Manjula Chaudhary & Naser Ul Islam

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Tourists' risk perception towards Kashmir valley: An analysis using Tourism Risk Index

Manjula Chaudhary
Kurukshetra University, India

Naser Ul Islam
Tata Institute of Social Sciences, India

Abstract:

Purpose: *This research aims to present a Tourism Risk Index (TRI) for risk analysis at tourism destinations that can act as a usable tool to accurately capture the perception of risk by tourists.*
Methods: *The TRI for this study is developed in Kashmir valley (India). The development of index began with the assumption that general perceptions echoed through mass media and word of mouth about the lack of security in the Kashmir valley are correct. It was followed by a survey of 370 tourists visiting the valley about common types of risks identified through the literature on tourism.*
Results: *The results are not along expected lines rather suggest that visiting tourists perceive Kashmir valley as safe. The findings show that Kashmir valley is perceived overall as less risky on all components, and in descending order, these ranks as personal safety, natural risk, cultural risk, and human-induced risk.*
Implications: *Destination managers would have promoted Kashmir valley with a different level of confidence if this insight would have been available to them, and the possibility of its positive effect on the perception of tourists not visiting the valley cannot be ruled out. The index can be used to consistently track the tourism risks of Kashmir or any other destination by inclusions of new risks as they crop up from time to time.*

Keywords: *Kashmir Valley, risk perception, risk measurement, Tourism Risk Index*

JEL Classification: *G32, D81, Z32*

Biographical note: Manjula Chaudhary (manjulachaudhary@gmail.com), Ph.D., is a Professor in the Department of Tourism and Hotel Management at Kurukshetra University, India. She specializes in tourism marketing, tourist behaviour and business communication. Naser Ul Islam (naser.islam@tiss.edu), Ph.D., completed his doctorate in tourism management from Kurukshetra University, India, and is currently working as an Assistant Professor in the School of Vocational Education at Tata Institute of Social Science, India. Corresponding author: Naser Ul Islam (naser.islam@tiss.edu).

1 INTRODUCTION

International tourism expanded after the Second World War and emerged as the world's largest economic contributor (Formica & Uysal, 1996; WTTC, 2019). The growth of tourism is attributed to the developments in global mobility resulting from advanced technology and greater disposable income (Yousaf et al., 2018). It is marked by many interruptions, mainly the oil crisis of the 1970s and the economic slowdown of 2009, albeit tourism continued to grow at a decelerated rate (Glaesser, 2006; Hall, 2010; Korol & Spyridou, 2020; Nuryyev et al, 2021; Alves et al., 2022). In the year 2020 tourism was put in reverse gear due to the COVID-19 pandemic, and by the end of the year, global tourism was reduced to 74 percent though a bounce back to normalcy levels of 2019 is expected between 2021-24 (UNWTO, 2020).

Perceptions of risks in tourism are increasing over time, leading to more inquiry into the various types of risks (Kim et al., 2021; Yang & Nair, 2014). Perception of risks is found to be associated with the destination image (Alonsopérez et al., 2022; Carballo et al., 2021; Qi et al., 2009), and the mishappenings and uncertainties at destinations activated research on risk perception. The research studies on the association between perceived risks and travel behaviour started after 1980 though in consumer behaviour the instance of risk was suggested in 1960 (Bauer, 1960) and later found place in the grand models of consumer behaviour (Engel et al., 1968; Howard & Sheth, 1969). The nature of risks and the perception of risks in tourism is different from the products as tour experiences occur at different points of time and

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locations. The environment of many of these locations may not be stable or controllable thus creating uncertainties. These fluid settings make 'risk management' exciting as well as challenging for all types of destinations, especially for destinations facing uncertainties over a long period and tagged as risky.

A few earlier studies in tourism discuss risk perception (Cohen, 1972; Plog, 1974) but the later studies were more objective (Cheron & Ritchie, 1982; Moutinho, 1987; Roehl & Fesenmaier, 1992; Scholtz & De Ridder, 2021) and were referred by highly cited studies on various dimensionalities of risk perceptions (Lepp & Gibson, 2003; Sönmez & Graefe, 1998a, b). The growth of international tourism led to the spread of tourism to places with varying degrees of risk and it pushed the research agenda on risk perception beyond safe destinations to risky destinations (Fuchs & Reichel, 2006; Yang et al., 2015).The continuous occurrence of major and minor risks at destinations demands comprehensive risk management through forecasting and handling of risks followed by post risk assessment (Papana & Spyridou, 2020; Samitas et al, 2020; Spyridou et al, 2023). A proactive risk handling system or continuous risk tracking to measure and monitor risks is needed. The studies on tourism risks do not underpin the quantification of risks that can be practitioners' tool for risk management. Few research in tourism discuss the use of index as a measurement tool (Fetscherin & Stephano, 2016; Sigala & Christou, 2014; Krešić & Prebezac, 2011) however a largely acceptable model of tourism risk assessment for the use of academicians and practitioners is not available.

The Kashmir valley in India provides the 'right set of circumstances' with a mix of complex geopolitical setup and natural tourism resources to test and develop a tourism risk assessment model. The changed tourism image of the valley from a popular destination till 1989 to a place considered to be very risky is a live example of the fragility of tourist places. No Bollywood film (Hindi film) was considered complete without the backdrop of attractive and scenic sites of Kashmir valley (Bakaya & Bhatti, 2005; Evans, 2000; Taylor, 1991). However in 1989 situation deteriorated because of the Kashmir movement for independence (Bhat, 2019), and even the themes of media and Bollywood movies changed from picturesque presentation to dangerous and disturbed Kashmir (Itoo & Nagar, 2017). The valley is also seen as the ground behind strife between India and Pakistan making it politically volatile, experiencing militancy, and having a consistent military presence.

The political instability in Kashmir valley prominently figures in the US and UK travel advisories against visiting the famous sites of Gulmarg, Pahalgam, and Sonmarg (Gov.UK, 2021; Travel.State.Gov, 2021). The increased risk and its perception have changed the meaning of Kashmir to the prospective tourists who may place it in the consideration set but drop it from the final buy. However, beating all odds and amidst all the din many tourists do visit Kashmir valley. An unraveling of behaviour of these tourists can provide insight into 'why tourists travel despite risks' as stated by Sönmez and Graefe (1998a) that actual travel experience with a destination provides individuals an opportunity to compare their perceptions with reality. There are many tourist places across the world having plenty of tourist resources but loosing on security or perception of security due to strife, wars, terrorism, etc. The main research question was to deconstruct tourists' risk perception towards Kashmir valley by developing the TRI. TRI developed for this study can be customized for other destinations and used as a risk tracking measure.

2 LITERATURE

2.1 Risk perception and management

The concept of risk perception in leisure and tourism borrows from the literature on consumer risks and its own narrative evolved over two decades of the 1980 and 1990 (Cheron & Ritchie, 1982; Moutinho, 1987; Roehl & Fesenmaier, 1992; Richter & Waugh, 1986). Tourism risks can be absolute, real, actual, and perceived (Dickson & Dolnicar, 2004; Yang et al., 2015). Perceived risks are central to tourism research (Chua et al., 2021; Sharon & Shahrabani, 2021; Hasan et al., 2017; Yang & Nair, 2014) as it is almost impossible to determine the actual scale and range of risks in a meaningful way (Bentley et al., 2001). Evaluation of perceived risks in tourism is inherently subjective in view of possibility of an adverse event and the various misfortunes that negatively influence the attitudes towards travel behaviour (Milwood & Crick, 2021; Chatzigeorgiou & Christou, 2019; Liu et al., 2013; Quintal et al., 2010; Seabra et al., 2013; Tsaur et al., 1997). Perceived travel risk constitutes a wide array of uncertainties such as natural disasters, weather conditions, epidemics, political unrest, crime, terror activities, and wars (Mansfeld, 2006). In addition, news reports and word-of-mouth information about epidemics and terrorism at tourist destinations raise tourists' perceptions of risks (Giannopoulos et al., 2020; Garg, 2015; Neuburger & Egger, 2021; Rittichainuwat & Chakraborty, 2009).

Early studies identify perceived risks such as equipment, financial, physical, psychological, satisfaction, social, and time risks (Roehl & Fesenmaier, 1992) health, terrorism, and political instability risks (Sönmez & Graefe, 1998a). These were the first empirical studies to study in situ travel risk perceptions. These highly cited works on tourism risk formed the base for empirical analysis of risk perceptions. Tsaur et al. (1997) proposed evaluation criteria for tourism risk perception on 16 aspects related to accommodation, medical support, hygiene, law and order, sightseeing sport, transportation, and weather.

Fuchs and Reichel (2006) developed a multi-attribute questionnaire and categorized travel risk perception into human-induced, natural disasters, food safety, and service quality and measured the specific variables composing a risk construct to give a new direction for handling the problem. Law (2006) identified terrorism, disease, and natural disaster to measure the impact of risk perceptions on travel decisions. Similarly, Qi et al. (2009) developed a multi-attribute questionnaire to study the tourists' risk perception towards China and identified personal safety, cultural risk, socio-psychological risk, and violence as risk perception factors, and rated China moderately risky destination. An et al. (2010) grouped perceived risks into natural disasters, physical, political, and performance risks to study the impact of risk perception on air travel satisfaction and reuse intentions. The risks have been categorized differently in various studies; as manageable and unmanageable (Simpson & Siguaw, 2008),

natural and manmade (UNWTO, 2011). Manageable/controllable risks influence tourists more than unmanageable ones (Christou et al., 2021; Ruan et al., 2017; Yüksel & Yüksel, 2007). The different types and categories of risks only emphasize the extant of prevailing risks across tourist places of the world.

Perceived risks and uncertainties make travel buying and destination choice a complex process (Karl, 2018; Liu & Pratt, 2017; Rather, 2021; Sirakaya & Woodside, 2005) and have an inverse relationship with tourist satisfaction, word of mouth, intentions to visit and revisit a destination (Cong, 2021; Nella & Christou, 2021; Caber et al., 2020; Quintal et al., 2010; Sánchez-Cañizares et al., 2021). Tourists generally avoid destinations perceived as risky (Demos, 1992; Sönmez & Graefe, 1998b; Sönmez et al., 1999). Few studies on safety and security at touring destinations find that tourists mitigate perceived risks and develop positive attitudes towards risky destinations based on their visits (Batra, 2008; Brunt et al., 2000; George, 2010, 2003; Lepp & Gibson, 2003; Mawby et al., 2000). Lepp et al. (2011) studied risk perception in Uganda and noted the role of exposure to official tourism websites among control and experimental groups, wherein experimental group was significantly more positive with reduced perceived risk.

Present-day tourist is sensitive towards personal safety and conscious of travel risks (Liu & Pratt, 2017; Hasan et al., 2017) and perceptions of risks play a substantial role in travel destination selections (Caber et al., 2020). While it is viewed that in the absence of personal experience, individuals can easily avoid destinations they perceive as risky by choosing others they consider safe (Sönmez & Graefe, 1998a).

Risk perceptions are hazardous to destinations if not tackled properly (Pizam, 1999; Pizam & Fleischer, 2002). Risk management should deal with the risk perceptions of travelers to prevent perceived risks from escalating into barriers to tourists' destination choice (Ruan et al., 2017; Robertson et al., 2006). The negative perceptions can be mitigated through adopting proper techniques and methodology by destination management (Hajibaba et al., 2016; Liu et al., 2019, Williams & Baláž, 2015).

2.2 Risk measurement: Index construction

The purpose of an index is to merge several interrelated measures into a single measure (Smith, 1987). A composite indicator or index is the outcome of individual indicators that are grouped into a single index (Joint Research Centre-European Commission, 2008; Global Peace Index, 2018) and is designed through various correlated items for easy understanding of full complex phenomena rather than individual items (Greco et al., 2019; UNWTO, 2013). The indexes are a valuable tool to synthesize and understand multidimensional phenomena and are used whenever a plurality of variables is needed (Mendola & Volo, 2017; Munda & Nardo, 2005). Designing an index requires indicators and weights of these indicators (Cugno et al., 2012; Mikulic et al., 2015). The strength and weakness of a composite index is determined by the quality of variables which are based on relevance and analytical soundness (Joint Research Centre-European Commission, 2008). Index development led to the creation of two schools of thought; aggregators and non-aggregators (Sharpe, 2004). The first group supports the construction of the index and believes the index is meaningful and easier to interpret than separate indicators. While the latter oppose and believe one should stop once an appropriate set of indicators has been created and not go the further step of producing a composite index arguing that the final product is statistically meaningless (Sharpe, 2004).

A mix of governmental-nongovernmental national-international organizations provides indexes to a complex phenomenon. Tourism-specific indexes are designed to judge the tourism destination competitiveness and destination attractiveness (Cracolici & Nijkamp, 2009; Fetscherinand Stephano, 2016; Dupeyras & MacCallum, 2013; Gearing et al., 1974; Karl et al., 2015; Krešić & Prebezac, 2011; Kaur, 1981; Lučić, 2020; Smith 1987). On the lines of tourism attractiveness and competitiveness index, TRI can support the measurement and management of tourism risks.

The TRI is based upon a survey of tourists about perceived risks at destinations during their visit and is developed after a series of validity tests. This index can be used for overtime comparison of risks and can also be expanded to other destinations by calibrating the index for destination-specific factors.

3 METHODS AND MATERIALS

3.1 Questionnaire development

The indicators for this study regarding risk perceptions are obtained from the literature (see Table 1) and 20 items were identified that were purified to ensure scale fit in the study area with the help of 5 tourism senior professors who examined the sequence, wording, and items in the scale.

Table 1: Construct and indicators

Construct	Indicators	Source
Perceived risk	Terrorism	Sönmez and Graefe (1998a)
	Unrest	Lepp et al. (2011)
	Crime	Brunt et al. (2000), Demos (1992), Mawby et al. (2000), Tsaur et al. (1997)
	Shopping	Rittichainuwat and Chakraborty (2009), Yüksel and Yüksel (2007)
	Food	Fuchs and Reichel (2006)
	Health	Sönmez and Graefe (1998a)
	Adventure	Tsaur et al. (1997)
	Sickness	Seabra et al. (2013)
	Hygiene and cleanliness	Tsaur et al. (1997)
	Natural calamities	Law (2006), Rittichainuwat and Chakraborty, (2009)
	Language	Rittichainuwat and Chakraborty, (2009)
	Requirement of traditional clothing	Based on recommendations of experts in view of nature of Kashmir valley

Few items were merged to ensure the distinctiveness of indicators, and the final 12 items were retained after items purification and pilot study. The respondents were requested to rate their level of risk perception on a 5-point scale ranging from 1 (=very low) to 5 (=very high).

3.2 Pilot testing: Questionnaire reliability

The reliability of the questionnaire was checked through the pilot study on 50 tourists at Srinagar and Gulmarg, Kashmir. The results of the pilot study showed measures of sample adequacy of 0.657 and Bartlett's test of sphericity ($p< 0.001$, $X2= 169.84$, $df= 66$). The values conclude that items under study are reliable and have face and content validity (Malhotra & Briks, 2007). The final data was collected from the domestic and foreign tourists at the main touristic sites of

Kashmir valley; Srinagar, Gulmarg, Pahalgam, and Sonmarg. The reason for selecting these four sites as research settings is based on their popularity among domestic and foreign tourists (Rather, 2020). The data was collected in different phases of 2018 (November and December), 2019 (January), and 2019 (June-July) to maintain reliability in data.

3.3 Sample size and data collection

The sample size was based on the following assumptions:

- In consumer behaviour research typical range of sample size is between 300-500 (Malhotra et al., 2017).
- Statistical equation given by Yamane (1967) was applied to determine the sample size from population;

$$n=N/(1+Ne^2)$$

Where, n= sample size, N = population which is 11,67,618, e2= margin of error i.e., 0.052 or 5%. Following these approaches the sample size of 400 was reached. The study adopted purposive sampling method and the convenience of tourists was kept in mind while collecting data. The purposive sampling method has been used by researchers in tourist behaviour studies because of the non-availability of the sampling frame (Bhat and Darzi, 2018). Each tourist was approached personally by researchers and was briefed on the importance of study and the value of feedback before getting the questionnaire filled to ensure effective responses. In all 400 questionnaires were got out of which thirty questionnaires were eliminated due to incomplete responses and the remaining 370 with a response rate of 92.5 percent were included in the study (see Table 2).

Table 2: Respondents' profile

Variable		Number	Percent
Gender	Male	205	55.4
	Female	165	44.6
Age	Below 20	32	8.6
	21-35	199	53.8
	36-50	98	26.5
	51-65	33	8.9
	Above 65	8	2.2
Qualification	Below graduate	53	14.3
	Graduate	164	44.3
	Post graduate	142	38.4
	Other	11	3.0
Nationality	Indian	201	54.3
	Foreign	169	45.7

The percent distribution of respondents presented in Table 2 shows a greater share of male tourists (55.4 %) than female tourists (44.6%). The majority of tourists were below 50 years (89.5 %), and domestic tourists were 54.3 percent, while international tourists were 45.7 percent.

3.4 Data analysis

Factor analysis using Statistical Package for Social Science (SPSS) was run to suggest the dimensionality of indicators. Confirmatory analysis and structural equation modeling (SEM) was conducted using Analysis of Moment Structures (AMOS) to measure the validity and reliability of indicators. After the preliminary tests of factor analysis and SEM, the weights of indicators were obtained to prepare TRI.

There are two types of SEM one is covariance-based (CB), and another is partial least squares (PLS) (Ryan, 2020). The study used CB-SEM to validate the dimensionality of constructs as it met the basic assumption of adopting CB-SEM, such as sufficient sample size and normality of data (Hair et al., 2017). The data was found normal through skewness and kurtosis (see Appendix B), which is below ±3 for all items indicating normality (Kline, 2005).

4 FINDINGS

4.1 Exploratory factor analysis

Factor analysis under principal component analysis with varimax rotation was performed to extract correlated items under variant factors. This results showed measure of sample adequacy (MSA) 0.738 and significant Bartlett's test of sphericity ($p< 0.001$, $X2= 2226.85$, $df= 66$). The anti-image matrix showed diagonal measures of sampling adequacy were above 0.50 and limited between 0.60 to 0.90. These values suggest that the data is appropriate for further analysis (Hair et al., 2010).

Table 3: Exploratory factor

Factors	Human-induced risk-PR1	Personal safety-PR2	Natural risk-PR3	Cultural risk-PR4
V1-Terrorism	0.850	0.037	0.142	0.109
V2-Unrest	0.843	0.079	0.202	0.016
V3-Crime	0.807	0.035	0.143	0.144
V4-Shopping	0.621	-0.027	0.076	0.077
V5-Food	0.005	0.946	-0.017	0.056
V6-Personal health	0.013	0.944	-0.001	0.060
V7-Adventure	0.066	0.796	-0.001	-0.070
V8-Sickness	0.143	0.010	0.899	0.156
V9-Hygiene and cleanliness	0.146	0.037	0.871	0.091
V10-Natural calamities	0.217	-0.066	0.722	0.135
V11-Language barriers	0.132	-0.003	0.130	0.869
V12-Clothing	0.137	0.034	0.195	0.858
Eigen value	3.706	2.429	1.533	1.192
Variance explained	30.886	20.238	12.778	9.931
Alpha	0.808	0.879	0.822	0.741

The exploratory factor analysis reduced twelve items into four factors with eigenvalues above 1. The factor loading was suppressed by 0.50 and showed that no item is required to be deleted because all the items have loadings above the threshold value, and none has cross-loading above 0.50 (Nunally, 1978). The obtained factors explained 73.83 percent of the variance. The reliability values for all factors were checked using Cronbach's alpha, which ranged between 0.741 and 0.879 showing good internal consistency of scale (Hair et al., 2010). The results of factor analysis are presented in Table 3.

4.2 Reliability and validity test

Reliability and validity is assessed through convergent, discriminant, and nomological validity (Hair et al., 2010). Confirmatory factor analysis (CFA) under maximum likelihood (ML) estimation was applied to check the construct validity and reliability (Anderson and Gerbing, 1988). The goodness of fit (GOF) indexes were used to assess the quality of the four-factor model. The model has an absolute fit of values such as; $x^2=117.340$, $df=50$, $x^2/df=2.347$, $GFI=0.954$, $AGFI=0.929$, $CFI=0.969$, and $RMSEA=0.060$ indicating that measurement model is reasonably correct (Hair et al., 2010). This suggests that

constructs are well defined and confirms that tourism risk is multidimensional.

Table 4: Convergent validity

Constructs	SRW	t-values	CR	AVE
PR1			0.824	0.550
V1	0.88	22.439***		
V2	0.87	22.250***		
V3	0.79	18.809		
V4	0.70			
PR2			0.894	0.745
V5	0.96			
V6	0.96	29.547***		
V7	0.62	14.315***		
PR3			0.839	0.641
V8	0.94			
V9	0.82	16.517***		
V10	0.62	12.248***		
PR4			0.745	0.595
V11	0.72			
V12	0.83	7.834***		

***=p < 0.001

The convergent validity of items is presented in Table 4. The regression weight of the items are above 0.50 (t-value >1.96), indicating that the items define each construct well (Hair et al., 2010). Further, composite reliability (CR) and average variance extracted (AVE) are above 0.70 and 0.50, respectively. Therefore these results indicate good convergent validity of the constructs.

Discriminant validity was checked to compare correlations between constructs and the square root of average variance extracted. The square root of AVE is presented in Table 5 in diagonals, and values off diagonals represent intercorrelations among constructs.

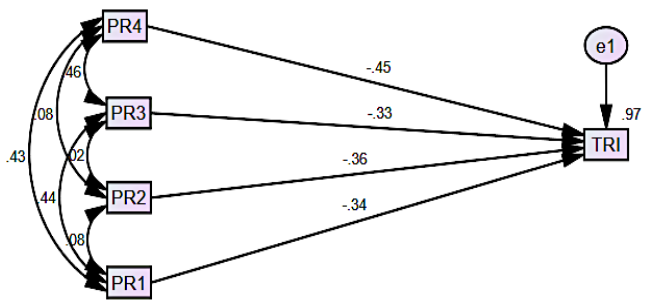
Table 5: Discriminant validity

Construct	PR1	PR2	PR3	PR4
PR1	0.742			
PR2	0.077	0.863		
PR3	0.389	0.005	0.800	
PR4	0.337	0.077	0.419	0.771

The intercorrelations between constructs were less than the square root of the AVE, thereby demonstrating that constructs are significantly distinct from one another (Fornell and Larcker, 1981). This indicates that the measurement scale met the requirement for discriminant validity.

Nomological validity is the degree to which a construct acts as expected (Bagozzi, 1980). After convergent and discriminant validity data was imputed to conduct SEM to measure nomological validity that constitute TRI. The results show four summated constructs model has a better fit of indexes (x^2=4.008, df=3, x^2/df=1.336, RMR=0.076 GFI=0.996, AGFI=0.978, CFI=0.999, and RMSEA=0.030).

Figure 1: Nomological validity



The coefficient of determination (R2) reveals that the variance shared by four constructs for TRI was 97 percent (see Figure 1). The beta values of the constructs PR1 (β=-0.34, t=-33.434), PR2 (β=-0.36, t=-41.011), PR3 (β=-0.33, t=-32.511), and PR4 (β=-0.45, t=-44.168) were significant at 0.001 indicating significant association of four constructs with TRI and supporting nomological validity of constructs. The convergent, discriminant, and nomological validity indicate that constructs are valid and reliable, thus appropriate for designing an index.

4.3 Weights of indicators

The earlier applied test explained the factorization, validity, and reliability of constructs. Hence, based on these statistical inferences, it can be concluded that the present data is reasonably correct and appropriate for designing an index using variables and factor weights presented in Table 6. The weights were obtained from EFA loadings. The process includes R2 of loadings following their division by eigenvalues.

Table 6: Factor and variable weights

Variables	PR1	PR2	PR3	PR4
V1	0.28	0.00	0.01	0.01
V2	0.27	0.00	0.02	0.00
V3	0.25	0.00	0.01	0.01
V4	0.15	0.00	0.00	0.00
V5	0.00	0.37	0.00	0.00
V6	0.00	0.37	0.00	0.00
V7	0.00	0.26	0.00	0.00
V8	0.01	0.00	0.36	0.02
V9	0.01	0.00	0.34	0.01
V10	0.02	0.00	0.23	0.01
V11	0.01	0.00	0.01	0.47
V12	0.01	0.00	0.02	0.46
Total	1.00	1.00	1.00	1.00
Factor weights	0.29	0.27	0.25	0.18

Tourism Risk Index (TRI) is developed using the following statistical formula:

$$\sum_{i=1}^{n} \alpha_i \overline{X}_i$$

Where, a_i indicates variable weight ¯X_i is indicates the mean of the variable. The TRI is based on the assumption that the weights of variables under the factor should equal 1 (Krešić & Prebezac, 2011). The unrepresented weights are referred to as residuals, allowing the sum of correlated variables to be equal to 1. The residuals to each factor were low even factor PR2 has no residual indicating that identified variables are reasonably related to the corresponding factor.

4.4. Tourism risk index

The TRI is presented in Table 7. The index of four indicators is developed by multiplying variable weight with the mean of the corresponding variable and summing these values as suggested by Joint Research Centre-European Commission (2008). The four sub-indexes were used to define the overall aggregated index. The overall aggregated index value (TRI=2.745) is taken as a benchmark value to judge high and low perceived factors.

According to the TRI, four factors have values below aggregated index value. Cultural risk has the lowest value

(TRI=2.313), and the risk items associated with cultural risk were perceived as almost equal. The next factor having lower index value is the human-induced risk (TRI=2.391), and among the items of these factors cheating in shopping was perceived as high. The next factor having low index value is personal safety (TRI=2.597), and almost all items associated with personal safety were rated equally. The next factor with an index value below aggregated value is natural risk (TRI=2.665); among items associated with the corresponding factor, natural calamities is rated high. The index value of these factors against aggregated index suggested that the presence of risks associated with these factors were perceived as low by tourists at the destination.

Table 7: Tourism risk index

Indicators		Weights		Mean	TRI values
		Variable	Factor		
PR1	Human-induced risk		0.29		2.391
V1	Terrorism	0.28		2.384	0.668
V2	Unrest	0.27		2.397	0.647
V3	Crime	0.25		2.141	0.535
V4	Shopping	0.15		2.795	0.419
R1	Residual	0.05		2.492	0.121
PR2	Personal safety		0.27		2.597
V5	Food	0.37		2.584	0.956
V6	Health	0.37		2.603	0.963
V7	Adventure	0.26		2.608	0.678
R2	Residual	0.00		-	-
PR3	Natural risk		0.25		2.665
V8	Sickness	0.36		2.659	0.957
V9	Hygiene and cleanliness	0.34		2.697	0.917
V10	Natural calamities	0.23		2.816	0.648
R3	Residual	0.07		2.043	0.143
PR4	Cultural risk		0.18		2.313
V11	Language	0.47		2.303	1.082
V12	Clothing	0.46		2.324	1.069
R4	Residual	0.07		2.314	0.162
Aggregated Tourism Risk Index					2.745

5 DISCUSSION AND CONCLUSION

Global tourism had consistently grown over time except in the year 2020 when an unseen bio-risk of COVID 19 stopped everything for almost a year. This risk has been unprecedented, but the global environment always remains in a state of change, with different natural and manmade risks coming up from time to time. Managing all risks effectively is key to successful tourism destination management though the complexity of situations at certain times may not present a viable solution. Measurement and quantification of risks in such cases can be a useful aid in finding solutions. Disaster management focuses on measurement and establishing levels of risks, so that affected persons to make informed decisions about their behaviour choices.

The literature on tourism needs to borrow and learn from here for tourism risk assessment. Travel alerts and advisories assess risks, but these are generic in nature and sometimes not appreciative of cultural differences. These are often contested by host destinations and the development of an objective measure can be very valuable for hosts, tourists, and destination managers.

The TRI developed through this research establishes that image of Kashmir as a risky place among prospective travelers is not accepted by the tourists after actual tour experiences who find Kashmir valley a safe tourist destination. However, the components of risks are rated differently in terms of safety. The findings show that Kashmir valley is perceived overall as less risky on all components, and in descending order, these ranks as personal safety, natural risk, cultural risk, and human induced risk. The results of this study are validated by the findings of previous studies stating that tourists perceive low risks at risky destinations that have general perceptions of not safe (Lepp et al., 2011; Fuchs and Reichel, 2006; George, 2010; Qi et al. 2009). Among different factors of risks in this study, the variables cheating in shopping and natural calamities are perceived as high risks that relate to the outcomes of Yüksel and Yüksel (2007) and Rittichainuwat and Chakraborty (2009) studies that also find cheating in shopping against tourists is a common practice at tour destinations. Further, the findings about the high perception of natural calamities relate to Gani et al. (2021), Shah et al. (2018), and Yousuf et al. (2020), which consider Kashmir valley risky because of its geographic location. The results of this study are along the lines established through earlier studies at other destinations but divert from the common perceptions echoed through media and word of mouth. The opinion of the tourists is influenced by these easily available inputs that can be challenged through the scientific approach of preparing quantitative TRI.

TRI can be customized for destinations by factoring local issues. This can find the application on a longitudinal basis to generate continuous data, and in that case, moving TRI can be prepared by following the moving average method rather than one point measure. TRI is a dynamic tool where variables change with the change in the situation, and its application at different destinations in a broader set of data is likely to make it more robust. The TRI bridges the gap between perceptions and reality for better destination management strategies.

5.1. Implications

Risk assessment and mitigation have become more valued post-COVID-19 experiences. Live data is needed for decision-making by visitors and destination managers. A programme can be developed to use live survey data to provide continuous TRI.

TRI developed through this study can be a potential tool to measure travel risk at a destination in totality and on different components of risk. This can also act as a comparative scale for evaluating risk across destinations and at different times. Continuous assessment of risks using this index can act as a live tracker for the different stakeholders; tourists, industry, and the government.

The present index is designed with rigor regarding reliability and validity, considering that a scientific approach to risk management is more important than generic perceptions of risk. TRI is simple to develop and understand that can be used in academics and industry with equal efficacy.

The TRI is based on important tour-related variables at a destination, which can change over time and place, thus making the index dynamic in nature. TRI will evolve with its application at different destinations and may also become standardized to some extent.

The quantitative assessment of tourism risks can be very useful for destination managers, as it will enable them to identify risks along with their intensity at the destination. TRI can act as a powerful feed-forward tool to proactively make

desired interventions to minimize the perceived risks of tourists.

The quantification of risks using TRI can also eliminate the influence of cross-cultural perceptions in risk assessment in travel advisories as tourists at the destinations can provide accurate inputs about ground realities.

5.2. Limitations and future research directions

The study has a few limitations. First, the study relied on cross-sectional data and was limited to tourists only. Other important stakeholders such as tour guides, hoteliers, and travel agents were not involved in the study. Future research can study risk perceptions through a multi-stakeholder perspective such as service providers and resident community using longitudinal research to generate data for better results. Second, the study adopted the purposive sampling method due to the non-availability of the sampling frame. Only available and accessible respondents were selected, which might have excluded some experienced respondents. Thus, future research should adopt random sampling methods to reduce selection bias.

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Appendix A: Questionnaire

Please rate the tourism risks of Kashmir valley based on your current tour experience and you can rate your response from 1 to 5 where 1= Very Low and 5= Very High

Risk Perception	1	2	3	4	5
Risk from terrorism					
Risk from unrest					
Chance of crimes against tourists					
Cheating in shopping					
Risk to personal health of tourists					
Chances of sickness					
Hygiene and cleanliness risks					
Possibility of natural calamities					
Safety in adventure tours					
Language barriers					
Requirement of traditional clothing by tourists					
Level of adaptability of Kashmiri food					

Appendix B: Statistics for the data collected

Item	Mean	Standard deviation	Skewness	Kurtosis
Natural calamities	2.816	0.990	0.106	-0.430
Shopping	2.795	1.118	0.135	-0.609
Hygiene and cleanliness	2.697	1.004	0.216	-0.469
Sickness	2.659	1.014	0.298	-0.372
Adventure	2.608	0.957	0.183	-0.037
Personal health	2.603	0.955	0.361	0.148
Food	2.584	0.977	0.369	0.019
Unrest	2.397	1.010	0.314	-0.486
Terrorism	2.384	1.035	0.431	-0.429
Clothing	2.324	0.983	0.469	-0.511
Language barriers	2.303	1.090	0.526	-0.474
Crime	2.141	0.983	0.661	-0.018