, and 9.9% of respondents have more than 8001 yuan. By marital status, married and unmarried individuals accounted for 62.2% and 37.8%, respectively. Overall, the formal survey samples are distributed across all age groups, educational backgrounds, and disposable income levels, and the coverage is relatively comprehensive. In particular, the questionnaire's age distribution and the higher proportion of women reflect the main consumer groups in China's consumption landscape.

Reliability Analysis

Reliability analysis is a method to check the internal consistency and reliability of data. In this paper, Cronbach's coefficient was used to assess the reliability of 5 variables and 33 measurement items, to evaluate the consistency of each variable and item. As shown in Table 1, Cronbach's coefficient α for all variables exceeds 0.7, indicating good internal consistency and suitability for subsequent research.

Table 1 Variable Reliability Test

Variables	Items	Cronbach's α
Green consumption behavior	11	0.821
Green consumption intention	3	0.817
Perceived behavior effectiveness	7	0.918
Government guidance	8	0.915
Green Price	4	0.858

Validity Analysis

Validity is the degree to which the measured result reflects the content to be investigated. The more consistent the calculated result is with the content under investigation, the greater the validity. Otherwise, the validity is lower. The measurement items for each variable in this study were developed based on prior scholars' research findings; however, the author conducted adaptive optimization and added relevant items, so exploratory factor analysis was used to test the construct validity. As shown in Table 2, the KMO value is 0.928, the Bartlett sphere test value is 9640.341, and the Sig value is less than 0.05, which meets the requirements and numerical standards mentioned above and is suitable for factor analysis.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.932

Bartlett's Test of Sphericity	Approx. Chi-Square	7578.392
	df	528
	Sig.	0.000

Table 3: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.790	38.757	38.757	12.790	38.757	38.757
2	2.688	8.147	46.904	2.688	8.147	46.904
3	1.873	5.675	52.579	1.873	5.675	52.579
4	1.495	4.529	57.108	1.495	4.529	57.108
5	1.388	4.207	61.315	1.388	4.207	61.315

Then, principal component analysis is performed, and the rotated component matrix is obtained using the maximum-variance method. A total of 5 common factors were extracted, and all factor loadings exceeded 0.5. As shown in Table 3, the total explanatory variance is 61.315%, exceeding 50%. The above data results meet the requirements of scale design, indicating that the variables are well explained and can be analyzed in the next step.

Convergent Validity

As shown in Table 4, factor loadings>0.5, CR >0.6, and AVE >0.5, indicating that the data from the green consumption behavior questionnaire in this paper exhibit good convergent validity and reliability.

Table 4: Convergence validity analysis index

variable	item	Standard factor load	AVE	CR	variable	item	Standard factor load	AVE	CR
Green consumption behavior	GCB1	0.681	0.541	0.928	Green consumption intention	GCI1	0.687	0.511	0.758
	GCB2	0.773				GCI2	0.743		
	GCB3	0.801				GCI3	0.713		
	GCB4	0.776			Government guidance	GG1	0.719	0.532	0.900
	GCB5	0.745				GG2	0.594		
	GCB6	0.732				GG3	0.918		
	GCB7	0.793				GG4	0.664		
	GCB8	0.596				GG5	0.666		
	GCB9	0.800				GG6	0.762		
	GCB10	0.644				GG7	0.732		
	GCB11	0.719				GG8	0.741		
Perceived behavior effectiveness	PBE1	0.726	0.578	0.905	Green products Price	GPP1	0.711	0.541	0.824
	PBE2	0.753				GPP2	0.793		
	PBE3	0.798				GPP3	0.722		
	PBE4	0.728				GPP4	0.713		
	PBE5	0.889			$AVE = \frac{\sum(\lambda^2)}{[\sum(\lambda^2)+\sum($}$ CR = \frac{\sum(Var(item))}{\sum(Var(item))+(N-1)\times AVE}$				
	PBE6	0.689							
	PBE7	0.723							

Discriminant Validity

As shown in Table 5, the diagonal value is the AVE arithmetic square root, and all AVE arithmetic square roots are higher than 0.7, and higher than the correlation coefficient of each variable; that is, the data of the green consumption behavior questionnaire passed the discrimination validity test.

Table5 Correlations

	Green consumption behavior	Green consumption intention	Perceived behavior effectiveness	Government guidance	Green products Price
Green consumption behavior	**0.736**				
Green consumption intention	.710**	**0.715**			
Perceived behavior effectiveness	.656**	.620**	**0.760**		
Government guidance	.617**	.630**	.705**	**0.729**	
Green products Price	.350**	.302**	.295**	.354**	**0.736**

Path analysis

In this section, the structural equation method is used to test the research hypothesis and verify the causal paths of each variable on green consumption behavior. As shown in Figure

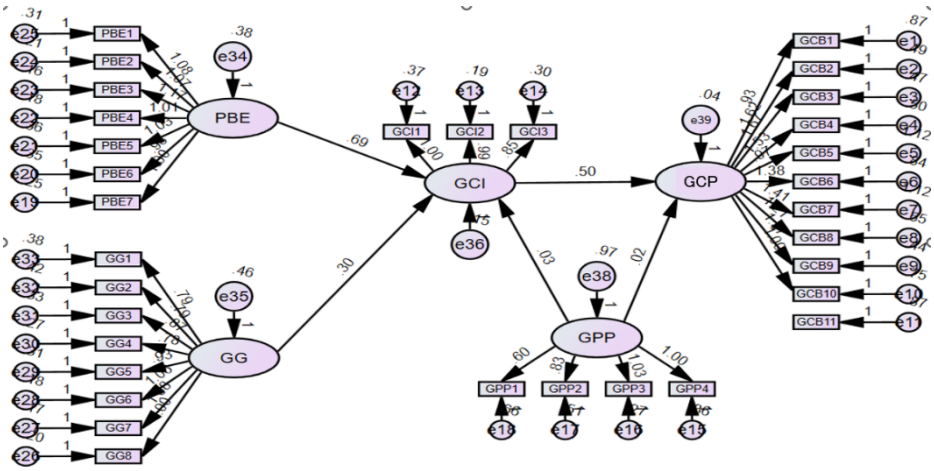

Figure 4 SEM model

As shown in Table 6, the Chi/DF statistic is 3.499, which is below the standard limit of 5. The RMSEA was 0.082, slightly exceeding the 0.08 threshold. The GFI is 0.915, which exceeds the threshold of 0.9, and the AGFI is 0.881, slightly below the requirement of 0.9; however, the gap is small and within the acceptable range. Therefore, the model fits well.

Table 7 presents the non-standardized path coefficients for each path in the green consumption behavior research model, and the P-values for all variable path coefficients exceed the 0.05 level. Therefore, H1, H2, H3, H4b, pass the test.

Table 6 Model fitting results

Chi-square	DF	Chi/DF	GFI	AGFI	RMSEA
2808.1	809	3.499	0.915	0.881	0.082

Table 7 Parameter estimation results of the model

			Estimate	S.E.	C.R.	P	Label
GCI	<---	GG	0.688	0.073	9.378	***	par_19
GCI	<---	PBE	0.300	0.058	5.145	***	par_20
GCI	<---	GPP	0.033	0.031	1.077	**	par_21
GCB	<---	GCI	0.502	0.069	7.321	***	par_31
GCB	<---	GPP	0.018	0.019	0.929	**	par_32

Moderating effect test

In moderating variable tests, existing relevant research generally employs two methods: group analysis and the analytic hierarchy process. The difference between them mainly lies in the fundamental properties of the regulating variables. In this paper, a regulatory variable for green product price is proposed and measured using a 5-point Likert scale; it is treated as a continuous variable. Therefore, hierarchical regression analysis in SPSS was used in this study to test the moderating effect of green product price variables on green consumption intention and green consumption behavior.

Table 8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.724[a]	0.524	0.521	0.41731	0.524	202.239	2	368	0.000
2	.747[b]	0.558	0.554	0.40249	0.034	28.587	1	367	0.000

a. Predictors: (Constant), GPP(st), GCI(st)

b. Predictors: (Constant), GPP(st), GCI(st),GPP(st)* GCI(st)

c. Dependent Variable: GCB(st)

Table 9 Coefficients[a]

Model		Unstandardized Coefficients B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	1.231	0.127		9.657	0.000		
	GCI(st)	0.548	0.031	0.665	17.606	0.000	0.909	1.101
	GPP(st)	0.098	0.025	0.149	3.944	0.000	0.909	1.101
2	(Constant)	1.414	0.128		11.079	0.000		
	GCI(st)	0.392	0.042	0.476	9.376	0.000	0.468	2.137
	GPP(st)	0.073	0.024	0.112	3.020	0.003	0.877	1.140

GCI(st)* GPP(st)	0.034	0.006	0.275	5.347	0.000	0.455

a. Dependent Variable: GCB(st)

As can be seen from Table 8 and Table 9, after regression analysis of green product price, green consumption intention, and green consumption behavior, coefficient values are 0.098 and 0.548, Sig values are all equal to 0.000, lower than 0.05, and through significance test, R^2=0.521, greater than the minimum threshold value of 0.5. The model's fit is within the acceptable range. After adding the interaction term, GCI(st)*GPP(st), regression model 2 shows that the coefficient of GPP(st) is 0.073 (Sig=0.003), which is less than 0.05, and the coefficient of GCI(st) is 0.392 (Sig=0.000). The coefficient of GCI(st)* GPP(st) was 0.034, Sig=0.000, lower than 0.05, and the adjustment effect was significant. R^2 is increased from 0.524 to 0.558, greater than 0.5, which is in the acceptable range. This confirms the positive impact of green product prices on prices; the coefficient is positive, indicating a positive adjustment. H4a passes the test.

Discussion

Government guidance has a positive effect on green consumption intention. This conclusion is consistent with the role of government actions in studies by scholars Han Na (2015), Zhang Yan, and Li Xiaoyong (2017). Government guidance influences consumer demand through the economy, laws and regulations, publicity, and education. Especially in China, where the government is in a strong position and exerts greater influence, this conclusion aligns with the actual consumption situation in China. The disadvantage is that this study does not further discuss the direct effect of government guidance on green consumption behavior.

Perceived behavior effectiveness positively influences green consumption intention. This conclusion is consistent with Yue Ting's (2014) and Liu Yadi's (2020) study on the positive effect of perceived effectiveness on green product consumption intention. This shows that consumers generally believe that ecological and environmental problems can be solved through their own consumption behavior. In other words,

perceived behavioral effectiveness can be regarded as the information and psychological benefits associated with consumers' green consumption. In combination with the results of this paper, although this variable still significantly affects green consumption intention, the comparison with the data from the two scholars above indicates that the effect is decreasing. One possible reason is that, in recent years, frequent food safety and environmental pollution incidents in China have significantly undermined this confidence and psychological well-being. This deserves close attention from relevant government departments.

Green consumption intention positively affects green consumption behavior. This conclusion is consistent with Ajzen's (1991) planned behavior theory and Westaby's behavior reasoning theory, as well as with findings from other scholars. It can also explain that, because of the complexity of measuring behavior in prior studies, most scholars used consumption intention to represent the rationality of consumption behavior.

The price of green products has a positive moderating effect on the relationship between green consumption intention and green consumption behavior. Michael R. Solomon (2011) argued in Consumer Behavior that most Chinese consumers are insecure and price-sensitive. However, this paper concludes that when the price of green products is high, it promotes the transformation of green consumption intention into consumption behavior. The author argues that current consumer health demands and the characteristics of green products can explain this. On the one hand, environmental and energy issues have become increasingly prominent in recent years, and people are more concerned about their own safety and health. In fact, in recent years, many studies have pointed out that due to the global problem of environmental pollution, consumers in developing countries are often willing to sacrifice part of their economic benefits to protect the environment, which can explain why the price of green products has weakened the hindering role in the purchase decision process. On the other hand, higher product prices will provide consumers with a sense of security, as reflected in the affordability

of premium payments for green products. Zhang Bingkai (2018) also noted that Chinese consumers' purchasing behavior has gradually changed: high-quality products entail higher input costs and, consequently, higher selling prices; product price also affects consumers' perceived value and, in turn, their purchasing behavior. Third, with technological progress, the price of green products in China has gradually approached that of comparable products.

Conclusion

China's economic development has shifted from high-speed growth to high-quality growth, and "green development" has gained broad consensus. How the government and enterprises improve the system and change the mode of development during reform and transformation is a problem for China and the world.

This paper examines Chinese urban residents as the research object and is grounded in the TPB theory. The effects of government guidance, perceived behavioral effectiveness, and green product price on green consumption intention and behavior were examined. The conclusion is as follows: government guidance has a positive effect on green consumption intention. Perceived behavior effectiveness positively influences green consumption intention. These two conclusions corroborate the views of relevant scholars and demonstrate that there is no substantial difference between Chinese urban consumers and those in other regions in the level of consumption psychological mechanisms and self-value demands. However, it is worth noting that the influence of perceived behavioral effectiveness among Chinese consumers has declined in recent years. The price of green products moderates the relationship between green consumption intention and green consumption behavior, with a positive moderating effect. It is inconsistent with the conclusions of other scholars represented by Michael R. Solomon (2011). The higher the price, the stronger the buying behavior, reflecting China's unique consumer environment and consumer culture.

This study enriches the theory of influencing factors of consumption behavior in China's consumption environment. It serves as a

reference for the government to formulate green-consumption policies. Help green production enterprises gain a clearer understanding of consumer behavior, optimize the marketing of green products, and reduce corporate risks.

Due to limitations in the research perspective and design, this paper leaves unexplored areas that warrant further investigation.

First, the respondents are primarily located in Beijing, Shanghai, Guangzhou, Chongqing, and Chengdu. Central cities and other small and medium-sized cities in northeastern, northwestern, and southeastern China are not fully accounted for. Further analysis of differences across developmental stages and regions is neglected.

Second, although the conceptual model proposed in this paper is based on a solid theoretical foundation, it indicates significant correlations among variables but cannot draw definitive conclusions about their causal relationships. Follow-up research can yield breakthroughs in methods and conduct long-term follow-up surveys of the surveyed enterprises, analyzing longitudinal enterprise data to more rigorously reveal the relationships and mechanisms between external influencing factors and green consumption across different time periods.

As Agenda 21, adopted by the United Nations Conference on Environment and Development, makes clear, one of the most serious problems facing the planet is environmental degradation caused by inappropriate consumption patterns. Accelerating the transformation of green development and building a green consumer society are both necessary for China and the world.

Recommendation

To foster a healthy green-consumption culture and provide impetus for the process of green consumption. Based on the above research conclusions, this study proposes recommendations across two dimensions: government and enterprise.

Government level

1. Increase the publicity and education of green consumption

The government's promotion of green consumption should be integrated with consumer characteristics. In selecting publicity methods, it is necessary to be closer to consumers, and the concept of green consumption can be promoted and communicated through emerging media. For example, the use of NetEase News, CCTV News, and other authoritative mobile phone applications or public accounts is popular among users. The adverse effects of environmental problems can also underscore the urgency of green consumption. Use stars with positive personal images to shoot green public service advertisements, reasonably guide public opinion with star effects, and change traditional consumption concepts. On the other hand, it is necessary to use multi-platform linkage to form a propaganda matrix, reach diverse consumers, and create a green-consumption atmosphere. In addition, the government can integrate green ecological education into the education system to widely disseminate relevant knowledge and concepts. To strengthen the benefits and urgency of green consumption as the focus of education, enhance perceived behavioral effectiveness, and increase consumers' confidence and psychological benefits in addressing environmental issues by changing consumption patterns.

2. Encourage and support enterprises and consumers

The government should increase support for green industries. On the one hand, for green development enterprises with advanced technology research and development, financial subsidies, tax relief, and other policy support should be provided. Encourage and guide enterprises to continue increasing research and development investment in green production technologies, accelerate technological upgrading, and replace products. For example, deepen the implementation of the carbon emissions trading system. On the other hand, the government should develop various incentive mechanisms to encourage consumers to purchase green products—for example, by issuing green product consumption vouchers and personal income tax deduction vouchers.

3. Improve green product certification

China's green certification standards are not unified. The government needs to bring green product certification standards in line with international standards, and make relevant certification processes and standards transparent to further enhance consumers' confidence in green consumption and enhance the consumption perception effectiveness of green consumption behaviors.

Enterprise level

1. Seize the market opportunity to accelerate the transformation of green brands

In recent years, consumption patterns have changed and green consumption trends have followed. Consumer insensitivity to price indicates that China's green product market is still in its infancy. Enterprises speed up the transformation of green brands, enhance green technology, strengthen product quality control, so that enterprises stand out in the serious homogeneity of the Chinese market.

2. Green efficacy as the focus of product marketing

From the perspective of environmental performance, such as reducing environmental pollution, reducing resource waste, and causing no harm to the body, green is introduced into the marketing strategy to create green marketing concepts, improve the perceived effectiveness of behavioral changes, make consumers have a "green" emotional resonance, and increase product identity.

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