

Determinants that influence Green Consumption Intention: An Investigation of Environmental Perceptions of College Students in China

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Abstract—Green consumption behavior in daily life has become an important research topic in China. Particularly, several green courses and programs are added to strengthen the environmental awareness of college students at universities in recently years. In fact, college students can be the high-efficiency actors who are good at learning ability, creativity, and flexibility and adaptability. The current study aims to understand the green consumption in practice from the views of college students in China by extending the Theory of Planned Behavior. The results indicated that green subjective norms had statistically significant impact on intentions of green consumption. Moreover, green atmosphere, green publicity, and green product were to found to have a significant and positive relationship with green consumption intentions. Promising directions for future research are outlined.

Keywords— Green Consumption, Environmental Perceptions, CPC National Congress, TPB.

I. INTRODUCTION

With the proposal of China's sustainable development strategy and the transformation of economic structure, green consumption has become an important force in economic development in China. The report of the 19th CPC National Congress put forward several important strategic directions, including establishing the concept of ecological civilization, establishing the legal system and policy guidance of green production and consumption, advocating a green and low-carbon lifestyle, and opposing extravagance and unreasonable consumption [1].

As China enters a new era of development, green consumption and green economy have attracted more and more attention. Driving economic development through green consumption has also been included in the development goals [2]. Many studies on behavioral research have demonstrated that the traditional continuum model of behavioral change (i.e. the Theory of Planned Behavior, TPB) have good explanatory power across a wide variety of decision-making contexts [3,4], but for the discussions of college students in green consumption are

still ambiguous. College students are suggested to be high-efficiency actors who are good at learning ability, creativity, and flexibility and adaptability. Additionally, college students might be important peer groups to encourage the members to be green in the family [5]. It is assumed that if we know more about green consumption behavior of college students, educational programs, marketing strategies and promotional messages could be designed to promote the behavior more effectively. Based on the TPB, this study investigates contemporary college students' attitudes, subjective norms, and perceived behavior control towards the green consumption. In addition, this study integrates the green consumption atmosphere and green consumption publicity from the perspective of social environment, to explore the green consumption behavior more comprehensively.

II. RELEVANT LITERATURE

Behavioral research is presented to increase our knowledge about consumer behavior and explain factors that predict behavior in daily life. Many studies on

behavioral research have demonstrated that the traditional continuum model of behavioral change (i.e. TPB) have good explanatory power across a wide variety of decision-making contexts [6,7]. According to the TPB, behavioral intention is the best predictor of a given behavior and that intention is predicted by three conceptually independent determinants; attitudes towards the behavior, subjective norms, and perceived behavioral control. Attitudes refer to the individual's overall positive or negative evaluations of performing a given behavior [8]. Studies in the environmental field have demonstrated that a positive relationship between attitude and intention exists [9,10]. A subjective norm is conceptualized as the social pressure that consumers feel about whether to perform a behavior or not [8]. Several studies have introduced subjective norms as an essential predictor of behavioral intention to perform environmental behaviors, including public transport [10,11], and organic products [12]. Additionally, perceived behavioral control represents a consumer's beliefs about the presence or absence of factors that facilitate or impede the performance of a behavior. Consumers will have strong behavioral intentions to perform a specific behavior if they perceive that they can easily act on the behavior [8]. Prior studies have supported the notion that perceived behavioral control is a significant predictor of behavioral intention [13].

In the recent years, the TPB has been used in different areas of green consumer behavior analysis. There are many scholars in the green consumption areas such as green hotel, green organic products, and green travel [14-16]. However, there is little discussions of the promotion of college students' green consumption behavior in China. However, the factors suggested in the TPB appear not to be completely appropriate in the analysis and prediction of consumer environmental behavior. Studies argued that in order to enhance the college students' perceptions of green consumption, creating a green consumption atmosphere is critical [17]. Similarly, the development of green products and appropriate promotion are important factors for encouraging green consumption behavior [18]. In addition to three original TPB predictors, green atmosphere, green promotion, and green product were integrated into our proposed model. As shown in Figure 1, the hypotheses are proposed as follows:

H1: Green consumption attitude positively influences green consumption intention

H2: Green consumption subjective norm positively influences green consumption intention

H3: Green consumption perceived behavior control positively influences green consumption intention

H4: Green consumption atmosphere positively influences green consumption intention

H5: Green consumption publicity positively influences green consumption intention

H6: Green consumption product positively influences green consumption intention

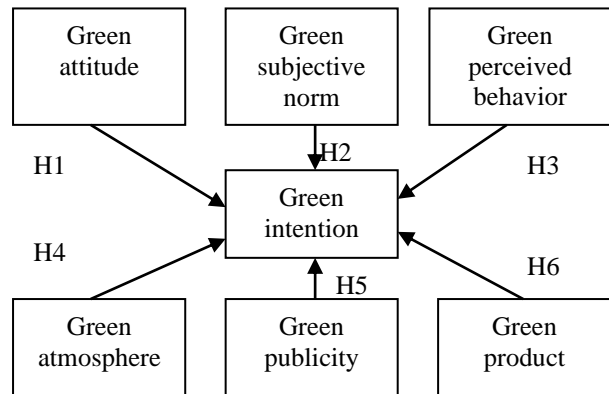


Fig.1: Proposed Research Framework

III. RESEARCH METHODS

Respondents are college students in Hubei Province in China. A total of valid 286 questionnaires were collected using convenience sampling. The questionnaires were designed according to the relevant literature in this study. Five items were used to measure attitude toward the behavior, subjective norms, and perceived behavioral control, respectively. Green consumption atmosphere and green consumption publicity were both assessed using four items. Six items were adapted to evaluate green consumption product. Green consumption intention was adapted using four items. Five-point Likert scales anchored by 1 (strongly disagree) and 5 (strongly agree) were used throughout the questionnaire. After data screening, person correlation and regression analysis were employed using SPSS 22.0 to identify the proposed paths in the framework.

IV. RESULTS

The examination of the sample demonstrated that the highest proportion of students is female (74.2 percent), majority of the students were juniors (45.4 percent) and business major (84.0 percent). As shown in Table 1, all the Cronbach alpha coefficients range between 0.734 (attitude) and 0.931 (behavioral intentions) and thus exceed the suggested threshold of 0.70. Therefore, the scales had great reliability and internal consistency. the highest mean score was subjective norm (19.626), while the lowest mean score was publicity (15.276).

Table 1 The Results of Mean, SD, Cronbach's Alpha

Research constructs	Mean	SD	Cronbach's α
Attitude	17.934	2.826	0.734
Subjective norm	19.626	3.409	0.951
Perceived behavior control	18.576	3.039	0.794
Atmosphere	15.549	2.293	0.866
Publicity	15.276	2.246	0.852
Product	15.762	2.216	0.847
Intention	18.305	2.153	0.931

As shown in Table 2, we conducted a Pearson's Correlation Analysis to realize the relationship between five constructs. The results of Pearson's Correlation Analysis demonstrated that behavioral intentions were highly significant to green product and green publicity, respectively. Subjective norm was highly significantly related to green publicity. Additionally, green product is highly positive to green publicity.

Table 2 The Results of Pearson's Correlation Analysis

	Att	SN	PBC	GA	GP	Gpd	BI
Att							
SN	0.587 **						
PBC	0.547 **	0.476 *					
GA	0.365 **	0.424 **	0.459 **				
GP	0.536 **	0.423 **	0.620 **	0.539 **			
Gpd	0.466 **	0.397 **	0.548 **	0.512 **	0.65 6**		
BI	0.478 **	0.466 **	0.531 **	0.488 **	0.62 3**	0.637 **	

Note: *: $p < 0.05$; **: $p < 0.01$; Note: Att: green attitude; SN: green subjective norm; PBC: green perceived behavioral control; GA: green atmosphere; GP: green publicity; Gpd: green product; BI: behavioral intention

The results of regression analysis showed that subjective norm ($\beta = 0.151$, $p = 0.006$) had a positive impact on behavioral intentions, which supports H2. Moreover, green

atmosphere ($\beta = 0.123$, $p = 0.003$), green publicity ($\beta = 0.253$, $p = 0.000$) and green product ($\beta = 0.331$, $p = 0.000$) had a significant and positive relationship with behavioral intentions, providing support for H4, H5, and H6.

Table 3 The Results of Linear Regression

Model	Standardized Coefficients Beta	t	Sig.	
				1
	Att	0.044	0.769	0.443
	SN	0.151	2.788	0.006
	PBC	0.086	1.478	0.140
	GA	0.123	2.228	0.003
	GP	0.253	3.964	0.000
	GPd	0.331	5.662	0.000

The summary of the hypotheses results is shown in Table 4. Overall, green attitude and green perceived behavioral control do not have significant impact on behavioral intention. Four factors (i.e., subjective norm, green atmosphere, green publicity, and green product) are to have positive impact on behavioral intention in this study.

Table 4 The Summary of Hypotheses Results

Hypothetical Path	Expected sign	Research results
H1: Green Attitude → Behavioral intention	+	Not Support
H2: Green subjective norm → Behavioral intention	+	Support
H3: Green perceived behavioral control → Behavioral intention	+	Not Support
H4: Green atmosphere → Behavioral intention	+	Support
H5: Green publicity → Behavioral intention	+	Support
H6: Green product → Behavioral intention	+	Support

V. DISCUSSION

This paper provides a holistic view on green consumer behavior theory in terms of the TPB. The results show that consumers' behavioral intentions are determined by their subjective norms, green atmosphere, green publicity, and green product. Generally, Students have a basic

understanding of green consumption, but the specific content of the green consumption is insufficient. Based on the results of this study, we make the following suggestions.

First, green consumption policy is not only the guideline to guide people's rational consumption, but also an important guarantee to promote the standardization of green consumption. Several issues should be further considered. First, standardized green product certification systems should be established. Second, the policy makers expand the promotion of green consumption concepts through media channels such as television, the website, and other social media.

Second, green consumption is a kind of high-level consumption concept, which is highly related to environmental awareness and social responsibility. Several issues should be concerned. First, most college students find it difficult to identify markers such as the green product logo, which to a certain extent inhibit the green consumption of college students. Enterprise needs to pay attention to the development of green products, waste reduction, and product quality assurance to enhance corporate identity to encourage the college students. Second, the business model of green marketing should be developed to promote consumers' brand identification and competitive advantages.

Third, the results indicated that the levels of green consumption of college students are still needed to enhance. Several issues are suggested. First, arranging more green consumption programs/courses in the universities to change the attitude and cognition of college students on green consumption, thereby promoting college students' green consumption behavior. Second, to build a green campus, several green activities are suggested to conduct on campus. For example, green consumption knowledge quiz activities or garbage classification knowledge competitions to improve college students' green consumption awareness.

Finally, the development of family environmental protection education is of great significance to the concept of green development. In the era of green development, to create a green family, we need to cultivate the environmental ethics of each family member, continuously inherit the concept of environmental protection to the younger generation, and let students drive families.

VI. CONCLUSION

Contemporary college students are the main group in the future consumer market, and their consumption concept also affects the development prospect of China's future

society. Based on the theory of planned behavior, this paper integrates three new dimensions to enrich the relevant influencing factors of green consumption intention and to better promote the development of green education and green economy.

We note that an earlier conference version of this paper appeared in Huang et al. (2019). This manuscript provides additional information on the green development and suggestions on the development of green families.

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