

## **Why Green Consumption Behavior is “easier said than done”<sup>1</sup>? - Evidence from China Market**

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### **Abstract**

*The existing research has shown that green consumption attitude is a good predictor of the green consumption behavior, while in the meantime some study has pointed out that there is no significant relationship between the green consumption attitude and behavior. In reality, many consumers think green consumption behavior is "easier said than done". Aiming to reveal the relationship between green consumption attitude and behavior, this study probed the process of attitude-behavior transformation from two dimensions, perceived control, and perceived difficulty. We distributed 200 questionnaires and reclaimed 189 valid questionnaires. Through SPSS and LISREL data analysis, the result showed that perceived control and perceived difficulty moderated this green consumption attitude-behavior process. Both low perceived control (vs. high perceived control) and high perceived difficulty (vs. low perceived difficulty) will weaken the connection between green consumption attitude and green consumption behavior. This paper offers inspiration to both Chinese government and enterprises to raise Chinese consumers' perceived control as well as lowering their perceived difficulty of green consumption.*

**Keywords:** Green consumption attitude, Green consumption behavior, Perceived control, Perceived difficulty

### **1. Introduction**

In China, a great number of cities are suffering from heavy fog and haze made by increasing PM<sub>2.5</sub>. In addition, China's incidents of product damage vary from exceeding hazardous substances (melamine, plastics, etc.) food, to household appliances and building materials containing the radiation and chemical composition (formaldehyde, etc.). These events have greatly affected Chinese people's daily health. Based on the severity, Chinese government vigorously advocates environmentally friendly and sustainable consumption, which provides a good opportunity to promote green consumption. Early definition of green consumption traces back to responsible consumption, which is defined that consumers should reduce purchasing that will lead to resources shortage, and buy products with less ecological harm (Fisk 1973). Peattie and Ring (1993) proposed, when consumers are making a purchasing decision, green consumption refers to more sustainable and responsible consumption to some extent according to environmental and social standards.

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Some scholars think green purchase behavior is environmentally conscious behavior (Chan 2001; Kim and Choi 2005; Mostafa 2007), with the minimal environmental impact (Mainieri, Barnett, Valdero, Unipan and Oskamp 1997). With the promotion of environmental protection and green consumption concept, Chinese's environmental awareness is improved step by step. However, present research on green consumption stays at Chinese consumers' attitude or intention level, rarely on the process from attitude to actual behavior. Notwithstanding, in a real case, most Chinese consumers reckon green consumption behavior of an "easier said than done" thing. Namely, some consumers holding high and positive green consumption attitude may carry out little green consumption behavior. Why dose there lie the incongruence between one's consciousness and behavior?

To answer the question above, some scholars address that perceived behavioral control (PBC) is a reason to explain. PBC includes two dimensions, perceived control (whether within the control range) and perceived difficulty (whether difficult or easy). The former, also known as self-efficacy, reflects that whether the executive results are within the scope of one's own control perception, or competence perception or confidence towards some behavior. For example, if consumers assume they do not need to take responsibility for one issue or their individual behavior cannot change the situation, they are unlikely to take actions (Kim and Choi 2005; Webb, Mohr and Harris 2008). The latter performs the perception of difficulty degree, in other words, the expectation on obstacle in consumer behavior, including the perception of time, money, convenience and other aspects. If consumers believe that the implementation is of greater difficulty or has more barriers, even if they show positive attitudes, they may not make practical action. Then, is perceived behavioral control the very reason behind the lag of green consumption behavior?

Up till now, study on the relationship between consumer green attitude and behavior have been contradicted. Some believe that environmentally friendly attitude and behavior are positive relevant with green purchasing behavior, while others have pointed out no significant connection lies between them. Will it be possible that attitude indirectly affect the green consumption behavior with moderators? Limited research can be found in this area both home and abroad. Therefore, this article is to reveal the underlying reason why Chinese consumers think green consumption "easier said than done", based on the existing research results, taking PBC into consideration.

## ***Literature Review***

### ***1. Green Consumption Attitude and Behavior***

Attitude is a psychological tendency to make a positive/negative evaluation on an entity in a way (Fishbein and Ajzen 1975; Eagly and Chaiken 1993). Accordingly, Milfont (2007) defined environmental attitude as a perception or belief, towards the positive/negative evaluation on natural environment and the factors impacting it. In other words, environmental attitude is individual's general opinion on ecological environment and problems. To segment, the environmental attitude is combined of general environmental attitude and specific environmental attitude. General environmental attitude is considered as a collection of recognition, emotions, and behavior intention related to environment (Schultz, Shriver Tabanico and Khazian 2004).

Some environmental sociologists also take it equivalently as "environmental concerns" (Dunlap and Jones 2002), environmental values, environmental sensitivity and environmental beliefs. While specific environmental attitude refers to individual's thoughts and attitude to particular environmental behavior, such as green consumption or waste recycling. Green consumption attitude in this study belongs to specific environmental attitude, referring consumers who are aware that human survival and development is threatened by environmental problems, and that they have the responsibility to improve the environment. They own not only the initiative to understand the relevant knowledge of green consumption, but also the awareness of green consumption.

Many scholars (Peattie and Ring 1993; Chan 2001; Kim and Choi 2005; Mostafa 2007) have already drawn a clear line between green consumption attitude and behavior. Researchers bring in different concepts according to their theoretical perspectives and research problems, including "responsible environmental behavior" (Hines, Hungerford and Tomera 1987), "behavior with environmental significance" (Stern 2000), "pro-environmental behavior" and "positive environmental behavior". Although these terms vary from one to another, all of them focus on "individuals" active and real actions to prevent or solve environmental problems. Apart from the general environmental behavior, in reality, specific environmental actions appear under some special circumstances. Green consumption behavior in this study belongs to specific environmental behavior, which is known as consumers' purchase and usage of green products in daily life, with a purpose on saving resources, reducing pollution, protecting ecological environment and leading to a safe and healthy life and so on.

## **2. Impact of Green Consumption Attitude on Green Consumption Behavior**

Foreign study on green consumption dates back a long time ago, mainly focused on the antecedents, including environment-related knowledge, attitude, psychological or personal factors (such as self-efficacy and perceived difficulty) as well as cultural and economic factors. Some scholars have even constructed an empirical model of green consumption behavior. Most study shows that environmental attitude is one of the most important variables that affect environmental behavior, and moreover, general and specific environmental attitude have better predictability to general and specific environmental behavior respectively.

Hines, Hungerford and Tomera (1987) analyzed 128 environmental behavior related articles published after 1971, and found the main factors influencing environmental behavior include personal factors (sense of control, attitude and personal responsibility), operational capacity (skills and strategy), environmental knowledge and situational factors. They also pointed out that compared to general environmental attitude; the specific one has greater impact towards environmental behavior. In addition, three important factors have been further simplified, which are attitude, personal ability and situational factors (Stern 2000). Since then, researchers have done a great amount of empirical research, and almost all the findings demonstrate the influence of environmental attitude on environmental behavior. For example, an investigation on the Swiss residents' consumption behavior for green products reveals a positive effect of individual environmental attitude and belief on green consumption behavior (Tanner and Kast et al., 2003). Kaiser and Gutscher (2003) clarified that environmental attitude and sense of responsibility, perceived behavioral control and behavioral intentions are major factors influencing environmental behavior. Moreover, Chan's (2001) study on Chinese's green consumption behavior indicated that when consumers hold positive attitude to green consumption, green consumption attitude can be successfully turned into consumption intention, but this kind of intention cannot sequentially lead to an effective transformation into behavior.

In addition, some scholars conduct research on environmental behavior or green consumption behavior, based on the theory of planned behavior (TPB). Accordingly, 295 environmental managers' behavioral tendency to pollution prevention were studied, along with a result indicating pollution prevention is significantly influenced by the positive impact of attitude, subjective social norms and past behavior, yet no significant relevance with perceived behavioral control (Mark, Irene and Frieze 2000). In addition, started with TPB, a study was conducted on the Brix worth residents' disposal plan of household waste in UK (Michele, Paul and Margaret 2004). The study showed other than the factors in TPB (attitude, subjective social norms, perceived sense of control, etc.), among other factors like situation conditions, recycling result, the degree of social concern and past recycling behavior, the primary factor influencing recycling behavior is attitude towards waste recycling.

What has been discussed above implies that quite a few researches have shown the positive impact of environmental attitude on environmental behavior. Notwithstanding, early studies in social psychology have pointed out that the predictability of attitude to actual behavior is invalid. Therefore, the conclusions and findings on environmental behavior are incongruent with those in classic psychology. Furthermore, some scholars believe that the relationship between environmental attitude and behavior is not significant at all. Some though tweak relationship exists between those two (Berger and Corbin 1992). Yan, Liu and Chen (1991) also supported the view that positive environmental attitude cannot drive to practical environmental action under most circumstances.

Moreover, through experimental design, Zhao (2010) discovered environmental attitude does not own the ability to predict behavior and neither does environmental behavior intention. Even in recent study, likewise, the role of green attitude in affecting behavior is skeptical. Based on TPB, attitude, norm and willingness to pay are analyzed through 2012 German national household panel survey with a sample amount of 12,113, and interesting enough, the results indicate attitude has no significant influence on green buying (Moser 2015). For the inconsistency, some scholars proposed some explanation. The reason may lie in diversity, variables measurement, reliability, validity, and the effects of other variables in environmental behavior (Mainieri, Barnett, Valdero, Unipan and Oskamp 1997).

In addition, the original assumption may be the very problem (Bamberg 2003). Normally, the assumption states as "general attitude (e.g. environmental concern) has a direct impact on the specific behavior," but only particular situational cognition will affect specific behavior. Hence, follow-up research should not take it for granted that environmental concern serves as a direct determine to actual behavior. Although to a certain extent, the explanation above makes sense, it has not been widely accepted by scholars.

What is more, that we simply attribute to the difference between general and specific environmental difference makes it much less convincing. In the study of green consumption, we found that "easier said than done" is a repeated description mentioned by respondents. Lately research has proved that marketing mix strategies are helpful in shortening the gap between consumers' green beliefs and behavior (Davari & Strutton 2014), however, without answering the reason why this gap shows up. The objective of this article is to dig out the reason behind "easier said than done" "point of view, from the perspective of previously mentioned green consumption attitude-behavior incongruence, to examine whether this process is moderated by perceived behavioral control (perceived control and perceived difficulty).

### **3. Perceived Behavioral Control**

"Whether within the control range" and "whether difficult or easy" are two different concepts (Chan and Fishbone 1993). When studying on PBC, these two concepts are turned into two factors separately, perceived control and perceived difficulty (Trafimow, Sheeran, Conner and Finlay 2002). Furthermore, Armitage (1999) discovered that the reason PBC is of low reliability is because it reflects on two dimensions (internal control and external control) instead of single one, wherein internal control refers to individual's perception level to internal behavior or control, namely perceived control; while external control points to the judgment of external promotion/obstruction in individual's behavior, that is, perceived difficulty. Clearly, PBC contains two dimensions, perceived control, and perceived difficulty. For one thing, perceived control is a concept similar to perceived consumer effectiveness (PCE), indicating whether a person's perception to execution result is within the control range, or competence recognition and confidence on some kind of behavior. Perceived control in green consumption behavior reflects on to what extent consumers believe their efforts can help improve the environment. If family's PCE is low, they will consume more energy (Seligman, Kriss, Darley, Fazio, Becker and Pryor 1979).

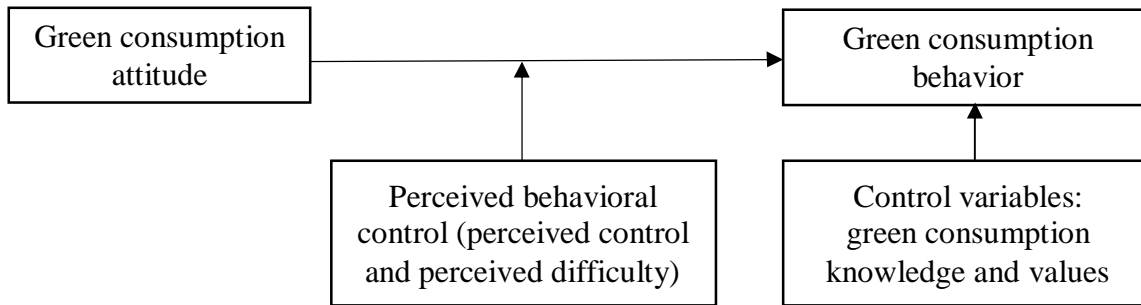
This is because they do not believe either they should burden personal responsibility for the energy crisis or individual behavior can ease the energy crisis. Straughan and Roberts's (1999) research indicated PCE has strong predictability to ecologically conscious consumer behavior (ECCB), even stronger than environmental concerns. Generally, there is a correlation between PCE and behavioral intentions, as well as predictive value (Terry and O'Leary 1995; Manstead and van Eekelen 1998; Armitage and Conner 2001). For another, perceived difficulty is to weigh the difficulty or prediction of adverse factors in some specific consumer behavior, including the perception of time, money, convenience and other aspects. Trafimow, Sheeran, Conner, and Finlay (2002) concluded that perceived control and perceived difficulty are two independent variables, which are affecting behavioral intentions and actual behavior respectively, wherein perceived difficulty has stronger predictive ability, with a wider range of applications. Combined with the definitions of previous work, this study defines perceived control the evaluation on the possible results after green consumption behavior, including consumers' and their family's safety and health issue and assessment of environmental improvement; perceived difficulty as the cognition of existing barriers or difficulty in green consumption behavior, such as time, money, incomplete certification of green products and overall factors emerging perceived risk on buying green products. Domestic scholars studied the impact of perceived results on consumers' consumption behavior on green vegetable (Qing, Yan and Wang 2006), and found with higher perception, namely consumers believe green consumption behavior is good for environment and themselves to a greater extent, they show more willingness to buy green vegetables; naturally more reluctance in the contrary situation. The greater perceived difficulty shows, the more it hampers consumers' transition from willingness to real green consumption behavior. As is usually the case, difficulty will reduce the likelihood of green consumption behavior in reality.

Over viewing foregoing discussion, we enumerated a long list of green consumption related research. Nevertheless, there remains some theoretical questions to answer. On the one hand, the deduction of green consumption attitude-behavior comes along with contradiction. Though some scholars have given an explanation, it has not been generally recognized. On the other hand, in real life, consumers feel that green consumption behavior "easier said than done". We assume the reason is that perceived behavioral control plays a part in the whole green consumption attitude-behavior process.

According to present study, even though the constituents of PBC are distinguished from diverse perspectives, most scholars believe PBC is a two-dimensional variable. Based on this, we divide PBC into perceived control and perceived difficulty, to study their moderating difference on attitude-behavior process, devastating to answer the questions posed above, as well as supplementing the green consumption behavior research.

### Research Framework and Assumptions

Research framework is shown in Figure 1. Researchers think perceived behavioral control (perceived control and perceived difficulty) is a moderator between the green consumption attitude and green consumption behavior. In addition, factors that affect green consumption behavior in existing work will be manipulated as control variables, including environmental knowledge and values. In next part, the role of PBC and its dimensions, and relevant assumptions will be proposed.



**Figure 1 Research Framework**

#### 1. Moderating Effect of Perceived Behavioral Control (PBC)

When people are about to take actions, they will form a recognition of the results coming and how hard it would be to reach. That is perceived behavioral control. Further, it is popularly recognized by scholars that PBC can be divided into two dimensions, perceived control and perceived difficulty. Without the thought of accounting for an issue or believing in the power of individual behavior in changing the situation, consumers are unlikely to take actions (Kim and Choi 2005; Webb, Mohr and Harris 2008). The theory of planned behavior has confirmed that when in terms of decisions, rational trade-offs is not enough, because whether individuals can conduct specific behavior at a particular time is greatly depending on the resources and opportunities able to dominate (such as skills, money and cooperation with others, etc.). In short, the higher individual's dependence on resources and opportunities is, the lower control of the implementation of the act presents. Overall, other than attitude, PBC also affects consumers' green consumption behavior.

#### 2. Moderating Effect of Perceived Control

Perceived consumer effectiveness, environmental concerns, and attitude are derived as independent variables by factor analysis, and PCE turns out to be a good predictor of eco-friendly behavior (Ellen, Weiner and Cobb-Walgren 1991). Perceived control reflects individual evaluation of their own behavior, while attitude simply reflects consumer evaluation of the activities or problems, and one step forward, perceived control can moderate the green attitude-behavior relationship (Berger and Corbin 1992). For example, a group of people who are highly concerned about the environmental situation may hit high scores in attitude measurement, yet pretty low in perceived control and likelihood of actual environmental behavior, merely because they think that only large enterprises, government and other genius individuals are capable to find a solution rather than themselves. In this case, the researchers might make a mistake concluding that a high level of attention is not consistent with attitude and behavior. In contrast, another group with low attitude score and surprisingly high perceived control score, those who do not care about the environment and believe individual efforts are not necessary but effective, shows little likelihood to conduct environmentally friendly behavior either. However, in this case, a reversed result indicates congruence between attitude and behavior. It is easy to deduce that only attitude and perceived control both working together can form green consumption behavior. When consumers have a positive attitude to green product, as well as with high perceived control, then they will conduct green consumption behavior. Based on that, we propose H<sub>1</sub>:

H<sub>1</sub>: Compared to high perceived control, consumers' green attitude is harder to (or cannot) form green consumption behavior under low perceived control; in other words, low perceived control will weaken the connection between consumer attitude and green consumption behavior.

### 3. Moderating Effect of Perceived Difficulty

Blake (1999) proposed value-action gap for studying attitude-behavior gap. He believed that numerous models of environment-friendly behavior are constrained, since some limitations like individual, society and institutions are not fully considered. Therefore, within the value-action gap model, Blake analyzed the whole process from environmental concern to environmentally friendly behavior, resulting in the classification of three obstacles: personality, responsibility, and practicality. Among them, personality is associated with individual, such as personal attitude and traits; responsibility is similar to the internal and external control tendency, implying when individuals feel their behavior cannot affect the environmental situation or they bear no responsibility, they would not take environmentally friendly action; practicality is involved with social or institutional limits, such as time, economy and the lack of information, which will hamper environment-friendly behavior. Even if consumers have a positive attitude towards green consumption, nonetheless with the existence of time, money or information restrictions or insufficiency, they are unlikely to take the green consumption behavior, which is exactly the core of consumer's perceived difficulty put forward in this paper. Quite commonly, a consumer may be pretty concerned about environmental issues, holding a will to contribute to environmental protection, but if he thinks it troublesome to implement (such as bring his own shopping bags to supermarket, etc.), he is not likely to take environmental behavior. Same theory for green consumption, consumers are probably reluctant to purchase green product because of the higher price. Based on this, we put forward the H<sub>2</sub>:

H<sub>2</sub>: Compared to low perceived difficulty, consumers' green attitude is harder to (or cannot) form green consumption behavior under high perceived difficulty; in other words, high perceived difficulty will weaken the connection between consumer attitude and green consumption behavior.

## Research Methods

### 1. Measurement

**Independent variable.** Green consumption attitude has been measured by many scholars (e.g. Chan 2001; Tanner and Kast 2003). Combining reference to the previous scales with further additions and amendments, we generated a more suitable and local scale in order to make linguistic equivalence.

**Dependent variable.** In addition, green consumption behavior is measured by numbers of researchers (e.g. Chan 2001; Tanner and Kast 2003; Kim and Choi 2005). Some scales are developed on the respondents' actual green purchase within a month, therefore containing much more questions. In consideration of consumer's recall difficulty, learning from predecessors' scales, we made some relevant adjustments and finally designed 8 questions.

**Moderators.** Perceived control, namely consumer's evaluation of the results of their actions, can be measured in the same way as perceived consumer effectiveness. Existing measurement items of PCE are tested through exploratory analysis (Berger and Corbin 1992; Kim and Choi 2005). Perceived control and PCE are of great similarity according to previous literature review. Hence, we utilized measure scales of PCE to measure perceived control. Perceived difficulty is the perception of the difficulty of green consumption implementation (time, money, etc.). Tanner and Kast (2003) measured both time and money, however, in Chinese context risk obstacles have to be included when measuring perceived difficulty. That is because great risk obstacles lurk in China's green consumption in reality, consisting of incomplete certification standards for green products and fake green products on the market.

**Control variables.** The definition of green consumption knowledge is not uniform in prior study. It can be divided into natural environmental knowledge, environmental knowledge, and environmental action knowledge, reckoning that knowledge begets a direct impact on behavioral intention (Hines, Hungerford, and Tomera 1987). Also, there is another way to classify through separating it into system knowledge (knowledge of ecosystem or environmental issues), action-related knowledge (knowledge of taking relevant moves) and the knowledge of effectiveness (the pros and cons of the results led by specific behavior) (Frick, Kaiser and Wilson 2004). The latter two have a direct impact on behavior, and what is more, system knowledge affects behavior through those two.

This article focuses on the value tendency to collectivism and individualism. Plenty of study discovers that collectivists have a preference on green consumption behavior (e.g. Chan 2001; Kim and Choi 2005). Also, McCarty and Shrum (1994, 2001) proved that consumer’s collective beliefs positively related to recycling beliefs and behavior.

**2. Procedures**

First, we carried out a qualitative interview with three teachers and nine postgraduate students in marketing, mainly refining the fluency and precision of the questionnaire statements. Then, a sample survey was conducted. Respondents were primarily college students as well as part of the youngsters who have no more than two-year working experience. 200 questionnaires were distributed, and 189 copies reserved after excluding invalid questionnaires.

Among all the participants, 42.3% were male and 57.7% were female, with an average age under 25. Their monthly consumption mostly ranges 600-1500 yuan, accounting for 75.7%. In order to facilitate participants to answer, green product in this research is daily consumer goods.

**Analysis and Results**

**1. Reliability and Validity**

First of all, the reliability was judged by Cronbach’s  $\alpha$  coefficient, and herein items with low reliability would be excluded. According to the results (Table 1), PC4 was omitted to reach a higher reliability (Cronbach’s  $\alpha=0.771$ ).

**Table 1: Cranach’s  $\alpha$  Analysis of Perception Control**

	Cranach’s $\alpha$ if Item Deleted	if Cronbach’s $\alpha$		Cronbach’s $\alpha$ if Item Deleted	if Cronbach’s $\alpha$
PC1	0.342		PC1	0.666	
PC2	0.457	0.595	PC2	0.704	0.771
PC3	0.417		PC3	0.701	
PC4	0.771				

Next, LISREL8.51 confirmatory factor analysis was used to check discriminate validity and convergent validity. After data analysis, 3 questions in green consumption behavior were distinguished, whose relevance to the latent variable was less than 0.5. Particularly, we made an in-depth analysis on these three questions, and assumed that they may be largely affected by other irrelevant situations. For example, "not using disposable tableware on purpose when eating out" is possibly affected by whether the restaurant offers. Therefore, after discreet consideration, these three items were removed, after which there retained only five questions on the construct of green consumption behavior. Though the case it was, the model showed a relatively high level of fitness as a result of confirmatory factor analysis (Figure 2) (Chi-Square/df=1.25, NNFI=0.96, CF=0.97, RMSEA=0.036).

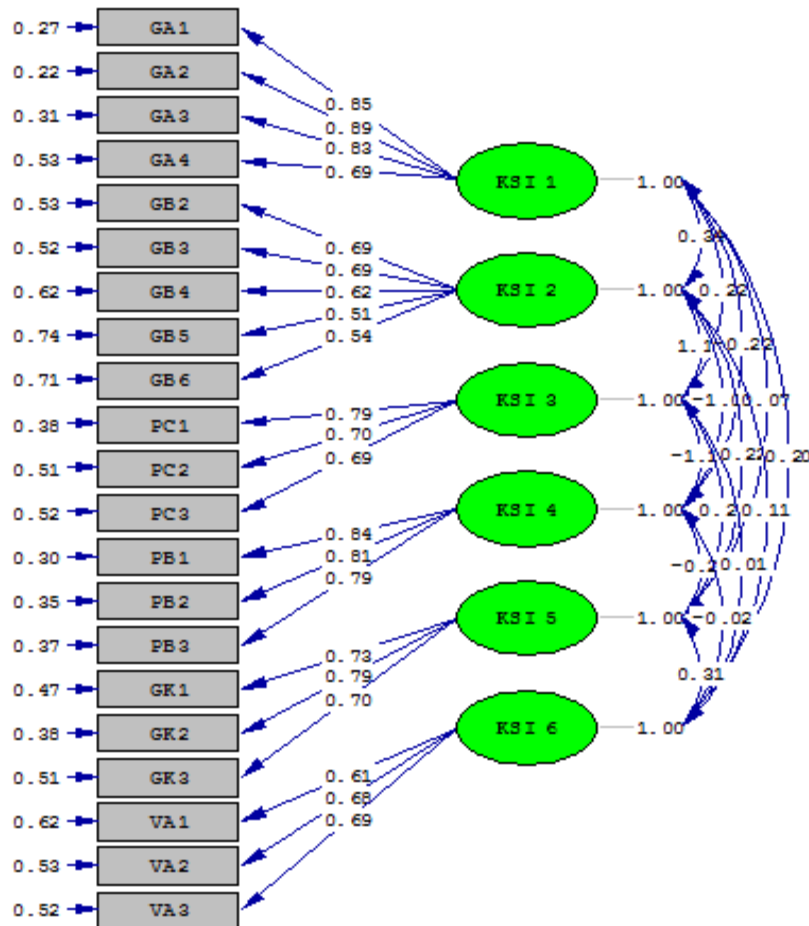


Figure 2: Confirmatory Factor Analysis

Third, we gathered the reliability and validity of every latent variable (Table 2). In general, the composite reliability shall be over 0.60 and AVE should be higher than 0.50, in order to get a recognized good result. The composite reliability of each construct is high. Except AVE of green consumption behavior, other AVEs are larger than the corresponding correlation coefficient, so discriminate validity proves to be a better one.

Table 2: Descriptive Statistical Variables, Correlation Coefficient, and AVE

	Mean	Standard Deviation	1	2	3	4	5	6
1. Green Consumption Attitude	4.287	0.709	0.818					
2. Green Consumption Behavior	3.367	0.704	0.305**	0.615				
3. Perceived Control	3.141	0.786	0.215**	0.869**	0.728			
4. Perceived Difficulty	2.809	0.893	-0.220**	-0.839**	-0.906**	0.814		
5. Green Consumption Knowledge	3.333	0.621	0.060	0.186*	0.230**	-0.208**	0.741	
6. Values	4.133	0.469	0.150*	0.087	0.006	-0.014	0.224**	0.661
AVE			0.670	0.378	0.530	0.662	0.549	0.437
Composite Reliability			0.890	0.749	0.771	0.854	0.785	0.699
Cronbach's $\alpha$			0.884	0.753	0.771	0.853	0.780	0.700

Note: \* indicates significance level of 0.05; \*\* indicates significance level of 0.01. Below the diagonal shows the mean Pearson correlation coefficient, and upper shows the square root of AVE.



2. Results

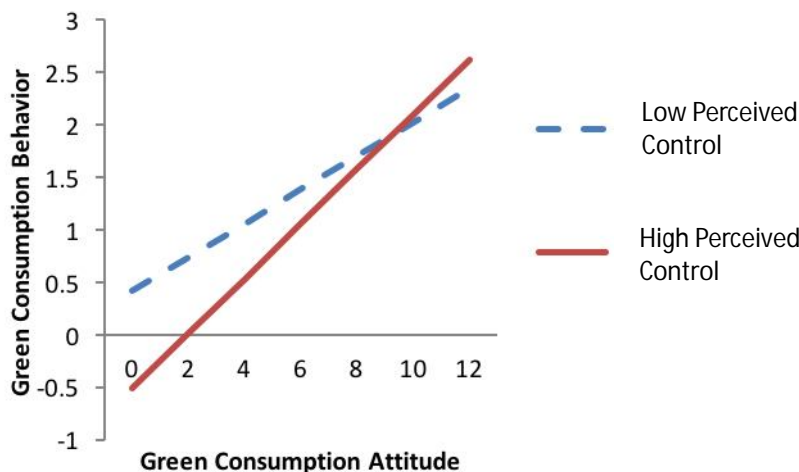
This article utilized hierarchical multiple regression model, building three models to analyze the data. Model 1 examined the role of the control variables, and Model 2 adds independent variables and moderators on the basis of Model 1, and finally Model 3 adds the interaction of independent variables and moderators compared with Model 2. In order to examine the interaction items, we did mean centering on all variables. This step enables the standard deviation of each variable unchanged, yet reducing multi collinearity. Analysis results are shown in Table 3.

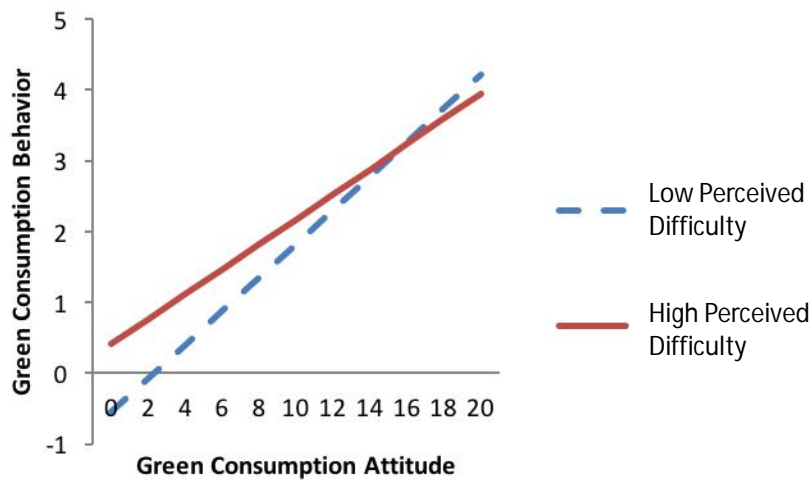
Table 3: Hierarchical Multiple Regression Model Results

Variable	Model 1	Model 2	Model 3
<b>Control Variables</b>			
Green consumption Knowledge	0.199 (2.371) *	0.037 (0.917)	0.025 (0.633)
Values	0.072 (0.650)	0.107 (2.014) *	0.100 (1.905)
<b>Independent Variables</b>			
Green Consumption Attitude		0.106 (3.024) **	0.109 (3.087) **
Perceived Control		0.549 (7.561) ***	0.531 (7.376) ***
Perceived Difficulty		-0.209 (-3.291) **	-0.209 (-3.339) **
<b>Interaction Items</b>			
Green Consumption Attitude * Perceived Control			0.343 (2.696) **
Green Consumption Attitude * Perceived Difficulty			-0.273 (-2.159) **
R <sup>2</sup>	0.037	0.788	0.798
Adjusted R <sup>2</sup>	0.026	0.783	0.790
F Value	3.544 **	136.35 ***	102.307 ***
Freedom	2/186	5/183	7/181

Note: \* indicates significance level of 0.05; \*\* indicates significance level of 0.01; \*\*\* indicates significant level of 0.001.

For a more direct understanding of the moderating effects of perceived control and perceived difficulty, interaction diagrams are shown in Figure 3 and Figure 4.



**Figure 3: Interaction Diagram of Perceived Control****Figure 4: Interaction Diagram of Perceived Difficulty**

According to the hypothesis put forward earlier, perceived control and perceived difficulty moderate the transformation from green consumption attitude to green consumption behavior. Model 3 in Table 3 supports  $H_1$  (Beta=0.343,  $P<0.05$ ), that is, compared to high perceived control, consumers' green attitude is harder to (or cannot) form green consumption behavior under low perceived control. Still, Figure 3 illustrates that low perceived control will weaken the connection between consumer attitude and behavior. Hence,  $H_1$  is supported. Likewise, Model 3 supports (Beta=-0.273,  $P<0.05$ ). That is, compared to low perceived difficulty, consumers' green attitude is harder to (or cannot) form green consumption behavior under high perceived difficulty. Figure 4 demonstrates that high perceived difficulty will weaken the connection between consumer attitude and behavior, and therefore  $H_2$  supported.

## Conclusions and Discussion

### 1. Conclusion

In accordance with our findings, conclusion can be drawn as follows.

(1) Green consumption attitude has a positive impact on green consumption behavior, promoting green consumption behavior into reality. Enlightened from that, for marketers, the initial step is to make consumers raise a positive attitude towards green products, in order to attract them and increase sales. Specifically, companies can utilize consumer education to drive consumers to form a correct understanding of green product, such as environmental and personal health benefits.

(2) Perceived control has a moderating effect on the green consumption attitude-behavior process. To put it straightforward, low (vs. high) perceived control will discount the effect on one's changing green consumption attitude into behavior. Therefore, the government and companies should fix not only on consumer's attitude, but also on individual's perceived control. Even if consumers have a better attitude towards green consumption, but holding low perceived control, consumers are unlikely to perform green consumption. Especially for housewives, a group who masters the purchasing power of households, they concern about their families' health, and hence they value more on the social environment and food safety. All in all, it is essential to increase their perceived control over their green consumption behavior, such as emphasizing the importance of the social environment and family health.

Specifically, the government can stress personal power is necessary to improve the environment through public service ads promotion, so as to establish consumers' belief that their every little contribution to environmental protection counts. Also, enterprises can enhance consumer's perceived control in these ways: 1) promotion on the belief that individual behavior can improve environmental situation; 2) consumer education to inform consumers the merits of green product, through advertisements, leaflets, etc.; 3) always highlighting not only green products' good for the environment, but also the advantages for family's physical safety and health.

The third point is a better match to the general consumer's concerns, simply because family's purchases are basically carried out by the hostesses, who are more worried about their family members' health problems.

(3) Perceived difficulty has a moderating effect on the green consumption attitude-behavior process, too. Specifically, high (vs. low) perceived difficulty will diminish the likelihood for consumers to transform green consumption attitude into behavior. That is why perceived difficulty is a vital factor that cannot be ignored. Even though consumers have a positive attitude, but if their perceived difficulty is high, there remains little chance for them to conduct green consumption behavior.

In detail, the first task for the government is to reduce consumers' perceived risk in following ways. On one hand, government needs to reinforce the green product certification system. Given that in China's market there exists fake green certified products, it will be tough for consumers to distinguish, and therefore more completed supervision is a must. On the other hand, a third-party certification agency can be established, as a much more objective and unprejudiced information resource. Under independent operation, failure is fatal for the certification agency, depending on which we can ensure the authentication of information they provide. For enterprises, to reduce consumer perceived difficulty and obstacles, they can first improve the channel construction of green product, to make it easier for consumers to reach and purchase. Still, they should emphasize green product's benefits in various types of promotion, thereby reducing consumers' sensitivity of price. At the same time, in the production of green product, price control should be taken into consideration, to prevent consumers from running away due to prohibitive price.

## **2. Contribution and Limitation**

It is common that lots of consumers possess high attitude to green product; however, rarely get green consumption behavior done. Firstly, this study makes a creative explanation of why consumers think green consumption behavior "easier said than done."

Findings imply that perceived control and perceived difficulty moderate the green consumption attitude-behavior process. In detail, either low perceived control or high perceived difficulty can hinder high green consumption attitude from turning into real green consumption behavior. Secondly, it supplements existing study on green consumption attitude-behavior process. Existing research on green consumption mostly concentrated on the antecedents, namely the factors that affect consumer's green consumption behavior, including green consumption attitude, knowledge, and values. This paper, however, innovatively takes two dimensions of PBC (perceived control and perceived difficulty) as a cutting point. For one thing, we prove that those two dimensions are moderator of the green consumption attitude-behavior process, offering a brand-new perspective and idea. For another, it enriches the study of perceived behavioral control. Finally, this study provides a basis for green consumption behavior from consumer's perception point of view.

This paper indeed fulfills current study, while enhancement continues to be desirable. First, this study claims that green consumption attitude directly influences behavior, leaving out the mediating role of green consumption attention. In the future, this concept is worth being studied. Second, this article studies from the perspective of perceived behavioral control, whereas perceived behavioral control may be affected by situational factors. Whereupon, future study can introduce situational factors into account. Last but not least, we have not examined whether there lies significant variance on consumer psychology and demographic characteristics between high/low perceived control and perceived difficulty, and it can be explored afterwards in this regard.

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