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TOWARD SUSTAINABLE AGRITOURISM: HOW SOCIAL RESPONSIBILITY SHAPES TOURIST CITIZENSHIP BEHAVIOR

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Abstract: Agritourism has increasingly emerged as an important form of sustainable tourism due to its economic, social, cultural, and environmental contributions to rural communities. Despite the growing attention to sustainable tourism, limited research has examined how destination social responsibility encourages tourists to engage in voluntary behaviors that support destinations, particularly in agritourism settings. In addition, previous studies have provided limited understanding of the psychological and contextual mechanisms through which destination social responsibility influences responsible tourist behavior. To address these gaps, the study develops and tests an integrated framework based on the stimulus–organism–response framework and signaling theory to explain the psychological and social mechanisms through which destination social responsibility influences responsible tourist behavior. Using partial least squares structural equation modeling on a sample of 424 tourists at agritourism destinations in Vietnam, we find that perceived destination social responsibility strongly and positively predicts tourist citizenship behavior. Meanwhile, tourist-destination congruence and place attachment serve as partial mediators. Furthermore, destination reputation positively moderates the relationship between perceived destination social responsibility and tourist citizenship behavior. This study contributes to the sustainable tourism literature by clarifying the cognitive, emotional, and signaling processes underlying responsible tourist behavior in agritourism settings. The findings also provide practical implications for destination managers seeking to develop culturally aligned and reputation-enhancing strategies to foster sustainable agritourism development.

Keywords: destination social responsibility, tourist citizenship behavior, agritourism, tourist–destination congruence, place attachment, destination reputation

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INTRODUCTION

In recent years, agritourism has served as an important model of sustainable tourism since it brings economic, social, and environmental values to rural communities. Agritourism not only offers visitors opportunities to experience agricultural production activities, local culture, and natural landscapes, but also promotes rural development through income diversification, heritage preservation, and environmental protection (Leong et al., 2021). The rising demand for local cultural experiences and responsible tourist experiences has strengthened the attractiveness of agritourism in many countries, particularly those with strong agricultural advantages such as Vietnam (Arru et al., 2021; Siregar et al., 2024).

In Vietnam, the development of agritourism has accelerated in the context of rural economies transitioning toward more sustainable growth models. Vietnam has a long history of wet-rice cultivation and is characterized by diverse ecosystems. Rural areas remain home to a substantial proportion of the population, accounting for 61.4% in 2025 (National statistics Office, 2026). These facts create favorable conditions for the diversification of agritourism products, including farm-based experiential tourism, agri-ecotourism, craft-village tourism, and agri-produce tourism. The growing interest of tourists in experiencing local and agricultural culture has increased the strategic role of agritourism within Vietnam's national tourism development agenda (Nguyen & Nguyen, 2025). However, agritourism development also faces numerous challenges, such as weak value-chain linkages, limitations in destination governance, environmental risks, and inconsistencies in sustainable tourism policies across rural regions (Hussain et al., 2023; Quang et al., 2024). Therefore, fostering sustainable practices in agritourism is a critical mission to mitigate unfavorable influences and ensure long-term sustainable development (Mason et al., 2023). Among all related stakeholders, tourists are considered a central entity in the process of creating value and sustainable development for agritourism. Based on that, tourist citizenship behavior (TCB) has been demonstrated as a

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critical factor contributing to service quality maintenance, environmental protection, community support, and the enhancement of destination image (Abror et al., 2025). TCB refers to voluntary behaviors that extend beyond tourists' ordinary consumption roles, such as assisting employees and other visitors, sharing positive information, complying with regulations, and protecting local resources (Abror et al., 2025). TCB represents a form of value co-creation in which tourists actively enhance destination experiences and sustainability through voluntary activities (Lusch & Vargo, 2014).

Thus, identifying the antecedents that foster TCB has become a central focus in destination management research over the past decade (Hwang & Lyu, 2020). Prior studies have largely focused on investigating TCB in contexts such as coastal tourism, restaurants, cultural tourism, sports, and theme parks (e.g. Limonta et al., 2024; J. Yang et al., 2025).

The research on TCB within agritourism remains extremely limited. The agritourism context differs substantially from conventional tourism settings. It is because agritourism has close interaction between visitors and farmers, and the high level of participation in production activities, and it strongly depends on natural environments (Barbieri et al., 2019). These unique characteristics suggest that findings from prior TCB studies in other tourism domains cannot be directly applied to agritourism without appropriate contextual adaptation. At the same time, the agritourism settings emphasize the roles of all related stakeholders in taking responsibility for destination sustainability.

With the requirement of collective responses of all related members in agritourism, the concept of destination social responsibility (DSR) becomes a suitable framework for explaining TCB. DSR reflects the collective efforts of destination stakeholders to protect the environment, support local communities, and maintain governance transparency and salient values of the destinations (Su & Swanson, 2017).

Given its highly interactive nature and dependence on the natural environment, the responsible behavior of stakeholders in agritourism shapes the perceptions of norms and ethical values among tourists. These perceptions, in turn, can motivate tourists to respond with voluntary and responsible actions, such as compliance with rules, environmental protection, and support for local communities, which constitute core dimensions of TCB. Despite this theoretical relevance, empirical evidence on the effect of perceived DSR on TCB in agritourism remains scarce. Moreover, key mediating and moderating factors specific to agritourism—such as value congruence between tourists and destinations, place attachment, and destination reputation—have largely been overlooked in existing TCB models, even though their importance has been well established in eco-tourism and community-based tourism contexts. These factors are particularly salient in agritourism, as farming-related experiences often elicit authentic emotions and strong personal connections with the destination.

Building upon the above discussion, this study aims to examine how DSR affects TCB within the agritourism context. Drawing on the stimulus-organism-response theory (S-O-R) (Mehrabian & Russell, 1974), we propose that perceived DSR (environmental stimulus) may have indirect impacts on TCB (behavioral response) via the mediating roles of tourist–destination congruence and place attachment (tourists' internal cognitive-affective states). In addition, based on signaling theory (Spence, 1978), we contend that the strength of the effect of perceived DSR on TCB depends on tourist's perceptions of destination reputation which shape how tourists interpret DSR initiatives. Strong destination reputation may enhance the reliability and efficiency of DSR in promoting tourists' TCB, meanwhile low reputation may lead to skepticism about DSR initiatives. By doing so, this study provides valuable insights into this under-researched area regarding the mechanisms through which perceived DSR influences TCB in the context of agritourism.

THEORETICAL FOUNDATION AND HYPOTHESES

In order to explain how DSR shapes TCB, this research draws on the S-O-R framework and signaling theory to explore how the internal psychological mechanism and contextual conditions under which DSR translates into TCB.

Stimulus-organism-response theory

The S-O-R theory proposed by Mehrabian & Russell (1974) explains how environmental stimuli (S) are processed through individuals' internal cognitive-affective states (O), which subsequently lead to specific behavioral responses (R). In tourism research, this framework has been widely applied to interpret how destination attributes, experiential quality, and social cues influence tourists' perceptions and behaviors (e.g. Tang et al., 2023; Vuong et al., 2025; Wang et al., 2025). In the tourism context, DSR functions as a salient stimulus that strongly shapes tourists' evaluations of the destination. When tourists perceive the destination's social responsibility efforts, they tend to develop favorable internal states such as destination congruence and place attachment, representing the organism component, which in turn promotes TCB.

Signaling theory

Signaling theory explains how an actor behaves in the context of information asymmetry (Spence, 1978). This theory indicates that one party can send strategic signals to deliver information about its quality, capabilities, or level of commitment when this party has superior information compared to another. However, the effectiveness of such signals depends on the cost of signaling and the degree of credibility that receivers attribute to the signal (Spence, 1978). Further, Connelly et al. (2011) stressed that the effectiveness of signals largely depends on how receivers interpret them and evaluate their credibility. In the tourism context, DSR is considered a strategic signals that reflect the commitment of a destination to sustainable development (Su et al., 2020). However, tourists often do not have adequate information about the actual motives and implementation capacity of destinations; thus, they rely on available signals to evaluate and respond. In this situation, a positive reputation helps a destination improve perceived credibility and perceived authenticity of DSR initiatives among tourists, which enables them to believe that a destination has a genuine commitment to sustainable development rather than merely engaging in symbolic actions (Zhang et al., 2022).

Perceived DSR and tourist–destination congruence

Tourist–destination congruence refers to the extent to which tourists perceive that a destination aligns with their self-image, personal values, or lifestyle (Sirgy & Su, 2000). Prior studies show that many tourists, particularly those with a high sense of ethics and social responsibility, are increasingly seeking destinations that share their values (Tasci, 2018). When tourists perceive a destination as having clear social responsibility, they are more likely to feel that the destination reflects their self-concept and own values (Garcia de los Salmones et al., 2025). This alignment promotes a sense of congruence and identification with the destination. According to the S-O-R framework, DSR functions as an external stimulus that promotes an internal evaluative response (Organism). One of the salient organisms is the perceived congruence between tourists and the destination. When tourists recognize that the destination behaves responsibly, they develop a sense of fit, comfort, and readiness to engage more deeply with the destination. Thus, DSR not only enhances the overall destination image but also facilitates the process of self-congruence, whereby tourists perceive that the destination reflects or aligns with their personal values. Therefore, the following hypothesis is proposed:

H1. Perceived DSR positively affects tourist–destination congruence.

Perceived DSR and place attachment

Prior studies also indicate that DSR plays a crucial role in shaping tourists' attachment (Karatepe et al., 2024; Liu et al., 2025). While tourist-destination congruence reflects the degree of matching between destination and personal images (Guo et al., 2024); place attachment demonstrates a deeper emotional bond that tourists have with a particular destination (Ramkissoon et al., 2013). This attachment is developed through meaningful experience and interaction with the destination (Ramkissoon et al., 2013). When a destination acts responsibly, its actions contribute to improving the alignment of values and ethical orientation between tourists and destinations. The alignment not only creates a cognitive sense of fit between tourists and destination values, but also gradually transforms into tourists' affective attachment to the destination (Ramkissoon et al., 2013). Within the S-O-R framework, DSR plays a role as an external stimulus that triggers emotional and cognitive responses, among which place attachment represents a key internal reaction. DSR initiatives communicate strong signals of integrity, trustworthiness, and ethical responsibility, thereby enhancing tourists' psychological safety and affective evaluations of the destination (Hassan & Soliman, 2021). They are also more likely to perceive the destination as worthy of long-term connection, which in turn fosters stronger place attachment (Ramkissoon et al., 2013). Accordingly, the following hypothesis is proposed:

H2. Perceived DSR positively affects place attachment.

Perceived DSR and TCB

DSR involves destinations' actions and commitments to pursue sustainable development goals, such as environmental protection, supporting for local communities, ensuring social quality, and enhancing local living standards (Su & Huang, 2018). DSR is considered as a salient representation of the ethics in destination management, contributing to building positive and reliable destinations in the eyes of tourists. Thus, when tourists perceive that the destination is acting responsibly, they do not only feel satisfied with their experiences but also develop positive reactions (Su et al., 2020). One such reaction is TCB, which includes voluntary behaviors such as helping other tourists, protecting the environment, recommending the destination to others, or offering suggestions to improve services (Liu et al., 2024). Regarding the S-O-R theory (Mehrabian & Russell, 1974), the DSR activities serve as external stimulus, affecting internal perceptions and feelings. When tourists feel a sense of respect, fairness, and social security, they develop positive psychological states, which in turn promote voluntary behavioral responses, such as TCB. Although internal psychological states play a significant role in explaining tourists' reactions, DSR can also be interpreted by tourists as a clear normative signal that directly triggers voluntary responses without necessarily going through a complex cognitive evaluation process. Accordingly, this study proposes the following hypothesis:

H3. Perceived DSR directly positively affects TCB.

Tourist–destination congruence and TCB

Tourist-destination congruence reflects the extent to which tourists perceive the alignment between the destination and their own personal preferences and identities (Sirgy & Su, 2000). When tourists perceive a high level of congruence, they tend to experience stronger positive emotions, such as high satisfaction, and greater psychological commitment to the destination (Prayag et al., 2022). These emotions not only affect tourists' experience but also trigger extra-role behaviors such as providing constructive feedback, assisting others, and complying with destination norms (Garcia de los Salmones et al., 2025; Guo et al., 2024). According to the S-O-R framework (Mehrabian & Russell, 1974) tourist–destination congruence is considered an organism state, which reflects comfort, alignment, and a sense of belonging that occurs during the interaction with the destination. When tourists perceive a destination as aligned with who they are, they tend to maintain the alignment by actively supporting and enhancing the image and experience quality offered by the destination. The internal organism fosters positive voluntary behaviors, which are reflected by TCB, such as environmental protection, positive word-of-mouth, and cooperation with destination managers. Accordingly, the following hypothesis is proposed:

H4. Tourist–destination congruence positively affects TCB.

Place attachment and TCB

Within the S-O-R framework, place attachment operates as a key psychological state through which destination-related stimuli are transformed into behavioral responses. Place attachment reflects the extent to which tourists identify with the destination and perceive both emotional and functional value in it. As this attachment strengthens, tourists are more likely

to move beyond their basic consumption role and engage in voluntary, supportive behaviors such as protecting the environment, sharing positive information, and assisting local residents. Recent empirical evidence (Ramkissoon et al., 2013) also confirms that place attachment serves as a strong antecedent of co-creative behaviors and various forms of tourist citizenship behavior. Accordingly, place attachment represents a central psychological driver fostering TCB. Therefore, the following hypothesis is proposed:

H5. Place attachment positively affects TCB.

The mediating role of tourist-destination congruence and place attachment

According to the S-O-R framework, DSR functions as a stimulus, which affects internal psychological responses before resulting in behavioral responses. Specifically, DSR can trigger two important psychological states, including tourist-destination congruence and place attachment. Although both mediators operate within the organism component of the S-O-R framework, they represent different internal processes. Tourist–destination congruence reflects cognitive self-consistency based on value alignment (Sirgy & Su, 2000), whereas place attachment indicates affective bonding on the basis of emotional connection (Ramkissoon et al., 2013). These internal psychological states, in turn, form the foundation for positive behavioral responses, such as TCB. Importantly, these mediating mechanisms are theoretically independent of the direct effect of DSR on TCB. While DSR may directly signal normative expectations that encourage responsible conduct, congruence and attachment explain how internal cognitive and emotional transformations further strengthen tourists' voluntary citizenship behaviors. Therefore, the following hypothesis is proposed:

H6a. Place attachment partially mediates the relationship between perceived DSR and TCB.

H6b. Tourist-destination congruence partially mediates the relationship between perceived DSR and TCB.

The moderating role of destination reputation

Destination reputation reflects the extent to which tourists trust, value, and acknowledge the overall credibility of a destination based on word-of-mouth information, media images, and accumulated experiences (Su et al., 2020). A positive reputation is often viewed as a signal that helps tourists to quickly assess the trustworthiness and legitimacy of destination management practices (Zhang et al., 2022). When a destination possesses a strong reputation, information related to DSR is received with higher credibility, thereby fostering tourists' positive psychological responses.

According to signalling theory (Spence, 1978), a strong reputation enhances the perceived credibility and perceived authenticity of DSR initiatives, leading tourists to believe that the destination is genuinely committed to sustainable development rather than merely engaging in symbolic actions. This, in turn, strengthens the effectiveness of DSR in eliciting behavioral responses, such as TCB. Conversely, a low reputation weakens the positive effects of DSR on TCB because tourists may suspect the destination's motives (Johnson & Grayson, 2005; Su et al., 2020). They might think the destination is engaging in responsible behavior for the sake of enhancing its image rather than taking genuine action (Vuong et al., 2025). Therefore, destination reputation can play an important moderating role that strengthens or weakens the influence of DSR on TCB by shaping the perceived credibility and persuasiveness of social responsibility signals. Based on this reasoning, the following hypothesis is proposed:

H7. Destination reputation positively moderates the relationship between perceived DSR and TCB

Based on the above hypotheses, the conceptual research model is proposed as shown in Figure 1.

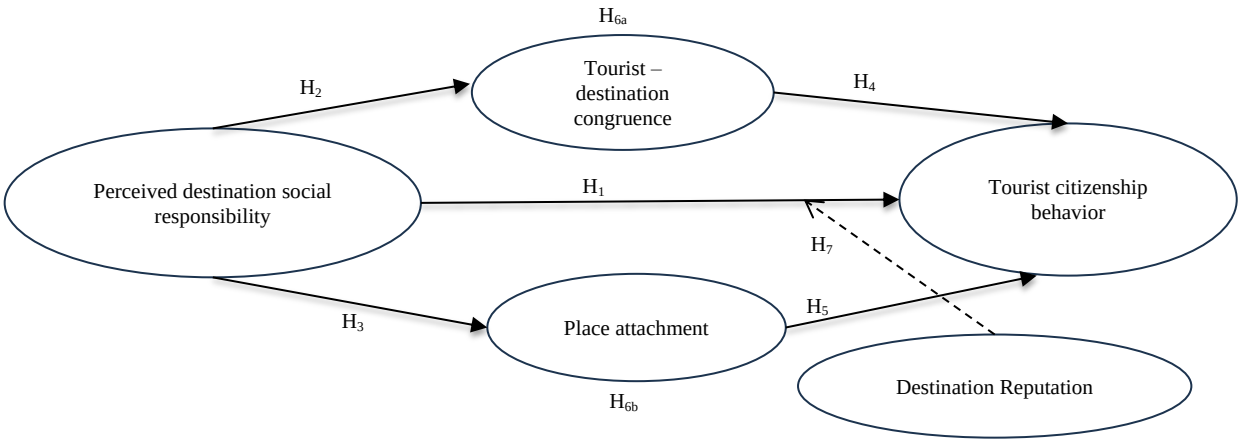

Figure 1. The research model

MATERIALS AND METHODS

Sample and procedure

The research was conducted in Dong Thap Province, Vietnam. It is selected because it is one of the regions with the most dynamic development of agritourism, characterized by activities associated with farming practices, ecological landscapes, local culture, and community-based tourism models. In recent years, Dong Thap has actively promoted sustainable rural tourism development through experiential farming activities, lotus-based tourism products, and community participation initiatives, making it an appropriate context for examining tourists' perceptions and behaviors in agritourism settings.

Sample description

Data were collected through a self-administered questionnaire survey. The questionnaires were distributed to tourists immediately after they had finished their visit or while they were resting in common areas, ensuring that respondents had sufficient experience to evaluate DSR, their level of congruence with and attachment to the destination, and their own citizenship behavior. We employed a convenience sampling method. The total number of items was 21, indicating that the sample size of 424 respondents was appropriate for further analysis based on the 10-times rule and the statistical power recommendations proposed by Hair et al. (2019). We received a total of 463 responses; however, we removed 39 questionnaires due to missing values (24 cases) and unreliable responses detected via reversed questions (15 cases).

Table 1. Respondents' profiles

	Categories	N	%
Gender	Male	182	42.9
	Female	242	57.1
Age	From 18 to 30 years old	142	33.5
	From 31 to 45 years old	76	17.9
	From 46 to 60 years old	113	26.7
	Over 60 years old	93	21.9
Educational attainment	High school	103	24.3
	Vocational or college-level degrees	119	28.1
	Graduate or postgraduate degrees	202	47.6
Types of tourists	International visitors	115	27.1
	Domestic visitors	309	72.9

Within the final sample of 424 respondents, 42.9% were male, and 57.1% were female (Table 1 and Figure 2). The sample covers a wide range of age groups, with 33.5% aged 18–30, 17.9% aged 31–45, 26.7% aged 46–60, and 21.9% aged 60 and above. Regarding educational attainment, 24.3% completed high school, 28.1% held vocational or college-level degrees, 47.6% held a graduate or postgraduate degree. In addition, the sample includes 27.1% international visitors and 72.9% domestic visitors.

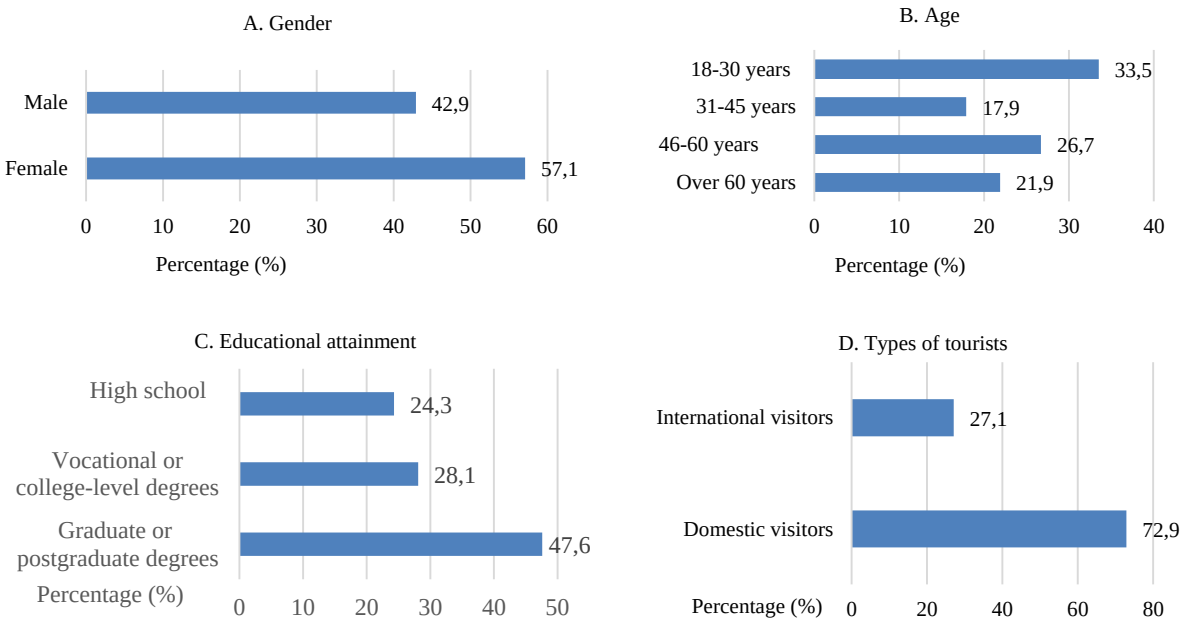

Figure 2. Respondents' demographic profiles

Measures

Regarding the measurement instruments, all constructs in the research model were measured using scales adapted from prior studies. The DSR scale, adapted from Su & Swanson (2017), consists of 5 items. The tourist–destination congruence scale, based on Garcia de los Salmones et al. (2025), includes 4 items. The place attachment scale, adapted from Liu et al. (2024), comprises 4 items. The destination reputation scale, adapted from Nguyen & Nguyen (2023), consists of 4 items. The measure of TCB had 5 items adapted from Shafiee et al. (2020).

All the above items were assessed using a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree". We also included control variables, including tourists' age, gender (male = 0 and female = 1), educational attainment, and tourist type (domestic tourists = 1 and international tourists = 0). Before conducting the main survey, six experts reviewed the questionnaire to ensure its suitability for the agritourism context in Vietnam. Based on their feedback, we refined the questionnaire and then conducted a pilot study with 5 tourists to receive comments on the clarity of the questions. Finally, we revised the items that were unclear and ambiguous to respondents.

RESULTS

Data analysis

The partial least squares structural equation modelling (PLS-SEM) technique was adopted because it is well-suited for complex models involving mediating variables, prediction-oriented objectives, and datasets that do not require normal distribution assumptions. In addition, PLS-SEM is appropriate for studies with moderate sample sizes (Hair et al., 2019). Regarding data analysis, the analytical procedure consisted of two steps: (1) assessment of the measurement model, including reliability (Cronbach's alpha and composite reliability), convergent validity (AVE), and discriminant validity (HTMT); and (2) assessment of the structural model, including path coefficients, explanatory power (R^2), out-of-sample predictive relevance (Q^2_predict), and mediation testing using the bootstrapping technique with 5,000 resamples.

Common method bias

Since the data were collected using a self-administered questionnaire from a single source, the potential risk of common method bias (CMB) may influence the relationships among variables. Therefore, this research employed both procedural and statistical remedies to minimize CMB. Prior to data collection, several procedural techniques were implemented, such as emphasizing respondent anonymity and confidentiality, clarifying that there were no right or wrong answers, and incorporating reverse-coded items in the questionnaire.

After data collection, statistical approaches were applied, including Harman's Single-Factor Test and the assessment of variance inflation factors (VIF) in the PLS-SEM model (Kock, 2015). The findings indicated that five factors had eigenvalues higher than 1.0, while the single factor explained only 41.92% of the total variance. Second, following the full collinearity assessment approach of Kock (2015), the results showed that all VIFs were less than 3.33. Therefore, both tests showed that common method variance is unlikely to threaten the validity of the study's findings.

Assessment of the measurement model

The study initially evaluated the measurement model of all constructs, and Table 2 presents the key indicators. The results show that all outer loadings were above the minimum threshold of 0.70, ranging from 0.745 to 0.885, except for indicator PA4. The analysis revealed that PA4 exhibited an outer loading below the acceptable level, reaching only 0.675 (< 0.708). This may be because the content of PA4 overlapped with PA2 or was not perceived consistently by respondents. Therefore, PA4 was removed to enhance the convergent reliability and validity of the scale.

Additionally, all measurement scales satisfied the recommended reliability and convergent validity thresholds in PLS-SEM. The Cronbach's alpha and composite reliability (CR) values of all constructs exceeded 0.70, indicating strong internal consistency. The convergent validity of the model was also ensured through the AVE values of the constructs, all of which exceeded the threshold of 0.50 recommended by Fornell & Larcker (1981). This indicates that each construct explains more than 50% of the variance of its associated indicators, reflecting strong convergent validity. Discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT). The results show that all HTMT values were below the threshold of 0.85, confirming that the constructs are well differentiated and free from conceptual overlap (Table 3).

Table 2. Results of the measurement model (Notes: DSR: Perceived destination social responsibility; PA: Place attachment; DR: Destination reputation; TCB: Tourist citizenship behaviour; TDC: Tourist-destination congruence)

Variables	Outer loadings	Cronbach's alpha	CR (rho_a)	CR (rho_c)	AVE	VIF
DSR		0.869	0.869	0.905	0.655	
DSR1	0.813					2.010
DSR2	0.803					1.905
DSR3	0.795					1.854
DSR4	0.816					1.994
DSR5	0.822					1.997
PA		0.750	0.769	0.857	0.667	
PA1	0.745					1.383
PA2	0.823					1.557
PA3	0.877					1.755
DR		0.899	0.909	0.929	0.767	
DR1	0.884					2.595
DR2	0.885					2.953
DR3	0.867					2.891
DR4	0.867					2.650
TCB		0.868	0.871	0.905	0.656	
TCB1	0.810					2.249
TCB2	0.782					1.801
TCB3	0.767					1.705
TCB4	0.806					2.146
TCB5	0.880					2.988
TDC		0.830	0.830	0.887	0.662	
TDC1	0.827					2.419
TDC2	0.824					2.407
TDC3	0.783					1.856
TDC4	0.819					2.016

Table 3. Heterotrait-monotrait ratio (HTMT) (Notes: DSR: Perceived destination social responsibility; PA: Place attachment; DR: Destination reputation; TCB: Tourist citizenship behavior; TDC: Tourist-destination congruence)

Factors	DSR	PA	REP	TCB	Factors	DSR	PA	REP	TCB
PA	0.736				TCB	0.848	0.836	0.441	
DR	0.643	0.338			TDC	0.734	0.806	0.412	0.796

Structural model assessment

Table 2 shows that all VIF values of the observed indicators were below the threshold of 3.0; therefore, multicollinearity did not bias the path estimates (Hair et al., 2019). Table 4 indicates that the proposed model demonstrated a satisfactory explanatory power for the dependent constructs (Hair et al., 2019). Specifically, R^2 adjusted ranged from 0.388 to 0.476, indicating moderate to substantial explanatory levels, consistent with predictive behavioral models in the tourism context. In addition, all out-of-sample predictive relevance values (Q^2 predict) ranged from 0.353 to 0.385 (greater than the critical ratio of zero), confirming the high-quality predictive performance of the model.

Table 4. R^2 and Q^2 predict value
(Notes: PA: Place attachment; TCB: Tourist citizenship behavior; TDC: Tourist-destination congruence)

Factors	R^2 (Original sample)	R^2 adjusted (Original sample)	Q^2_predict
PA	0.476	0.473	0.353
TCB	0.678	0.674	0.550
TDC	0.389	0.388	0.385

Hypothesis testing

Table 5 indicates that all proposed hypotheses were supported with strong statistical significance ($p < 0.001$). Specifically, DSR was significantly positively related to tourist–destination congruence ($\beta = 0.624$, $t = 17.237$, $p < 0.001$), supporting H1. DSR also positively influenced place attachment ($\beta = 0.598$, $t = 18.104$, $p < 0.001$), supporting H2. In addition, DSR had a direct and positive effect on TCB ($\beta = 0.280$, $t = 5.296$, $p < 0.001$), supporting H3. The analysis further confirms the effect of tourist–destination congruence on TCB ($\beta = 0.452$, $t = 7.480$, $p < 0.001$); thus, H4 was supported. Similarly, place attachment positively impacted TCB ($\beta = 0.289$, $t = 7.480$, $p < 0.001$), indicating that H5 was supported.

Table 5. Hypothesis testing results (Notes: DSR: Perceived destination social responsibility; PA: Place attachment; DR: Destination reputation; TCB: Tourist citizenship behavior; TDC: Tourist-destination congruence.

Paths	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Decision
DSR → TDC	0.624	0.626	0.036	17.237	0.000	H1: Supported
DSR → PA	0.598	0.599	0.033	18.104	0.000	H2: Supported
DSR → TCB	0.280	0.282	0.053	5.296	0.000	H3: Supported
TDC → TCB	0.452	0.449	0.053	8.445	0.000	H4: Supported
PA → TCB	0.289	0.289	0.039	7.480	0.000	H5: Supported
DSR →TDC → TCB	0.175	0.177	0.037	4.699	0.000	H6a: Supported
DSR → PA → TCB	0.173	0.173	0.026	6.550	0.000	H6b: Supported
DR x DSR → TCB	0.102	0.101	0.031	3.283	0.001	H7: Supported
Control variables						
Age → TCB	0.081	0.080	0.032	2.510	0.012	
Gender → TCB	-0.075	-0.076	0.056	1.329	0.184	
Education attainment → TCB	0.022	0.024	0.032	0.691	0.490	
Types of tourists → TCB	-0.257	-0.256	0.066	3.868	0.000	

The bootstrapping analysis indicates that both proposed mediation mechanisms in the model are strongly supported with high statistical significance. Specifically, DSR had a direct and positive effect on TCB ($\beta = 0.280$, $t = 5.296$, $p < 0.001$). Meanwhile, DSR significantly affected TCB via tourist-destination congruence ($\beta = 0.175$, $t = 4.699$, $p < 0.001$), supporting H6a. Similarly, DSR was also significantly related to TCB via place attachment ($\beta = 0.173$, $t = 6.550$, $p < 0.001$); thus, H6b was supported. Furthermore, the results also confirm the moderating role of destination reputation in the relationship between DSR and TCB ($\beta = 0.102$, $t = 3.283$, $p < 0.001$). This indicates that the positive effect of DSR on TCB became stronger when the destination possessed a high reputation. Figure 3 shows that all regression lines display an upward slope, indicating that DSR consistently exerts a positive effect on TCB; however, the magnitude of this effect varies substantially depending on the level of destination reputation. When destination reputation was high (+1 SD), the slope became steeper, suggesting that tourists at highly reputable destinations responded more strongly. Conversely, when destination reputation was low (–1 SD), the slope was noticeably flatter, demonstrating that the effect of DSR on TCB was considerably weaker.

Therefore, H7 was supported. Out of the four control variables, only age and types of tourists significantly affected TCB. Specifically, older visitors were associated with higher TCB ($\beta = 0.081$, $t = 2.510$, $p < 0.05$). International tourists also indicated higher TCB than domestic counterparts ($\beta = -0.257$, $t = 3.868$, $p < 0.001$). One possible explanation is that responsible behavior in agritourism settings may depend more on tourists' experiences and value perceptions than on demographic characteristics. Older tourists may possess stronger environmental awareness and a greater sense of social responsibility, while international tourists may be more motivated to respect local culture and support destination sustainability.

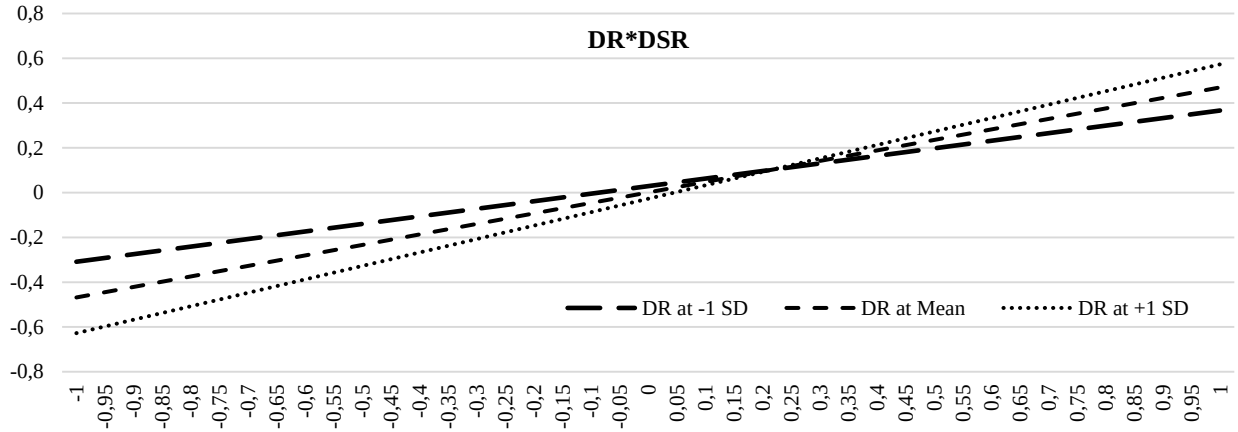

Figure 3. Simple slopes of DSR predicting TCB at different levels of destination reputation (DR)

DISCUSSION

This study contributes to the literature on sustainable tourism by developing and testing a research framework that integrates the S-O-R framework and signaling theory to explain how perceived DSR affects TCB. This integrated approach allows for the clarification of cognitive, emotional, and social signaling mechanisms involved in shaping responsible tourism behavior in the agritourism context.

First, this research adds new knowledge concerning the role of DSR in understanding tourists' behavior in the agritourism context. While prior research has primarily examined DSR in urban or heritage tourism destinations (e.g. Limonta et al., 2024; J. Yang et al., 2025; Y. Yang et al., 2025) empirical evidence from agritourism remains limited. Agritourism has distinctive features due to the close interaction between tourists, farmers and the natural environment; therefore tourists' responsible behavior becomes critically important for sustaining local ecosystems and community livelihoods (Barbieri et al., 2019). By confirming the positive significant impact of DSR on TCB in this context, the research provides empirical evidence that the social responsibility practices of destinations play an important governance mechanism encouraging tourists to voluntarily contribute to sustainable tourism development.

Second, the study extends the S-O-R framework to investigate the psychological mechanisms linking DSR and tourist behavior. Specifically, the results indicate that DSR influences TCB via tourist–destination congruence and place attachment. Consistent with the S-O-R perspective, DSR acts as an environmental stimulus that shapes tourists' internal cognitive and emotional states before translating into behavioral responses. By identifying both a cognitive pathway (tourist–destination congruence) and an affective pathway (place attachment), this study provides a deeper understanding of how socially responsible initiatives can stimulate citizenship behavior among tourists.

Finally, the study extends the literature by incorporating signaling theory into the DSR framework to explain the moderating role of destination reputation. According to signaling theory, in the context of information asymmetry, observable signals help individuals reason about the quality, credibility, or values of an entity (Su et al., 2020). In tourism settings, destination reputation functions as a symbolic signal that reflects credibility and social value to tourists (Su et al., 2020). The findings indicate that the positive effect of DSR on TCB becomes stronger when the destination is perceived as reputable. This suggests that destination reputation enhances the credibility of socially responsible initiatives and their behavioral impact.

This study also has several significant implications for the management of agritourism. First, the strong impact of DSR on TCB suggests that destination managers should prioritize the implementation of socially responsible practices. They should focus on preserving local culture, supporting farmers' livelihoods, and protecting the environment to enhance tourists' awareness and encourage them to participate in destination-supporting activities.

Second, the mediating role of tourist–destination congruence highlights the significance of designing tourism products and experiences that align with tourists' values and expectations. Authentic agritourism activities that reflect local agricultural lifestyles and traditions, combined with clear and accessible interpretation of farming practices and sustainability principles, can strengthen the perceived compatibility between tourists and destinations.

Third, place attachment is critical in promoting TCB in agritourism contexts. Thus, destination managers should develop interactive activities such as participating in farming tasks, farm stays, and community-based cultural experiences, which can foster emotional connections between visitors and destinations, thereby encouraging responsible behaviors among tourists.

Finally, the moderating effect of destination reputation suggests that maintaining a positive and credible destination image can strengthen the impact of DSR on TCB. Using social media to foster intrinsic DSR is one effective means of promoting voluntary behavior among tourists (Su et al., 2020).

CONCLUSION

Overall, this study demonstrates that perceived DSR plays a critical role in promoting TCB in agritourism settings through cognitive and emotional mechanisms. By integrating the S-O-R framework and signaling theory, the findings provide a more comprehensive understanding of how socially responsible destination practices encourage tourists to support sustainable tourism development. The study also highlights the importance of destination reputation in strengthening the effectiveness of DSR initiatives. These findings offer meaningful theoretical and practical insights for

developing sustainable and socially responsible agritourism destinations. More specifically, the findings indicate that perceived DSR both directly and indirectly influences TCB through tourist–destination congruence and place attachment. These results suggest that tourists are more willing to engage in TCB when they perceive that the destination shares their personal values and when they develop emotional connections with the destination.

Furthermore, the positive moderating effect of destination reputation indicates that DSR initiatives are more effective in promoting TCB when tourists have favorable perceptions of the destination's reputation. From a theoretical perspective, this study extends the application of the S-O-R framework to the agritourism context by demonstrating that tourists' cognitive evaluations and emotional attachment serve as two distinct mechanisms linking perceived DSR to TCB.

This finding provides a better understanding of how destination-level responsible practices can influence tourists' TCB. In addition, by incorporating signaling theory, the study highlights that the strength of the effect of DSR on TCB depends on destination reputation. Thus, the study provides a more comprehensive explanation of when and how DSR encourages TCB. From a practical perspective, the findings suggest that destination managers should not only focus on implementing socially responsible practices but also pay attention to how these practices are perceived by tourists. In agritourism destinations, protecting the natural environment, preserving local culture, and supporting farmers and local communities are important activities that can encourage tourists' TCB. In addition, providing authentic agricultural experiences and opportunities for tourists to interact with local communities may help strengthen their congruence with and attachment to the destination. Maintaining a positive destination reputation is also important for enhancing the effectiveness of these initiatives.

Limitations and Future Research

Despite offering several important insights, this study has certain limitations. First, the cross-sectional design of this study may limit the ability to interpret causal relationships among DSR, tourist–destination congruence, place attachment, and TCB. Longitudinal studies may capture changes in tourists' perceptions and behaviors over time. Second, because the sample was collected at agritourism destinations in Vietnam, future research should expand to diverse destination types and cross-cultural samples. Finally, the model accounts for only a limited set of mediating and moderating mechanisms; additional psychological or contextual factors—such as personal values or environmental norms—should be incorporated to enhance explanatory power.

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