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Research on the Impact of New Ecological Paradigm on Green Tourism Behavior Among Tourists in Hanoi City

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Abstract

This study analyzes the impact of New ecological paradigm on the Green tourism behavior already performed by tourists in Hanoi city, and also considers the role of Attitude toward Green tourism behavior, Personal norm and Perceived behavioral control. Data were collected from 207 tourists who had experienced Hanoi in the most recent six months and were analyzed by Cronbach's Alpha, EFA, CFA, structural equation modeling (SEM) and bootstrap with 5000 samples. The results show that New ecological paradigm has a positive effect on Personal norm and Attitude toward Green tourism behavior; Green tourism

behavior is positively affected by Personal norm, Perceived behavioral control and Attitude toward Green tourism behavior, in which Personal norm has the strongest effect. The total indirect effect of New ecological paradigm on behavior through Attitude toward Green tourism behavior and Personal norm is also statistically significant. The results confirm the role of ecological worldview, moral obligation and ability to perform in promoting green behavior, thereby suggesting implications for communication, service design and sustainable destination management in Hanoi.

Keywords: New Ecological Paradigm, Green Tourism Behavior, Personal Norm, Attitude Toward Green Tourism Behavior, Perceived Behavioral Control, Hanoi

1. General Introduction

Developing tourism in a green and sustainable direction is becoming an increasingly important requirement for destinations. However, the effectiveness of the green transition does not only depend on policies, infrastructure or business products, but also depends on specific behaviors of tourists, such as limiting single-use products, saving resources, protecting ecosystems and using means of transport that have less impact on the environment. This urgency is especially clear in Hanoi, a major tourism center that welcomed 27.86 million visitors and reached about VND 110.52 trillion in total tourism revenue in 2024. The large visitor scale both creates economic motivation and increases pressure on urban resources and the environment (Ministry of Culture, Sports and Tourism, 2025) ^[17]. In addition, Resolution No. 22/2025/NQ-HDND of Hanoi city has set a roadmap for reducing plastic emissions, including measures to restrict single-use plastic products at hotels, tourist areas and tourist attractions from 2026. Therefore, identifying the factors that promote Green tourism behavior among tourists has practical meaning for destination management and implementation of environmental policies in Hanoi.

From the theoretical perspective, New ecological paradigm (NEP) reflects an individual's worldview about the limits of growth, the fragility of natural balance and the dependent relationship between humans and the environment (Dunlap *et al.*, 2000) ^[7]. The theory of environmentally significant behavior argues that environmental protection behavior is not only influenced by factors close to behavior, such as Attitude toward Green tourism behavior, but is also formed from values, basic beliefs, moral norms, personal capacity and conditions for performing behavior (Stern, 2000) ^[21]. In the tourism field, Park *et al.* (2018) ^[19] also show that NEP has an important role in tourists' environmentally friendly decision-making process.

Nevertheless, the existence of a gap between Attitude toward Green tourism behavior and actual behavior shows that awareness or positive evaluation is not necessarily converted into action during a trip (Juvan & Dolnicar, 2014) ^[14]. Therefore, studies that focus only on intention may not fully explain Green tourism behavior already performed. Evidence about how a general ecological worldview is converted into specific behavior through Attitude toward Green tourism behavior and Personal norm, while also being influenced by Perceived behavioral control, still needs to be supplemented in the context of urban destinations in Vietnam. Research in Hanoi therefore both contributes to extending the application of NEP in tourism and

clarifies the cognitive, moral and ability-related mechanisms leading to tourists' green behavior.

From the above gap, this study aims to build and test a model of the impact of New ecological paradigm on the Green tourism behavior already performed by tourists in Hanoi. Specifically, the study tests the impact of NEP on behavior through Attitude toward Green tourism behavior and Personal norm; at the same time, it examines the direct effect of Perceived behavioral control on behavior. Based on the research results, implications are proposed to support destination management agencies and tourism enterprises in developing communication activities, designing services and creating favorable conditions for tourists to perform Green tourism behavior.

The study focuses on answering the following three questions:

- How does New ecological paradigm affect the Green tourism behavior already performed by tourists in Hanoi?
- Do Attitude toward Green tourism behavior and Personal norm play a mediating role in the relationship between New ecological paradigm and Green tourism behavior?
- How does Perceived behavioral control affect the Green tourism behavior already performed by tourists in Hanoi?

2. Literature Review

2.1 Research Overview

New ecological paradigm (NEP) is considered a worldview reflecting how individuals perceive the relationship between humans and nature, including the recognition of limits to growth, the fragility of natural balance, human dependence on ecosystems and the risk of ecological crisis. Therefore, NEP is not an external condition but a fundamental environmental belief system, which can guide how individuals evaluate and respond to environmental issues (Dunlap *et al.*, 2000) ^[7]. In tourism research, NEP has been used to explain tourists' environmentally friendly decision-making process, in which basic ecological beliefs may be converted into motivation and action tendency through psychological mechanisms closer to behavior (Park *et al.*, 2018) ^[19].

Studies on environmental behavior show that a positive ecological viewpoint does not always directly lead to action. According to Stern (2000) ^[21], environmentally significant behavior is affected at the same time by Attitude toward Green tourism behavior, personal capability, contextual conditions and habits. In the Value-Belief-Norm model, NEP is one link in the belief chain that leads to the formation of Personal norm, meaning the feeling of responsibility and moral obligation to protect the environment. Accordingly, Personal norm can promote environmentally friendly behavior through internal responsibility, guilt feeling or consistency with personal principles (Stern, 2000; Onwezen *et al.*, 2013) ^[21, 18].

Besides the moral mechanism, Attitude toward Green tourism behavior and Perceived behavioral control are important factors in explaining behavior. Attitude toward Green tourism behavior shows favorable or unfavorable evaluation toward performing green tourism behavior, while Perceived behavioral control reflects the degree to which tourists think they have enough ability, resources and autonomy to perform the behavior. According to Ajzen

(1991) ^[1], Perceived behavioral control can directly influence behavior when it relatively accurately reflects the level of actual control. The Attitude toward Green tourism behavior - Behavior - Context model also argues that Attitude toward Green tourism behavior can be converted into action only when implementation conditions do not create too large barriers (Guagnano *et al.*, 1995) ^[10].

However, a prominent issue in sustainable tourism research is the gap between Attitude toward Green tourism behavior, intention and behavior. Tourists may be aware of the environmental impact of tourism activities and express positive Attitude toward Green tourism behavior but still not perform the corresponding behaviors during the trip because of inconvenience, cost, habits or lack of control. Juvan and Dolnicar (2014) ^[14] point out that even individuals who actively protect the environment in daily life may still perform behaviors that create negative impacts when travelling. The systematic review of 331 studies by Li *et al.* (2024) ^[16] also clearly distinguishes intended behavior and performed behavior, and indicates imbalance and gaps in theoretical development about sustainable tourist behavior. Therefore, measuring only intention or willingness is not enough to conclude about tourists' green behavior.

In Vietnam, initial studies have applied TPB and extended models to explain green tourism choices. Do Hai Hung *et al.* (2024) ^[6] studied the decision to choose green tours using a student sample in Hanoi; La Nhu Hai and Do Dinh Thanh (2024) ^[15] surveyed young people in Ho Chi Minh City and focused on the intention to choose green tourism products. The study of La Nhu Hai and Do Dinh Thanh used Attitude toward Green tourism behavior, Personal norm and Perceived behavioral control to explain intention, with 84.3% of the sample in the 18–23 age group. This shows that some domestic evidence still focuses on students, young people and intended outcomes rather than specific environmental behaviors already performed during a trip.

Notably, Tran Thi Thu Thuy *et al.* (2025) ^[23] integrated TPB and VBN to study sustainable consumption behavior of domestic tourists in Vietnam. This model tests the chain from NEP to Personal norm, the direct impact of Personal norm on behavior, and the relationships from Attitude toward Green tourism behavior, Personal norm and Perceived behavioral control to behavior through intention. This is the closest study to the current model and shows that it is no longer possible to use the statement that the TPB - VBN combination or the direct impact of Personal norm on behavior has not been studied in Vietnam. However, this work still places intention as the central mechanism for TPB components and does not simultaneously test the two paths from NEP to Attitude toward Green tourism behavior to behavior and from NEP to Personal norm to behavior.

From the research overview, four main gaps can be identified. First, many domestic studies focus on intention or decision to choose green tourism, while evidence about green behaviors already performed in a specific trip is still limited. Second, the mechanism by which NEP is converted into behavior through two parallel paths, Attitude toward Green tourism behavior and Personal norm, has not been fully tested. Third, previous studies mainly consider Attitude toward Green tourism behavior and Perceived behavioral control as factors forming intention, and less often examine the direct effects of Attitude toward Green tourism behavior, Personal norm and behavioral control on performed behavior. Fourth, domestic evidence still focuses strongly on

students and young people, and has not fully reflected tourist groups at a specific urban destination.

From that, the study proposes to test the impact of NEP on Green tourism behavior through Attitude toward Green tourism behavior and Personal norm, while also considering Perceived behavioral control as a direct influencing factor. The contribution of the study lies in focusing on performed behavior, testing two mediating mechanisms at the same time, and placing the model in the context of actual tourists in Hanoi.

2.2 Theoretical foundation of the model

Theory of environmentally significant behavior: Stern's (2000) [21] theory of environmentally significant behavior is selected as the broad theoretical foundation for the study. According to this theory, environmental behavior is the combined result of Attitude toward Green tourism behavior, personal capability, contextual conditions and habits. Therefore, a positive ecological worldview does not necessarily change directly into behavior if the individual has not formed favorable evaluation, has not felt moral obligation, or lacks ability and conditions to perform it. On that basis, this study considers New ecological paradigm as a fundamental environmental belief orientation; Attitude toward Green tourism behavior and Personal norm as two psychological mechanisms converting belief into action; and Perceived behavioral control as a condition reflecting the ability to perform Green tourism behavior in the context of Hanoi destination.

Value-Belief-Norm theory (VBN) and Norm Activation Model (NAM): According to VBN, environmentally friendly behavior is formed through the chain of values, ecological worldview, awareness of consequences, ascription of responsibility, Personal norm and behavior. In this chain, New ecological paradigm reflects recognition of ecological limits, the fragility of nature and human dependence on ecosystems; thereby contributing to strengthening moral responsibility toward the environment (Stern *et al.*, 1999) [22]. NAM emphasizes Personal norm as the feeling of internal moral obligation, which can promote environmental protection behavior even when the behavior requires extra effort. The role of awareness, responsibility, norms and moral emotions such as pride and guilt has been clarified in studies by De Groot and Steg (2009) [5] and Onwezen *et al.* (2013) [18]. In this simplified model, the relationship from New ecological paradigm to Personal norm is considered a shortened form of the belief - norm chain in VBN.

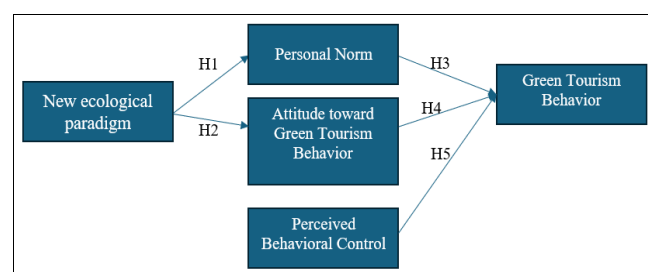
Cognitive mechanism among New ecological paradigm, Attitude toward Green tourism behavior and behavior: New ecological paradigm can affect behavior through Attitude toward Green tourism behavior. When tourists clearly recognize resource limits, the fragility of ecological balance and environmental consequences from human activities, they tend to evaluate Green tourism behavior as positive, useful and worth performing (Park *et al.*, 2018) [19]. Consistent with the Attitude toward Green tourism behavior - Behavior - Context approach, Attitude toward Green tourism behavior is seen as a mechanism converting ecological worldview into action under suitable implementation conditions. In addition, Perceived behavioral control reflects the extent to which tourists feel that they have enough ability, resources and autonomy to perform green behavior. According to Ajzen (1991) [1], this

factor can directly affect behavior when it relatively accurately reflects actual control ability; therefore, the higher the perceived control, the greater the possibility of performing Green tourism behavior.

From the above arguments, the proposed research model includes three mechanisms explaining green tourism behavior. First, the moral mechanism is shown through the chain New ecological paradigm - Personal norm - behavior. Second, the cognitive evaluation mechanism is shown through the chain New ecological paradigm - Attitude toward Green tourism behavior - behavior. Third, the mechanism of performance ability is reflected by the direct effect of Perceived behavioral control on behavior. Accordingly, the influence of New ecological paradigm on behavior is tested through two parallel mediating mechanisms: Personal norm and Attitude toward Green tourism behavior.

2.3 Research model and hypotheses

From the above arguments, the author proposes the research model in Fig 1 as follows:



Source: Proposed by the author

Fig 1: Proposed research model

Individuals with a strong New ecological paradigm often recognize ecological limits, oppose human domination over nature and clearly perceive the fragility of environmental balance. These beliefs create a basis for individuals to internalize responsibility for environmental protection into moral obligation. According to VBN, NEP is in the belief chain leading to activation of Personal norm; in the simplified model, this combined effect is represented by a direct path (Stern, 1999; De Groot and Steg, 2009 [5]). From that, the author proposes the following research hypothesis:

H1: New ecological paradigm has a positive effect on tourists' Personal norm.

When tourists recognize that resources are limited and human activities may damage ecosystems, they tend to evaluate tourism methods that reduce environmental impacts as good, useful and worth performing (Dunlap *et al.*, 2000) [7]. The inclusion of NEP in tourism behavior research has also been used by Park *et al.* (2018) [19] to clarify tourists' environmentally friendly decision-making process. From that, the author proposes the following research hypothesis:

H2: New ecological paradigm has a positive effect on tourists' Attitude toward Green tourism behavior.

Personal norm represents internal moral obligation and the feeling that individuals should act in a way consistent with their environmental principles. When this norm is strong, tourists tend to limit harmful behavior and perform green actions, even when those actions do not bring direct material benefits. NAM and extended studies (Onwezen *et al.*, 2013; Han, 2014) [18, 12] indicate that Personal norm, guilt feeling and moral emotions play an important role in

environmentally friendly behavior. From that, the author proposes the following research hypothesis:

H3: Personal norm has a positive effect on tourists' performed Green tourism behavior.

Favorable Attitude toward Green tourism behavior shows that individuals evaluate Green tourism behavior as good, beneficial, pleasant and worth performing. According to the Attitude toward Green tourism behavior - Behavior - Context model, when implementation conditions do not create excessive barriers, positive Attitude toward Green tourism behavior increases the possibility that behavior will occur (Guagnano *et al.*, 1995) ^[10]. In this study, Perceived behavioral control is included at the same time to reflect differences in performance ability among tourists. From that, the author proposes the following research hypothesis:

H4: Attitude toward Green tourism behavior has a positive effect on tourists' performed Green tourism behavior.

Tourists will be more likely to perform green behavior when they perceive the behavior as easy to perform, have enough information and resources, and the decision to act is mainly within their own control. Ajzen (2020) ^[3] argues that PBC can directly affect behavior when it relatively accurately reflects actual control ability. From that, the author proposes the following research hypothesis:

H5: Perceived behavioral control has a positive effect on tourists' performed Green tourism behavior.

3. Research Method

3.1 Measurement Scales

The measurement scales in the study are inherited from published studies and adjusted for the context of tourists in Hanoi city. New ecological paradigm is measured by 6 observed variables, developed from the Revised New Ecological Paradigm scale of Dunlap *et al.* (2000) ^[7], and also referring to its application in tourism by Park *et al.* (2018) ^[19]. Perceived behavioral control includes 4 observed variables, reflecting the level of ease, resources, ability and autonomy of tourists when performing green behavior, built according to the theory of planned behavior of Ajzen (1991) ^[1]. Personal norm is measured by 4 observed variables about responsibility, moral obligation, personal principles and guilt if not protecting the environment, adjusted from De Groot and Steg (2009) ^[5], Onwezen *et al.* (2013) ^[18] and Han (2014) ^[12]. Attitude toward Green tourism behavior includes 5 observed variables, showing tourists' evaluation of the extent to which green behavior is good, beneficial, pleasant and worth performing, based on Ajzen (1991, 2020) ^[1, 6] and Han and Kim (2010) ^[13]. Performed Green tourism behavior is measured by 7 observed variables belonging to the Ecological Behaviour component in the sustainable tourist behavior scale of Delgado-Cruz *et al.* (2025) ^[4]. These variables reflect limiting single-use plastic items, saving resources, protecting flora and fauna, using low-impact transport and disposing of waste correctly. The statements are adjusted so that respondents evaluate behaviors performed in their most recent trip to Hanoi. Before the official survey, the scale needs expert review and pilot survey to ensure clarity and suitability in content and research context.

3.2 Research Sample

After a period of survey implementation, the author group collected 207 valid responses. The research subjects had to meet several criteria such as being 18 years old or older,

being tourists who were taking a trip in Hanoi or had completed a trip in Hanoi in the most recent 6 months, and being able to understand and fully respond to the questionnaire content. Respondents were mainly approached at the end of the trip at hotels, accommodation facilities, railway stations, airports, bus stations, tourist attractions and tour-ending areas. Respondents evaluated behaviors already performed in that trip.

3.3 Analytical Method

Data were analyzed in two stages, including evaluation of the measurement model and testing of the structural model. First, Cronbach's Alpha and exploratory factor analysis EFA were used to screen observed variables, evaluate preliminary reliability and identify factor structure; then CFA was conducted to confirm the measurement model through fit indices such as χ^2/df , CFI, TLI and RMSEA (Hair *et al.*, 2019) ^[11]. Composite reliability was evaluated by CR, while convergent validity was considered through factor loading and AVE; CR from 0.70 and AVE from 0.50 or higher are considered appropriate (Fornell & Larcker, 1981) ^[9]. After the measurement model met the requirements, structural equation modeling SEM was used to assess model fit and test hypotheses about direct effects among variables. The mediating role of Attitude toward Green tourism behavior and Personal norm in the relationship between New ecological paradigm and Green tourism behavior was tested by bootstrap with 5000 repeated samples and 95% confidence interval; an indirect effect is significant when the confidence interval does not contain 0 (Preacher & Hayes, 2008) ^[20].

4. Results and Discussion

4.1 Results

4.1.1 Reliability analysis of the scales

The test results show that all scales have high reliability because Cronbach's Alpha coefficients of the variables are greater than 0.8, satisfying the reliability requirement of the scales. In addition, the item-total correlation coefficients of observed variables are all greater than 0.3, showing that the variables have suitable correlation with the overall scale. At the same time, Cronbach's Alpha does not increase significantly when any variable is removed, so all observed variables are retained for the next exploratory factor analysis EFA.

Results of exploratory factor analysis EFA: According to Field (2009) ^[8], a KMO value greater than 0.6 is considered suitable for factor analysis. The author conducted exploratory factor analysis for the variables in the model. The analysis results show that the indicators in each initial scale all converge to their original scale and the KMO coefficient is 0.951; Bartlett's test is statistically significant with $p < 0.001$, so the initial scale is suitable for further analyses.

4.1.2 Confirmatory factor analysis (CFA)

CFA was conducted to test the fit level of the measurement model with the market data. The results show that the model fit indices all reach the acceptable thresholds suggested in previous studies. At the same time, the observed variables all have factor loadings that meet the requirement, ensuring convergent validity. Besides, discriminant validity among the constructs is also confirmed, showing that the scales in the model can clearly distinguish among the research variables. The CFA results of the measurement model

presented in Table 1 show that all model fit indices meet the required thresholds.

Table 1: CFA analysis results

Index	Estimated value	Threshold	Assessment
CMIN/DF	1.108	From 1 to 3	Very good
CFI	0.993	>0.95	Very good
TLI	0.992	>0.90	Very good
RMSEA	0.023	<0.06	Very good
PCLOSE	1.000	>0.05	Very good

Source: Author group processed on AMOS software

In general, the indices evaluating the fit level of the measurement model all reach or exceed the standard thresholds recommended by Hair *et al.* (2012). Therefore, it can be concluded that the measurement model of the study is suitable with the collected data and is eligible for continuing the next analysis steps.

4.1.3 Testing reliability and validity of the scales

After confirming the fit of the measurement model, the study evaluates the reliability and validity of the scales to ensure the consistency and measurement ability of the variables.

Table 2: Results of reliability and validity testing of the scales

Variable	CR	AVE	MSV	MaxR(H)	NEP	Green tourism behavior	Attitude toward Green tourism behavior	Perceived behavioral control	Personal norm
NEP	0,961	0,806	0,453	0,962	0,898				
Green tourism behavior	0,934	0,669	0,453	0,934	0,673***	0,818			
Attitude toward Green tourism behavior	0,918	0,690	0,335	0,918	0,562***	0,567***	0,831		
Perceived behavioral control	0,904	0,701	0,317	0,908	0,401***	0,563***	0,295***	0,837	
Personal norm	0,916	0,733	0,416	0,924	0,622***	0,645***	0,579***	0,518***	0,856

Source: Author group processed on AMOS software

The results in Table 2 show that all scales have Composite Reliability (CR) values exceeding the threshold of 0.7, indicating that the composite reliability of the scales is ensured.

Regarding convergent validity, the factor loadings are all greater than 0.5 and the Average Variance Extracted (AVE) values all exceed the threshold of 0.5, showing that the observed variables can explain well the corresponding latent variables. At the same time, the test of discriminant validity also shows that the square root of AVE of each variable is greater than its correlation coefficients with other variables, confirming that the concepts in the model are clearly differentiated.

Thus, the scales in the study meet all criteria of reliability and validity, ensuring validity for the next analyses.

4.1.4 Testing hypotheses through structural equation modeling (SEM)

The study continues to test the research hypotheses through

the SEM model, shown in Fig 2 and the result table presented in Table 3.

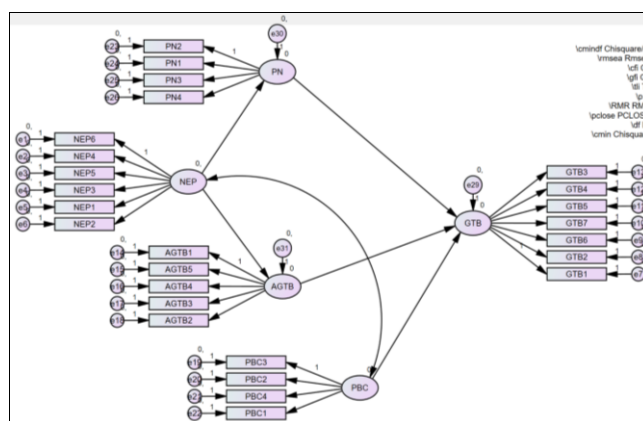


Fig 2: SEM analysis on AMOS

Table 3: Results of testing the relationships among variables in the model

Dependent variable	Relationship	Independent variable	Standardized β	B	S.E.	C.R.	p	Conclusion
Personal norm	←	NEP	0,643	0,519	0,052	9,914	<0,001	Accept hypothesis H1
Attitude toward Green tourism behavior	←	NEP	0,580	0,471	0,057	8,306	<0,001	Accept hypothesis H2
Green tourism behavior	←	Attitude toward Green tourism behavior	0,315	0,286	0,058	4,899	<0,001	Accept hypothesis H4
Green tourism behavior	←	PBC	0,334	0,312	0,058	5,403	<0,001	Accept hypothesis H5
Green tourism behavior	←	Personal norm	0,349	0,320	0,059	5,440	<0,001	Accept hypothesis H3

Source: Author group processed on AMOS software

SEM results show that the structural model fits the data: CMIN/DF = 1.313; CFI = 0.980; TLI = 0.978; RMSEA = 0.039 and PCLOSE = 0.962. All five hypothesized relationships are statistically significant at $p < 0.001$. NEP has a strong effect on Personal norm ($\beta = 0.643$) and Attitude toward Green tourism behavior ($\beta = 0.580$). For performed Green tourism behavior, Personal norm has the strongest effect ($\beta = 0.349$), followed by Perceived behavioral control ($\beta = 0.334$) and Attitude toward Green tourism behavior ($\beta = 0.315$); therefore, H1-H5 are all accepted. The model explains 41.3% of the variance of Personal norm, 33.6% of Attitude toward Green tourism behavior and 52.9% of Green tourism behavior.

Table 4: Results of testing mediating relationships

Relationship	Standardized indirect effect	CI 95% lower (BC)	CI 95% upper (BC)	p	Conclusion
NEP → Personal norm → Green tourism behavior	0,224	—	—	—	Separate indirect estimate
NEP → Attitude toward Green tourism behavior → Green tourism behavior	0,183	—	—	—	Separate indirect estimate
Total indirect effect of NEP on Green tourism behavior through two mediating variables	0,407	0,289	0,523	<0,001	Statistically significant

Source: Data processing results from AMOS

Bootstrap results with 5,000 samples show that the standardized total indirect effect of NEP on Green tourism behavior through Personal norm and Attitude toward Green tourism behavior reaches 0.407; the 95% bias-corrected confidence interval [0.289; 0.523] does not contain 0 and $p < 0.001$. Thus, the overall mediating mechanism is confirmed. In terms of point estimates, the path through Personal norm reaches 0.224 ($= 0.643 \times 0.349$), higher than the path through Attitude toward Green tourism behavior at 0.183 ($= 0.580 \times 0.315$), showing that the moral obligation mechanism contributes slightly more than the cognitive evaluation mechanism.

4.2 Discussion

The research results show that the model explains 52.9% of the variance of performed Green tourism behavior, thereby confirming that tourists' green behavior is formed simultaneously by the basic ecological worldview, moral obligation, evaluation of behavior and ability to perform. Among the three direct influencing factors, Personal norm has the strongest influence ($\beta = 0.349$), followed by Perceived behavioral control ($\beta = 0.334$) and Attitude toward Green tourism behavior ($\beta = 0.315$). The differences among the coefficients are not large, showing that no single mechanism is enough to explain behavior; moral, cognitive and control condition motivations need to be considered at the same time.

First, NEP has a positive and quite strong effect on Personal norm ($\beta = 0.643$) and Attitude toward Green tourism behavior ($\beta = 0.580$). This result reinforces the view of NEP

as a deeper belief: when tourists acknowledge ecological limits and the fragility of nature, they both form stronger moral obligation and evaluate Green tourism behavior as positive and worth performing. The result from NEP to Personal norm is similar to Tran *et al.* (2025) [23], when research on 549 domestic tourists in Vietnam recorded a positive effect of NEP on Personal norm ($\beta = 0.510$; $p < 0.001$). The result is also consistent with Park *et al.* (2018) [19], who showed that including NEP in the integrated VBN-NAM model contributes to improving the prediction of tourists' environmentally friendly decision-making process. Second, Personal norm is the strongest direct factor for green tourism behavior. This finding is similar to Tran *et al.* (2025) [23], in which Personal norm directly affects sustainable tourism consumption behavior ($\beta = 0.202$; $p < 0.001$), not necessarily through intention. Onwezen *et al.* (2013) [18] also confirm that anticipated moral emotions such as pride and guilt transmit the influence of Personal norm to environmentally friendly behavior. In the research context, this implies that feelings of responsibility, obligation and consistency with personal principles can encourage tourists to reduce single-use plastic, save resources and protect the environment right during the trip.

Third, Perceived behavioral control has a positive influence on behavior ($\beta = 0.334$), consistent with Ajzen's (1991) [1] argument that PBC can directly predict behavior when it relatively accurately reflects actual control ability. This result is also consistent with the additional analysis of Tran *et al.* (2025) [23], in which PBC directly affects sustainable consumption behavior ($\beta = 0.234$; $p < 0.001$). Thus, green behavior does not depend only on desire but also depends on whether tourists have information, resources and feasible choices. In Hanoi, the clarity of information on public transport, access to water refill points, trash bins, low-emission transport and services identified as green may determine the level of conversion from awareness into action.

Fourth, Attitude toward Green tourism behavior has a positive effect on behavior ($\beta = 0.315$), similar to the direct result of Attitude toward Green tourism behavior on sustainable consumption behavior in Tran *et al.* (2025) [23] ($\beta = 0.130$; $p < 0.001$). However, the finding of Juvan and Dolnicar (2014) [14] about the Attitude toward Green tourism behavior - behavior gap shows that positive evaluation is not always converted into action when tourists face inconvenience, cost or habits. In this study, the fact that Personal norm and PBC have coefficients equivalent to or higher than Attitude toward Green tourism behavior shows that to promote green behavior, communication about benefits alone is not enough; it is necessary to activate personal responsibility and reduce implementation barriers at the same time.

Finally, the total indirect effect of NEP through Personal norm and Attitude toward Green tourism behavior is statistically significant ($\beta = 0.407$; 95% CI [0.289; 0.523]). In terms of point estimates, the moral path through Personal norm (0.224) is slightly larger than the evaluation path through Attitude toward Green tourism behavior (0.183). This result clarifies that a general ecological worldview is converted into specific behavior when it becomes moral obligation or favorable evaluation toward the action. This is the main contribution of the study compared with models that mainly stop at intention: the model tests self-reported performed behavior of tourists and places two conversion

mechanisms of NEP in parallel in the same model.

In practice, the results suggest that destination management agencies and tourism enterprises should coordinate three solution groups. First, communication should connect environmental consequences with personal responsibility and specific behavioral norms, instead of only providing general information. Second, green choices need to be designed to be easy to recognize, easy to access and less inconvenient in order to improve Perceived behavioral control. Third, messages and service experiences need to emphasize the benefits, convenience and positive feelings of green behavior, thereby strengthening favorable Attitude toward Green tourism behavior and maintaining behavior throughout the trip.

5. Conclusion

The study tested the model of the impact of New ecological paradigm on the performed Green tourism behavior of 207 tourists in Hanoi. The EFA, CFA and SEM results show that the scales achieve reliability and validity, the structural model fits the data and explains 52.9% of the variance of behavior. NEP increases Personal norm and Attitude toward Green tourism behavior; at the same time, Personal norm, Perceived behavioral control and Attitude toward Green tourism behavior all promote green tourism behavior. The total indirect effect of NEP through the two mediating variables reaches 0.407 and is statistically significant, in which the point estimate of the path through Personal norm is slightly larger than the path through Attitude toward Green tourism behavior.

Theoretically, the study adds evidence that ecological worldview does not automatically become action but is specified through two mechanisms: moral obligation and favorable evaluation toward behavior. The fact that Personal norm is the strongest influencing factor shows that the moral dimension needs to be placed equally with rational evaluations when explaining green tourism behavior. At the same time, measuring self-reported performed behavior helps the study move closer to real action than models that stop only at intention.

Practically, Hanoi needs to combine communication that improves ecological worldview with measures that activate personal responsibility and create conditions for action. Destinations and enterprises can clearly arrange trash bins, water refill points, public transport guidance and signs identifying green services; at the same time, they can use messages emphasizing responsibility to protect the destination, specific benefits and the convenience of green choices. This approach helps shift from general appeals to designing a service environment that supports tourists to act. The study still has several limitations. Cross-sectional data and self-reported behavior do not allow strong confirmation of causal relationships and may be affected by social desirability bias. The sample includes 207 tourists at one destination, so generalizability remains limited. In addition, the AMOS output file currently provides bootstrap confidence intervals only for the total indirect effect, not allowing formal comparison of the two separate indirect effects. Future studies should use multi-wave design or behavioral observation data, expand to other destinations and declare separate estimands to directly test the difference between the two mediating mechanisms.

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