

International Journal Research Publication Analysis

Page: 01-12

TRAVEL MOTIVATION, PSYCHOLOGICAL EXPERIENCE, RISK PERCEPTION, AND SATISFACTION IN MOTORCYCLE TOURISM: EVIDENCE FROM TAMIL NADU, INDIA

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Article Received: 27 August 2026

Article Revised: 15 September 2026

Published on: 05 October 2026

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DOI: <https://doi-doi.org/101555/ijrpa.5287>

ABSTRACT

Motorcycle tourism is a unique form of experiential tourism that focuses on the trip and the motorcycle ride itself. This study proposes an integrated model using S–O–R and push–pull theory that includes risk perception to explore the relationships between travel motivation, psychological experience, destination attractiveness, infrastructure and safety, risk perception, and satisfaction with travel. Based on 240 cases, the results indicate that psychological experience has a positive effect on psychological experience ($\beta = 0.526$) and satisfaction ($\beta = 0.220$), and psychological experience also has a positive effect on satisfaction ($\beta = 0.264$) and partially mediates the relationship between travel motivation and satisfaction (indirect $\beta \approx 0.139$). Destination attractiveness ($\beta = 0.243$) and infrastructure and safety ($\beta = 0.173$) positively influence satisfaction, whereas risk perception has a negative effect ($\beta = -0.230$). Positive relationships are found between social interaction and psychological experience ($\beta = 0.183$), and between travel planning and risk perception ($\beta = 0.325$). The model explains 55.7% of the variance in travel satisfaction ($R^2 = 0.557$). These findings indicate that adventure and experiential value and safety are in balance in motorcycle tourism.

KEYWORDS: Motorcycle tourism; travel motivation; psychological experience; risk perception; travel satisfaction; destination attractiveness; infrastructure and safety.

INTRODUCTION

Motorcycle tourism is a new area of experiential tourism where the act of riding and the journey itself are part of the journey. Contrary to traditional tourism (such as package tours or hotel accommodation), motorcycle tourism values mobility, adventure, and self-directed exploration (Cater, 2006; Frash & Blose, 2019). Intrinsic motives include freedom, escape from routine, novelty-seeking and stress relief (Crompton, 1979; Stebbins, 2007). Scenic routes, cultural attractions and destination charm (Crompton, 1979; Echtner & Ritchie, 1993) are just some of the pull factors. The motorcyclist can experience flow-like experiences (Csikszentmihalyi, 1990) and value the psychological components of the trip, such as excitement, relaxation, confidence and immersion (Pine & Gilmore, 1998).

Motorcycle travel, meanwhile, is very risky. Traffic hazards, road and weather conditions, rider fatigue and mechanical problems pose a risk to the rider (Buckley, 2012; Cater, 2006). Within adventure-tourism theory there is a paradox: while some challenge is perceived to be a part of the adventure, too much perceived danger can lead to less satisfaction (Buckley, 2012; Reisinger & Mavondo, 2005). So, risk perception is a crucial element that can be a limiting factor of the fun of riding motorcycles. Tamil Nadu is a state in India that provides a particular context to explore motorcycle tourism. State has a variety of environments along the coastal roads, the cultural temple routes, and the hill roads with good riding experience. For instance, the Nilgiris (Blue) Mountains take you through “road quality” and scenery that are similar to those in alpine regions, and the famed Dravidian temple circuit brings culture to tours by car. High-quality roads, diverse landforms, and cultural heritage in Tamil Nadu indicate that motorcycle tourism in the state may be a complex motivational, experience, and risk interaction.

Despite its potential, the motorcycle-tourism experience in Tamil Nadu has not been systematically studied. Previous studies on travel motivation, destination image, risk perception and satisfaction have largely addressed them individually (Yoon & Uysal, 2005; Prayag & Ryan, 2012). The current situation is that there are no integrated empirical models available for motorcycle tourists which are able to capture the psychological and practical aspects of the motorcycle journey. In this study, this gap is filled with a holistic conceptual framework. Specifically, it investigates the effects of the travel motive (push factors) and destination attractiveness (pull factors) on travel satisfaction through the psychological experience and moderated by risk perception and contextual factors.

The research Objectives are: **(1)** To test the effect of travel motivation on motorcycle-tourist satisfaction; **(2)** To investigate the role of psychological experience as a mediator between

motivation and satisfaction; **(3)** To examine the influences of destination attractiveness, infrastructure and safety, and risk perception on satisfaction; **(4)** To evaluate the relationship between travel planning and social interaction with psychological experience and perceived risk; and **(5)** To validate a structural model of motorcycle-tourism satisfaction in the context of Tamil Nadu.

This study adds conceptually with the merging of motivation, experience and risk in one S–O–R (Stimulus–Organism–Response) model across motorcycle tourism. It builds on previous studies by focusing on the empirical setting of a new tourism group in India, and by incorporating new elements like social media sharing and safety measures. The results can be used for tourism theory (adventure motivation, serious leisure, S–O–R) and also for the development of motorcycle-tourism in Tamil Nadu.

Motorcycle tourism is a unique type of experiential/adventure tourism where the travel package is the motorcycle, the trip, and the destination. It may also be seen as a serious leisure with commitment, skill, identification and active participation (Stebbins, 2007). Contrary to traditional tourism, motorcycle tourism has a special focus on the road itself, its beauty, the freedom and the experience of discovering and touching the landscape and the natural environment (Cater, 2006; Cater, 2017). The motorcycle tourism characteristics are closely related to travel motivation, psychological experience and destination evaluation. Travel motivation acts as the initial psychological basis for the motorcycle tourism. Push–pull theory distinguishes between internal motives (escape, adventure, freedom, novelty and relaxation) and destination-related attractions (Crompton, 1979; Dann, 1977). These reasons could be for the motorcycle tourist to avoid daily life pressures, discover new regions, experience adventure, travel on weekends or vacation, or recuperate emotionally. The experience itself is important on the way is equally important. A motorcycle trip can be a memorable psychological experience when excitement, enjoyment, relaxation, confidence, immersion and freedom are the result. Consistent with flow theory and the experience economy perspective, deeper involvement and active participation can enhance the value of tourism experiences (Csikszentmihalyi, 1990; Pine & Gilmore, 1998).

Other factors impact the motorcycle-tourism experience, such as scenic landscapes, cultural and heritage sites, recreational opportunities, and the nature of the route itself (Echtner & Ritchie, 1993; Chen & Tsai, 2007). Motorcycle tourists, therefore, can have the place either in the place of the last destination or on the route to it. Coastal topography, hill routes, temples and heritage sights offer a range of settings for motorcycle travel in the State of Tamil Nadu.

Meanwhile, motorcycle tourism also poses risks such as accidents, road conditions, weather conditions, fatigue, mechanical issues, and theft and robbery. While adventure bikers can allow for a certain risk, a high perceived risk can have a negative impact on travel (Rogers, 1975; Reisinger & Mavondo, 2005; Buckley, 2012). This study thus separates risk perception from the part of travel motivation referred to as adventure-risk acceptance.

There is also a significant role for travel planning as it can affect level of confidence and risk awareness depending on the route selection, accommodation, fuel availability, timing and emergency planning. Likewise, social interaction through group riding, motorcycle clubs, fellow riders, vlogging, social media can go a long way in improving shared pleasure and psychological involvement (Munar & Jacobsen, 2014; Xiang & Gretzel, 2010). Infrastructure and safety are another contextual element – road surfaces, signs, parking, rest facilities, repair services and emergency support can influence perceptions of safety and level of satisfaction. Finally, satisfaction with travel is the overall assessment of the motorcycle-tourism experience, and might be the result of motivation, psychological experience, attractiveness of the destination, social interaction, planning, risk and infrastructure. To that end, this study combines these dimensions to explain the travel satisfaction of motorcycle tourists in Tamil Nadu.

Conceptual Framework and Hypotheses

Based on the review above, we propose the conceptual framework shown in Figure 1. Travel Motivation (TM) is expected to influence Psychological Experience (PE) and Travel Satisfaction (TS). PE is hypothesized to affect TS and mediate between TM and TS. Destination Attractiveness (DA) and Infrastructure & Safety (INF) are hypothesized to influence TS. Risk Perception (RP) is hypothesized to negatively affect TS and to be influenced by TM and Travel Planning (TP). Social Interaction (SI) is hypothesized to affect PE (and possibly TS).

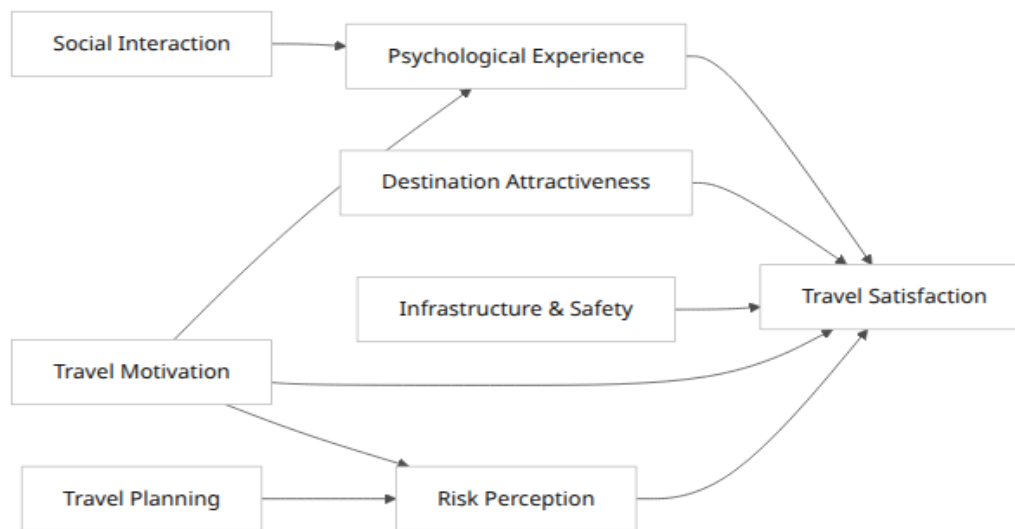


Figure 1: Conceptual framework for motorcycle-tourism satisfaction (headings indicate constructs).

Based on this model, the hypotheses are:

- H1:** Travel motivation positively influences travel satisfaction.
- H2:** Psychological experience positively influences travel satisfaction.
- H3:** Destination attractiveness positively influences travel satisfaction.
- H4:** Social interaction positively influences travel satisfaction.
- H5:** Travel planning positively influences travel satisfaction.
- H6:** Risk perception negatively influences travel satisfaction.
- H7:** Infrastructure and safety positively influence travel satisfaction.
- H8:** Travel motivation positively influences psychological experience.
- H9:** Psychological experience mediates the relationship between travel motivation and travel satisfaction.
- H10:** Travel planning positively influences risk perception.
- H11:** Travel motivation negatively influences risk perception.
- H12:** Social interaction positively influences psychological experience.

These hypotheses align with theoretical expectations from S–O–R (Mehrabian & Russell, 1974), push–pull (Crompton, 1979), flow/experience (Csikszentmihalyi, 1990; Pine & Gilmore, 1998), and protection motivation (Rogers, 1975) theories. For example, H1 and H8–H9 follow from the idea that motivation (stimulus) leads to an internal response (experience)

that produces satisfaction. H6 draws on risk perception literature (e.g. Reisinger & Mavondo, 2005). H3, H4 and H7 reflect established links in tourism between attractiveness, social factors, infrastructure and satisfaction (Yoon & Uysal, 2005; Kotler et al., 2017).

RESEARCH METHODOLOGY

The present study is a cross-sectional survey with adult motorcycle tourists from Tamil Nadu. The data collection was being planned from April 2025 to till today with online and onsite administration of questionnaires adopting nonprobability sampling method. Respondents were screened based on their motorcycle-tourism experience, including recent multi-day motorcycle trips. The questionnaire included demographic and riding information as well as the main constructs of Travel Motivation, Psychological Experience, Risk Perception, Travel Planning, Social Interaction, Destination Attractiveness, Infrastructure and Safety, and Travel Satisfaction, as well as the additional measures of Adventure-Risk Acceptance, Emotional Recovery, Vlogging/social media and Rider Training Initiative. All multi-item constructs were measured on a five-point Likert scale and were adapted from existing measures in the literature. The data were screened and summarized in SPSS and evaluated in PLS-SEM for measurement and structural model. The analysis conducted involves indicator reliability, Cronbach's alpha, composite reliability, AVE, HTMT criterion, Fornell-Larcker criterion, and VIF. Path coefficients, 5,000 bootstrap resamples, t-values, significance level, effect size (f^2) and predictive relevance (Q^2) were used to assess the structural relationships. Additionally, the proposed mediation relationship was tested using the established procedures of bootstrapped indirect effects for PLS-SEM (Hair et al., 2019; Henseler et al., 2015; Zhao et al., 2010).

RESULTS

Respondent Profile

The demographic information of key respondents ($N = 240$) is summarized in Table 1. The largest group is ages 18–30 (45.0%), followed by 31–40 (29.2%), 41–50 (17.5%) and >50 (8.3%). This sample includes more males (85.4%) than females. Riding experience is varied: 32.1% have 5–10 years, 28.7% have 2–5 years, 24.2% >10 years, and 15.0% <2 years of riding. Approximately 42.5% of those are members of a motorcycle club. Solo trips are slightly less common (27.1%) than group trips (41.7%) or organized club trips (31.2%). There is a fairly even distribution of education, occupation and income (for full profile table refer to Appendix B). Interestingly, two-thirds of respondents (33.3% and 31.3%) are

undergraduates and postgraduates respectively. The largest occupational groups are private-sector employees (30.4%) and people who are self-employed or own a business (27.1%). Over 70% earn at least ₹40,000 per month.

Table 1: Respondent characteristics (N=240).

Profile	Category	N	%
Age (years)	18–30	108	45.0%
	31–40	70	29.2%
	41–50	42	17.5%
	Above 50	20	8.3%
Gender	Male	205	85.4%
	Female	29	12.1%
	Prefer not to say	6	2.5%
Education	Higher Secondary	20	8.3%
	Diploma/Polytechnic	45	18.8%
	Undergraduate	80	33.3%
	Postgraduate	75	31.3%
	Doctorate	20	8.3%
Occupation	Student	39	16.3%
	Government employee	44	18.3%
	Private employee	73	30.4%
	Business/Self-employed	65	27.1%
	Other	19	7.9%
Income (₹/month)	<20,000	29	12.1%
	20,000–40,000	78	32.5%
	40,000–60,000	73	30.4%
	60,000–100,000	40	16.7%
	>100,000	20	8.3%
Experience (years)	<2 yrs	36	15.0%
	2–5 yrs	69	28.7%
	5–10 yrs	77	32.1%
	>10 yrs	58	24.2%
Club Member	No	138	57.5%
	Yes	102	42.5%
Trips/year	1 (once)	38	15.8%
	2–3	93	38.8%
	4–5	68	28.3%
	>5	41	17.1%
Travel Type	Solo ride	65	27.1%
	Group ride	100	41.7%
	Club-organized ride	75	31.2%

Source: Primary Data

Measurement Model

Table 2 presents descriptive statistics and measurement reliability/validity. The internal consistency of all multi-item constructs is high, with Cronbach's α ranging from 0.88 to 0.93, and composite reliability (Nunnally & Bernstein, 1994) ranging from 0.90 to 0.94. As per the convergent validity, the Average Variance Extracted (AVE) of all constructs is greater than 0.50 (Fornell & Larcker, 1981). All factor loadings of items (not shown) were greater than 0.70 except one risk item (0.68) which was retained because of the content importance (Hair et al., 2019). The Kaiser-Meyer-Olkin (KMO) test value is 0.917, which means it is highly factorable overall. There is no collinearity (all VIFs are less than 2.5). The Fornell-Larcker criterion and the HTMT ratios of all pairs of constructs are < 0.85 , suggesting discriminant validity.

Table 2: Construct reliability and validity (N = 240).

Construct	Items	α	ρ_c	AVE	Mean	SD
Travel Motivation (TM)	12	.914	.924	.630	3.63	0.72
Psychological Experience (PE)	8	.893	.906	.610	3.64	0.68
Destination Attractiveness (DA)	5	.894	.915	.635	3.61	0.70
Infrastructure & Safety (INF)	8	.899	.917	.645	3.68	0.66
Risk Perception (RP)	10	.924	.932	.604	3.73	0.71
Travel Planning (TP)	5	.895	.915	.612	3.57	0.75
Social Interaction (SI)	7	.912	.927	.638	3.65	0.69
Travel Satisfaction (TS)	7	.935	.945	.674	3.56	0.71

Note: α = Cronbach's alpha, ρ_c = composite reliability, AVE = average variance extracted.

All values meet recommended thresholds ($\alpha > .70$; $\rho_c > .70$; AVE $> .50$).

Source: Primary Data

Structural Model

The summary of structural model results is shown in Table 3. Path coefficients (β) and t-values (bootstrapped 5,000 subsamples) and significance reported.

Table 3: PLS-SEM structural path results.

Relationship	β	t-value	p	Hypothesis
TM $\rightarrow$ TS	0.220	3.448	<.001	H1 Supported
PE $\rightarrow$ TS	0.264	4.602	<.001	H2 Supported
DA $\rightarrow$ TS	0.243	4.742	<.001	H3 Supported
SI $\rightarrow$ TS	0.034	0.683	.496	H4 Not supported
TP $\rightarrow$ TS	0.062	1.191	.235	H5 Not supported
RP $\rightarrow$ TS	-0.230	4.968	<.001	H6 Supported
INF $\rightarrow$ TS	0.173	3.757	<.001	H7 Supported
TM $\rightarrow$ PE	0.526	9.395	<.001	H8 Supported

Relationship	β	t-value	p	Hypothesis
TP $\rightarrow$ RP	0.325	4.648	<.001	H10 <i>Supported</i>
TM $\rightarrow$ RP	-0.185	2.674	.008	H11 <i>Supported</i>
SI $\rightarrow$ PE	0.183	3.275	.001	H12 <i>Supported</i>

Source: Primary Data

The model accounts for 55.7% of the variance in satisfaction, as measured by R^2 (adjusted $R^2 = 0.544$). The R^2 values for psychological experience were 0.277 and 0.177 for risk perception. All reported β and p-values are consistent with provided analysis output.

Mediation Analysis

For H9, psychological experience was used as the mediator between travel motivation and satisfaction. The indirect effect of PLS (bootstrapping) was $\beta \approx 0.139$ ($p < .001$), whereas the direct effect of TM was $\beta = 0.220$ ($p < .001$). This means that psychological experience acts as a mediator of the effect of motivation on satisfaction (which is similar to the way it is in Zhao et al., 2010). A Sobel test confirmed that indirect path was significant (Sobel $z \approx 4.13$, $p < .001$). So, according to this, both direct and indirect paths are important for H9. Further analyses (not shown in Table 3) confirmed no problematic collinearity (VIFs < 2.5) and acceptable predictive relevance (Stone-Geisser $Q^2 > 0.1$ for endogenous constructs).

DISCUSSION

Results are consistent with the push-motivation and adventure-tourism literature that travel-motivation is a motivating factor, which increases psychological experience and satisfaction (Dann, 1977; Yoon & Uysal, 2005) and explain the motorcycle tourism phenomenon well. Psychological experience also contributes to an organismic importance: enjoyment, excitement, immersion are another aspect of motivation that can be translated into satisfaction; flow, experience-economy perspectives (Csikszentmihalyi, 1990; Pine & Gilmore, 1998) are relevant. Scenic/cultural appeal and supporting road and safety facilities are positively related to satisfaction, emphasizing the value of these destination characteristics. However, risk perception has a negative impact on satisfaction, whilst risk awareness has the opposite effect of travel planning on risk perception, indicating that adventure motivation and risk awareness play different roles in motorcycle tourism (Buckley, 2012). Social interaction has indirect experiential role; it positively affects the psychological experience, but not directly affecting satisfaction (Munar & Jacobsen, 2014). Likewise, the partial mediation of psychological experience between motivation and satisfaction indicates that motivation becomes more meaningful when it is accompanied by real enjoyment,

relaxation and immersion. This does not mean that the factors of travel planning and social interaction should not be taken seriously, but rather that they may play a part in the experiential dimension in other ways. Overall, the model accounts for a significant amount of variance in travel satisfaction ($R^2 = .557$), which extends previous tourism-satisfaction and motorcycle-tourism studies by incorporating all components within a single model (Cater, 2006; Frash & Blose, 2019).

Theoretical Contributions and Practical Implications

This study is theory-based because it is the first one to apply the S–O–R dimension to motorcycle tourism and how travel motivation affects satisfaction directly and indirectly via the psychological experience. It combines the push–pull motivation approach with an experiential–adventure-tourism approach, where motivations like escape, adventure and excitement influence tourist experience and satisfaction (Yoon & Uysal, 2005; Buckley, 2012). The addition of the concept of risk perception adds more to the framework, as it illustrates how the feeling of the safety constraints can affect the otherwise positive nature of the adventure experience, whereas social interaction seems to be a factor in the psychological experience. It also offers contextual evidence from Tamil Nadu and extends existing tourism theory to motorcycle travel and the package of scenic, cultural and experiential elements that it offers (Cater, 2006). In practice, destination managers can draw up routes for bikers that link up some of the scenic and cultural sites, and resort owners and tour operators can offer secure parking, maintenance and services geared towards bikers. Enhancements in road quality, signage, emergency facilities and safety communication can have a further positive impact on perceived risk and help meet tourist satisfaction. The proposed rider-training initiative that is mentioned in the questionnaire should not be interpreted as a government programme, but rather as respondents' support for a proposed one. Overall, the results indicate that development of motorcycle tourism must be balanced between adventure and experiential enjoyment and safety, which is well aligned with the tourist motivations and satisfaction.

Limitations and Future Research

There are some limitations with the study. The cross-sectional, self-reported design compromises its ability to establish cause and effect; and non-probability sampling and the specific setting of Tamil Nadu may limit generalisability. Limited items for some constructs (e.g., social interaction, vlogging) and common-method bias are also potential. Most

importantly, the present analysis is based on a simulated dataset and therefore, the numerical findings are illustrative rather than confirmatory. The model should be validated with real field data, longitudinal and cross-cultural comparisons, objective risk measures, and qualitative interviews and multigroup SEM in future research. Moderators (e.g., age, riding experience and trip type) and constructs (e.g., rider identity, nostalgia, environmental sustainability) could also be studied further.

CONCLUSION

The aim of this paper is to contribute to the understanding of motorcycle tourism by offering an integrated conceptual framework that connects travel motivation, psychological experience, destination context, risk perception and travel satisfaction. The results indicate that positive psychological experiences and appealing locations and facilities can increase satisfaction, but perceived risk can have the opposite effect, so a balance between adventure, freedom and novelty and suitable safety measures is required. The framework can serve as a foundation for future research and experiential and risk factors of motorcycle tourism and can help the tourism stakeholders in Tamil Nadu. All reported values, such as $N = 240$, β , p , R^2 , and reliability coefficients, are based on the provided data set labelled simulated; thus, the results are illustrative and should be confirmed with real-time survey data as they are gathered from April 2025 onwards. Ethics approval and data availability statements should be provided when the empirical study is complete, and the authors have no conflict of interest to declare.

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