



The Relationship Between College Students' Tourism Risk Perception and Tourism Intention: The Moderating Role of Tourism Attitude—An Empirical Study Adapted to Sichuan's Tourism Characteristics

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Abstract. Following adjustments to COVID-19 prevention and control policies, local governments have issued measures to boost cultural tourism consumption, attract tourists, and drive regional economic growth. Sichuan Province has abundant cultural and natural tourism resources, which are a core advantage for the high-quality development of local tourism. All core variables in this study are revised and adapted to Sichuan's regional tourism characteristics, including Tourism Risk Perception (TRP), Tourism Attitude (TA), and Tourism Behavior Intention (TBI). Although the three variables are closely correlated, few studies have examined their underlying mechanisms in the Sichuan context. Based on a questionnaire survey of 1,624 college students (215 males, 1409 females), this study examines the relationships among TRP, TA, and TBI. The results show that: (1) TRP negatively and significantly predicts TBI; (2) TA positively and significantly predicts TBI; (3) TA serves a significant negative moderating role in the relationship between TRP and TBI ($\beta = -0.111$, $p < 0.001$); (4) economic risk is the most prominent concern for college students, who strongly demand exclusive preferential policies (e.g., discounted tickets, accommodation) to reduce travel costs, followed by safety risk demands. The model fits well ($R^2 = 0.617$, $F(7, 1616) = 372.589$, $p < 0.001$). These findings provide theoretical and empirical support for Sichuan's cultural and tourism authorities in developing the college student tourist market.

Keywords: Tourism Risk Perception ; Tourism Attitude; Tourism Behavior Intention

1 Introduction

In recent years, amid rapid social and economic development, public demand has shifted from single-material satisfaction to the combination of material and spiritual needs, and tourism has become a core way for citizens to meet spiritual and cultural needs. College students, at a critical life stage marked by freedom, curiosity, ample

time, and low life pressure, have a strong pursuit of spiritual fulfillment and represent an important segment of the domestic tourism market. Clarifying the internal mechanisms that influence college students' tourism behavior can provide a scientific basis for tourism policy-making and promote the high-quality development of regional tourism.

Tourism behavior is affected by multiple factors, among which Tourism Risk Perception (TRP) is a core determinant. Due to differences in climate, terrain, and cultural environments, tourists' TRP content and intensity vary by region. However, previous studies lack a specific analysis of destination characteristics, limiting the practical value of their conclusions. To fill this gap, this study takes Sichuan as the research context, integrates the Theory of Planned Behavior (TPB) and risk perception theory, and reveals the interactive mechanism of TRP, Tourism Attitude (TA), and Tourism Behavior Intention (TBI) based on Sichuan's tourism characteristics. All measurement scales in this study are adapted to Sichuan's regional features to ensure the applicability of empirical results.

1.1 TRP and TBI

TBI refers to an individual's subjective willingness and likelihood to travel to a specific destination. According to TPB [1], TBI is the core psychological variable directly determining behavior implementation, and enhancing TBI is critical to promoting actual travel.

Based on the risk perception theory, which holds that consumer purchase behavior is essentially a risk-taking behavior. Risk perception is an individual's subjective judgment of the uncertainty and potential negative consequences of outcomes, and it significantly predicts TBI. Subsequent tourism studies show that TRP is tourists' subjective evaluation of negative aspects of travel, influenced by psychological, cultural, and social factors. Research shows that higher TRP is associated with stronger avoidance of tourism behavior [2]. Domestic studies also verify that college students' TRP has a significant negative predictive effect on TBI. Thus, Hypothesis 1 is proposed: TRP negatively predicts TBI among college students.

1.2 TA and TBI

TA is defined as an individual's value judgment and emotional tendency toward tourism behavior. According to TPB [1], TA directly affects TBI, which, in turn, determines the likelihood of behavior implementation. Numerous studies have validated the causal relationship between TA and TBI [3]. Accordingly, Hypothesis 2 is proposed: TA positively predicts TBI among college students.

1.3 The Moderating Role of TA

The relationship among TRP, TA, and TBI is a core topic in tourism research. Previous studies mostly focused on the mediating role of TA. For example, Chen et al. (2023) found that TRP first affects TA, and high TRP levels induce negative TA, thereby

reducing TBI, suggesting that TA plays a mediating role [4]. However, TA focuses on perceived tourism benefits, while TRP focuses on negative outcomes; the two are parallel dimensions rather than a progressive mediating chain. When individuals hold a positive TA, the decline in TBI caused by TRP is significantly weakened. Thus, Hypothesis 3 is proposed: TA negatively moderates the relationship between TRP and TBI. To summarize, this study takes college students as respondents to explore the relationships among TRP, TA, and TBI. The hypothesized model is shown in Fig. 1.

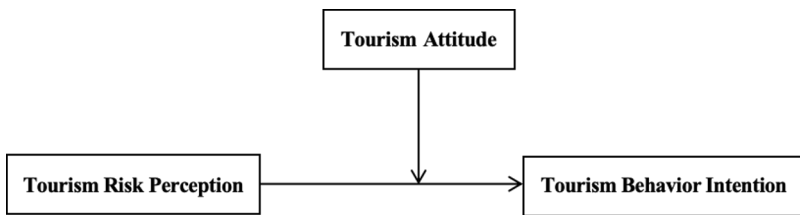


Fig. 1. Research Hypothesized Model.

2 Research Methods

2.1 Participants and Sampling

A random sampling method was adopted to recruit 1,640 undergraduate students. All participants provided informed consent and completed the questionnaire voluntarily. After excluding questionnaires with response times of less than 2 seconds for all items, 1,624 valid samples were retained, yielding an effective response rate of 99.02%. The sample comprised 215 males (13.2%) and 1409 females (86.8%).

2.2 Research Instruments

All scales in this study are adapted to Sichuan's tourism characteristics to ensure measurement validity.

Tourism Risk Perception (TRP) Questionnaire.

The questionnaire was developed in two stages: first, open-ended questions were used to collect college students' perceptions of tourism risks; then, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted to assess the scale's reliability and validity, which contains 11 items. A 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) was used, with total scores ranging from 11 to 55; higher scores indicate stronger TRP. The Cronbach's α was 0.960.

Tourism Behavior Intention (TBI) Questionnaire.

Adapted from Chen's (2024) TBI scale, this scale measures college students' travel intention. It contains 4 items. A 5-point Likert scale was used, with total scores ranging from 4 to 20; higher scores indicate greater TBI severity. The Cronbach's α was 0.922.

Tourism Attitude (TA) Questionnaire.

Adapted from Luo’s (2023) TA scale combined with Sichuan’s tourism features, this scale includes 5 items. A 5-point Likert scale was used, with total scores ranging from 5 to 25; higher scores reflect a more positive TA. The Cronbach’s α was 0.950.

Control Variables.

To eliminate confounding effects, gender, subjective social status (SES), subjective economic status (SSS), and Sichuan travel experience were included as control variables. Coding rules: male = 1, female = 2; SES and SSS were rated on a 1–10 scale (1 = lowest, 10 = highest); Sichuan travel experience: yes = 1, no = 2.

2.3 Data Analysis

Descriptive statistics, Pearson correlation analysis, and exploratory factor analysis were performed using SPSS 26.0. The PROCESS 4.1 macro (Model 1) was used to test TA’s moderating effect.

3 Results

3.1 Descriptive Statistics and Correlation Analysis

Table 1 presents the descriptive statistics and Pearson correlation results. The analysis indicates that TRP was not significantly correlated with TBI ($r = 0.007$, $p = 0.775$), suggesting no direct linear association between students’ perceptions of tourism risk and their intention to travel within this sample. In contrast, TRP was negatively correlated with TA ($r = -0.065$, $p < 0.001$), implying that higher perceptions of tourism risk are associated with less positive tourism attitudes among college students. Additionally, TA was strongly and positively correlated with TBI ($r = 0.770$, $p < 0.001$), highlighting that more positive attitudes toward tourism are closely linked to greater behavioral intentions to travel. Regarding the control variables, gender showed a positive correlation with both TA and TBI ($p < 0.001$), suggesting potential differences in attitudes and intentions between genders. SES and SSS also exhibited significant positive correlations with TA and TBI ($p < 0.001$), suggesting that higher perceived social and economic standing may enhance both tourism attitudes and intentions. Finally, college students with prior Sichuan travel experience reported higher TA, stronger TBI, and lower TRP ($p < 0.001$), underscoring the influence of prior experience on shaping attitudes, reducing perceived risks, and increasing the intention to travel.

Table 1. Descriptive Statistics and Pearson Correlations of Variables.

Variables	Mean	SD	1.	2.	3.	4.	5.	6.	7.
1.Gender	1.87	0.40	1	.006	.015	-.020	.030	.077**	.062**
2.SES	4.68	1.53		1	.847**	-.218**	-.010	.168**	.134**
3.SSS	4.65	1.58			1	-.207**	-.015	.152**	.126**
4.Sichuan Travel	1.45	0.50				1	.090**	-.190**	-.156**

Experience					
5.T_Risk Perception	2.92	0.90	1	.007	-.065**
6.T_Intention	3.78	0.81		1	.770**
7.T_Attitude	4.00	0.77			1

Note: * $p < 0.05$; ** $p < 0.001$, same below.

3.2 Moderating Effect Test

With TRP as the independent variable, TBI as the dependent variable, and TA as the moderator, the moderating effect was tested after controlling for covariates. The results were shown in Table 2, from which the following findings could be concluded: TRP positively predicted TBI ($B = 0.095$, $p < 0.001$); TA positively predicted TBI ($B = 0.790$, $p < 0.001$); The interaction term of TRP and TA negatively predicted TBI ($B = -0.111$, $p < 0.001$), confirming a significant negative moderating effect, which is shown in Figure 2. Among control variables, Sichuan travel experience negatively predicted TBI ($B = -0.108$, $p < 0.001$), indicating that students with travel experience had stronger TBI. The model fit was excellent ($R^2 = 0.617$, $F(7, 1616) = 372.589$, $p < 0.001$).

Table 2. Conditional Process Analysis Results.

Predict Variables	Independent Variable (TA)		
	<i>B</i>	<i>SE</i>	<i>p</i>
Constant	3.704	0.093	.000
TRP	0.095	0.015	.000
TA	0.790	0.017	.000
TRP * TA	-0.111	0.016	.000
Sex	-0.060	0.037	.107
SES	-0.020	0.015	.187
SSS	-0.005	0.015	.743
Sichuan Travel Experience	-0.108	0.026	.000
$R^2 = 0.617$, $F(7, 1616) = 372.589$			
$p < 0.001$			

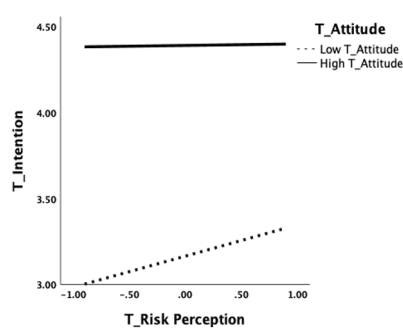


Fig. 2. Interaction Effect of TA and TRP on TBI. T_Attitude means tourism attitude (TA); T_Intention means tourism Behavior intention (TBI); T_Risk Perception means tourism risk perception (TRP). The figure plots TA at ± 1 standard deviation from the mean.

3.3 Simple Slope Analysis

To clarify the moderating pattern, conditional direct effects were calculated at low (Mean - 1SD), medium (Mean), and high (Mean + 1SD) levels of TA (Table 3). The predictive effect of TRP on TBI gradually weakened as TA became more positive: Low TA: $B = 0.181$, 95% CI [0.137, 0.225], $p < 0.001$; Medium TA: $B = 0.095$, 95% CI [0.066, 0.125], $p < 0.001$; High TA: $B = 0.009$, 95% CI [-0.021, 0.040], $p = 0.514$. When TA was highly positive, the predictive effect of TRP disappeared.

Table 3. Conditional Effects of TRP at Different Levels of TA

TA	Effect	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Mean-SD	0.181	0.022	8.058	.000	0.137	0.225
Mean	0.095	0.015	6.326	.000	0.066	0.125
Mean+SD	0.009	0.015	0.612	.514	-0.021	0.040

4 Discussion

4.1 Direct Effect of TRP on TBI

This study validates that TRP negatively predicts TBI, supporting Hypothesis 1. This result is consistent with previous research [5-7] and confirms the applicability of Risk Perception Theory in tourism contexts: higher destination TRP is associated with lower college students' TBI. For Sichuan's tourism management organizations, reducing risk concerns adapted to local characteristics is critical: first, timely release of meteorological and geological disaster early warnings to lower natural risk perception; second, launch unique discounts on tickets and accommodation for college students to alleviate economic risk concerns.

4.2 Direct Effect of TA on TBI

Hypothesis 2 is supported: TA positively predicts TBI, in accordance with previous findings [5][8]. More positive TA is associated with stronger TBI. College students' TAs are easily influenced by peer experiences, and those with Sichuan travel experience tend to have more positive TAs, as real experiences offset excessive TRP and highlight core local attractions. Peer-to-peer promotion (travel vlogs, experience sharing, campus lectures) can thus enhance positive TA among potential college student tourists.

4.3 Moderating Role of TA on the Relationship between TRP and TBI

This study finds a significant negative moderating effect of TA, supporting Hypothesis 3. When TA is highly positive, the negative effect of TRP is fully buffered. This differs from prior mediating-effect studies because TA (benefits) and TRP (costs) are parallel, not sequential, dimensions. Positive TA diminishes risk concerns more effectively than reducing TRP alone.

5 Implication and Limitations

5.1 Implications

Theoretical Implications.

This study deepens the application of the Theory of Planned Behavior (TPB) and Risk Perception Theory in regional tourism research and validates TA's moderating role in the Sichuan context. It further identifies a parallel dual-path mechanism shaping TBI: TRP is a negative predictor, while TA is both a positive predictor and a moderator, revising the single mediation view used in earlier studies. It also reveals the region-specific features of college students' TRP, showing that economic risk is the main concern for student travelers in Sichuan.

Practical Implications.

The results yield actionable, practical implications for developing Sichuan's college student tourism market. Targeted advice for relevant stakeholders is outlined below.

Sichuan cultural and tourism authorities may roll out exclusive student discounts and youth-focused travel packages to lower perceived economic risks, while strengthening safety management and disaster early warning systems to ease safety worries. Tourism marketers are advised to prioritize peer-led positive sharing among college students to build favorable tourism attitudes, as this is more effective than simply reducing risk perceptions. Destination managers can draw on real on-site travel experiences to adjust risk perceptions and maintain strong positive tourism attitudes among potential student travelers.

5.2 Limitations

Despite the conceptual and practical contributions outlined above, this study still has certain limitations, primarily in the following areas. First, the sample is heavily gender-skewed—86.8% female and 13.2% male—which may restrict the generalizability of the research findings. Second, this research adopts a cross-sectional design, collecting data at a single time point, thereby failing to seize dynamic changes in TRP and TBI over time. Third, the study is confined to the Sichuan tourism context, and cross-regional comparative studies are needed to verify the universality of the proposed moderating model.

6 Conclusions

This research systematically examines the relationships among college students' TRP, TA, and TBI based on Sichuan's tourism characteristics. The key conclusions are: (1) TRP negatively predicts TBI. (2) TA positively predicts TBI. (3) TA serves a significant negative moderating role; when TA is sufficiently positive, the predictive effect of TRP disappears. To develop the college student market for Sichuan tourism, authorities should not only optimize policies to reduce TRP but also augment positive peer pro-

motion and experiential communication to enhance favorable TA, thereby effectively boosting TBI.

Acknowledgments

This study was funded by *Sichuan Academy of Social Sciences* (grant number 25FY06).

Disclosure of Interests

The authors have no competing interests to declare that are relevant to the content of this article.

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