

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES

TOURISM RISK PERCEPTION AND RISK BEHAVIOUR AMONG HUNGARIAN TRAVELLERS

THE THESES OF THE PHD DISSERTATION

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TABLE OF CONTENTS

1. BACKGROUND AND OBJECTIVES OF THE WORK	4
2. MATERIAL AND METHOD	9
2.1. The empirical research process	9
2.2. The research model	11
2.3. Data collection procedure, main characteristics of the sample	16
2.4. Bibliometric analysis methodology	18
2.5. Structured interview process	19
2.6. Structural equation modelling (SEM)	20
3. RESULTS AND DISCUSSION	21
3.1. Results of structured interviews	21
3.2. Bibliometric analysis of the literature on tourism risk perception	22
3.3. Results of empirical research	23
3.3.1. Reliability assessment and descriptive statistical analysis of the of the measurement model	
3.3.2.Exploring the links between the research dimensions	25
3.3.3. The impact of sociodemographic factors on the dimensions of th	e survey29
4. CONCLUSIONS AND PROPOSALS	34
5. NEW SCIENTIFIC RESULTS	37
PUBLICATIONS	38
1 ANNEY	30

1. BACKGROUND AND OBJECTIVES OF THE WORK

The desire for security, the need for security, is a basic need. Society's perception of security is not objectively determined by crime or terrorism statistics, but by a number of socio-psychological factors, not least the information that reaches people. Perceptions of safety vary from one individual to another, depending for example on where they live, their wealth, social status, education, general and specific knowledge and cultural affiliations. People's sense of security can be realistic, expressing the actual state of affairs, or it can be misperceived, manipulated, under- or overestimated. There may be groups or organisations within the country, or even the government itself, that exaggerate or even create a sense of danger for their own benefit - in other cases they may be interested in underestimating the dangers. Security, security awareness covers many different areas. Behaviour that questions security or stability is risky behaviour. Risktaking is an integral part of our lives and an engine for innovation and development. In the literature review part of my thesis, I will look at some of the most important dimensions of travel-related security, tourism security. In my research, I examine security awareness and risk-taking using the framework of tourism. The selection of my research topic was merely influenced is largely influenced by my personal travel experiences - so far I visited 56 countries from which I even lived in 5 countries for a shorter or longer period of time, and also I was motivated by my parallel research I have been pursuing in Africa. I would like to highlight my research on the relationship between tourism and terrorism in Mali, which is an ongoing research project, with some breaks for further fieldwork depending on the current domestic political situation. I am conducting this research as a researcher at the Institute of African Studies, part of the Doctoral School of Security Studies at the University of Óbuda, in addition to my studies at the MATE doctoral school. The empirical research of my dissertation consists of two main modules: the first focuses on exploring the relationship between safety awareness and risk-taking (structural model) in relation to travel, the second examines the relationship between warning influence of media, mooddriven action and intergenerational differences in risk-taking in relation to travel. I seek to answer which factors influence risk-taking, reinforcing safety-conscious behaviour.

During my doctoral research I set the following research objectives:

- 1. To explore the factor safety awareness related to tourism safety and their relationship with the willingness to take travel risks.
- 2. To identify the factors that determine and influence the relationships between the elements.

One of the initial hypotheses of my research was that safety awareness, self-confidence information collection and prior experience have negative influence on the willingness to take risks when travelling. I hypothesised that a safety-conscious traveller prepares carefully for their trip, assesses their abilities realistically and plans his/her trip based on previous experience - covering all the details.

The next set of questions focuses on the control of indirect and direct (physical) risk and the willingness to take risks associated with travel. I hypothesised that the difficulty of controlling indirect and direct (physical) risk would negatively affect travel risk taking.

The third set of questions examined the impact of perceptions of the importance of general security and personal security, including accommodation security, travel security, information security, event security, health security and financial security, on travel risk taking. I hypothesised that a higher importance attached to personal safety, as the pursuit of safety is a basic need, and a stronger need for

general safety would have a negative impact on travel risk taking.

For the fourth set of questions, I examined the effect of price sensitivity and mood-driven action on the willingness to take risks associated with travel. I hypothesised that a cheaper travel option or a mood-driven action would increase risk-taking propensity.

The next, fifth set of questions in my study I examined the impact of stronger warning influence of media on travel-related risk-taking. I hypothesised that information in the media - indicating a higher risk associated with travel - would have a negative impact on the willingness to take travel risks.

In the last part of my study, I assessed the socio-demographic characteristics of Hungarian travellers (age, education, income status) and the frequency of their trips abroad, their willingness to take risks related to travel and their safety attitudes related to their travel habits. I hypothesised that the younger generation would have a higher risk appetite than the older generation.

In line with the research objectives, I formulated six research hypotheses. The first three of these hypotheses examined the impact of security awareness, self security, information acquisition and experience, direct (physical) risk, indirect risk, general security and personal security on need for travel-related risk-taking. The fourth of these hypotheses examined the impact of price sensitivity and mood-driven action on travel-related risk-taking propensity. The fifth investigated the impact of stronger media on travel-related risk-taking propensity. The sixth examined the sociodemographic characteristics of Hungarian travellers (age, education, income status) and the frequency of their trips abroad on travel-related risk-taking propensity and safety attitudes related to their travel behaviour.

H1: Safety awareness has a negative impact on travel risk taking.

H1a: Self-safety decreases risk-taking propensity for travel.

H1b: Safety-conscious action based on information acquisition will reduce risk-taking propensity to travel.

H1c: Safety-conscious action based on gaining experience reduces risk-taking propensity to travel.

H2: Perceptions of higher levels of direct (physical) and indirect (e.g. language difficulties) risks have a negative impact on travel risk taking.

H2a: Difficulty in controlling direct (physical) risk has a negative impact on travel risk taking.

H2b: Perceived higher level of indirect risk negatively influences risk taking propensity to travel.

H3: A stronger need for general safety and personal safety has a negative impact on travel risk taking.

H3a: A stronger need for general security, including accommodation security, travel security, information security, event security, health security and financial security, has a negative impact on travel risk taking.

H3b: A stronger need for personal security has a negative impact on travel risk taking.

H4: Price sensitivity and mood-driven actions increase the propensity to take travel-related risks.

H4a: Price sensitivity increases the willingness to take risks related to travel. H4b: Mood-driven action related to travel management increase risk-taking

propensity.

H5: Stronger warning influence of media reduces the willingness to take risks when travelling.

H6: The socio-demographic characteristics of Hungarian travellers (age, education, income status) and the frequency of their trips abroad have a significant impact on their willingness to take travel risks and on their safety attitudes related to their travel behaviour.

2. MATERIAL AND METHOD

The theoretical foundations of my doctoral thesis are based on the findings of the national and international literature related to security and tourism safety. Due to the planned sample size (1000 persons), the online survey method was clearly chosen, followed by the questionnaire. Interview techniques and data analysis were used in addition to the questionnaire.

The chapter is divided into six parts. In the first subsection, the empirical research process is presented, in the second the research model and its operationalisation, and in the third the data collection process and the main characteristics of the sample. In the fourth subsection, the methodology of the bibliometric analysis is presented, in the fifth subsection the methodology of the structured interview is described, and finally in the sixth subsection the statistical methods used and the software used for data analysis are presented.

2.1. The empirical research process

The research process is illustrated in Figure 1.

The empirical research consists of two main modules: the first is aimed at exploring the relationships between risk-taking and the dimensions that determine it (structural model), and the second is aimed at examining significant differences in the values of the examined dimensions, the socio-demographic characteristics considered important in the analyzes (age, education, household income situation) and between the categories formed based on the frequency of travel abroad.

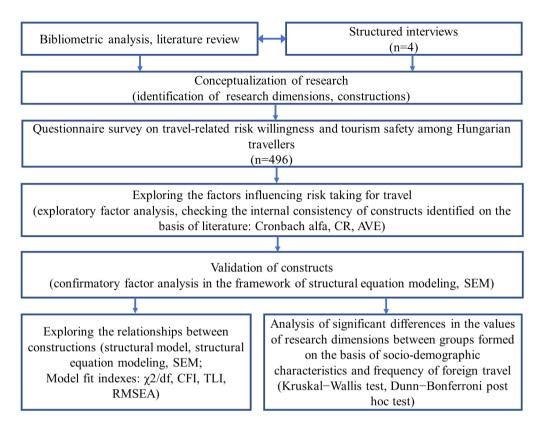


Figure 1. The research process Source: own editing

2.2. The research model

The research model that includes attitudes related to tourism safety and risk-taking consists of ten explanatory and one explained dimensions (Figure 2).

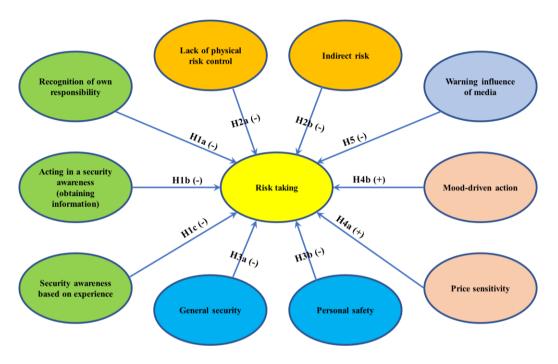


Figure 2. Research model Source: own editing

The central dimension of the model is the willingness to take risks, I examine the effect of the other dimensions on this prominent model element. Risky behavior may also depend on the individual's risk-taking attitudes, as risk itself may be attractive to individual persons. During travel decisions, a person may behave in a risky way because either he does not perceive the dangers associated with travel, or he perceives them to be lower, or in his subjective decision, the positive benefits (cheaper flight tickets, accommodation, etc.) offset the risk. The measurement of the dimension was based on the evaluation of five travel-related situations: on a five-point Likert scale (1=completely excluded, 5=completely agreeable), the interviewee assessed how likely they were to accept trips involving different risks.

An important factor in tourism safety is the responsibility of travellers themselves. One of the explanatory dimensions of travel risk-taking is the recognition of personal responsibility, by which I examine what the traveller thinks his or her safety depends on, and how much it depends on what he or she does to feel safe. In terms of risk taking, informed safety-conscious action means conscious preparation for a destination using the resources available. Destination information can take various forms, such as advertisements in brochures, newspapers or travel magazines, TV programs, radio broadcasts or internet content. A number of studies (NYSVEEN - LEXHAGEN 2002, LIN et al. 2009, XIANG - GRETZEL 2010) have identified the Internet as a key factor in both travel decision-making and travel planning. Social media websites are particularly popular, including consumer-created websites of different types and content, blogs, wikis, YouTube, Twitter, etc.

Safety awareness based on experience is determined by previous travel experiences. Destination influences the perception of specific physical risks. In their study, JONAS and colleagues (2011) found that perceptions of health risks rank relatively high compared to other risk factors among tourists intending to travel to developing countries. GRAY -WILSON (2009) identify risk factors affecting the physical safety of travellers as the strongest determinants of overall risk aversion. In examining the impact of terrorism on tourism, PIZAM-FLEISCHER (2002) show that tourists' risk perception and travel decisions are influenced primarily by the frequency of terrorist acts and less by their severity. Although most studies agree that reducing physical risks improves the image of a destination, the extent of this effect cannot be clearly quantified. DE ALBUQUERQUE-MCELROY (1999) was one of the first to link the increase in crime to mass tourism in Barbados, although they could not statistically prove the impact of the increase in crime on tourism demand. By indirect risk I mean communication problems and lack of consular protection in the model. MANCINI-CROSS and colleagues (2009) interpret the language gap as a barrier to intercultural communication between visitors and hosts. Several researchers (HOTTOLA 2004, YOO-SOHN 2003) suggest that tourists may experience role conflicts, self-doubt and defensiveness during their overseas trips due to cultural differences and language difficulties. MITCHELL-VASSOS (1997) found that the study of a particular language vocabulary is the least useful risk reduction strategy. However, this study was for a specific tourist destination that did not require travellers to learn a local language, so determining the relevance of this strategy in reducing indirect risks requires further investigation. LO and colleagues (2011) identify the most effective risk mitigation tools for overall travel safety as travel insurance, extra cash and destination research. LEGGAT - LEGGAT (2002) justify the importance of taking out travel insurance due to the high cost of medical care abroad. It is relatively common for travellers to buy medical insurance to cover possible expenses related to medical care. MITCHELL et al (1999) consider the purchase of travel insurance as one of the most effective strategies to reduce the negative consequences of travel.

YANG-NAIR (2014), in a study of risks associated with tourism, found that risk and risk perception are multidimensional concepts related to aspects such as uncertainty avoidance, worry, anxiety or fear. According to HOFSTEDE et al. (2010), uncertainty avoidance attitudes are determined by the extent to which an individual feels threatened or uncomfortable in situations with unknown outcomes or uncertainty. Consequently, individuals with high uncertainty avoidance avoid situations in which they may experience stress or anxiety. In the context of risk aversion, KARL (2016) argues that this may mean that tourists may choose not to travel to destinations with less developed tourism infrastructure, including transport or accommodation, as it is more difficult to predict the outcome of a trip to such a destination.

Personal safety was measured by looking at the personal exposure of the traveller. Some researchers (FUCHS- REICHEL 2006, KARL 2016) highlight the importance of focusing on situational judgement in the context of risk, as personal

risk perception (i.e. the subjective assessment of the negative consequences of an event or decision from the individual's perspective) has been shown to be a stronger determinant of travel decisions than the actual risks involved. As far as risk and the final decision on destination choice are concerned. Sönmez and Graefe (1998a, 125) state that "potential tourists choose the destination that best suits their needs by offering the most benefits at the least cost (or risk)". Sentiment-driven travel decision making can distort risk perception. STEPCHENKOVA-EARLES (2011) found, for example, that articles about Russian culture in three influential British newspapers were more likely to have a stronger influence on British tourists' decisions to choose Russia as a destination than perceptions of safety. FUCHS-REICHEL (2004) demonstrated significant differences in overall risk perceptions of the risk decisions taken and between several risk perception dimensions related to religious sentiments. According to some researchers (PRITCHARD -MORGAN 2006, BERDYCHEVSKY-GIBSON 2015), emotion-driven decision making is most associated with leisure travel. Reflecting on why some individuals have a higher risk-taking propensity than others, ZUCKERMAN (2007, p. 49) interpreted the sense of adventure as "the need for varied, novel, complex and intense sensations and experiences, to satisfy which individuals take physical, social, legal and financial risks". A number of studies (AHMAD et al. 2015, CUI et al. 2016) have found that higher confidence in the risk communication channel is associated with higher levels of risk taking. BROWN (2015) has shown that the number of tourists arriving in a destination can be reduced by prolonged negative media coverage. Prolonged media coverage, often following the reporting of a well-known crime, can have a devastating impact on countries that rely on tourism as their biggest economic driver.

The statements used to measure the ten explanatory and one explained dimensions of the research model, which includes some elements of tourism security and their impact on the willingness to take risks related to travel decisions, were developed based on the results of previous studies published on the topic and the results of structured interviews (Table 1).

Table 1. Literature-based measurements of the dimensions of the research model

Code	Constructs/Elements	Source				
	Risk taking					
KCKV1	Cheap travel – some risks (e.g. outbreak of civil war)	SÖNMEZ – GRAEFE				
KCKV2	Cheap travel – epidemic risk possible	(1998a), YANG –				
KCKV3 KCKV4	Free round trip with discounted accommodation - possible terrorist threat Free return flight - risky accommodation (unsafe area)	NAIR (2014), WANG et al. (2019), structured interviews				
KCKV5	You have been vaccinated but have not had enough time to be protected – you are not protected against diseases in your country					
	Recognition of own responsibility					
ÉNBIZ1 ÉNBIZ2 ÉNBIZ3	My safety depends on how much money I have. My safety depends on how prepared I am. My safety depends on my health.	CALDEIRA et al. (2022), PARSON– LYKINS (2023), structured interviews				
Ac	eting in a security awareness (obtaining information)					
INFSZ1	I am gaining more and more knowledge about the country I am traveling to	SEABRA et al. (2014), SALMAN et				
INFSZ2	I collect information about my destination online	al. (2022), structured				
INFSZ3 INFSZ4	I listen to the opinions of competent persons (e.g. the consular section of the Ministry of Foreign Affairs) I thoroughly prepare and plan my trip	interviews				
	Security awareness based on experience					
TAPSZ1	When I travel by car, I take out insurance for the car	SHARIFPOUR et al.				
TAPSZ2	If I have a car, or if I have a car, I take the car to service,	(2014),				
TAPSZ3	check its technical condition I take out travel insurance	YANG et al. (2015), CHAN et al. (2020), CHAN (2021), NEUBURGER – EGGER (2021)				
	Lack of physical risk control					
KZTL1	Possibility of kidnapping	SÖNMEZ – GRAEFE				
KZTL2	They can kill you (e.g. because of organ trafficking)	(1998b), NEUMAYER (2004),				
KZTL3	Physically assaulted	YANG – NAIR				
KZTL4	I could be the victim of a terrorist attack	(2014), KARL –				
KZTL5	Other natural disasters (e.g. earthquakes)	SCHMUDE (2017),				
KZTL6	Extreme weather (e.g. tsunami, downpour)	RITTICHAINUWAIT (2018),				
KZTL7	There may be riots, demonstrations	ZOU –MENG (2019)				
KZTL8	You will be robbed	, ,				
KZTL9	Can I catch unknown diseases					

	Indirect risk						
KZTT1	I don't speak, I don't understand a foreign language	KHAJURIA (2014),					
KZTT2	I don't speak the official language of the country	structured interviews					
KZTT3	Hungary does not have an official diplomatic representation						
	in the given country						
_	General security						
ÁLTB1	Accommodation security (hotel, motel, hostel, airbnb	GYÖMBÉR (2018),					
ÁLTB2	apartment security) Travel safety (air transport, airport, railway station, road	MICHALKÓ (2022)					
ALID2	safety)						
ÁLTB3	Information security, communication (reliable information),						
(·	security of data provided during travel arrangements						
ÁLTB4	Event security (safety in case of sports tourism, mass events, concerts)						
ÁLTB5	Health security (vaccinations, quarantine, medicines)						
ÁLTB6	Financial security (insurances)						
	Personal safety						
SZMB1	Personal safety (self-defence – self-defence, means of self-	COHEN (2011),					
	defence)	POPESCU (2011),					
SZMB2	Knowledge of legislation and international conventions	structured interviews					
SZMB3	Digital security (protection of biometric data, cybersecurity)						
	Price sensitivity						
ÁR1	Possibility of cheap airfare	SÖNMEZ – GRAEFE					
ÁR2	Cheap travel package (airfare + accommodation)	(1998a)					
	Mood-driven action						
HANG1	I just decide and travel	ZINS (2001), LIU et					
HANG2	I like surprises – when I get there I'll find out what's there	al. (2022)					
	Warning influence of media						
MÉDA1	I cancel my trip after hearing scary news	PEAK -HIVE (2017),					
MÉDA2	I trust picture or video reports more, I prefer to cancel my	structured interviews					
MÉDA2	trip when I hear/see scary news						
MÉDA3	Before travelling, I always watch the News, on several channels, I follow the coverage – the reporters report reliably						
MÉDA4							
MÉDA5	I am cautious with news and reports, but I still listen/watch						
	the reports						
Source:	own editing						

Source: own editing

2.3.Data collection procedure, main characteristics of the sample

The data for the empirical research are taken from an online questionnaire survey. The online interface of the questionnaire was created using LimeSurvey questionnaire editing software. To measure risk taking, I used a five-point Likert

scale, with one corresponding to total disagreement and five corresponding to total agreement. Participation in the survey was voluntary, and the questionnaires were completed anonymously on the basis of a random survey. I planned to share the questionnaire in several travel-related Facebook groups, but the admins of several groups refused to share it without giving reasons. I set a target of 1000 respondents. 709 data sets were received, after cleaning 496 sample items remained, i.e. out of the 709 completed questionnaires a total of 496 respondents answered all questions. I shared the link to the questionnaire on my own Facebook page, supported this post with a paid advertisement, which was liked by 301 people, no data on how many responses this resulted in, and shared it via Facebook Messenger and email. The questionnaire contained 23 questions - main groups of questions:

- 1. Demographic data of respondents (6 questions),
- 2. Travel habits (3 questions),
- 3. Relevant to risk taking safety and travel attitudes (13 questions).

The online questionnaire was open for completion between 13 June 2022 and 4 September 2022. 65.2% of respondents were female and 34.8% male. In terms of age, most respondents - 35.3% - were in the 43-57 age group. In terms of highest level of education completed, 57.9% of respondents have a college or university degree. In terms of respondents' educational attainment, the sample was overrepresented with higher education compared to high school graduates. This distribution by educational attainment can be seen as favorable in that it allows us to gain an insight into the views of respondents with higher education and more favourable conditions in terms of their financial and existential situation. In terms of marital status, 62.3% of respondents are married or in a civil partnership. Most respondents (55.4%) live in the capital. 10.5% of respondents live in a large city (large city = municipality with a population of over 100,000) and 15.1% in a medium-sized city (medium-sized city = population of 20-100,000). Regarding

the income situation of the household, 54.6% indicated the "average" option in terms of per capita household income.

In addition to socio-demographic data, the question on the frequency of foreign travel was the most frequently selected (38.1%), followed by "I travel abroad less than once a year" (34.1%) and "I travel abroad annually" (34.1%). When asked about the type of trip, 57.7% of respondents chose "travelling with family, spouse/partner/girlfriend". A "business trip" or a "visit to a disaster site" were relevant for a small number of respondents (Figure 3)

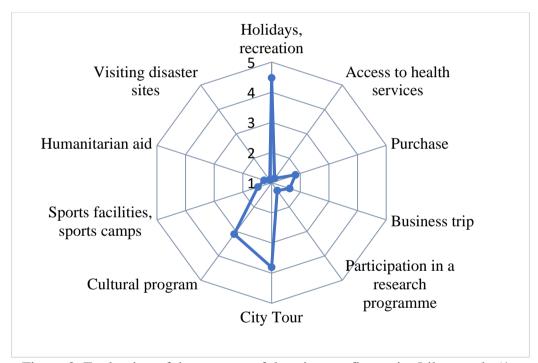


Figure 3. Evaluation of the purpose of the trip on a five-point Likert scale (1= not at all, 5= most)

Source: own survey, n=496

2.4 Bibliometric analysis methodology

Bibliometrics is a method that involves the statistical analysis of published articles and the citations they contain to measure their impact. The bibliometric analysis was carried out using the VOSviewer software.

Literature sources were collected from the Web of Science Core Collection scientific database. For the purpose of bibliometric analysis, the main bibliographic data - title of the article, author name, journal name, date of publication, abstract and references cited in the article were extracted.

A search for the terms 'tourism security' and 'tourism safety' resulted in 79 documents listed in the Web of Science database at the time of the query (16 January 2023, 11.30 am). From the literature on tourism risk perception - the 'ALL=("risk perception")) AND ALL=(tourism)' boolean algebraic expression - resulted in 529 literature sources, 231 of which were Open Access publications, for the bibliometric analysis.

2.5. Structured interview process

My interviewees:

Dr. Péter Virányi Sociologist, Associate Professor

Dr. Bulcsú Remenyik PhD tourism researcher, Associate Professor

Lt. Col. Győző Atkári, military officer, survivor of a terrorist attack (in Africa)

Dr Róbert Frölich, National Chief Rabbi, Field Rabbi

The interviewees were selected for their personal experience and knowledge of both security and tourism. A sociologist, a tourism researcher, a rabbi of the largest synagogue in Budapest (and Europe), a national Chief Rabbi and a military officer who has been involved in several international projects and has missionary experience - all of them with several years of experience - met the selection criteria. My questions focused on security, security awareness and tourism security. The interviewees expressed what security means to them, what they think about security awareness and the future role of tourism security.

2.6 Structural equation modelling (SEM)

The third phase of the research started with a test of the validity of the hypothetical model. Confirmatory factor analysis (CFA) was used to test the reliability of the latent constructs representing the research dimensions. The confirmatory factor analysis was performed within Structural Equation Modeling (SEM) (BYRNE 2010). The reliability of the latent constructs was confirmed by testing the Cronbach's alpha index. A value of the Cronbach's alpha coefficient above 0.7 indicated adequate internal consistency of the latent construct (CORTINA 1993). The reliability of a latent variable consisting of two statements was not checked by the Cronbach's alpha coefficient but by the Spearman-Brown coefficient, adopting the suggestion of EISINGA - GROTENHUIS - PELZER (2013). A value of the coefficient above 0.7 is considered to be appropriate. The validity of the latent constructs was checked using the average variance extracted (AVE) and composition reliability (CR) indicators. The AVE value indicates the average proportion of the variances of the statements that make up a given latent construct that are compressed into the given artificial variable. A value of the indicator higher than 0.5 is considered acceptable (HAIR et al. 2009, BAUMGARTNER -HOMBURG 1996). The compositional reliability (CR) indicator expresses the common fraction of variances for the statements that make up each latent construct. The threshold criterion for the value of CR requires that the CR of each latent variable in the model should be 0.7 (HAIR et al. If the value of the average explained variance indicator is below the threshold value of 0.5, but the value of the compositional reliability indicator is above 0.7, the reliability of the latent structures is acceptable (LAM 2012, FORNELL - LARCKER 1981). IBM SPSS Statistics 27.0 and AMOS 23.0 software were used to run the tests.

3. RESULTS AND DISCUSSION

3.1. Results of structured interviews

Experts of the interviews:

a) **Dr. Péter Virányi PhD**, sociologist, Associate Professor, secretary of the subcommittee on the history of World War II of the Hungarian Academy of Sciences

"One of the greatest illusions in life is security. The more one pursues it, the more one's life becomes filled with anxiety, because there is no such thing as absolute security. No matter how hard one tries, life has proven time and again that with the stroke of a pen it can rewrite anything and turn the whole world upside down. The concept and understanding of security, especially in recent decades, has undergone perhaps unprecedented changes. However, a safe and undisturbed state is, unfortunately, never 100 percent possible in the world as we know it, under any circumstances." "The main difference between uncertainty and risk is that while uncertainty refers to the probability of an event occurring, risk can refer to the consequences and costs that follow its occurrence."

b) **Dr. Bulcsú Remenyik PhD** tourism researcher, Associate Professor

"Tourism safety is important for the future. Smart tourism will do a lot to make destinations even safer. Covid-19 has made security a factor of a whole new importance." "The security issue will be completely transformed in a year or two. The field of tourism security will move into the field of cyber security."

c) Lt Col Győző Atkári, military officer, survivor of a terrorist attack in Africa "In social terms, security awareness is currently not a priority" "Personal or individual security awareness, which can be experienced on a daily basis as a soldier, is for example reflected in the way one reacts to events in a

given situation, how prepared one is. Surviving a terrorist attack (in a mission in Africa), for example, the right situational awareness, quick reaction and the ability to use a weapon saved lives."

d) Dr. Róbert Frölich, Chief Rabbi of the Hungarian Defence Forces

"Safety is when I do not strain every nerve of my being on the threat of danger from somewhere." "100% safety cannot be guaranteed."

The participants agreed that 100% safety cannot be guaranteed. Safety-conscious behaviour is not socially focused. Tourism security is relevant for the future and its dimensions will change in the near future.

3.2. Bibliometric analysis of the literature on tourism risk perception

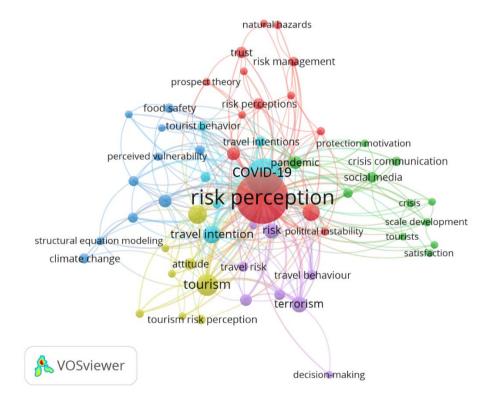


Figure 4. Keyword network of publications on tourism risk assessment Source: own editing based on Web of Science Core Collection database, n=529

Publications on tourism risk assessment keywords include the main elements of behavioral theory: attitude, intention, behaviour (Figure 4). In addition, these elements are not a single keyword but several keywords18 clusters. The central cluster of red keywords is represented by risk perception, risk trust, natural hazards and political instability. The green cluster includes crisis communication and social media. The light blue cluster is dominated by COVID-19. In the blue cluster climate change and food security. This may suggest that tourism risk assessment is inseparable from the global recognition of the threats of modernity.

3.3. Results of empirical research

The empirical research consisted of two main modules, the first one exploring the relationships between risk-taking and the dimensions that determine it (structural model), the second one examining the significant differences in the values of the dimensions under study. In addition to the bibliometric analysis and literature review, structural interviews (n=4) were conducted, followed by the conceptualisation of the research (identification of the dimensions and constructs to be investigated). This was followed by a questionnaire survey on travel-related risk aversion and tourism safety among Hungarian travellers. A total of 709 respondents completed the questionnaire, of which 496 answered all questions.

3.3.1. Reliability assessment and descriptive statistical analysis of the dimensions of the measurement model

When examining the reliability of the latent constructs used to measure the dimensions identified in the research model, it can be concluded that the validity of the measurement model is adequate (Appendix 1). The weight values obtained as a result of the control factor analysis exceed the threshold of 0.5 for all but the statement ÉNBIZ2, which belongs to the dimension 'Recognition of own responsibility', but are also close to 0.5 for the statement with the lowest weight value. The lowest value of the Cronbach's alpha indicator (0.639) measuring the

internal consistency of the scales belongs to the dimension 'Recognition of own responsibility'. Although this value does not reach the value of 0.7, indicating a good internal consistency of the constructs, it can still be considered acceptable (SHI et al. 2012). The average variance explained (AVE) for five latent variables was below 0.5, while the composite reliability index (CR) was above 0.7 for all these constructs, indicating that the research dimensions are well measured in the model.

Examining the mean and standard deviation values of the scores for the statements constituting the research dimensions, it can be observed that, on the five-point Likert scale used, the lowest means are for the statements measuring the 'Risk-taking' and 'Mood-driven action' dimensions (Appendix 1).

The mean scores for the research dimensions on the five-point Likert scale indicate that risk-taking is quite low (1.70) and mood-driven action (1.61) is less characteristic of Hungarian travellers (Figure 5).

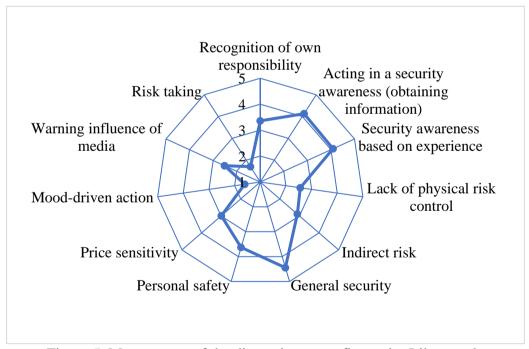
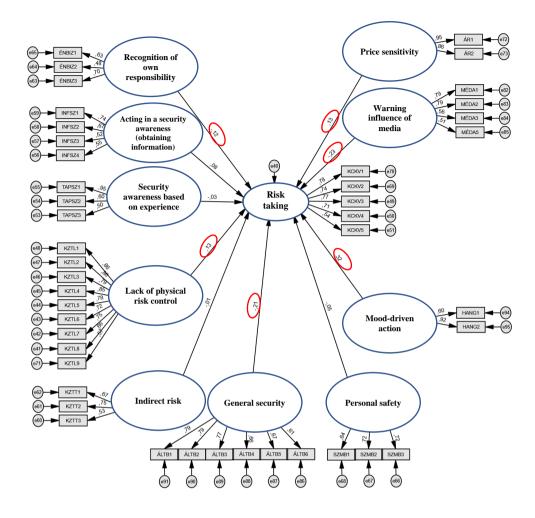


Figure 5. Mean scores of the dimensions on a five-point Likert scale Source: own survey, n=496

The average of five dimensions exceeds the neutrality level of the five-point scale (Figure 5). Hungarian travellers attach greater importance (4.45) to general security, including accommodation security, travel security, information security, event security, health security and financial security. They are more likely to act in a safety-conscious manner by gathering information (4.13) and by gaining experience (4.09). Their perception of the importance of personal security, including self-defence tools, knowledge of the law and digital security, resulted in an average score of 3.63 on a five-point scale. The importance of self safety was rated by Hungarian travellers with an average score of 3.35.

3.3.2. Exploring the links between the research dimensions

The assumptions of the research model hypothesis framework on the relationships between the study dimensions were tested using structural equation modelling (SEM). Among the ten explanatory dimensions included in the model, I verified the significant effects of six latent constructs on the target dimension of willingness to take travel-related risks (Figure 6). The values of the standardized regression coefficients associated with the verified effects are circled in red. Of the three dimensions used to measure tourism-related safety awareness, only self safety has a weak negative effect on travel-related risk-taking propensity. The effect of safety-conscious action based on information acquisition and experience acquisition cannot be confirmed by the results of the structural model.



 $\chi^2/df = 2.242$; CFI = 0.895; TLI = 0.882; RMSEA (90% CI) = 0.050 (0.047–0.053)

Figure 6. Measurement and structural model corresponding to the conceptual model,

Source: own survey, n=496

The results obtained for the structural model hypotheses show that two of the five hypotheses were fully and one partially proven (Table 2). The hypothesis H1 on safety awareness in tourism, according to which safety-conscious action reduces risk-taking propensity, was rejected. This is because only a weak moderating effect of self-safety-related safety awareness on the risk-taking propensity of Hungarian travellers can be demonstrated. Safety awareness based on information

acquisition or experience acquisition has no significant effect on risk taking decisions related to travel arrangements.

Table 2. Evaluation of hypotheses based on SEM results

Hypothesis	Standardized regression coefficient (beta)	S.E.	p- value	Result	Conclusion
H1a. Recognition of own responsibility → Risk taking	-0.120	0.056	0.031	Recognition of own responsibility has a weak negative effect on the willingness to take risks associated with travel.	
H1b. Acting in a security awareness (obtaining information) → Risk taking	0.078	0.059	0.130	The mitigating effect of security awareness in obtaining information on risk willingness cannot be justified.	H1 is not supporte
H1c. Security awareness based on experience → Risk taking		0.027	0.476	The effect of experience- based security awareness on travel-related risk willingness has not been demonstrated.	
H2a. Lack of physical risk control → Risk taking	0.133	0.046	0.004	The difficulty of controlling direct (physical) risk, contrary to the H2a hypothesis, does not negatively affect the willingness to take risks associated with travel, but positively. The effect is weak.	H2 is not supported
H2b. Indirect risk → Risk taking	-0.014	0.037	0.789	A stronger perception of indirect risks related to travel (e.g. language difficulties) does not significantly affect the risk willingness associated with travel.	
H3a. General security → Risk taking	-0.212	0.069	<0.001	The perception of the importance of overall safety has a weak negative impact on the willingness to take risks related to travel.	H3 is only partially supported

H3b. Personal safety → Risk taking	-0.051	0.049 0.316	The perception of the importance of personal safety cannot be justified and its significant impact on the willingness to take risks related to travel cannot be justified.	
H4a. Price sensitivity → Risk taking	0.132	0.031 0.005	Price sensitivity has a weak positive impact on traveller-related risk willingness.	H4 is
H4b. Mood-driven action → Risk taking	0.324	0.066 < 0.00	Mood-driven action has a moderately strong impact on travel-related risk willingness.	supported
H5. Warning influence of media → Risk taking	-0.231	0.065 <0.00	Weak negative media impact on risk willingness for travel can be justified.	H5 is supported

Source: own research

The increased consideration of physical (direct) risks to physical health and well-being does not reduce, but rather increases, the risk appetite, contrary to H2a. More serious consideration of indirect risks from potential language difficulties and the lack of formal diplomatic representation does not significantly reduce the risk appetite for travel planning. On this basis, hypothesis H2 is rejected. A stronger need for general security is justified as reducing risk taking. However, the higher importance attached to personal safety does not significantly reduce risk taking among Hungarian travellers. Hypothesis H3 is only partially accepted. Hypothesis H4 is fully supported: price sensitivity and mood-driven action have a demonstrable positive effect on risk-taking in travel decisions. Warning messages in the media can be shown to reduce the risk-taking propensity in travel decisions, thus hypothesis H5 is confirmed.

3.3.3. The impact of sociodemographic factors on the dimensions of the survey

Age has been shown to have a significant effect on all the dimensions of tourism safety under study, with the exception of the dimensions 'Self-safety' and 'Personal safety'. The results of the Dunn-Bonferroni post hoc tests for significance of the Kruskal-Wallis tests indicate that 18-21 years olds persons have significantly higher levels of travel-related risk-taking compared to all other age groups.

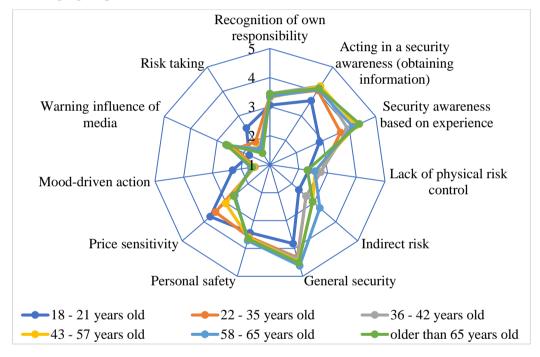


Figure 7. Examination of differences between age groups in the mean scores of the research dimensions

Source: own survey, n=496

People aged 65 and over feel less exposed to physical risks to life, limb and health compared to people aged 22-35. Perceived levels of indirect risk related to language difficulties are significantly lower among 18-42 year olds persons compared to those aged 42+. Perceptions of the importance of general security, including accommodation security, travel security, information security, event

security, health security and financial security, are significantly higher among those aged 42+ compared to those aged 18-21. The findings clearly demonstrate that emotion driven actions and price-sensitive attitudes towards travel safety are most prevalent in younger age groups compared to older ones. The 18-21 age group is less susceptible to higher risk signals in the media in relation to planned travel compared to all other age groups. The effect of education was found to be significant for only three of the dimensions examined. Safety-conscious action to obtain information is significantly more prevalent among those with tertiary education compared to those without (Figure 8). Price-sensitive behaviour in relation to travel arrangements is more prevalent among those with a school leaving certificate compared to those without. Similarly, those with a high school diploma are significantly more likely to have a sentiment-driven behaviour travellers with college compared to a university degree. or

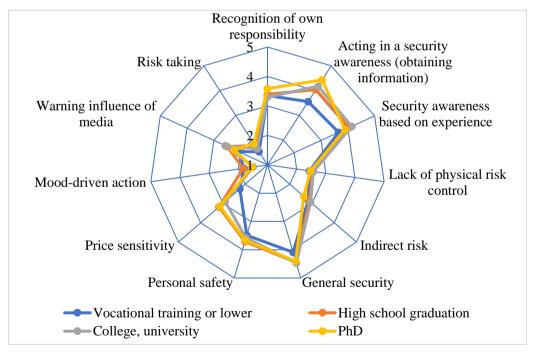


Figure 8. Examination of differences between educational qualification levels in the average values of the research dimensions

Source: own survey, n=496

Empirical research among Hungarian travellers has not demonstrated the impact of household income status on the willingness to take travel-related risks or on individual attitudes towards tourism safety. Only in the perception of indirect risk (language difficulties) is there evidence of a significant difference between the average income group and all other income categories: travellers who consider themselves to be in the average income group perceive themselves to be more exposed to indirect risk than all other income groups (Figure 9).

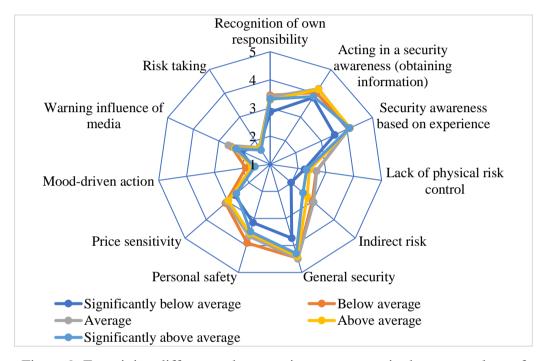


Figure 9. Examining differences between income groups in the mean values of the research dimensions

Source: own survey, n=496

The research results show that the frequency of foreign travel has a significant impact on the risk-taking propensity to travel: those who travel more than once a month have a significantly higher risk-taking propensity compared to those who travel less frequently in a year. Those who travel less frequently than once a year attach significantly higher importance to direct (physical) risks to physical health and safety compared to those who travel monthly (Figure 10). Regarding the perception of indirect risks related to language difficulties, those who travel less

frequently abroad feel more exposed to indirect risks compared to those who travel more frequently. Those who travel less frequently than once a year attach significantly higher importance to general safety compared to those who travel more than once a month. Mood-driven action related to travel arrangements are significantly less prevalent among those who travel abroad less frequently than once a year compared to those who travel at least once a year. Those who travel less than once a year are more susceptible to negative travel-related content in the media.

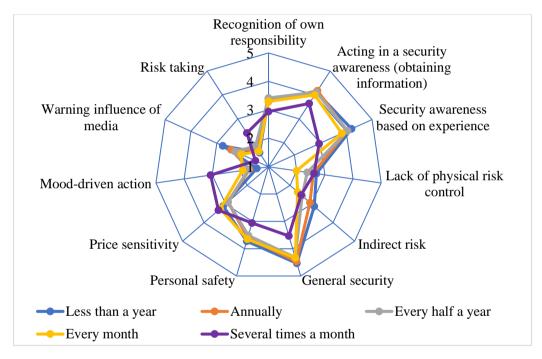


Figure 10. Examination of differences between groups by frequency of foreign travel in the mean values of the research dimensions

Source: own survey, n=496

When assessing the impact of sociodemographic characteristics and the frequency of foreign travel on travel-related risk-taking propensity and attitudes towards tourism safety, it can be concluded that hypothesis H6 is only partially supported. Age and the frequency of foreign travel have a significant impact on the risk-taking propensity of Hungarian travellers and their perception of the importance

of certain aspects of tourism safety. Younger age groups and those who travel more often have higher risk-taking propensity and more mood-driven behaviour, but significantly lower perceptions of the importance of risk elements.

4.CONCLUSIONS AND PROPOSALS

Order is a fundamental value for any society, but a full guarantee of security is a utopian idea, because it cannot be fully achieved - as one of my interviewees put it. The worst publicity for a tourist destination is when there is a crime, a terrorist attack or an epidemic on its territory. Crisis experts and analysts work to determine from year to year which countries are safe and which countries to avoid, where tourists are most at risk.

In line with my research objectives, I have formulated six research hypotheses. The first three of these hypotheses examined the impact of safety awareness, recognition of personal responsibility, information and experience, direct (physical) risk, indirect risk, general safety and personal safety on the willingness to take travel-related risks. The fourth examined the impact of price sensitivity and mood-driven action on travel-related risk-taking propensity. The fifth investigated the impact of media risk communication on travel-related risk-taking propensity. The sixth examined the socio-demographic characteristics of Hungarian travellers (age, education, income status) and the frequency of their foreign travel in terms of travel-related risk-taking propensity and safety attitudes related to their travel behaviour.

The average scores of the research dimensions on a five-point Likert scale indicate that risk-taking is rather low and mood-driven action is less typical for Hungarian travellers. Mean scores below the three neutrality level of the scale are associated with four other research dimensions: media reports warning of potential risks associated with travel (risk communication in the media) have less influence on the decisions of Hungarian travellers. Physical health and safety (physical) risks and indirect risks due to language difficulties are less important for Hungarian travellers. Price sensitivity is a medium concern for Hungarian travellers. The research results suggest that a greater consideration of physical (direct) risks to health and safety does not reduce but increases risk aversion. A possible

explanation for this is provided by ZHAO's (2012) study, which found that general risk awareness increases the risk appetite in travel decisions: the more information available, the higher the risk appetite.

Several researchers (HALL, 2002, KAPUSCINSKI, 2014, ZHANG et al. 2022) point to the impact of risk communication on tourists' risk perception. My research confirms that media reports of dangerous events reduce the willingness to take risks when travelling. However, the weak effect may also suggest that the magnitude of the media effects associated with risk communication depends, among other things, on the content of the messages and the risk-averse attitudes of individuals.

My research findings support the findings of previous studies (CARR 2001, YANG et al., 2015, ZHAN et al., 2022) that the age and travel experience of travellers influence their risk perception. In their study, HALES-SHAMS (1991) concluded that travellers' previous travel experience significantly influences their travel-related consumer attitudes. As experience increases, travellers may gradually shift towards a preferred but riskier option. BRUNEL - PICHON (2004), examining the impact of previous travel experience on risk perception from a behavioural perspective, found that as experience increases, individuals become more confident in their own feelings and base travel decisions on their internal motivations, which increases their risk-taking propensity. REID & REID (1993) have shown that while risk perception for the first trip is primarily based on external information seeking, risk perception for repeated trips is based on the specific experience of the visit.

The constant change we experience in the world around us makes us constantly changing. Environmentally conscious behaviour by tourists - environmentally conscious travel management - is one way of avoiding over-tourism.

There is a need for environmental improvements in tourism. In particular, technical solutions to offset the effects of climate change (air-conditioning of buildings) account for a significant proportion of emissions from tourism. The

media should be put at the service of tourism, not only to present attractive destinations for market reasons, but also to prepare people for travel and promote safety awareness. The media's awareness-raising effect could aim not only to deter but also to prepare people to travel, in addition to providing the necessary information. The online and offline sections of travel magazines could be used to promote tourism safety and safety-conscious travel management to a wide range of target groups.

The possibility of becoming a victim is reduced if the tourist is well informed. Accurate forecasting of natural disasters, where possible, can significantly increase the level of tourism safety, while reducing the number of false alarms can increase confidence in forecasting and reduce public expenditure on it. Consolidation of analysis methods and practices, risk analysis, coordination of intelligence data analysis are common to the toolbox of tourism and terrorism research. A successful fight against terrorism will lead to safer tourism. A safer tourism implies a safer world. The emergence of artificial intelligence technologies and their use in tourism will change the security aspects of future tourism. 5G (fifth generation mobile networks) will be a turning point, with digital tourism markets once again set to explode - and security, especially cyber security, will be a key factor.

The present research can contribute to the development of theoretical approaches to tourism security by linking in a model the risk dimensions of foreign travel with important elements of behavioral science such as attitudes and intentions.

5. NEW SCIENTIFIC RESULTS

- 1. I developed a model to measure the willingness to take risks related to foreign travel, including elements of safety-conscious behaviour and individual safety attitudes related to travel habits, which I validated based on the data of a questionnaire survey among Hungarian travellers.
- 2. I found that safety awareness does not significantly influence Hungarian traveller's risk-taking propensity, with only a weak moderating effect of higher self-certainty on travel-related risk-taking propensity.
- 3. I confirmed that a stronger need for general security, including accommodation security, travel security, information security, event security, health security and financial security, negatively affects the willingness to take risks when travelling.
- 4. I provide evidence that price sensitivity and mood-driven action related to travel arrangements increase the risk-taking propensity of Hungarian travellers.
- 5. I have shown that media coverage of travel-related higher risk news weakly moderates risk-taking propensity among Hungarian travellers.
- 6. I empirically demonstrated that age and the frequency of foreign travel significantly influence the risk-taking propensity of Hungarian travellers and their perception of the importance of certain elements of tourism safety. Younger age groups and more frequent travellers have higher risk-taking propensity and are more inclined to act in a mood-driven way, but their perception of the importance of risk elements is significantly lower.

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Further scientific works

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Sólyomfi, A. H., & Gyömbér, B. (2020): A turizmusbiztonság és az ezzel kapcsolatos állami feladatok megjelenése a hazai jogi normákban. Budapest: Jelen-Lét a Társadalomért Egyesület

1.ANNEXDescriptive statistics and reliability measures of statements or constructs

Code	Constructs/Elements	Mean (SD)	Loadings	Cr. a	AVE	CR
	Risk taking	1.70 (0.80)		0.833	0.509	0.896
	Cheap travel – some risks (e.g. outbreak of civil war)	1.77 (1.07)	0.782			
KCKV2	Cheap travel – epidemic risk possible	1.65 (0.95)	0.742			
KCKV3	Free round trip with discounted accommodation - possible terrorist threat	1.62 (1.00)	0.768			
KCKV4	Free return flight - risky accommodation (unsafe area)	1.57 (0.90)	0.709			
KCKV5	You have been vaccinated but have not had enough time to be protected – you are not protected against diseases in your country	1.97 (1.12)	0.540			
1	Recognition of own responsibility	3.35 (0.90)		0.639	0.372	0.733
ÉNBIZ1	My safety depends on how much money I have.	3,15 (1,21)	0,628			
ÉNBIZ2	My safety depends on how prepared I am.	3,91 (1,02)	0,479			
ÉNBIZ3	My safety depends on my health.	3,28 (1,19)	0,702			
Acti	ng in a security awareness (obtaining information)	4.13 (0.72)		0.695	0.391	0.801
INFSZ1	I am gaining more and more knowledge	4.15 (0.90)	0.738			
INFSZ2	about the country I am traveling to I collect information about my destination online	4.36 (0.90)	0.670			
INFSZ3	I listen to the opinions of competent persons (e.g. the consular section of the Ministry of Foreign Affairs)	3.59 (1.23)	0.516			
INFSZ4	I thoroughly prepare and plan my trip	4.22 (0.95)	0.553			
Secu	urity awareness based on experience	4.09 (1.13)		0.714	0.504	0.817
TAPSZ1	When I travel by car, I take out insurance for the car	3.98 (1.42)	0.945			
TAPSZ2	If I have a car, or if I have a car, I take the car to service, check its technical condition	4.12 (1.19)	0.605			
TAPSZ3	I take out travel insurance	4.43 (1.08)	0.503			
	Lack of physical risk control	2.56 (1.00)		0.926	0.586	0.956
KZTL1	Possibility of kidnapping	2.12 (1.29)	0.862			
KZTL2	They can kill you (e.g. because of organ trafficking)	2.07 (1.27)	0.857			
KZTL3	Physically assaulted	2.77 (1.25)	0.792			
KZTL4	I could be the victim of a terrorist attack	2.54 (1.29)	0.847			
KZTL5	Other natural disasters (e.g. earthquakes)	2.56 (1.19)	0.776			
KZTL6	Extreme weather (e.g. tsunami, downpour)	2.73 (1.17)	0.725			
KZTL7	There may be riots, demonstrations	2.45 (1.21)	0.750			
KZTL8	You will be robbed	3.35 (1.19)	0.658			
KZTL9	Can I catch unknown diseases	3.13 (1.32)	0.570			

	Indirect risk	2.89 (1.16)		0.687	0.434	0.786
KZTT1	I don't speak, I don't understand a foreign language	3.00 (1.58)	0.675			
KZTT2	I don't speak the official language of the country	2.84 (1.33)	0.751			
KZTT3	Hungary does not have an official	2.90 (1.50)	0.532			
	diplomatic representation in the given country					
	General security	4.45 (0.65)		0.850	0.515	0.914
ÁLTB1	Accommodation security (hotel, motel, hostel, airbnb apartment security)	4.64 (0.68)	0.787			
ÁLTB2	Travel safety (air transport, airport, railway station, road safety)	4.59 (0.73)	0.788			
ÁLTB3	Information security, communication	4.38 (0.87)	0.765			
	(reliable information), security of data provided during travel arrangements					
ÁLTB4	Event security (safety in case of sports tourism, mass events, concerts)	4.08 (1.13)	0.658			
ÁLTB5	Health security (vaccinations, quarantine, medicines)	4.43 (0.87)	0.673			
ÁLTB6	Financial security (insurances)	4.46 (0.83)	0.613			
	Personal safety	3.63 (0.96)		0.726	0.480	0.823
SZMB1	Personal safety (self-defence – self-defence, means of self-defence)	3.54 (1.27)	0.637			
SZMB2	Knowledge of legislation and international conventions	3.43 (1.14)	0.716			
SZMB3	Digital security (protection of biometric data, cybersecurity)	3.87 (1.19)	0.722			
	Price sensitivity	2.99 (1.27)		0.893*	0.821	0.945
ÁR1	Possibility of cheap airfare	2.97 (1.32)	0.953			
ÁR2	Cheap travel package (airfare + accommodation)	3.00 (1.35)	0.857			
	Mood-driven action	1.61 (0.90)		0.714*	0.599	0.825
HANG1	I just decide and travel	1.85 (1.16)	0.597			
HANG2	I like surprises – when I get there I'll find out what's there	1.52 (0.96)	0.917			
	Warning influence of media	2.51 (1.00)		0.771	0.456	0.893
MÉDA1	I cancel my trip after hearing scary news	2.46 (1.27)	0.785			
MÉDA2	I trust picture or video reports more, I prefer to cancel my trip when I hear/see scary	2.54 (1.25)	0.793			
MÉDA3	news Before travelling, I always watch the News, on several channels, I follow the coverage – the reporters report reliably		0.564			
	*I am not influenced by the media at all	2.63 (1.21)				
MÉDA5	I am cautious with news and reports, but I still listen/watch the reports	2.88 (1.24)	0.509			

^{*}Spearman-Brown coefficient
**verification statement, removed from construction