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Exploring parental risk perceptions in family travel in rural destinations

Abstract

Family travel can offer an enjoyable and enriching experience for both parents and children, but it also comes with potential risks. Children's vulnerability is a significant concern during family trips, making it imperative for parents to address these risks. Drawing upon protection motivation theory and employing a mixed-method approach, the study aimed to examine parental perceptions of risks associated with children during trips to rural areas, utilizing the phenomenological method alongside exploratory and confirmatory factor analysis. The findings reveal that parents perceive five types of risks pertaining to their children during vacations, including risks related to safety and health, environmental and natural hazards, social interactions, child safety and security and emotional and psychological well-being. Furthermore, two distinct mechanisms that parents use to manage risks were also identified: prevention and readiness/reaction mechanisms. Overall, this study contributes to the emerging field of child-centric tourism research by illuminating parents' distinctive risk perception and management strategies during family vacations, offering insights for the development of tourism policies and practices that prioritize the safety and well-being of children and families.

Keywords: Family travel; risk perception; risk management; travel risk; children; tourism experience

Introduction

The growth of the economy and the improvement in people's living standards and leisure time have led to a significant expansion in tourism, particularly family tourism (Wu et al., 2019; Cui et al., 2016). Family tourism stands out among various forms of travel due to the active participation and influence of children in shaping the nature and experiences of these journeys (Hu et al., 2023; Jia et al., 2023; Seraphin et al., 2022; Hay, 2017). For children, family tourism represents a form of play, entertainment, and curiosity, evoking positive memories, emotions, and experiences (Zhong & Peng, 2021; Hunter Jones et al., 2020; Marey-Sarwan & Roer-Strier, 2017; Durko & Petrick, 2013). However, family trips for children are not without risks (Peattie et al., 2005). During travel, children may encounter various life-threatening situations as well as physical and mental hazards (Hogan et al., 2018; Francis et al., 2017; Fuchs & Reichel, 2011). In rural villages and unfamiliar remote locations, such hazards pose even greater threats, especially to children. Rural tourism, favored by families, offers open spaces for recreation, nature connection, and stress-free socialization (Kastenholz et al., 2012; Ribeiro & Marques, 2002). Yet, in these settings, children's interactions

with wildlife, freedom in unfamiliar environments, and village unfamiliarity can heighten risks. Rural areas also present unique hazards distinct from urban or popular tourist destinations, such as encounters with wildlife, unfamiliar terrain, limited emergency services, and scarce medical facilities (Kastenholz et al., 2012). In some cases, these risks may diminish the motivation for parents and children to engage in family trips. Studying the risks pertaining to children in family trips to rural areas is essential for promoting safe and enriching travel experiences, empowering parents to make informed decisions and take preventive measures, and safeguarding the well-being of children (Seraphin et al., 2022; Nyström et al., 2023).

Nonetheless, the extant literature on risk perception in tourism has offered scant consideration to parents' perceptions of risks concerning children during family travel, particularly in rural destinations, and the measures taken to ensure children's safety in response to these perceived risks. To address this gap, this study is motivated by two main objectives: First, to understand and identify the risks that threaten children in family trips to rural areas. By examining these risks in detail, we aim to provide valuable insights that can empower parents to make informed decisions and take preventive measures. Second, to gain insight into the risk management mechanisms parents employ in response to these perceived risks. Specifically, we seek to understand how parents effectively manage and mitigate these risks to ensure both the safety and enjoyment of family trips. This aspect deserves special attention, as it directly contributes to enhancing the overall travel experience and safeguarding the well-being of children.

This study draws upon the theoretical foundation of Protection Motivation Theory (PMT) (Rogers, 1975; Ruan et al., 2020) to explain how parents perceive risks related to their children during family travel and how these perceptions motivate them to adopt protective measures.

The findings of this study have substantial implications for various stakeholders, including parents, educators, tourism service providers, and local authorities. A comprehensive understanding of the risks threatening children during trips can raise awareness and facilitate the adoption of effective management considerations and mechanisms. This, in turn, can lead to proactive measures to prevent risks and ensure an enjoyable travel experience for children and their family.

2. Literature Review

2.1. Risk Perception in Tourism

Risk perception in tourism involves the subjective evaluation of potential negative outcomes and probability (Paek & Hove, 2017). It encompasses cognitive and emotional dimensions, where individuals assess their understanding of risks and emotional responses (Paek & Hove, 2017). Fernandez (2021) defines risk perception as the subjective assessment of the likelihood and potential negative consequences of a given risk by individuals or groups within a society. Tourism is inherently associated with risks (Cui et al., 2016). Consequently, researchers have introduced the concept of ‘tourism risk perception’ since the 1990s to understand how individuals perceive and assess risks while traveling (Cui et al., 2016; Rasoolimanesh et al., 2021). For example, Apostolopoulos and Tarlow's (1999) study demonstrated that tourism risk perception directly affects tourism behavior, where an increase in risk perception decreases the desire to travel. Factors

such as age, gender, tourism experience, personality, and tourism knowledge also influence risk perception and behavior. Additionally, Ritchie et al. (2003) found that security risks significantly affect tourist behavior. Their study on Australian tourists in Bali revealed non-compliance with local laws and risky behaviors due to heightened security risk perception, emphasizing the role of effective tourism infrastructure and appropriate security information in mitigating these effects. Weiermair (2005) conducted a systematic review of past research on risk perception in tourism, revealing that perceived risks were linked to various aspects of the tourism experience, including transportation safety, health risks, crime, natural disasters, and cultural differences. The study of Günlüoğlu and Atalay (2007) explored the relationship between perceived risk, destination image, and tourist satisfaction in Turkey, finding that perceived risk negatively affected tourist satisfaction, partly mediated by destination image. Miller and Morrison (2009) conducted a survey of British tourists, indicating that perceived risk was higher for adventure tourism activities and destinations with political instability or health risks. Moreover, Nakamura et al.'s (2009) research highlighted how risk perception influenced the travel behavior of Japanese travelers, with factors like news and mass media, weather forecasts, the political and economic situation of the destination country, public health situation, and natural disasters strongly impacting risk perception. The findings also suggested that travelers with higher risk perception tended to travel within Japan.

Dolnicar et al. (2011) emphasized the importance of individuals' perceptions and feelings about travel-related risks in travel decision-making, with factors such as age, gender, previous travel experience, destination information, travel type, and mode of transportation affecting the decision-making process. Liang et al. (2018) focused on perceived risks associated with online hotel booking among Chinese consumers, revealing that perceived risks were influenced by website quality, payment security, and hotel reputation. A meta-analysis by Lee and Park (2019) found that perceived risk had a negative impact on travel behavior, with this effect moderated by factors such as destination familiarity, travel experience, and age. Alnsour (2019) investigated how risk perception affected the travel behavior of international tourists, showing that risk perception significantly influenced travel behavior. Tourists with higher risk perception were more likely to get injured in dangerous areas and more likely to suspend their travel plans. The study also found that tourists' gender, age, and education played significant roles in understanding risk and its impact on travel behavior.

The literature on perceived risks in tourism encompasses various classifications, including health, physical, economic, equipment, social, mental, and temporal risks (Gjerald & Lyngstad, 2014). Studies indicate that tourists formulate risk perceptions through a complex interplay of personal experiences, observations of other tourists, and information from diverse media sources (Kozak et al., 2007; Seyfi et al., 2023). Notably, tourists' negative perceptions of risk significantly impact their future travel decisions (Chang, 2009; Rasoolimanesh et al., 2021; Fuchs & Reichel, 2011; Wolff et al., 2019; Seyfi et al., 2023). Recent research has shed light on this aspect, with Xie et al. (2021) and Jin et al. (2021) focusing on Chinese travelers, and Pappas (2021) and Pappas and Glyptou (2021) examining adult residents of Athens. These studies emphasize the substantial impact of the COVID-19 pandemic on how potential tourists perceive risk and how it influences their travel intentions and decision-making in the post-pandemic era.

While existing studies have centered on topics such as individual risk perception regarding travel behavior, there remains a notable gap in understanding parental perceptions of potential risks to children during family vacations. Children, among the most vulnerable groups during trips, require particular attention to understand the health-threatening risks they may face, which is the primary focus of this study that will be discussed in the next sections.

2.2. Parental Travel Risk Perception and Risk Management Measures

Parents assume a vital role in perceiving and managing travel risks concerning their children. Research has demonstrated that parents' perceptions of travel risks significantly shape their travel decisions, influencing destination choices, activity planning, and risk mitigation strategies (Nyström et al., 2023; Seraphin et al., 2022). Some studies have even shown that parents' risk perception and the adoption of precautionary measures contribute to reducing their children's vulnerability (Hogan et al., 2018). Kim and Lee (2017) found that parents were not only aware of various risks but also identified protective factors, such as thorough planning, previous experience, and trust in service providers. Similarly, Wang et al. (2019) identified parents' concerns about safety issues in Thailand and their desire for more information from tour operators. Gao et al. (2020) stressed the significance of child-friendly facilities and safety measures during family trips. Parents' risk perception is influenced by multiple factors, including their own travel experiences, cultural background, personal beliefs, and access to information. Studies have found that parents who have previously encountered travel risks, such as accidents or health issues, are more inclined to perceive higher risks for their children during travel (Hogan et al., 2018; Francis et al., 2017; Fuchs & Reichel, 2011). Cultural background and personal beliefs can also impact parents' perception of travel risks. For instance, parents from different cultural backgrounds may hold varying attitudes towards risks associated with outdoor activities, food safety, or transportation, influencing their perception of travel risks for their children (Cui et al., 2016).

While understanding parents' perceptions of travel risks is crucial, it is equally vital to explore how these perceptions translate into effective risk management strategies. Risk management encompasses a set of measures aimed at preventing new risks, reducing existing risks, and effectively handling them. When parents adopt risk management strategies during travel, it enhances their preparedness and ability to address risks, ensuring greater security and resilience for both parents and children. These strategies encompass various protective and preventive measures, ranging from meticulous trip planning to, in extreme cases, the decision to avoid travel altogether (Wen, 2020). Parents' risk management mechanisms can be broadly categorized into two categories: preparatory and preventive measures, which include carrying essential medical equipment and providing children with toys and entertainment facilities (Sainato et al., 2015), and care and protective measures, which encompass selecting secure accommodations for children, ensuring beach safety before allowing them to swim, choosing appropriate clothing and footwear, and closely monitoring their activities and nutrition. Hence, parents' accurate perception of travel risks and their proactive preventive measures play a crucial role in reducing or preventing children's injuries.

The existing literature lacks a noticeable gap addressing specialized risk mitigation strategies designed to cater to the unique vulnerabilities of children. This gap is particularly evident in rural tourism environments, where children's attraction to unfamiliar elements can significantly heighten their exposure to potential harm and negatively impact their well-being. This points the secondary focus of the study.

2.3. Theoretical Approach: Protection Motivation Theory (PMT)

PMT is a well-established theoretical framework in the field of psychology and health communication (Ruan et al., 2020). Developed by Rogers in 1975, PMT is designed to was designed to elucidate how individuals perceive and respond to threats and risks. Initially, PMT aimed to expound upon individuals' motivations when confronted with threats or hazardous behaviors. As Rogers (1975) noted “people appraise the severity and likelihood of being exposed to a depicted noxious event, evaluate their ability to cope with the event, and alter their attitudes accordingly” (p. 100). PMT posits that individuals go through a cognitive process when faced with a perceived threat, which influences their decision to engage in protective behaviors (Rogers & Prentice-Dunn, (1997).

PMT comprises two main components: threat appraisal and coping appraisal. Threat appraisal involves the assessment of the severity of a threat (how harmful it is) and the individual's perceived vulnerability to that threat (the likelihood of experiencing it). In contrast, coping appraisal centers on an individual's evaluation of the effectiveness of protective behaviors and their confidence in their ability to execute these behaviors. Within PMT, it is the interaction between threat appraisal and coping appraisal that ultimately shapes an individual's motivation to enact protective measures. If an individual perceives a threat as substantial and believes that protective actions are both effective and achievable, they are more inclined to adopt such actions (Rogers, 1975; Ruan et al., 2020; Wang et al., 2019b)

The relevance of PMT to this study on parental risk perception during family travel is twofold. Firstly, PMT's threat appraisal component aligns with the study's core objective of understanding how parents perceive risks related to their children's safety during family trips. This allows for an exploration of the severity of these perceived risks (e.g., health hazards, accidents) and parents' perceptions of their children's vulnerability across various travel settings. Secondly, the coping appraisal within PMT directly corresponds to the study's investigation into the strategies and measures parents employ to mitigate these perceived risks. It helps assess the effectiveness of these coping strategies and whether parents have confidence in their ability to implement them successfully.

3. Methodology

The research utilized a mixed-method approach, incorporating both qualitative (semi-structured interviews) and quantitative methods (structured questionnaire) to address the study's dual

objectives. Mixed-method research approaches are highly regarded for their ability to provide comprehensive and nuanced findings by triangulating qualitative and quantitative data (Creswell, 2014; Leech & Onwuegbuzie, 2009). This approach was chosen to thoroughly investigate parental risk perception and risk management during family travel, particularly in an area with limited prior research. Semi-structured interviews captured in-depth insights into parents' risk perceptions and decision-making processes in tourist destinations. Meanwhile, structured questionnaires gathered quantitative data on the prevalence, frequency, and patterns of parental risk perception and risk management behaviors. The research was conducted in rural destinations within Ramian city, located in Golestan province in northern Iran, spanning three main phases: preliminary fieldwork and case study selection, interviews, and surveys. This year-long research project was conducted throughout 2022. The research design utilized a sequential combination of methods, with each stage explained below:

Stage 1 – Preliminary fieldwork and case study selection

The first phase of the study encompassed a 20-day fieldwork period, during which tourists in the region were selected and interviewed. The primary objective was to gain insights into rural tourism, leisure activities, and previous incidents. To create a map of attractions, data was sourced from emergency centers, the Red Crescent, the Disaster Management Office, and discussions with local officials. Thirteen villages were selected for the study due to their high tourist activity, predominantly characterized by family tourism with active child participation (see Figure 1).

[INSERT FIGURE 1 ABOUT HERE]

Stage 2 - Identifying the dimensions of parental risk perceptions

The research proceeded in three phases. In this initial step, 30 parents who were on family vacations in the selected villages were interviewed. These interviews delved into parents' perceptions of travel risks and strategies employed to mitigate hazards during their journeys (see Table 1 for the profile of interviewees). Data from these interviews underwent systematic analysis following Colaizzi's analytical method in seven stages, which included transcription, extracting relevant phrases, refining extracted meanings, forming themes, organizing similar concepts, establishing an overall structure, and reviewing and confirming findings. To ensure validity, the study employed triangulation and respondent validity criteria. Triangulation entailed seeking feedback from two experts to verify data interpretations, while respondent validity criteria involved returning extracted themes to some of the interviewed parents for their comments. In the second phase, interviews were conducted with a range of experts and local authorities, including village managers, tourism experts, health and emergency officials, disaster management and rescue experts, police officers, and Red Crescent authorities. The aim of these interviews was to validate and reinforce the findings obtained from the parents' interviews. In the final step, Exploratory Factor Analysis (EFA) was applied to define the structure and identify dimensions of parental risk perception concerning children during rural trips. While earlier qualitative stages had identified risk perception dimensions from parents' perspectives, EFA was used to establish a structured framework. This analysis was based on the axes extracted from parents' viewpoints during previous qualitative stages. Local residents' quotes

and opinions from in-depth interviews were also utilized to elaborate on the identified risk perception dimensions.

These structured interviews with parents, experts, and local authorities informed the development of a structured questionnaire for analyzing parental risk perception dimensions.

[INSERT TABLE 1 ABOUT HERE]

Stage 3: Confirming Instrument Validity and Convergence

In the third stage, Confirmatory Factor Analysis (CFA) (Fornell & Larcker, 1981) was employed to assess parental risk perception dimensions concerning children during family vacations in rural areas. In this stage, measurement items for the survey were derived from the qualitative interviews conducted in the previous stage. These items were then structured into a questionnaire for a broader sample of parents in the study area. A total of 20 items were formulated to assess parental perceptions of risks that pose a threat to children during family vacations. Additionally, 17 variables related to risk management mechanisms were included in the questionnaire. The questionnaire utilized Likert's five-point scale and incorporated demographic questions, as well as inquiries about children's past experiences with travel-related risks. Prior to the primary study, a pilot study was conducted in the selected villages to refine the questionnaire, ensuring clarity and comprehensibility. Subsequently, a face-to-face survey was carried out with a randomly selected sample of 390 parents on family vacations with children. Following data collection, 353 questionnaires with valid responses were obtained and used for data analysis. Participant characteristics are presented in Table 2.

[INSERT TABLE 2 ABOUT HERE]

CFA was employed to assess divergent validity, multidimensionality, and the convergent validity of data gathered during the qualitative phase of the research. CFA is a statistical technique that evaluates the validity of a measurement model by examining the relationship between observed variables and their underlying latent constructs or factors (Fornell & Larcker, 1981). It contributes to affirming the reliability of the measurement instruments and enhances the overall rigor of research findings. The incorporation of EFA and CFA in the extension of the qualitative method serves two primary purposes. Firstly, it aims to scrutinize the outcomes of the qualitative stage in a broader statistical population, thereby enhancing the validity of the results. This step ensures that insights derived from the qualitative phase are not only robust within the original context but are also representative and applicable to a larger demographic. The second goal is to elucidate the importance of each item through factor loading. In qualitative findings, the significance and prioritization of items are often unclear. Therefore, the utilization of EFA and CFA provides a quantitative lens to highlight the importance of each item, contributing to a more nuanced understanding. This is particularly crucial in terms of the practical applicability of findings related to planning and managing children's travel risk by parents.

4. Results and analysis

This analysis of interviews yielded 20 key themes pertaining to parental perceptions of risks associated with children during family trips. These themes were further categorized into 5 overarching topics, Physical injuries, Environmental challenges, Social and cultural challenges, Insecurity and crimes, Mental and psychological problems (Table 3).

[INSERT TABLE 3 ABOUT HERE]

Additionally, the analysis of interviews revealed 17 key themes concerning risk mitigation measures within the context of parental perceptions of risks during family trips aimed at safeguarding children. These themes were synthesized into four fundamental topics: travel preparation, travel skills training, provision of travel equipment and actions during the trip (Table 4).

[INSERT TABLE 4 ABOUT HERE]

4.1. Parental perceptions of risks related to children during family trips

According to the exploratory themes in the qualitative phase of the research, a questionnaire was designed to identify the perceived risk dimensions of parents in relation to children during family trips. In this phase, exploratory factor analysis (EFA) was employed to uncover the dimensions of perceived risk. The results revealed that perceived risks can be classified into five key factors (see Table 5).

[INSERT TABLE 5 HERE]

4.1.1. Safety and health risks

This type of risk encompasses factors associated with physical health and safety during travel and outdoor activities, including, but not limited to, insect bites, falls, diseases, poisonings, burns, and damage resulting from recreational and tourist equipment. Parents identified the risk of disease as one of their primary concerns for their children during rural tourism. One parent, who had previously experienced such a risk, shared their concerns about this issue.

My son experienced fever, diarrhea, and vomiting during a rural overnight trip, which doctors diagnosed as a viral infection. As a precautionary measure, I now always carry basic medication with me when traveling (Interview #6).

This echoed another parent:

.. During one of our rural trips, both of my children fell ill due to food poisoning. Unfortunately, we had to cut our journey short and return to the city (Interview #9)

An expert at the emergency center in the region emphasized the importance of parents paying extra attention to their children's health and nutrition in rural environments. In rural tourist destinations, a popular activity is building fires and preparing food and tea, which can be quite appealing to

children. However, the risk of burns to children during these activities is a significant concern for parents. One of the study participants shared their worries, saying,

> *I'm very concerned about the possibility of my children getting burned during the journey, and I make sure to follow safety tips (Interview #26).*

An expert in the Disaster Management Centre also commented that:

> *... Apart from the risk of burns to children, the act of tourists lighting fires also increases the potential for wildfires affecting trees and grasslands. This demands serious attention from parents (Interview #15).*

This category of risks may also arise from safety concerns or issues stemming from technical malfunctions in children's recreational tools, equipment, and vehicles used during travel, which could pose potential threats. When children engage in tourism activities, they may utilize various forms of recreational equipment, and this is often a significant concern for parents. The safety and functionality of such equipment, including playground equipment, water sports gear, and transportation vehicles, can be a source of worry for parents, as it directly impacts their perception of risks associated with children's tourism in rural destinations. One of the interviewees mentioned that:

> *... One big headache for me when we're on the road is making sure my kid stays safe while using entertainment stuff. I'm always unsure about whether they meet safety standards, especially in rural places (Interview #12).*

One of the experts from Red Crescent also shared a similar perspective, emphasizing the importance of safety and technical functionality of children's recreational tools, equipment, and vehicles used during travel in rural destinations:

> *Many examples of incidents occurring to children happen when they're using recreational and entertainment equipment (Interview #25).*

4.1.2. Emotional and psychological well-being

Aside from safety and health risks, parents also express concerns about the psychological well-being risks that children may face during tourism experiences. Being in new and unfamiliar locations, and encountering new experiences, can impact children's psychological well-being. For example, the interviewees noted this:

> *My son is afraid of darkness and, therefore, I have great concern about possible exposure to the darkness of night, forests and scary noises in rural environments (Interview #22).*

> *My kids have some major worries when we head to rural spots, like the fear of wild animal attacks, getting kidnapped, or getting lost (Interview #13).*

In certain situations, parents' obsession with hygiene, hypersensitivity, strictness, and lack of tranquility can lead to the development of long-term anxiety in children. This was noted by one of the interviewees.

My constant worrying and obsession really take away from the fun of the trip for my family, especially my child. I'm always insisting on disinfection, avoiding touching things and play equipment, staying away from locals, and not trying local food. So, when we're traveling, I'm always asking to go back home (Interview #23).

According to one of the experts from the city health centers, increasing the level of travel pleasure and having lasting experiences can be linked to parents' concerns about their children's well-being during rural tourism trips:

When it comes to kids, parents should be extra careful not to pass on their own stress and anxiety during travel. Plus, while keeping in mind public health guidelines, it's important not to make children obsess about travel and instead encourage them to see rural places, services, and facilities positively (Interview #13).

This echoed the perspective of a local police officer:

...certain events that can occur during travel, like potential conflicts, theft of belongings, or accidents, may have multiple and long-term psychological effects on children's minds (Interview #19).

4.1.3. Social interactions

During travel, children often have opportunities to interact with new people and accompany other families. However, parents also have concerns about social risks such as fighting or learning misbehaviors from other children. This noted by one of the parents:

... Kids often sharing play spaces during travel can sometimes lead to disagreements and conflicts. We're particularly concerned about potential harm from activities like throwing stones or objects (Interview #2).

Another parent states that:

Learning bad words, sentences and behaviors by children from other people during the trip is one of the family's worries. Because during the trip, the child encounters very different people unintentionally (Interview #11).

This echoed the view of another interviewee:

We are always worried about our child developing social and cultural conflicts when exposed to different cultures and lifestyles during our travels. We want to ensure our child can interact with other kids and respond to their requests smoothly (Interview #23).

4.1.4. Environmental and natural hazards

As rural settlements are often closely connected with natural elements, the extensive interaction of children with the natural environment during rural tourism can pose risks (Marey-Sarwan & Roer-Strier, 2017). Children, due to their limited knowledge and physical abilities, are particularly

vulnerable to these risks, which is a concern for parents during the journey. These concerns were also noted by the parents interviewed in this study:

> *I often find myself feeling happier and more at ease when we opt for closed environments for our vacations. In open settings like villages or natural landscapes, keeping a close eye on the children can be challenging. I'm always concerned about them climbing trees, navigating mountains, or getting too close to cliffs (Interview #5).*

> *Children's interest in playing with water and swimming along rivers and ponds is very worrying for me because of the risk of drowning (Interview #17).*

> *Taking walks with the kids in village settings, I'm always on edge, worrying about the possibility of snake or scorpion bites (Interview #21).*

> *The unknown rural environment is very dangerous for tourists, especially children. Any moment children may fall into a valley or pit and suffer physical harm (Interview #27*).

Another environmental risk that parents perceive during rural tourism is the possibility of wild animals attacking children while they are playing in rural areas.

> *The dogs in the village are really worrying. They mainly attack strangers. I'm worried they'll attack my child (Interview #14).*

A crisis management expert holds the view that environmental risks are an important aspect to consider in rural tourism:

> *... Because of the strong connection between tourists and nature in rural settings, children are exposed to significant risks, and parents must be especially vigilant in protecting their children from these dangers (Interview #16).*

A tourism expert echoed this and noted:

> *"Tourists should settle in special licensed areas for the safety of children, as well as the tranquility and enjoyment of tourism in rural environments"(Interview #7).*

Parents consistently express concerns about their children's potential collisions with motor vehicles and road accidents during tourism trips. This is especially relevant in crowded rural tourist destinations, where vehicle congestion tends to be high during weekends. One of the parents also commented:

> *I'm really worried about car accidents during our trips because they pose a significant risk to my child, and it bothers me a lot before and during the journey (Interview #11).*

A police officer emphasizes the importance of addressing this issue:

The biggest danger to children on rural tourism trips is road accidents. Parents must be extra cautious because rural roads often lack high standards and quality, and the local driving laws may not be followed rigorously (Interview #21).

4.1.5. Child safety and security

Parents are often concerned about crimes such as kidnapping, abuse by strangers, and theft of valuable objects like gold and jewelry, especially during travel. Such concerns were repeatedly noted by the parents:

Given the numerous reports of strangers assaulting children, one of my worries during our travels is the potential for sexual assault on children (Interview #20).

My main concern while traveling is the theft of valuable items, especially gold, from the girls. Strangers may take advantage of the opportunity and attempt to steal (Interview #8).

A police expert mentioned that:

Families should take extra care of children while traveling as well as in tourist destinations and provide children with basic training on how to deal with strangers, inappropriate requests, and the way to interact with others (Interview #20).

4.2. Risk mitigation measures in family trips

A questionnaire was designed to investigate and analyze the exploratory themes of the qualitative phase in relation to the parents' risk mitigation measures in family trips. At this stage, two key factors were identified through exploratory factor analysis (EFA) (Table 6).

[INSERT TABLE 6 ABOUT HERE]

4.2.1. Prevention mechanisms

Many parents adopt a vigilant approach by consistently monitoring their children during travel. They ensure they have appropriate facilities and equipment, such as warm clothes to prevent illnesses, choose safe places for accommodation, and settle near other tourists to minimize risks or manage situations more effectively. They actively accompany their children, providing education and information to prevent or reduce risks to the best of their ability. One of the interviewed parents noted:

I'm trying to have a good check and search for the destination before I travel and provide information to the family and children and give them the necessary tips and training (Interview #24).

A member of the village council also stressed:

The main cause of injuries in rural environments for children during tourism is the low care of families. Also, the greater sense of freedom of children in open and unknown environments creates danger (Interview #2).

A Red Crescent expert also shared his perspective:

It is better for parents to always take part in rescue training courses and learn the basic points and transfer some self-care tips to their children (Interview #22).

4.2.2. Readiness mechanisms and reactions

Parents often exercise foresight and take measures to manage risks that cannot be completely stopped or prevented. They may reduce risks by providing appropriate equipment or solutions, such as carrying necessary medicines and first aid kits, ropes, and technical equipment. They may also prepare a list of emergency contacts, including addresses and phone numbers of emergency centers, relief services, police, and possible acquaintances at the destination. Parents shared their different approaches to risk management during travel:

We always ensure we have a first aid kit with us on our trips, just in case we need it for any family members, especially the children. We always check before traveling (Interview #16).

Before traveling, my wife and I always compile a list of important contact numbers for our families, the police, Red Crescent, and emergency centers. We share this list with all family members, including the children and anyone traveling with us. We make sure they have access to it by putting it in their pockets or belongings for use in case of emergencies (Interview #25).

We also pack various tools and supplies that might come in handy during the trip. Some of these items can even be used in children's games, like ropes and water games, but they also serve as emergency resources if needed (Interview #18).

I always carry some extra food, water, and snacks for the children when we travel. This way, in case of an accident or unexpected delay, I can ensure they have sustenance until help arrives from people or government agencies (Interview #29).

One of the experts of the crisis management center also commented that:

In family trips, it is necessary for parents to constantly check the news about the climate of the destination in order to take appropriate measures to choose a suitable place to settle and prepare suitable clothes for the children (Interview #18).

4.3. Validity analysis of risk perception items

Confirmatory Factor Analysis (CFA) was used to test the validity of the outputs obtained from the previous stage of the study. The results of the analysis showed that the T-statistics values were

greater than 2 and the significance level was less than 0.05 for all cases, indicating good convergence validity. Moreover, the Average Variance Extracted (AVE) values were all higher than 0.5, indicating that the constructs were valid (Table 7). Overall, these results suggest that the identified dimensions of parental risk perception in the study are reliable and valid.

[INSERT TABLE 7 ABOUT HERE]

When comparing the findings between the qualitative and quantitative stages, it is evident that all classifications derived from the qualitative stage concerning parents' risk perception of risks related to children during family trips were affirmed in the quantitative stage. Importantly, none of the items initially identified in the qualitative stage were excluded during the transition to the quantitative phase. However, a noteworthy distinction arises when considering the factor loadings obtained through EFA and CFA methods. These loadings, reflecting the value and importance of items within the larger statistical population, reveal variations in significance among items from the perspective of the broader statistical community. This divergence in importance is a crucial nuance that can significantly impact the planning of family trips, providing a quantitative lens to supplement the qualitative insights. Specifically, when exploring risk reduction measures in family trips through EFA and CFA methods, a notable shift was observed. The classifications established in the qualitative stage underwent a transformation, resulting in the grouping of all items into two distinct classes. This restructuring highlights a nuanced difference in how parents, in the larger statistical context, categorize and prioritize risk reduction measures during family travel.

5. Discussion

In alignment with the protection motivation theory, this study's results underscore the significance of risks perceived by parents as potential threats to their children during family vacations. The research discerns five distinct categories of perceived risks among parents, revealing the diverse and intricate nature of risks encountered during family vacations in rural areas. Furthermore, this study enriches existing literature by delineating two distinct risk management approaches employed by parents: prevention and readiness/reaction mechanisms. The findings of this study align with those of previous research on risk perception (e.g., Elias & Shiftan, 2012; Xie et al., 2020). For example, while corroborating some of Xie et al.'s (2020) findings on destination risk perception, this study sheds light on the previously overlooked aspect of child-related risks in rural tourism destinations. Similarly, akin to Kong and Zhu's (2021) study, which emphasized women's risk perception in travel, the results of this study highlight the significance of risk perception related to children in family travels. Moreover, in contrast to the findings of Elias and Shiftan (2012), this study reveals that parents' perception of risks does not deter them from traveling to rural destinations. Instead, it underscores that parents intensify the application of risk management mechanisms, as travels to rural environments are deemed crucial for influencing children's learning, which echoes the findings reported by Sojasi Qeidari et al. (2021). Furthermore,

The study sheds light on the challenges associated with rural tourism, particularly the environmental aspects. It reveals that when children find themselves in unfamiliar settings, they often seek novel

experiences and a sense of independence. However, this eagerness to explore can pose risks to their well-being when they lack sufficient knowledge about the environment and its behavior. In response to these potential hazards, parents employ a variety of risk management strategies, drawing from their prior knowledge, assumptions, and past experiences. This aligns with the findings of Kim & Lee (2017), emphasizing the practical nature of parental decision-making in safeguarding their children. Notably, parents tend to lean toward preventive measures as their preferred approach to mitigating potential risks during trips. Furthermore, these findings corroborate the observations made by Dolnicar et al. (2011) and Nakamura et al. (2009), highlighting how parents' awareness of the hazards associated with children's travel significantly influences family travel planning.

The findings of this study shed light on five primary types of perceived risks concerning children in rural tourism, with environmental risks emerging as the most prominent among them. The study identifies unknown rural destinations and close contact with natural elements as significant contributing factors to these risks, aligning with the observations made by Wang et al. (2019). It becomes evident that, from parents' perspective, unfamiliar destinations and close engagement with environmental elements elevate the risks associated with children's travel to rural areas. These conditions have the potential to lead to both physical and psychological harm for children and their families. Additionally, they can result in unpleasant experiences for tourists, particularly children, which may diminish their motivation to undertake similar trips and discourage others from similar experiences. This corresponds with the findings of Lee and Park (2019), underscoring the significance of addressing these risks to ensure the appeal and sustainability of rural tourism for families. Furthermore, the study underscores the importance of factors such as parents' limited knowledge about the destination and the insufficient provision of tourism services for children by local authorities. These elements significantly contribute to the perceived risks associated with children traveling to rural destinations. Consequently, the prevalence of these risks emphasizes the necessity for the implementation of risk reduction programs and projects in rural destinations, with a particular focus on ensuring the safety and well-being of children.

The risk management strategies employed by parents when it comes to their children are primarily shaped by their own past experiences and the insights gathered from others, aligning with the findings reported by Günlüoğlu and Atalay (2007). Parents tailor their approaches based on a combination of their perceived circumstances, familiarity with the environment, and the knowledge they've gleaned from other families, concuring with prior studies (e.g., by Gao et al., 2020). Furthermore, this study echoes the conclusions drawn in Allensor's (2019) research, highlighting that parents' risk perception regarding their children plays a pivotal role in shaping their travel behavior.

6. Conclusion and implications

6.1. Theoretical contributions

Grounded in the tenets of the protection motivation theory, the study contributes to the existing body of knowledge by offering a comprehensive understanding of parental risk perception and

management regarding children during rural family trips. By providing a nuanced view of the multifaceted nature of risks in this context, this study highlights the role of perceived risks in influencing parental decisions and behaviors related to family travel. Furthermore, the study expands the application of the protection motivation theory beyond traditional risk scenarios and demonstrates how this theory can be effectively applied to understand and explain parental risk perception and management in the context of family travel, particularly in rural settings. By delving into the intricate interplay of parental risk perception, risk management strategies, and their impact on family travel decisions, this research enriches our understanding of the complex dynamics within family travel contexts. It emphasizes that travel decisions are not solely based on destination attractions but are significantly influenced by safety concerns, especially when children are involved. Additionally, the study contributes to the emerging field of child-centric tourism research by highlighting the distinct nature of risks associated with children during family trips. It underscores the importance of considering the unique needs and vulnerabilities of children in travel risk perception models, thereby paving the way for further exploration of child-centered tourism studies.

6.2. Practical implications

The study's findings underscore the importance of collaborative efforts among parents, rural tourism service providers, and local authorities to ensure the safety of children during rural tourism trips. Children's natural curiosity and desire for new experiences in unfamiliar environments can pose risks to their well-being and the overall quality of the family trip. As highlighted by the findings, parents play a pivotal role in prioritizing their children's safety during rural travel. This involves enhancing their own knowledge and risk perception and adopting appropriate preventive measures. Parents can proactively research and understand potential risks associated with rural tourism destinations. Additionally, they can foster basic awareness in children through engaging activities like games, storytelling, and age-appropriate discussions about safety measures in rural areas. This approach helps children develop a better understanding of potential risks and equips them with the knowledge to respond effectively. Rural tourism service providers also bear responsibility for ensuring the safety of child users. This includes maintaining equipment and facilities that meet safety standards and are suitable for children of varying ages. Local governments should exercise caution when issuing permits for rural tourism, considering health and safety standards for children. Local authorities can significantly contribute to risk prevention by providing information about potential hazards in rural areas through channels such as brochures, SMS notifications, mobile applications, and tourism websites. Raising awareness among tourists, including parents and children, regarding potential risks and safety measures is crucial for mitigating risks and creating a safer environment for rural tourism. Furthermore, fostering collaboration and coordination among parents, rural tourism service providers, and local authorities is paramount to ensure the safety of children during rural travel. This entails promoting awareness, knowledge, preparedness, and the adoption of effective risk management strategies. Local authorities and rural tourism destination managers should actively enforce regulations and standards related to health and safety, educate tourists, and oversee proper management and maintenance to minimize risks. By working together, these stakeholders can enhance the overall experience of rural tourism for families with children while prioritizing their safety.

6.3. Limitations and directions for future research

However, this exploratory research has its limitations. The subjective nature of risk perception, influenced by various factors such as culture, social context, and personal backgrounds, can pose challenges. Future research endeavors could concentrate on educating parents about potential risks encountered by children during rural tourism trips. Additionally, evaluating the efficacy of risk education programs for parents is vital. Longitudinal studies tracking changes in parental risk perception and management strategies over time can provide further insights. Collaborative partnerships among researchers, policymakers, rural tourism providers, and local authorities can facilitate data collection, information sharing, and the development of evidence-based risk reduction initiatives and policies for children in rural tourism destinations.

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Figure 1: Administrative division of Ramian and location of selected case studies

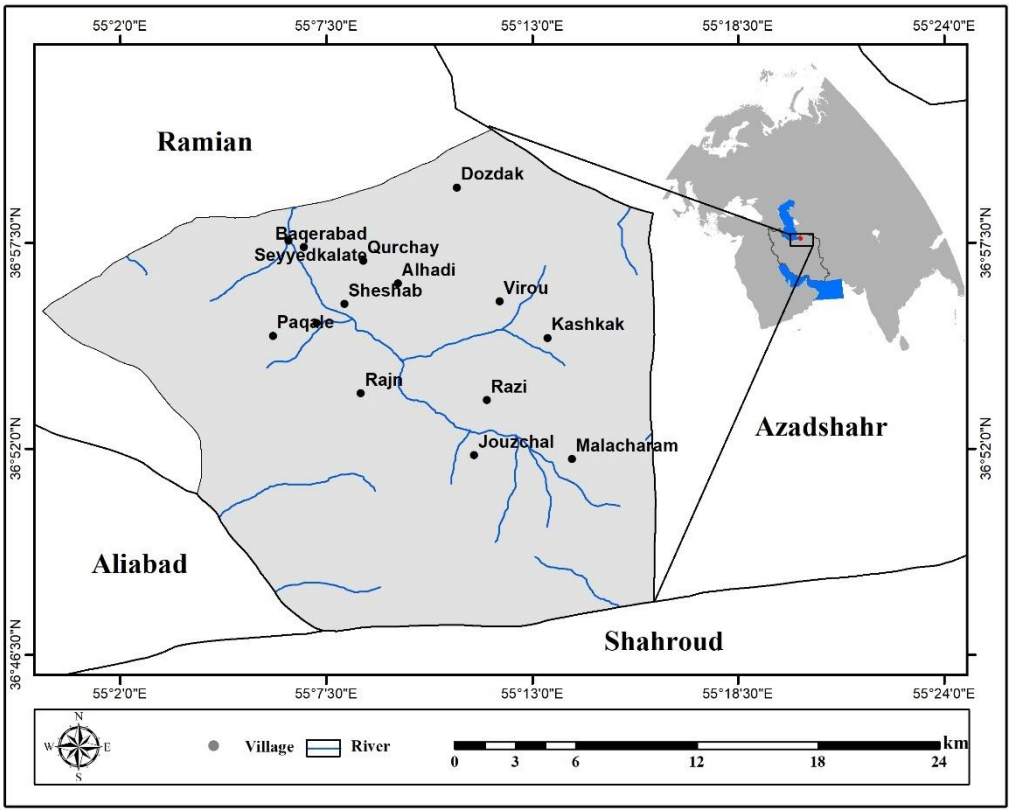

Table 1: Profile of interviewees (parents)

Code	Parent	Education	Age	Number of children	History of child facing danger/ type of injury
1	Mother	High school diploma	29	2	Yes/Poisoning
2	Father	BA/BSc	35	1	Yes/Bite
3	Mother	BA/BSc	41	3	No
4	Mother	BA/BSc	35	2	Yes/Falling off a tree
5	Father	MA/MSc	47	2	No
6	Father	high school diploma	45	3	Yes/Falling down a hillside
7	Mother	high school diploma	38	2	No
8	Father	high school diploma	35	1	Yes/Illness
9	Mother	BA/BSc	31	1	Yes/Falling in the water
10	Mother	BA/BSc	24	1	No
11	Mother	BA/BSc	32	2	Yes/Falling off the swing
12	Father	MA/MSc	43	2	No
13	Mother	high school diploma	37	2	Yes/Falling down
14	Father	PhD	52	2	No
15	Mother	high school diploma	28	1	Yes/Bite
16	Father	BA/BSc	34	1	Yes/Car accident
17	Mother	BA/BSc	40	2	No
18	Father	BA/BSc	37	1	No
19	Father	high school diploma	48	2	Yes/Falling off play facilities in parks
20	Mother	BA/BSc	25	1	No
21	Father	PhD	38	2	Yes/Falling from the mountain
22	Father	MA/MSc	42	2	No
23	Mother	MA/MSc	26	1	Yes/Illness
24	Father	high school diploma	34	1	Yes/Gold stolen
25	Mother	MA/MSc	35	2	No

26	Father	BA/BSc	41	2	Yes/Dog attack and fall
27	Father	high school diploma	39	2	No
28	Mother	high school diploma	28	1	Yes/Fall in aqueduct well
29	Mother	BA/BSc	43	2	No
30	Mother	BA/BSc	38	2	Yes/Motorcycle accident

Table 2: Socio-demographic profile of parents N = 353).

Variables	**Samples**	**%**	**Variables**	**Sample**	**%**
Gender			**Place of origin**		
Males	211	59.77 %	Local (within the city)	42	11.90 %
Females	142	40.23 %	Other cities in the province	73	20.68 %
Age			Other provinces in Iran	238	67.42 %
20 and below	3	0.85 %	**Previous experience of child harm during past trips**		
21 to 30	96	27.20 %	yes	135	53.36 %
31 to 40	133	37.68 %	No	118	46.64 %
41 to 50	102	28.90 %	**Occupation**		
51 to 60	17	4.82 %	Civil servant	173	49.01 %
61 or above	2	0.57 %	Self-employed	145	41.08 %
Education			Retired	7	1.98 %
Middle school and below	6	1.70 %	Unemployed	28	7.93 %
High school	83	23.51 %			
Undergraduate	103	29.18 %			
Graduate or above	161	45.61 %			

Table 3: Parental perceptions of risks related to children during family trips

Items	**Identified risk**
- Insect bites (R6) - Child falling (into valleys, wells, holes, from trees and heights) (R8) - Child being drowned (R9) - - Disease (e.g., heatstroke, sunburn, colds, headaches, dizziness, nausea, vomiting, diarrhea, abdominal pain) (R18) - Poisoning (e.g., food poisoning, consumption of contaminated water, eating poisonous mushrooms) and overeating (R17) - Burns (caused by fireworks) (R16)	Safety and health risks
- Road accidents (R1) - Sudden climate change (R4) - Earthquakes and floods (R5) - Wild animal attacks (R7)	Environmental and natural hazards
- Child's fighting with other children (R2) - Learning bad behavior and dirty language while traveling (R3)	Social interactions
- Child kidnapped by strangers (R10) - Child sexual abuse (R11) - Stealing children's valuables (especially from girls; gold and jewellery) (R12) - Risk of using recreational and entertainment equipment while traveling (slides, swings) (R19) - Risk of using tourism equipment (R20)	Child safety and security
- Getting scared and frightened (R13) - Stress formation (R14) - Increased obsession (R15)	Emotional and psychological well-being

Table 4: Risk mitigation measures in family trips

Items	Identified risk mitigation measure
- Preparing a map and conducting an initial survey of the trip's route and destination (S1) - Ensuring that children do not carry valuable and precious items like gold and jewelry (R7) - Bringing children's toys for entertainment (S13) - Carrying medicine and basic medical equipment, including a first aid box (S14) - Maintaining a list of addresses and phone numbers for clinics, police, and potential acquaintances at the destination (S16)	Travel Preparation
- Encouraging parents to participate in rescue classes (S2) - Educating and informing children before traveling (e.g., teaching them not to wander away from parents and to avoid trusting or communicating with strangers) (S5)	Travel skills training
- Packing suitable and extra clothing and shoes (S3) - Ensuring you have enough equipment (S4) - Bringing technical and rescue equipment such as ropes and life jackets (S15)	Provision of travel equipment
- Ensuring continuous care and supervision of children during travel (S6) - Selecting suitable accommodation away from potential hazards (e.g., avoiding proximity to car paths, valleys, and falling rocks) (S8) - Choosing accommodations in close proximity to other tourists (S9) - Following health and nutritional guidelines during travel (S10) - Ensuring proximity and quick access to medical centers and police (S11) - Regularly disinfecting hands and equipment (S12) - Strictly adhering to driving principles and rules (e.g., conducting technical car checks before departure, maintaining an appropriate speed, and parking in designated areas) (S17)	Actions during the trip

Table 5: The matrix of factor loadings (ordered) from exploratory factor analysis and exploratory themes of parents' perceived risks in family trips

Identified risk	Perceived risk items	Factor loading	Variance explained	Reliability coefficients
Safety and health risks	- Disease (e.g., heatstroke, sunburn, colds, headaches, dizziness, nausea, vomiting, diarrhea, abdominal pain) (R18) - Poisoning (e.g., food poisoning, consumption of contaminated water, eating poisonous mushrooms) and overeating (R17) - Risk of using recreational and entertainment equipment while traveling (e.g., slides, swings) (R19) - Burns (caused by fireworks) (R16) - Insect bites (R6) - Risk of using tourism equipment (R20) - Child being drowned (R9) - Child falling (e.g., into valleys, wells, holes, from trees and heights) (R8)	0.814 0.753 0.731 0.728 0.685 0.674 0.648 0.582	23.643	0.874
Emotional and psychological well-being	- Getting scared and frightened (R13) - Stress formation (R14) - Increased obsession (R15)	0.769 0.742 0.693	18.732	0.783
Social interactions	- Child's fighting with other children (R2) - Learning bad behavior and dirty language while traveling (R3)	0.825 0.737	17.391	0.729
Environmental and natural hazards	- Sudden climate change (R4) - Wild animal attacks (R7)	0.795 0.653	15.952	0.689

	- Earthquakes and floods (R5) - Road accidents (R1)	0.741 0.629		
Child safety and security	- Child kidnapped by strangers (R10) - Child sexual abuse (R11) - Stealing children's valuables (especially from girls; gold and jewellery) (R12)	0.574 0.553 0.547	14.784	0.674

Note: KMO = 0.853; Bartlett's Teat of Sphericity = 1253.326 (P < 0.001); Total reliability coefficients = 0.927.

Table 6: The matrix of factor loadings (sorted) with exploratory factor analysis and exploratory themes of parents' risk mitigation measures in family trips

Identified factors and dimensions	**Perceived risk items**	**Factor loading**	**Variance explained**	**Reliability coefficients**
Prevention mechanisms	- Preparing a map and conducting an initial survey of the trip's route and destination (S1) - Ensuring continuous care and supervision of children during travel (S6) - Encouraging parents to participate in rescue classes (S2) - Educating and informing children before traveling (e.g., teaching them not to wander away from parents and to avoid trusting or communicating with strangers) (S5) - Packing suitable and extra clothing and shoes (S3) - Ensuring you have enough equipment (S4) - Ensuring that children do not carry valuable and precious items like gold and jewelry (R7) - Selecting suitable accommodation away from potential hazards (e.g., avoiding proximity to car paths, valleys, and falling rocks) (S8) - Choosing accommodations in close proximity to other tourists (S9) - Following health and nutritional guidelines during travel (S10) - Ensuring proximity and quick access to medical centers and police (S11) - Regularly disinfecting hands and equipment (S12) - Strictly adhering to driving principles and rules (e.g., conducting technical car checks before departure, maintaining an appropriate speed, and parking in designated areas) (S17) - Bringing children's toys for entertainment (S13)	0.863 0.851 0.839 0.795 0.782 0.765 0.741 0.729 0.703 0.691 0.674 0.659 0.638 0.583	21.654	0.841
Readiness mechanisms and reactions	- Carrying medicine and basic medical equipment, including a first aid box (S14) - Bringing technical and rescue equipment such as ropes and life jackets (S15) - Maintaining a list of addresses and phone numbers for clinics, police, and potential acquaintances at the destination (S16)	0.836 0.784 0.758	19.596	0.817

Note: KMO = 0.827; Bartlett's Teat of Sphericity = 1042.163 (P < 0.001); Total reliability coefficients = 0.855.

Table 7: Confirmatory factor analysis of factors derived from parental risk perception and its mitigation measures in family trips

Identified risk and related items	Factor loading (standardize)	AVE	P-value (0.01)	T-value
Safety and health risks (a=0.83)				
- Insect bites	0.79		**	12.84
- Child falling (e.g., into valleys, wells, holes, from trees and heights)	0.66		**	12,54
- Child being drowned	0.68		**	12.38
- Disease (e.g., heatstroke, sunburn, colds, headaches, dizziness, nausea, vomiting, diarrhea, abdominal pain)	0.63	0.74	**	10.08
- Poisoning (e.g., food poisoning, consumption of contaminated water, eating poisonous mushrooms) and overeating	0.73		**	14.53
- Risk of using tourism equipment	0.71		**	13.83
- Burns (caused by fireworks)	0.64		**	12.87
- Risk of using recreational and entertainment equipment while traveling (e.g., slides, swings)	0.69		**	12.46
Emotional and psychological well-being (a=0.58)				
- Getting scared and frightened	0.62		**	11.51
- Stress formation	0.76	0.69	**	12.63
- Increased obsession	0.72		**	13.64
Social interactions (a=0.72)				
- Child's fighting with other children	0.62	0.68	**	11.23
- Learning bad behavior and dirty language while traveling	0.76		**	13.63
Environmental and natural hazards (a=0.87)				
- Road accidents	0.65		**	14.23
- Sudden climate change	0.56		**	10.76
- Earthquakes and floods	0.63	0.64	**	13.73
- Wild animal attacks	0.79		**	12.84
Child safety and security (a=0.67)				
- Child kidnapped by strangers	0.54		**	8.67
- Child sexual abuse	0.58	0.61	**	10.42
- Stealing children's valuables (especially from girls; gold and jewellery)	0.65		**	13.79
Practical considerations and measures				
Prevention mechanisms (a=0.83)				
- Preparing a map and conducting an initial survey of the trip's route and destination	0.65		**	13.85
- Ensuring continuous care and supervision of children during travel	0.64		**	12.65
- Encouraging parents to participate in rescue classes	0.74		**	13.35
- Educating and informing children before traveling (e.g., teaching them not to wander away from parents and to avoid trusting or communicating with strangers)	0.56		**	12.75
	0.85		**	12.54
	0.59		**	14.62
- Packing suitable and extra clothing and shoes	0.61		**	13.85
- Ensuring you have enough equipment	0.79	0.85	**	14.94
- Ensuring that children do not carry valuable and precious items like gold and jewelry	0.67		**	12.95
	0.68		**	14.95
- Selecting suitable accommodation away from potential hazards (e.g., avoiding proximity to car paths, valleys, and falling rocks)	0.66		**	13.65
	0.74		**	10.43
- Choosing accommodations in close proximity to other tourists	0.81		**	11.53
- Following health and nutritional guidelines during travel	0.73		**	14.72
- Ensuring proximity and quick access to medical centers and police				
- Regularly disinfecting hands and equipment				
- Strictly adhering to driving principles and rules (e.g., conducting				

technical car checks before departure, maintaining an appropriate speed, and parking in designated areas) - Bringing children's toys for entertainment				
Readiness mechanisms and reactions (a=0.77) - Carrying medicine and basic medical equipment, including a first aid box - Bringing technical and rescue equipment such as ropes and life jackets - Maintaining a list of addresses and phone numbers for clinics, police, and potential acquaintances at the destination	0.86 0.82 0.87	0.83	** ** **	14.85 15.57 14.93

1