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RECEIVED 23 October 2024

ACCEPTED 17 March 2025

PUBLISHED 04 April 2025

CITATION

Li Y and Shan B (2025) The influence mechanism of green advertising on consumers' purchase intention for organic foods: the mediating roles of green perceived value and green trust.
Front. Sustain. Food Syst. 9:1515792.
doi: 10.3389/fsufs.2025.1515792

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The influence mechanism of green advertising on consumers' purchase intention for organic foods: the mediating roles of green perceived value and green trust

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Background: In the context of increasingly prominent global environmental issues, green consumption has gradually become an important component of sustainable development strategies. However, the mechanism through which green advertising, as a key medium for conveying environmental protection concepts, influences organic food purchase intention has not been systematically explored. This study focuses on how green advertising influences organic food purchase intention through the psychological and behavioral processes of consumers.

Methods: Based on the Stimulus-Organism-Response (SOR) theory, this study constructs a relationship model between green advertising receptivity, green perceived value, green trust, and organic food purchase intention. Empirical data were collected through a questionnaire survey of Chinese consumers, and SPSS and AMOS software were used for data analysis to validate the applicability of the research model and test the hypotheses.

Results: A total of 447 valid samples were collected, and the measurement tools were found to be reliable and valid. The model fit indices indicated a good fit, adequately explaining the relationships between the variables. All research hypotheses received significant support, showing that green advertising receptivity has a significant direct effect on organic food purchase intention, as well as a significant indirect effect through green perceived value and green trust.

Conclusion: Green advertising receptivity influences consumers' purchase intention for organic food through the dual mediation mechanisms of green perceived value and green trust. This study provides theoretical support for the field of green advertising and consumer behavior and offers practical references for businesses to optimize green marketing strategies, enhance consumer trust, and foster value recognition.

KEYWORDS

green advertising receptivity, organic foods, purchase intention, green perceived value, green trust

1 Introduction

With the escalating global environmental issues such as climate change, resource depletion, and pollution, the challenges posed to human survival have become a serious threat. This situation has prompted consumers and businesses to reconsider traditional consumption patterns, leading to the rise of green consumption. Green consumption advocates the purchase of low-carbon, environmentally-friendly products to reduce environmental damage, thereby achieving sustainable development (Zhao et al., 2020). In this context, organic food, as a typical example of green consumption, has gained increasing popularity among consumers, as it avoids the use of harmful substances such as chemical pesticides and synthetic fertilizers during production (Chae et al., 2024). Purchasing organic food reflects not only a pursuit of a healthy lifestyle but also a commitment to environmental protection. However, despite the continuous expansion of the organic food market, consumers' purchase intentions are still constrained by various factors (Limbu et al., 2023; Eberle et al., 2022).

As a crucial component of green consumption, green advertising has gradually become an effective tool for encouraging consumers to purchase organic food (Liu and Liu, 1944). By promoting the environmental characteristics of products and the brand's environmental commitments, green advertising not only spreads green concepts but also influences consumers' purchasing decisions (Yang et al., 2022; Jaeger and Weber, 2020). However, the effectiveness of green advertising depends not only on the information transmitted but also on how consumers perceive and evaluate this information. Signaling theory and the Stimulus-Organism-Response (SOR) theory provide an important theoretical foundation for explaining consumer purchasing behavior in response to green advertisements. According to signaling theory, green advertising helps consumers perceive and evaluate products by conveying the environmental benefits of the products and the brand's environmental commitment. Upon receiving these signals, consumers process external information through cognitive and emotional responses, ultimately influencing their purchasing behavior. In this process, green perceived value and green trust are two key psychological factors. Green perceived value refers to the consumer's overall evaluation of the environmental benefits of the product, while green trust refers to the consumer's trust in the product's environmental attributes and the brand's environmental commitments. Existing research has shown that green advertising can effectively enhance consumer purchase intention by increasing their green perceived value (Higuera-Castillo et al., 2024; Bi et al., 2023). Moreover, green advertising can also further strengthen purchase behavior by enhancing consumers' green trust in the brand (Wei et al., 2017; de Sio et al., 2022). While green advertising contains various stimulating factors, green advertising receptivity, as the most important variable, directly influences how consumers understand and respond to the advertising information, thus determining the formation of green perceived value and green trust, and their ultimate impact on purchase intention (Wang and Li, 2022; Fu and Gao, 2023; Rahman and Nguyen-Viet, 2023). However, there is still a lack of research exploring how green advertising receptivity, green perceived value, and green trust jointly influence consumer purchase intentions, particularly in the organic food sector. This research gap limits our deep understanding of the mechanisms through which green advertising promotes purchase intention.

To explore the influence mechanism of green advertising receptivity on organic food purchase intention, this study constructs a research model based on the Stimulus-Organism-Response (S-O-R) theory. By systematically reviewing the literature and collecting empirical data through a questionnaire survey, we analyze its influence pathways and processes. The research results not only enrich the theoretical framework of green advertising and consumer behavior but also provide practical references for businesses in formulating green marketing strategies, particularly in enhancing consumer trust and value recognition through green advertising.

2 Theoretical analysis and research hypotheses

2.1 SOR theory

The Stimulus-Organism-Response (S-O-R) theory, first proposed by environmental psychologists, aims to explain how external environmental stimuli are transformed into behavioral responses through an individual's psychological state (Wu et al., 2022; Hewei, 2022). In consumer behavior research, S-O-R theory is commonly used to explain how external marketing stimuli influence consumer purchasing behavior through emotional and cognitive processes (Chan et al., 2017). According to this theory, the consumer behavior process can be divided into three key elements: stimulus, organism, and response. The stimulus (S) refers to external environmental factors or information inputs, such as advertisements, brand images, or promotional activities, which typically influence consumer perception and attitudes through visual, auditory, or other sensory inputs (Stadthanner et al., 2022; Mostafa and Kasamani, 2021; Gao et al., 2022). The organism (O) refers to the individual's internal psychological state or perception processes, including emotions, cognition, and evaluation (Kim et al., 2020). This stage reflects how consumers process and interpret external stimuli. The response (R) is the consumer's behavioral decision or action after receiving and processing the external stimuli, such as purchase intention (Lavuri et al., 2022). In this study, green advertising receptivity is considered an external stimulus, which activates the internal psychological processes of green perceived value and green trust, ultimately influencing the purchase intention of organic food (Nguyen-Viet and Nguyen, 2024).

2.2 Green advertising receptivity

According to signaling theory, consumers typically face information asymmetry in transactions and rely on external cues and signals to assess a product's value (Shahid et al., 2024). Green advertising, as an important medium for transmitting signals, communicates the environmental attributes of products (such as ecological protection, resource conservation, etc.) and the company's green commitments (Khandelwal and Singh, 2023). When consumers receive information transmitted through green advertising, they form corresponding perceptions and judgments based on these signals, thereby influencing their attitudes and purchase intentions toward green products (Dangelico and Vocalelli, 2017; Santa and Drews, 2023). In this process, green advertising receptivity, referring to the consumer's recognition and acceptance of

green advertisements, serves as a crucial starting point for subsequent psychological and behavioral responses (Bailey et al., 2016).

Existing research indicates that green advertising receptivity has a significant positive impact on consumer purchase intention (Sun et al., 2021; Shi and Jiang, 2023). When green advertisements emphasize the pollution-free production process of organic food and its contributions to the ecological environment, consumers are more likely to make positive purchase decisions after recognizing and accepting this information (More et al., 2022; Ahmed et al., 2023). Furthermore, green advertising receptivity not only directly promotes consumer purchase intention but also strengthens the purchasing intention for green products by enhancing consumers' green perceived value and green trust (Zhang et al., 2024; Zheng et al., 2022; Borah et al., 2024; Nguyen-Viet and Thanh, 2024).

Based on this analysis, the following hypotheses are proposed:

H1: Green advertising receptivity positively influences organic food purchase intention.

H2: Green advertising receptivity positively influences green perceived value.

H3: Green advertising receptivity positively influences green trust.

2.3 Green perceived value

Green perceived value refers to the comprehensive evaluation formed by consumers based on the environmental benefits of a product and their personal investment. This variable plays an important role in promoting green purchasing behavior (Chen, 2013). When consumers perceive a product as having significant environmental advantages, its green perceived value is significantly enhanced, directly increasing purchase intention (Chen and Chang, 2012; Wang, 2017). Thus, green perceived value is likely to have a promoting effect on organic food purchase intention as well (Woo and Kim, 2019; Cam, 2023; Ahmad and Zhang, 2020).

Additionally, green perceived value can influence consumers' green trust. Specifically, when consumers recognize a product's environmental benefits and its contributions to society and the environment, their trust in the product and brand increases (Román-Augusto et al., 2022). This indicates that a high level of green perceived value for organic food can increase green trust (Roh et al., 2022).

Based on this analysis, the following hypotheses are proposed:

H4: Green perceived value positively influences organic food purchase intention.

H5: Green perceived value positively influences green trust.

2.4 Green trust

Green trust refers to the consumer's trust in the environmental benefits of a product and the brand's fulfillment of its environmental commitments, which plays a key role in purchase decisions (Chen, 2013). According to the theory of trust transfer, consumers' trust in the environmental information conveyed through green advertisements naturally extends to the brand and product, thereby enhancing purchase intention. Particularly, when a brand emphasizes eco-friendly production and sustainable development principles, consumer trust in the brand's environmental claims significantly boosts purchase intention (Chen and Lee, 2015; Wasaya et al., 2021). Moreover, green trust can effectively reduce consumer uncertainty during the purchasing decision-making process, especially when facing higher-priced or complex organic products (Shah et al., 2023; Asif et al., 2023; Xu et al., 2022).

Based on this analysis, the following hypothesis is proposed:

H6: Green trust positively influences organic food purchase intention.

2.5 Research model

Based on the above theoretical analysis and research hypotheses, this study constructs a relationship model between green advertising receptivity, green perceived value, green trust, and organic food purchase intention, as shown in Figure 1. In this model, green advertising receptivity serves as the external stimulus (S), influencing green perceived value and green trust as mediating variables (O), which ultimately affect organic food purchase intention (R).

3 Research methodology

3.1 Data collection

This study employed a survey method to collect empirical data. Respondents were recruited through the widely used survey platform in

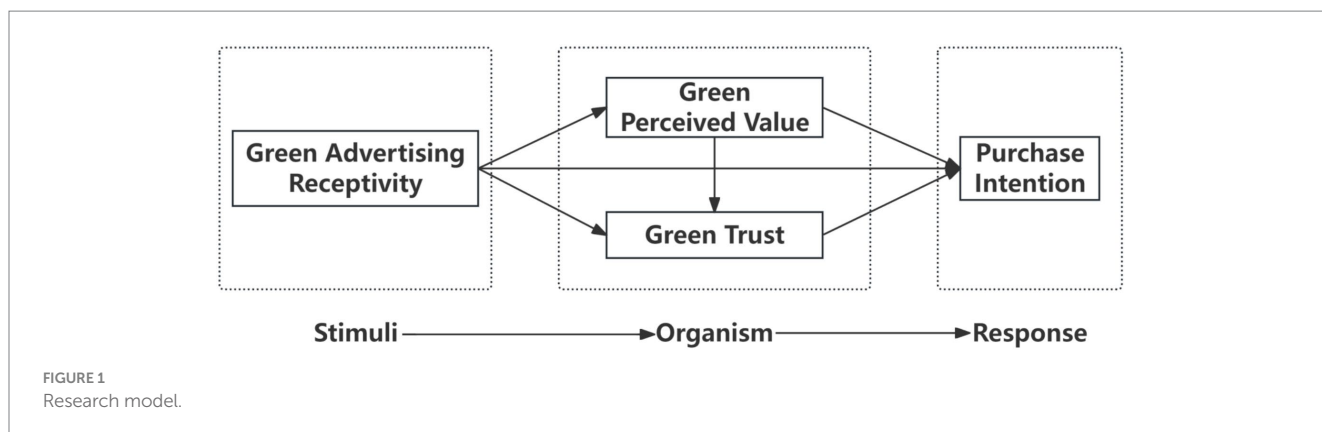


FIGURE 1 Research model.

China,¹ utilizing a random sampling method to ensure that the sample was representative and diverse. In the survey design, basic demographic information was collected, including gender, age, education level, occupation, and monthly income. Age groups were classified according to common social group standards, with respondents divided into the following age categories: 18–25 years, 26–35 years, 36–45 years, and 45 years and older. Additionally, to help respondents better understand the concepts of green advertising and organic food, a brief background introduction was included in the survey.

A total of 490 surveys were collected, of which 447 were valid, resulting in a valid response rate of 91.2%. Table 1 displays the demographic information of the respondents. The survey sample was predominantly composed of the younger and middle-aged groups, with 53.02% of respondents aged 26–35 and 23.49% aged 36–45. The education level of respondents was relatively high, with over 80% holding a bachelor's degree or higher. In terms of occupation, the highest proportion of respondents were company employees (57.94%), followed by managers (17.23%). Regarding income, 71.81% of respondents had a monthly income exceeding 5,000 RMB, indicating a significant participation rate from the middle-to-high-income groups in this survey.

3.2 Measurement items

The measured variables include green advertising receptivity, green perceived value, green trust, and purchase intention. To assess these variables, this study referenced well-established, validated scales from previously published literature and made appropriate adjustments based on the context of this research. The measurement items and their corresponding sources are detailed in Table 2. All items were rated using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to evaluate respondents' level of agreement with each statement.

4 Data analysis and results

4.1 Reliability and validity testing

To assess the reliability and validity of the measurement tools, reliability and validity tests were conducted. Table 3 presents the results of the standardized loadings, Cronbach's α , AVE, and CR. The Cronbach's α values for Green Advertising Receptivity (GAR), Green Perceived Value (GPV), Green Trust (GT), and Purchase Intention (PI) are all greater than 0.7, indicating good internal consistency and reliability for each latent variable. Furthermore, the results of the confirmatory factor analysis (CFA) show that the standardized factor loadings for all measurement items exceed 0.7, suggesting strong correlations between the measurement items and their respective latent variables. Additionally, the composite reliability (CR) for each latent variable is above 0.7, and the average variance extracted (AVE) exceeds 0.5, further confirming the convergent validity of the model.

Table 4 shows the square roots of the AVE values and the Pearson correlation coefficients between the variables. According to the Fornell-Larcker criterion, the square roots of the AVE values for all

TABLE 1 Demographic information.

Variable	Sort	Number	Percentage (%)
Gender	Male	188	42.06
	Female	259	57.94
Age	18–25	73	16.33
	26–35	237	53.02
	36–45	105	23.49
	>45	32	7.16
Educational level	High school and below	22	4.92
	Junior college	60	13.42
	Undergraduate	324	72.48
	Master's degree and above	41	9.17
Occupation	Student	49	10.96
	Teacher	17	3.80
	Public institution/Public servant	22	4.92
	Company employee	259	57.94
	Company manager	77	17.23
	Freelancer/Self-employed	15	3.36
	Other	8	1.79
	Monthly income	<3,000	55
	3,000–5,000	71	15.88
	5,000–8,000	142	31.77
	8,000–10,000	116	25.95
	>10,000	63	14.09

variables are greater than their Pearson correlation coefficients with other variables, indicating that the model demonstrates good discriminant validity. Furthermore, these results further validate the positive influence of Green Advertising Receptivity on Organic Food Purchase Intention through Green Perceived Value and Green Trust. Specifically, the Pearson correlation coefficient between Green Advertising Receptivity and Organic Food Purchase Intention is 0.672, between Green Perceived Value and Organic Food Purchase Intention is 0.708, and between Green Trust and Organic Food Purchase Intention is 0.679. These relatively high positive correlation coefficients indicate a strong association between the variables, supporting some of the research hypotheses.

This study also employed the Kruskal-Wallis test for non-parametric analysis of the rating data. We grouped the sample data into ranks based on values ranging from 1.0, 1.25, 1.5, 2.0, 2.25, 2.5, 2.75, 3.0, 3.25, 3.5, 3.75, 4.0, 4.25, 4.5, 4.75, to 5.0, and tested for median differences between the groups. The results of the test were used to assess the significance of differences between the variables. The findings, shown in Table 5, indicate significant median differences between Green Advertising Receptivity and Green Perceived Value, Green Trust, and Purchase Intention.

4.2 Structural model and hypothesis testing

The results of the Structural Equation Modeling (SEM) analysis indicate that the proposed model exhibits a good fit. Specifically, the

¹ <https://www.wjx.cn/>

TABLE 2 Measurement items and references.

Variables		Measurement Items	References
Green advertising receptivity	GAR1	I find green advertisements interesting.	Chen (2013)
	GAR2	I think green advertisements are innovative.	
	GAR3	I am attracted to green advertisements.	
	GAR4	I like green advertisements.	
Green perceived value	GPV1	The organic products featured in green advertisements are pollution-free.	Zheng et al. (2023), Confente et al. (2020)
	GPV2	The organic products featured in green advertisements are environmentally friendly.	
	GPV3	The organic products featured in green advertisements contribute to sustainable development.	
	GPV4	The organic products featured in green advertisements help improve the ecological environment.	
Green trust	GT1	I believe the organic products/brands in green advertisements are trustworthy.	Román-Augusto et al. (2022), Zhang et al. (2024)
	GT2	I consider the organic products/brands in green advertisements to be reliable.	
	GT3	I trust the organic products/brands in green advertisements to have a good reputation.	
	GT4	I believe the organic products/brands in green advertisements will fulfill their environmental promises.	
Purchase intention	PI1	I intend to purchase the organic products featured in green advertisements.	Sun et al. (2021)
	PI2	I am willing to buy the organic products featured in green advertisements.	
	PI3	I will prioritize purchasing the organic products featured in green advertisements.	
	PI4	I would recommend others to buy the organic products featured in green advertisements.	

TABLE 3 Standardized factor loadings, Cronbach’s α , AVE, and CR.

Variables		Standardized factor loadings	Cronbach’s α	AVE	CR
Green advertising receptivity	GAR1	0.783	0.854	0.596	0.855
	GAR2	0.760			
	GAR3	0.766			
	GAR4	0.780			
Green perceived value	GPV1	0.784	0.842	0.572	0.843
	GPV2	0.767			
	GPV3	0.744			
	GPV4	0.730			
Green trust	GT1	0.808	0.880	0.649	0.881
	GT2	0.816			
	GT3	0.821			
	GT4	0.776			
Purchase intention	PI1	0.795	0.868	0.626	0.870
	PI2	0.817			
	PI3	0.768			
	PI4	0.785			

chi-square/df ratio ($\chi^2/df = 2.220$) is below 3, indicating a good model fit; the RMSEA value of 0.052 is below the acceptable threshold of 0.10, suggesting a close fit between the model and the data; and the RMR value of 0.023, being less than 0.05, indicates small residuals and that the model accurately reflects the data. Additionally, other fit indices, including GFI = 0.944, AGFI = 0.922, CFI = 0.972, NFI = 0.950, and NNFI = 0.966, all exceed 0.9, further demonstrating the model’s high adaptability in explaining the relationships between the variables, thus validating the theoretical model’s appropriateness

and explanatory power. Table 6 presents the results of all hypothesis tests, showing that all hypotheses receive significant support.

The standardized regression coefficient for the impact of green advertising receptivity on purchase intention is 0.270 ($p < 0.01$), indicating that green advertising receptivity has a significant positive effect on organic food purchase intention. Additionally, the standardized regression coefficient for the effect of green advertising receptivity on green perceived value is 0.740 ($p < 0.01$), showing that green advertising receptivity also has a significant positive effect on

green perceived value. Moreover, the standardized regression coefficient for the effect of green advertising receptivity on green trust is 0.319 ($p < 0.01$), indicating a significant positive effect of green advertising receptivity on green trust.

The standardized regression coefficient for the effect of green perceived value on purchase intention is 0.429 ($p < 0.01$), showing that this path is significant, and green perceived value has a significant positive effect on organic food purchase intention. Furthermore, the standardized regression coefficient for the effect of green perceived value on green trust is 0.504 ($p < 0.01$), indicating a significant positive effect of green perceived value on green trust.

The standardized regression coefficient for the effect of green trust on purchase intention is 0.266 ($p < 0.01$), indicating that this path is significant. Therefore, green trust has a significant positive effect on organic food purchase intention.

TABLE 4 Pearson correlation and square root of AVE.

Variables	GAR	GPV	GT	PI
GAR	0.772			
GPV	0.630	0.757		
GT	0.605	0.640	0.805	
PI	0.672	0.708	0.679	0.791

TABLE 5 Kruskal-Wallis test statistic H value.

Variables	H-value	p-value
GAR vs. PI	164.421	0.000
GAR vs. GPV	133.065	0.000
GAR vs. GT	142.451	0.000
GPV vs. PI	182.613	0.000
GPV vs. GT	148.337	0.000
GT vs. PI	173.250	0.000

TABLE 6 Hypothesis testing results.

Path	Standardized regression coefficient	z (CR-Value)	p-value	Conclusion
GAR→PI	0.270	4.294	0.000	True
GAR→GPV	0.740	12.819	0.000	True
GAR→GT	0.319	4.488	0.000	True
GPV → PI	0.429	5.924	0.000	True
GPV → GT	0.504	6.799	0.000	True
GT → PI	0.266	4.330	0.000	True

TABLE 7 Mediation effect analysis results.

Path	Indirect effect value	p-value	95% CI		Conclusion
			Lower	Upper	
GAR→GPV → PI	0.335	0.000	0.227	0.372	Partial mediation
GAR→GT → PI	0.293	0.000	0.193	0.334	Partial mediation
GPV → GT → PI	0.269	0.000	0.177	0.316	Partial mediation

4.3 Mediation effect analysis

A percentile Bootstrap method with 5,000 resamples was used to analyze the mediation effects. The results, as shown in Table 7, indicate that green perceived value plays a significant mediating role in the relationship between green advertising receptivity and purchase intention. Specifically, the indirect effect of green perceived value on the path from green advertising receptivity to purchase intention is 0.335 ($p < 0.01$), with a 95% confidence interval of [0.227, 0.372], confirming that this mediation effect is significant.

Furthermore, green trust also plays a significant mediating role in the relationship between green advertising receptivity and organic food purchase intention. The indirect effect of green trust in this path is 0.293 ($p < 0.01$), with a 95% confidence interval of [0.193, 0.334], further supporting the hypothesis that green advertising receptivity enhances purchase intention through green trust.

Additionally, green trust also serves as a significant mediator between green perceived value and purchase intention. The indirect effect of green trust on this path is 0.269 ($p < 0.01$), with a 95% confidence interval of [0.177, 0.316], indicating that green trust plays an important mediating role between green perceived value and purchase intention.

5 Conclusion

5.1 Key findings and discussion

This study reveals the mechanism through which green advertising receptivity affects organic food purchase intention. The results show that green advertising receptivity significantly influences consumer purchase intention through the dual mediation mechanism of green perceived value and green trust. Specifically, the findings are as follows:

Direct effect of green advertising receptivity on purchase intention: Green advertising receptivity has a significant positive impact on organic food purchase intention, indicating that consumers' high receptivity to green advertising can directly enhance their purchase intention. This finding supports the hypothesis that green advertising plays a positive role in consumer purchase decision-making.

Mediating role of green perceived value and green trust: The study further reveals that both green perceived value and green trust serve as significant mediators between green advertising receptivity and purchase intention. Specifically, green advertising enhances consumers' perceived value and trust in green products, further driving an increase in their purchase intention.

Impact of green perceived value on green trust and purchase intention: Green perceived value not only directly influences purchase intention but also enhances green trust, further promoting purchase intention. Green perceived value increases consumers' trust in the brand

or product, thus facilitating their purchase decisions. This suggests that consumers' recognition of the environmental value conveyed by green advertising can significantly strengthen their trust in the brand.

Role of the dual mediation mechanism: Overall, green advertising receptivity influences consumer purchasing behavior through the dual mediation mechanism of green perceived value and green trust. The synergistic effect of this mechanism significantly enhances consumers' positive purchase intention toward organic foods. This finding provides theoretical support for designing green advertising strategies for companies, indicating that by enhancing consumers' green perceived value and green trust, companies can effectively promote consumer purchasing decisions.

5.2 Research significance

This study provides new theoretical contributions to the field of green advertising. First, based on the S-O-R theory, the study systematically analyzes the influence of green advertising receptivity, green perceived value, green trust, and organic food purchase intention, revealing the complex pathways through which green advertising influences consumer behavior. Second, the study verifies the dual mediation effect of green perceived value and green trust in the relationship between green advertising receptivity and purchase intention, offering practical references for companies to develop more effective green marketing strategies. Companies can enhance consumer receptivity to green advertising by strengthening the environmental information in ads, increasing consumer green perceived value and green trust, and thus effectively stimulating consumer purchase behavior. This study has significant practical implications for advancing the organic food market and promoting sustainable consumption behavior.

5.3 Limitations and future research directions

Although this study reveals the impact mechanism of green advertising receptivity on organic food purchase intention, there are still some limitations. First, the sample data is primarily from China, which may be influenced by cultural background. Future research could expand the sample to include consumers from other countries or regions to test the generalizability and cross-cultural applicability of the results. Additionally, this study relied on cross-sectional data, which does not account for the temporal and spatial variation in purchase intention. In the real world, consumers' purchase intentions may change over time, influenced by external factors at different time points (e.g., seasonal changes, economic conditions) and regional characteristics. Future research could explore the temporal and spatial variation in purchase intention using longitudinal data or comparative studies across time points and examine its dynamic relationship with green advertising receptivity. Future studies could also further explore other potential influencing factors, such as consumers' environmental awareness and moral perceptions, which may complement or moderate the relationship between green advertising and purchase intention, thereby enriching and refining the research framework on the influence mechanism of green advertising.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

Ethical approval was not required for the studies involving humans because this study collected data solely through anonymous consumer questionnaires and did not involve any personal sensitive information or intervention experiments. There was no risk or harm to the participants. According to local regulations and relevant ethical guidelines, this study did not require ethical approval. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

YL: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. BS: Investigation, Supervision, Writing – review & editing.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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