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Influencing Factors of Urban Residents' Green Consumption Behaviour in Henan Province, China

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Abstract

Purpose: Green consumption has gained widely attention in China due to the pressure on scared resources and environment concern is constantly increasing. This study explores the factors that affect the green consumption of urban residents in Henan, China. Based on the theories of Theory of Consumption Value (TCV), Theory of Related Action (TRA), and Theory of Planned Behavior (TPB), the research framework was constructed, which consisted of six independent variables, which are environmental concern, attitude, subjective norm, expectancy, perception and intention. A dependent variable is behavior. **Research design, data, and methodology:** The study selected urban residents aged 18-59 from five cities in Henan Province as the main target population. The researcher collected the data by distributing online questionnaire to 483 consumers and analyzed the data using confirmatory factor analysis and structural equation model. **Results:** The results approve all hypotheses. Environmental concerns significantly influence green consumption attitudes. Attitude, subjective norm, expectancy, and perception significant influence the intention of green consumption. Additionally, Environmental concerns and intention significantly influence behavior. **Conclusions:** The obtained data may need to be more widely promoted and applied in China. However, the relevant data can provide an overall understanding of the influencing factors of Chinese consumers' green consumption behavior.

Keywords: Structural Equation Model, Green Consumption, Theory of Consumption Value, Theory of Related Action, Theory Of Planned Behavior

JEL Classification Code: E44, F31, F37, G15

1. Introduction

With the development of the economy, large-scale production and consumption have caused serious damage to the natural environment, and "green consumption" has emerged. Green consumption has become increasingly important in consumers' daily lives (Schultz et al., 2008).

With the development of China's economy, the pressure on resources and environment is constantly increasing. In 1994, China began to promote and practice the concept of sustainable consumption. In 2016, China issued the "Guiding Opinions on Promoting Green Consumption." In 2018, China formulated the Implementation Plan for Improving the Consumption Promotion System and Mechanism (2018-

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2020), proposing developing and expanding green consumption.

China has made great progress in green consumption, but there are still problems, such as weak consumer willingness, imperfect market development, and ineffective policy measures. Positive understanding and willingness have not fully transformed into green consumption behavior, forming a significant contrast between actual green consumption behavior and consumers' positive green consumption attitude. The main purpose of this study is to conduct in-depth research on the role and impact mechanism between green consumption attitude and purchasing behavior, discover the transformation path between green consumption attitude and consumption behavior, and promote the development of green consumption in China.

2. Literature Review

2.1 Theory of Consumer Value (TCV)

Sheth et al. (1991) proposed the theory of consumer value, stating that consumer value had a significant impact on consumer behavior. Bei and Simpson (1995) and Sweeney and Soutar (2001) concluded that psychological value significantly impacted the consumption decision-making process. Hur et al. (2012) believed that consumers' positive psychological feelings could affect the evaluation of products and promote consumer behavior. Lin et al. (2005), Kim et al. (2007), and Vermeir and Verbeke (2008) found that emotions, social values, product quality, prices, environmental impacts, and other factors could also lead to green consumption behavior. Based on relevant literature, consumers' perceived consumption value will significantly impact green consumption behavior.

2.2 Theory of Reasoned Action (TRA)

Fishbein (1963) believed that expected behavioral outcomes and outcome evaluations could affect behavioral attitudes, and behavioral attitudes could further influence behavioral intentions. Fishbein and Ajzen (1977) expanded the multi-attribute attitude theory model and proposed the Theory of Reasoned Action. The Theory of Reasoned Action (TRA) believes that people's behavior is rational so that it can be reasonably predicted. The subjective norms as external factors and the behavioral attitudes as internal factors collectively influenced an individual's behavioral intentions and ultimately determined their behavior (Ajzen & Fishbein, 1980).

2.3 Theory of Planned Behavior (TPB)

Ajzen (1985, 1991) improved the model of *TRA* (Theory of Reasoned Action), added perceptual behavior control, and put forward the theory of planned behavior. The theory of planned behavior has been widely used in green consumption behavior and other consumer behavior research fields. Fekadu and Kraft (2001) concluded that perception and self-identity could positively impact behavioral intention. Vermeir and Verbeke (2008) believed that in the theory of planned behavior, personal values, external social pressure, and the convenience of green food purchases could correspond to attitudes, subjective norms, perceived behavior control, and other factors.

2.4 Environmental Concern

Schuitema et al. (2013) believed that environmental concern was that people began to pay attention to environmental issues and made a series of responses. Paul et al. (2016) found that EC significantly directly and indirectly impacts green PI (purchase intention) through attitude. Thieme et al. (2015) found that environmental issues and actions taken played an important role. Golob et al. (2018) found that environmental awareness impacted organic food consumption. Environmental issues indirectly affected green purchasing intention by influencing attitudes, subjective norms, and perceived behavioral control, and affected purchasing behavior (Chaudhary & Bisai, 2018). Hence, there are proposed hypotheses per below:

H1: Environmental concern has a significant influence on attitude.

H6: Environmental concern has a significant influence on behavior.

2.5 Attitude

Oliver (1997) believed that consumer attitudes had a significant impact on the intention to consume a product. Ajzen and Fishbein (2005) found that intention depends on factors such as attitude towards behaviour, and further research found that attitude and subjective norms both affected intention (Ajzen, 2015). Taylor and Todd (1995), and Ajzen (1991) concluded that there was a significant correlation between individual attitudes and behavioural intentions. The more positive the attitude, the stronger the willingness to purchase (Rizwan et al., 2013; Vazifehdoust et al., 2013; Yadav & Pathak, 2016). Accordingly, the research suggests a hypothesis:

H2: Attitude has a significant influence on intention.

2.6 Subjective Norms

Jain and Kaur (2004) believed that subjective norms were one of the key factors in the willingness of Indian consumers to purchase. Yadav and Pathak (2017) also gained a similar conclusion, concluding that subjective norms significantly impacted the purchase intention of green products for Indian consumers (Li & Kitcharoen, 2022). Thus, a hypothesis is stated:

H3: Subject norm has a significant influence on intention.

2.7 Expectancy

Li and Zhong (2017) found that self-efficacy and outcome expectancy significantly positively impacted consumption intention. Soon and Wallace (2017) believed that attitudes, expectancy, and other factors could affect individual intentions. Kiatkawsin and Han (2017) found that expectancy was the belief that actions and efforts would bring expected results and gains and will affect people's behavioral intentions. Based on previous literature, this study hypothesizes that:

H4: Expectancy has a significant influence on intention.

2.8 Perception

Thieme et al. (2015) argued that intention-controlled behavior, while perception, in turn, controlled intention. Hampshire (2017) used a mixed approach to the study and found that perception had a significant positive impact on the willingness of British consumers. Therefore, we can conclude with the following assumptions:

H5: Perception has a significant influence on intention.

2.9 Intention

Bandura (1986) suggested that intention guided and controlled individual behavior. Thieme et al. (2015) argued that intention could control behavior, while attitude and subjective norms also controlled intention. Li and Zhong (2017) found that behavior could be predicted and controlled by factors such as intention. Studies suggested that individuals' attitudes towards behavior and subjective norms could impact intention (Fishbein & Ajzen, 1975), and intention directly determined individual behavior (Ajzen & Fishbein, 1980). Therefore, the main determinant of individual behavior was the intention.

H7: Intention has a significant influence on behavior.

2.10 Behavior

Fishbein and Ajzen (1977) defined behavior as a series of individual brain responses after external stimulation resulting from psychological factors. Furthermore, Ajzen (1991, 2015) defined *behavior* as being controlled by certain factors caused by various specific reasons and occurring according to a certain plan.

Meanwhile, Fishbein and Ajzen (2010) defined behavior as an observable event that occurs in a specific environment and at a predetermined time for a specific target.

On the other aspects, Li and Zhong (2017) defined behavior as the interaction between the individual's belief in outcome expectancy and self-efficacy and the social and external environment in which the behavior occurs. The behavior results will further affect the individual and the surrounding environment. In recent studies, Sarabia-Andreu and Sarabia-Sánchez (2018) defined behavior as caused by specific intentions jointly influenced by attitudes, subjective norms, and perceived behavior control.

3. Research Methods and Materials

3.1 Research Framework

The researchers applied three main theories (TCV, TRA, and TPB) and four previous research frameworks to support and develop the conceptual framework of this study. Based on existing theories and previous empirical research, the conceptual framework of this study was developed, as shown in Figure 1.

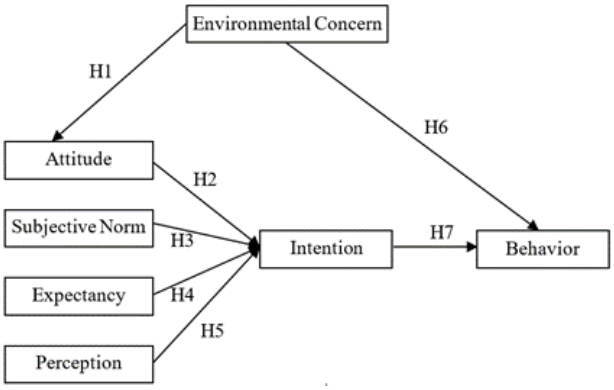

Figure 1: Conceptual Framework

H1: Environmental concern has a significant influence on attitude.
H2: Attitude has a significant influence on intention.
H3: Subject norm has a significant influence on intention.
H4: Expectancy has a significant influence on intention.
H5: Perception has a significant influence on intention.
H6: Environmental concern has a significant influence on behavior.
H7: Intention has a significant influence on behavior.

3.2 Research Methodology

The length of the questionnaire would affect the response rate. The longer the questionnaire was the lower the recovery rate. If the questionnaire points are too big, it would not be easy to distinguish clearly, so 5 points were adopted.

This study used the five-point Likert scale to test the factors related to green consumption behavior.

1 = Strongly disagree
2 = Disagree
3 = Neither agree nor disagree
4 = Agree
5 = Strongly agree

The final designed questionnaire consists of four main parts: Part I is the screening question. Part II is the measurement variables of independent variables: attitude, subjective norms, expectancy, perceptions, environmental concerns, and intentions. Part III measures the dependent variable, namely green consumption behavior. Part IV is the demographic characteristics of the interviewees, including gender, age, education level, occupational status, and income level.

Before the data collection, index of item-objective congruence (IOC) has been rated by three experts. The content validity was ensured by IOC with the approval results. The reliability test of Cronbach's Alpha method was examined, resulting that all items were reserved as values are greater than 0.7 (Nunnally & Bernstein, 1994). Afterward, the data were analyzed by confirmatory factor analysis and structural equation model.

3.3 Population and Sample Size

The study selected urban residents aged 18-59 from five cities in Henan Province as the main target population. The According to Kline (2005), the minimum sample size is is require at 200 for efficient data analysis of SEM. The survey period was from September 13 to September 29, 2022, and 513 samples were obtained. Unqualified samples were removed, and 483 samples were retained.

3.4 Sampling Technique

The sampling techniques are judgmental and convenience sampling. The judgmental sampling is applied to select consumers in five cities in Henan Province, including Zhengzhou, Luoyang, Jiaozuo, Nanyang, and Anyang. These cities are in the northern, central, southern, and eastern regions of Henan Province, including megacities, large cities, and medium-sized cities. For convenience sampling, the researcher collected the data by distributing online questionnaire. This online survey questionnaire was released on China's largest online survey platform (www.sojump.com), an advanced and reliable online survey platform. Survey questionnaires can be answered by computers and smartphones, ensuring the quality of survey data. The survey period was from September 13 to September 29, 2022.

4. Results and Discussion

4.1 Demographic Information

From the statistical results in Table 1, males account for 52.38%, and females account for 47.62%. The largest proportion of 18-49 years old is 89.65%. More than 90% of the participants have a university degree or above. In term of employment, professionals take up to 13.25%. Furthermore, about 50% have a monthly income of over 2000 yuan.

Table 1: Demographic Profile

Demographic and General Data (N=483)		Frequency	Percentage
Gender	Male	253	52.38
	Female	230	47.62
Age	Under the age of 18	14	2.90
	18-29 years old	278	57.56
	30-39 years old	66	13.66
	40-49 years old	89	18.43
	50-59 years old	36	7.45
Education	Junior middle school or below	10	2.07
	Highschool or technical secondary school	33	6.83
	University or college	337	69.77
	Postgraduate	103	21.33
Employment	Students on campus	277	57.36
	Government/ government officials/civil servants	21	4.35
	Enterprise managers (including grassroots and middle to senior managers)	50	10.35
	Ordinary staff (commercial/factory/office/office staff)	31	6.42
	Professionals (such as doctors/lawyers/ cultural and sports professionals/journalists/teachers, etc.)	64	13.25
	Self-employed/contractor/ freelancer	14	2.9
	Agriculture, forestry, animal husbandry, and fishing workers	2	0.41
	Retirement	9	1.86
	No occupation currently	9	1.86
	Other professionals	6	1.24
Annual	Below 2000 yuan	240	49.69

Demographic and General Data (N=483)		Frequency	Percentage
average family income (in thousand yuan)	2001-4000 yuan	52	10.77
	4001-6000 yuan	41	8.49
	6001-10000 yuan	68	14.08
	10001-15000 yuan	41	8.49
	15001-20000 yuan	12	2.48
	Above 20000 yuan	29	6

Source: Constructed by author

4.2 Confirmatory Factor Analysis (CFA)

In this study, a confirmatory factor analysis was conducted on the measurement model to evaluate the degree of fitting of the model. Since the initial measurement model has shown a strong fit, the measurement model does not need to be adjusted. Seven potential variables have been measured, including environmental concern, attitude, subjective norm, perception, intention, expectance, and behavior. The statistical values and acceptable standards are shown in Table 3.

This study used the Cronbach Alpha coefficient, factor load, combined reliability, and extracted mean variance to evaluate and measure convergence validity. The results are shown in the table. The test results show that all constructed Cronbach's Alpha coefficients are greater than 0.7, indicating that the internal consistency test of the project has passed and the questionnaire survey results are reliable (Nunnally & Bernstein, 1994).

The higher the factor load value, the higher the reliability of the project. Reliability is acceptable when the factor loading is 0.5 or higher (Hair et al., 1998). In this study, the factor loading of all items was above 0.6, which meets the research requirements.

Constructive reliability (CR) and average variance extraction (AVE) have important values in measuring the reliability and consistency of scale items. The reliability CR value is within the range of 0.60 or higher, indicating that the reliability meets the acceptable standard (Hair et al., 2014). If the AVE value exceeds 0.50, the convergence effectiveness is satisfied. The CR results of this study are all above 0.7, and the AVE value is above 0.50, which indicates a high internal consistency in this study.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Environmental Concerns (EC)	Emekci (2019)	3	0.829	0.705-0.759	0.770	0.528
Attitude (AT)	Ashraf et al. (2019)	4	0.756	0.674-0.739	0.803	0.506
Subjective norm (SN)	Ashraf et al. (2019)	2	0.835	0.721-0.785	0.724	0.568
Perception (PE)	Li and Zhong (2017)	5	0.789	0.675-0.749	0.837	0.507
Intention (IN)	Li and Zhong (2017)	3	0.823	0.687-0.732	0.758	0.511
Expectancy (EXP)	Li and Zhong (2017)	3	0.841	0.679-0.756	0.761	0.516
Behaviour (BE)	Li and Zhong (2017)	4	0.852	0.676-0.774	0.810	0.517

The model fitting degree was evaluated and analyzed, and the statistical value of the index was compared with the standard value of goodness of fit evaluation in Table 5.8. The statistical values of each index are CMIN/DF=4.760, RMSEA=0.078, GFI=0.829, AGFI=0.869, CFI=0.901, TLI=0.851, NFI=0.967. Numerically, the goodness of fit of the correlation index does not meet the requirements. Based on this, the structural model should be modified and recalculated good-of-fit.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/df	< 5 (Hair et al., 2010)	4.760
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.078
GFI	≥ 0.80 (Hair et al., 2010)	0.829
AGFI	≥ 0.80 (Filippini et al., 1998)	0.869
CFI	> 0.80 (Hu & Bentler, 1999)	0.901
TLI	> 0.80 (Bentler & Bonett, 1980)	0.851
NFI	> 0.90 (Bentler & Bonett, 1980)	0.967
Model Summary		**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, RMSEA = Root mean square error of approximation, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, CFI = Comparative fit index, TLI = Tucker–Lewis index, and NFI = Normed fit index.

Fornell and Larcker (1981) considered that the important criterion to confirm the validity of discrimination is that the square root of AVE is greater than the coefficient of any relevant structure. As shown in Table 5, the AVE of all structures on the diagonal is greater than the inter-scale correlation. Therefore, the discriminant validity is guaranteed.

Table 5: Discriminant Validity

	EC	AT	SN	PE	IN	EXP	BE
EC	**0.709**						
AT	0.455	**0.711**					
SN	0.254	0.490	**0.7981**				
PE	0.342	0.468	0.720	**0.714**			
IN	0.355	0.482	0.531	0.438	**0.737**		
EXP	0.347	0.580	0.509	0.476	0.720	**0.736**	

	EC	AT	SN	PE	IN	EXP	BE
BE	0.342	0.422	0.557	0.755	0.519	0.464	**0.744**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

In this study, the structural equation model is used to evaluate the established structural model to confirm the suitability of the model, the causal relationship between variables, and the factors affecting green consumption behavior. The structural model has been modified based on the measurement errors between the interrelated structures of the projects. The goodness of the fit index is also recalculated according to the modified structural model, and the result of the relevant indicators of the adjusted model is shown in Table 6, CMIN/DF=4.047, RMSEA=0.079, GFI=0.832, AGFI=0.815, CFI=0.874, TLI=0.834, NFI=0.824.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable Criteria	Statistical Before Values Adjustment	Statistical Values After Adjustment
CMIN/df	< 5 (Hair et al., 2010)	2262.985/245 or 9.237	951.012/235 or 4.047
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.131	0.079
GFI	≥ 0.80 (Hair et al., 2010)	0.694	0.832
AGFI	≥ 0.80 (Filippini et al., 1998)	0.625	0.815
CFI	> 0.80 (Hu & Bentler, 1999)	0.663	0.874
TLI	> 0.80 (Bentler & Bonett, 1980)	0.621	0.834
NFI	> 0.90 (Bentler & Bonett, 1980)	0.639	0.824
Model Summary		**Not in harmony with empirical data**	**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, RMSEA = Root mean square error of approximation, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, CFI = Comparative fit index, TLI = Tucker–Lewis index, and NFI = Normed fit index.

4.4 Research Hypothesis Testing Result

As shown in Table 7, all seven hypotheses proposed in the study are supported. The hypothesis testing results are measured by standardized coefficient value and t-value. The significant estimate is $p<0.05$.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: EC→AT	0.962	7.407*	Supported
H2: AT→IN	0.454	4.124*	Supported
H3: SN→IN	0.004	7.931*	Supported
H4: EC→IN	0.675	4.377*	Supported
H5: PE→IN	0.273	8.112*	Supported
H6: EC→BE	0.094	9.402*	Supported
H7: IN→BE	0.719	2.468*	Supported

Note: * $p<0.05$
Source: Created by the author

Environmental concerns have a very significant impact on attitudes. The standardized path coefficient of environmental concerns' path relationship to Attitude in H1 is 0.962, and the t-value is 7.407 in H1. This supports the previous research of do Paço et al. (2013) and Emekci (2019). The more consumers pay attention to environmental issues, the more positive their attitude toward green consumption will be.

Expectancy has the greatest and most important factor affecting intention. The standardized path coefficient of the path relationship to Intention in H4 is expected to be 0.675, and the t-value is 4.377. This supports the previous research of Li and Zhong (2017). The stronger consumers' expectations of the consequences of green consumption are, the stronger their willingness to green consumption is.

Attitude is the second important factor affecting intention. The standardized path coefficient of the Attitude to Intention path relationship in H2 is 0.454, and the t-value is 4.124. This supports the previous research of Lao (2014) and Emekci (2019). The more positive consumers' attitudes towards green consumption, the stronger their Intention to do green consumption.

Perception is the third important factor affecting intention. The standardized path coefficient of the path relationship between perception and intention in H5 is 0.273, and the t-value is 8.112. This supports the previous research of Li and Zhong (2017). Consumers' perception of green products and consumption will have an important impact on green consumption intention.

Subjective norm also has an impact on intention. The standardized path coefficient of the path relationship between subjective norm and intention in H3 is -0.004, and the t-value is 7.931. This supports the previous research of Lao (2014) and Emekci (2019).

Environmental concerns have a significant impact on behavior. The standardized path coefficient of the path relationship between environmental concerns and behaviour in H6 is 0.094, and the t-value is 9.402. This finding is consistent with the previous study by Emekci (2019).

Intention has a significant impact on behavior. The standardized path coefficient of the path relationship between intention and behaviour in H7 is 0.719, and the t-

value is 2.468. This finding is consistent with the previous study by Li and Zhong (2017).

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

This study aims to analyze the influencing factors of green consumption by urban residents in Henan Province to promote the development of green consumption activities better and make efforts to protect the environment. The interviewees involved in this study are mainly from five different cities in Henan Province. In order to form a more scientific research framework, this study collected and analyzed the relevant literature on green consumption and deeply understood the relevant theories and research work on green consumption.

The factors influencing green consumption behavior are proposed according to the rational behavior theory proposed by Fishbein (1963) and the planned behavior theory proposed by Ajzen (1991). According to the theory of planned behavior, Intention is a factor that directly determines green consumption behavior, while Attitude, subjective norms, and perceived behavior control directly affect green consumption intention. According to relevant research, environmental concerns and expectations are added on this basis.

The first research framework comes from the TPB theoretical model (Ajzen, 1991). TPB theory holds that both subjective norms and attitudes will affect Intention. The second research framework was developed by Li and Zhong (2017), who studied the factors promoting green aquatic product consumption behavior. Lao (2014) developed the third theoretical framework to study the impact mechanism of rational green consumption behavior. Emekci (2019) developed the fourth theoretical framework, adding environmental concerns and other factors to the research on consumers' green consumption behavior.

In the process of formulating the research framework, the problem statement and research objectives were determined. This study mainly collects data on green consumption from residents of five cities in Henan Province and uses quantitative analysis methods. The collected data were analyzed by factor analysis. The collected data were tested by confirmatory factor analysis and correlation analysis of structural equation modeling to ensure obtaining scientific research results.

The research results prove that green consumption behavior conforms to the theory of planned behavior. Green consumption behavior is affected by intention, while intention is affected by attitude, subjective norm, perception, expectance, and other factors. Attitude has the greatest impact on green consumption behavior, and EC greatly impacts Attitude, which is the direct influencing factor. This means that if we want to promote green consumption behavior, we need to make everyone pay attention to environmental issues, thus affecting the attitude of urban residents toward green consumption, making them form a strong green consumption intention, and finally transforming into green consumption behavior. Knowing this will help us take effective measures to promote green consumption behavior among urban residents in Henan Province.

5.2 Recommendation

The study found that the stronger the individual's green consumption purchase intention, the stronger the possibility of transforming into green consumption purchase behavior. Therefore, we should urge consumers to have a strong green product purchase intention to encourage consumers to carry out green consumption behavior. Among the relevant influencing factors, consumers' attitudes and expectations towards green consumption strongly impact green consumption willingness. Based on this research, when we promote the green consumption campaign, we should strengthen consumers' attitudes towards green consumption and adopt methods such as increasing information feedback to strengthen consumers' expectations.

The research found that consumers' insufficient understanding of green products is an important reason to hinder green consumption intentions. Therefore, strengthening the green product logo and increasing the publicity and promotion of the green product logo to enable consumers to enhance their ability to identify green products and improve their awareness of green products is the aspect that should be paid attention to in the promotion of green consumption activities in the future. In the study, it is found that subjective norms have little influence on green consumption intention. Therefore, more is needed to rely solely on individual conscious behavior and moral restraint when promoting the green consumption movement. We must form a good social atmosphere and a friendly consumption environment to promote the generation of green consumption intentions.

Environmental concerns not only directly affect the Attitude and Intention of green consumption but also greatly impact green consumption behavior. Therefore, it is also necessary to strengthen the publicity of environmental issues to encourage consumers to pay more attention to environmental issues to improve consumers' attention to green consumption behavior, enhance their willingness to green consumption, and increase green consumption behavior.

To sum up, through the survey of residents in five cities in Henan Province, this study has studied the factors that affect consumers' green consumption behavior, provided theoretical guidance and data support for the development of green consumption behavior, and provided direction guidance for today's promotion of green consumption movement, to better promote the further promotion and implementation of green consumption movement in China.

5.3 Limitation and Further Study

This study has some limitations for further development of the future study. First, this study only focuses on the green consumption behavior of urban residents and selects five cities from Henan Province to collect sample data. The scope of the study has some limitations, and the number of samples needs to be more comprehensive.

Secondly, this study's theme is limited to urban residents' green consumption behavior. Considering that a considerable proportion of residents live in rural areas, the differences between the green consumption behavior of rural residents and that of urban residents need to be further studied to improve the applicability of the research conclusions.

Third, the survey of green consumption behavior in the study is only conducted through questionnaires, which could be more conducive to obtaining more comprehensive information. In further research, interviews and case studies may be added to more comprehensively obtain consumers' views and understanding of green consumption and conduct more in-depth research on factors affecting green consumption behavior.

In the future research scheme design, researchers can also consider using methods such as control experiments to conduct more accurate research on consumer behavior, better test the causal relationship between specific information stimuli and consumers' green behavior, and determine what kind of reaction consumers will make under different environmental conditions, further to study the impact mechanism of green consumption behavior.

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