

# Research on the Impact of Ecological Values on Chinese Consumers' Green Purchasing Intention

## -- The Mediating Role of Psychological Distance of Climate Change

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### Abstract

**At present, environmental problems are becoming increasingly prominent and the impact of climate change has worsened. How to shorten the psychological distance of climate change so as to stimulate consumers to adopt green consumption behaviors to mitigate climate change is one of the key points of research. Based on the construal level theory (CLT) and value-belief-norm (VBN) theory, this paper uses climate change psychological distance as an intermediary variable to construct an intermediary model of the influence mechanism of ecological values on green purchasing intention. The Bootstrap method of centiles conducts an empirical analysis on 311 samples. Research results: (1) Ecological values have no direct influence on green purchasing intention; (2) The psychological distance of climate change has a significant mediating effect between ecological values and green purchasing intention. Based on the above research results, it is recommended to shorten the psychological distance of residents from climate change through multiple channels to stimulate consumers to adopt green consumption behaviors to alleviate environmental conditions.**

### Keywords

**Ecological Values; Psychological Distance of Climate Change; Green Purchasing Intention.**

### 1. Introduction

Realizing new progress in the construction of ecological civilization is one of the "new" goals for future social development in the 14th Five-Year Period proposed by the Fifth Plenary Session of the 19th Central Committee. Jiaozuo City is in the critical period of building an ecological civilization demonstration city in an all-round way and promoting green development. To advance the construction of Jiaozuo's ecological civilization, the active participation of the public is needed to promote the construction of ecological civilization with green consumption. Consumers' behavior and decision-making will be affected by individual values, and ecological values are considered to be an important factor in predicting individuals' implementation of green consumption behaviors[1, 2], According to the value-belief-behavior theory, ecological values can affect behavior by affecting individual perceptions related to the environment individuals who are guided by ecological values will pay more attention to information related to environmental protection and are willing to spend time and energy on solving environmental problems[1, 2]. It can be seen from the above analysis that psychological distance is an important psychological factor that affects green consumption behavior. Based on the above analysis, this article uses ecological values as the antecedent variable, psychological distance as the intermediary variable, and green purchasing intention the result variable, constructing an intermediary model. Taking the residents of Jiaozuo City, Henan

Province, China as the research object, this paper interprets the influence mechanism of ecological values on green purchasing intention from a new perspective. To enrich the research results in the field of green consumption, to provide new research ideas for future research, and to provide some enlightenment for promoting the green development of Jiaozuo City.

## 2. Research Hypothesis

### 2.1. Ecological Values and Green Purchasing Intention

Values can guide individual decision-making and behavior, and can explain and predict consumer behavior. Ecological value is the value directly related to the natural environment. It originated from the value-belief-norm theory proposed by scholar Stern. Individuals with ecological values care about the natural ecological environment on which humans depend [1]. Stern divides pro-environmental behaviors into four categories: non-radical environmentalism in the public sphere, radical environmentalism in the public sphere, environmentalism in the private sphere, and environmental protection initiatives aimed at government decisions. Environmentally-friendly behaviors in the private sector mainly include green travel, water and electricity conservation, and so on. Green buying is an environmentally friendly behavior in the private sector; Therefore, ecological values can affect consumers' green purchasing intention. In order to explore the relationship between ecological values and green purchasing intention, many scholars at home and abroad have carried out research on this. Price et al. conducted field research on populations in multiple cities in multiple regions of Australia and found that consumers' environmental values are positively correlated with ecological environmental behaviors [3]. Based on the above analysis, the following hypotheses are proposed.

H1: Ecological values have a positive impact on green purchasing intention.

### 2.2. The Mediating Effect of Psychological Distance of Climate Change

CLT shows that different psychological distances will cause people to have different psychological representations of things or events [4], thereby affecting people's decision-making and actions. Similarly, people may also have different attitudes to adopting pro-environmental behaviors to mitigate climate change according to the different psychological distances of climate change. Studies have found that there is a correlation between climate change psychological distance and pro-environmental behavior, although the research conclusions of many scholars are not consistent. Studies have shown that the psychological distance of climate change is related to pro-environmental behavior. For example, Jones et al., guided by CLT, demonstrated that proper design of climate change information can shorten the psychological distance and increase the public's attention to climate change and the intention to take mitigation actions. [5]. Based on this, the following hypothesis is proposed.

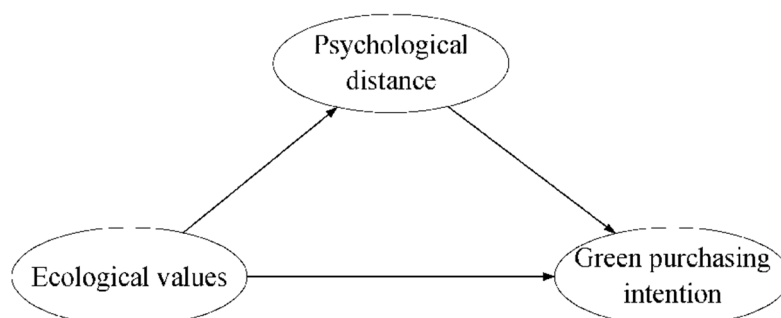


Figure 1. Research model

H2: The psychological distance of climate change plays a mediating role between ecological values and green purchasing intention.

In summary, the research model proposed in this paper is shown in Figure 1.

### 3. Variable Measurement and Data Collection

#### 3.1. Variable Measurement

This study uses questionnaires to measure ecological values, psychological distance, and green purchasing intention. There are 13 items in total. There are 3 items for measuring ecological values, refer to Stern’s scale [1]; There are 6 items for measuring the psychological distance of climate change, refer to the scale of Spence et al. [6]; There are 4 items for measuring green purchasing intention, refer to Lao’s scale [7]. In addition, basic demographic information such as gender, age, education background, average monthly income and occupation of the subjects were investigated. his article uses Likert’s 5-point scoring method, 1 means strongly disagree, 2 means disagree, 3 means uncertain, 4 means agree, and 5 means strongly agree. The source of the questionnaire items is shown in Table 1.

**Table 1.** Items for ecological values, psychological distance, and green purchasing intention.

Variable		Item	Source
Ecological values	EV1	Environmental pollution has caused very serious damage to the atmosphere.	Stern (1999) [1]
	EV2	The balance of the natural environment is gradually being disrupted and will become more and more serious.	
	EV3	Currently, we live on a planet where every moment there is a species that is extinct or endangered.	
Psychological distance	TD1	Climate change is hurting people around the world (reverse scoring).	Spence et al. (2012) [6]
	TD2	Future generations are more likely to feel the effects of climate change.	
	SpD1	My place of residence may be affected due to climate change (reverse scoring).	
	SpD2	Climate change will mainly affect areas far from here	
	SoD1	Climate change could have a significant impact on people like me (reverse scoring).	
	SoD2	Climate change will mainly affect developed countries.	
Green purchasing intention	GPI1	I am willing to collect and learn more information about fluorine-free inverter air conditioners.	Lao (2013) [7]
	GPI2	I would like to recommend my relatives and friends to buy CFC-free inverter air conditioners.	
	GPI3	I would like to introduce and recommend CFC-free inverter air conditioners to my family.	
	GPI4	If I need to buy an air conditioner, I will buy a CFC-free inverter air conditioner.	

#### 3.2. Data Collection

Due to long-term mining of coal mines in Jiaozuo City, environmental pollution is serious, and the current environmental situation cannot be ignored. Improving the green consumption awareness of Jiaozuo residents is crucial to promoting the green development of Jiaozuo and promoting the development of Jiaozuo’s ecological civilization. Therefore, this article selects residents of Jiaozuo City. As the subject of investigation. The survey adopted a combination of online and offline methods, relying on the questionnaire star platform online, and randomly

distributed questionnaires in large shopping malls, residential communities, etc. offline. A total of 398 questionnaires were issued, and a total of 311 valid questionnaires were collected. The efficiency is 78%. The structural characteristics of the sample are shown in Table 2.

**Table 2.** Sample structure characteristics

Variable	Category	Frequency	Percentage
Gender	Male	138	44%
	Female	173	56%
Age	20 years old and below	8	3%
	21–30 years old	94	30%
	31–40 years old	137	44%
	41–50 years old	52	17%
	51 years old and above	20	6%
Marital status	Unmarried	34	11%
	Married	46	15%
Have children	Yes	67	21%
	No	80	26%
Education level	Junior high school and below	84	27%
	High school, higher vocational or technical secondary school	55	18%
	Junior college	47	15%
	Undergraduate	94	30%
	Postgraduate and above	45	15%
Job occupation	Students	28	9%
	Institutions and institutions personnel	42	13%
	Corporate employees	76	24%
	Self-employed	102	33%
	Commercial and service workers	84	27%
	Other	25	8%
Average monthly income level	3000 RMB and below	24	8%
	3001–5000 RMB	151	29%
	5001–8000 RMB	109	21%
	8001–10000 RMB	30	6%
	10001RMB and above	35	7%

## 4. Data Analysis and Results

### 4.1. Measurement Model

In order to measure the proposed model, this study used SmartPLS 3.0 to test the reliability and validity based on the obtained data. As shown in Table 3, the standardized factor loadings of all observation indicators are greater than 0.5 and are significant ( $p < 0.001$ ), CR values are greater than 0.7, and AVE values are greater than 0.7, indicating that the scale has good convergence validity. As shown in Table 4, the square root of the AVE of each structure is greater than the correlation between the structure and all other structures in the model, showing sufficient discriminant validity.

### 4.2. Structural Model

In order to verify the structural model, a structural equation modeling (SEM) method based on SmartPLS 3.0 was used. As shown in Table 5, ecological values have no direct impact on

consumers' green purchasing intention (B=0.169, T=1.909, p=0.056), So H1 does not hold. Using the deviation-corrected percentile Bootstrap method, repeat sampling 5000 times, select a 95% confidence interval, and perform the mediation effect test. The results are shown in Table 6, the confidence interval of the path of ecological values to psychological distance to green purchasing intention is [0.059, 0.281], H2 is supported. That is, the more ecological consumers are, the closer they perceive the psychological distance of climate change, thereby enhancing consumers' green purchasing intention.

**Table 3.** Results of convergent validity analysis.

Paths	Factor loading	Cronbach's Alpha	AVE	CR
Ecological values→EV1	0.825	0.789	0.876	0.703
Ecological values→EV2	0.83			
Ecological values→EV3	0.859			
Green purchasing intention→GPI1	0.85	0.902	0.932	0.774
Green purchasing intention→GPI2	0.914			
Green purchasing intention→GPI3	0.907			
Green purchasing intention→GPI4	0.847			
Psychological distance→TD1	0.835	0.87	0.902	0.608
Psychological distance→TD2	0.781			
Psychological distance→SpD1	0.869			
Psychological distance→SpD2	0.619			
Psychological distance→SoD1	0.789			
Psychological distance→SoD2	0.763			

**Table 4.** Correlations among constructs and the square root of AVE

	Psychological distance	Ecological values	Green purchasing intention
Psychological distance	<b>0.78</b>		
Ecological values	-0.627	<b>0.838</b>	
Green purchasing intention	-0.375	0.338	<b>0.88</b>
M	4.273	4.273	4.117
SD	0.734	0.734	0.693

Note: Diagonal elements are the square root of AVEs.

**Table 5.** Path coefficient

Path	B	Standard Deviation	T	P
Psychological distance→Green purchasing intention	-0.269	0.086	3.139	**
Ecological values→Psychological distance	-0.627	0.041	15.452	***
Ecological values→Green purchasing intention	0.169	0.089	1.909	0.056

Note: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

**Table 6.** The mediating effect of psychological distance

	B	Standard Deviation	T	P	lower pound	upper pound
Ecological values→ Psychological distance→ Green purchasing intention	0.169	0.057	2.934	**	0.059	0.281

Note: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

## 5. Conclusion and Inspiration

### 5.1. Conclusion

Based on the CLT and VBN, this study explores the impact of ecological values and climate change psychological distance on consumers' green purchasing intention, and analyzes the mediating role of climate change psychological distance between ecological values and green purchasing intention. This article takes Jiaozuo, Henan Province, China. 311 resident consumers in the city are the research objects, and through empirical analysis, the following conclusions are drawn.

- (1) Ecological values have no direct impact on consumers' green purchasing intention.
- (2) The psychological distance of climate change acts as an intermediary between ecological values and green purchasing intention, indicating that consumers have good ecological values, which can shorten the psychological distance of climate change, thereby affecting their green consumption behavior tendency.

There are some shortcomings in this study. It did not measure the participants' uncertainty and doubts about climate change, and did not follow up the psychological factors analyzed in the research model. Follow-up research should comprehensively measure the participants' psychological distance from climate change and take longitudinal surveys to track the participants' psychological changes to climate change.

### 5.2. Research Inspiration

This research provides some enlightenment for improving consumers' green consumption behavior tendency and promoting the green development of Jiaozuo City. On the one hand, the government, experts, and the media should strengthen education on values, create a social atmosphere of "protecting the environment, everyone is responsible", and establish good ecological values for the public. On the other hand, they should jointly strengthen the publicity of climate change risks and the popularization of related knowledge. Emphasize that climate change is a risk related to self-interest at this time and place, and shorten the psychological distance of the public to stimulate consumers' green consumption behavior tendency.

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