

RESEARCH ARTICLE

Conceptualising risk in cruise holidays: A critical review

Jennifer Holland¹  | Clare Weeden¹  | Catherine Palmer²  | Jo-Anne Lester³ 

¹Brighton Business School, University of Brighton, Brighton, UK

²Centre for Memory, Narrative and Histories, University of Brighton, Brighton, UK

³School of Sport and Service Management, University of Brighton, Brighton, UK

Correspondence

Jennifer Holland, Brighton Business School, University of Brighton, Brighton, UK.
Email: jenniholland@outlook.com

Abstract

The knowledge base for cruise holidays is conceptually underdeveloped and narrowly focused on health and safety and environmental concerns. This critical review of risk research in relation to ocean cruising identifies knowledge gaps revealing the significance of factors such as financial, performance, time-loss, opportunity, functional, social and psychological risk. This review calls for a wider conceptualisation of risk that moves beyond an emphasis on physical risk. A deeper understanding of risk in ocean cruising contributes to cruise research and to the wider discourse in tourism and risk studies, and provides significant empirical and conceptual insights for future research.

KEYWORDS

decision-making, literature review, ocean cruising, risk, risk perceptions, tourism

1 | INTRODUCTION

Negotiating risk, whether directly or unconsciously encountered, is an inevitable part of everyday life, a life that for many individuals includes going on holiday. Conceptual and empirical research on risk in relation to tourism has a long history supporting an extensive body of knowledge. While research on understanding travel related risk often increases in response to global crises (Korstanje, 2009; C. C. Lee et al., 2021; Pennington-Gray, 2018; Yang et al., 2017; Yang & Nair, 2014), there have been few attempts to understand tourists' risk perception in relation to cruise holidays with scholars calling for more research (Holland, 2020; Le & Arcodia, 2018; Quintal et al., 2021). This gap in knowledge is significant as the presence of risk, whether real or perceived, has the potential to influence tourist decision-making.

The COVID-19 pandemic has further highlighted the importance of risk and risk perception for the travel sector generally and specifically in relation to ocean cruising. The impacts of the pandemic on the cruise industry are unprecedented with widespread disruption affecting millions of passengers with holiday plans cancelled and cruise companies facing economic losses (Chen et al., 2021). Several cruise ships were turned away from ports, highlighting the challenging legalities facing cruise companies seeking access from coastal states (Choquet & Sam-Lefebvre, 2021). Initial estimates suggest a \$50 billion loss across the cruise sector for the first six months of the pandemic (Cruise Lines International Association [CLIA], 2020), with three cruise lines (Birka Cruises, Cruise & Maritime Voyages and Pullmantur Cruises) going into

administration because of the pandemic (The Maritime Executive, 2020). The handling of COVID-19 onboard challenges the perception of a cruise as a 'safe holiday' (see Choquet & Sam-Lefebvre, 2021; Cordesmeier & Papathanassis, 2011; Holland, 2020). This is significant because cruise tourists have been described as risk-averse (Tarlow, 2006), and this perception of a cruise as 'safe' has assisted in the robust growth of the industry with pre-pandemic global forecasts of a record 32 million passengers in 2020 (CLIA, 2019).

While risk is an inherent part of travel (Ritchie & Jiang, 2019; Williams & Baláz, 2013) risk in tourism has been narrowly understood to influence holiday choice in terms of destination avoidance (see Karl, 2016, 2018; Reichel et al., 2009). A holistic understanding of risk is required because of the multi-dimensional nature of a cruise holiday in that to go cruising entails not just the ports visited, but also aspects related to onboard, onshore and social experiences. Although there are many types of cruises, for example river or expedition cruises, this article focuses on mass market mega-ship ocean cruise holidays. The size and characteristics of this type of cruise experience have the potential to contribute significant insights into the role and influence of risk in tourist decision-making. A cruise holiday is a particularly useful focus for examining consumer understandings of risk because the complex decision-making involved (Bahja et al., 2019; Petrick et al., 2007; Xie et al., 2012) and highlights the multi-faceted nature of risk in the context of ocean cruising. Given the propensity for perceptions of risk to influence decisions about whether or not to take a cruise holiday, it is surprising that the literature in this area is conceptually under-developed and narrowly

focused on health and safety and environmental concerns. A deeper understanding of how risk is perceived, constructed and interpreted for a cruise holiday will not only contribute to cruise research but also to the wider discourse in tourism and risk studies. Understanding risk perception is also important for examining tourist decision-making and this paper makes a significant contribution to this area.

Given the above arguments, this article critically reviews how academic literature conceptualises risk in cruise holidays, identifying gaps and limitations in knowledge and how these may be addressed by further research. While existing literature includes reviews that critique tourism and risk, there is a limited focus on risk in relation to cruise holidays generally and specifically in relation to ocean cruising. The discussion is organised into three sections. First, it explores key definitions and developments theorising risk in tourism providing a foundation for the second section, which focuses on existing understandings of risk in cruise holidays. The final section concludes the review by identifying specific directions for future empirical and conceptual research.

2 | METHODOLOGY

As the intention is to synthesise the limitations, challenges and possibilities for risk related research in the ocean cruising context, a discursive content analysis of existing literature was adopted. The literature review conducted focused on articles published in peer-reviewed tourism journals. This source type was selected because the peer review process provides a significant, high-quality benchmark for understanding the development trajectory of research. The search focused on sources published between 2004 and 2019, with 59 cruise related publications identified for review. The final part of the selection process required an article to meet the following criteria: (1) a focus on risk in relation to ocean cruising, (2) is published in a peer-reviewed journal or is a significant academic contribution in another source type and (3) offers specific insight into understanding tourists' perception of risk in ocean cruising. These publications represent a significant contribution as either a standard reference source included in published cruise research, and/or a source directly employed in the design of a specific piece of empirical research. Whilst the presence of the global pandemic and its impacts on the cruise sector is current at the time of writing, this critical review, in the main, precedes this event. The time frame selected provides a foundation for understanding tourists' perceptions of risk in cruise holidays and serves as a platform for future empirical research that will undoubtedly encompass the COVID-19 pandemic of 2020–2021.

3 | CONCEPTUALISING RISK IN TOURISM

3.1 | Defining risk

Risk has been an area of research for decades with many attempts to define, conceptualise and understand it, yet there is no universally

agreed upon definition (Aven & Renn, 2009; Boholm et al., 2016; Renn, 2017; Sjöberg, 2000; Wolff et al., 2019). Defining risk depends on epistemological and ontological positions with objective risk existing for those situated in a more positivist worldview, which accepts the world exists independently of being perceived (Aven & Kristensen, 2005).

However, this review accepts an interpretivist perspective that all risk is subjective and socially constructed (Douglas & Wildavsky, 1982; Slovic et al., 1981) with meaning ascribed to it by an individual. This is significant as in consumer and tourism decision-making, determining whether risk is 'real' or perceived is irrelevant. For consumers, objective and subjective risk function in the same way (Fuchs & Reichel, 2004, 2011; Jacoby & Kaplan, 1972; Mitchell, 1999), with risk in all purchases because the consumer can never be completely certain of success (Bauer, 1960). Therefore, for the purposes of this review, risk is defined as the potential to lose something of value (Priest, 1990). A value may include 'physical health, social status, emotional well-being or financial wealth' (Kungwani, 2014, p. 83).

Perceived risk has been defined as 'a consumer's beliefs about the potential uncertainty associated with negative outcomes in a purchase situation' (D. J. Kim et al., 2008, p. 546). It is the overall amount of uncertainty perceived by a consumer about a specific purchase (Cox & Rich, 1964; Li et al., 2020; Schiffman et al., 2011). Risk perceptions refer to how people judge, characterise and evaluate uncertainty (Slovic et al., 1982), they are how people think about and consider risk. Perceived risk is comprised of two components; uncertainty and consequences (Bauer, 1960; Cunningham, 1967; Lin et al., 2009; Stern et al., 1977; Taylor, 1974). Uncertainty refers to the product, the purchase and the overall subjective uncertainty experienced by the consumer. Consequences refer to the importance of the loss (Bauer, 1960; Dowling, 1986), and are adverse outcomes related to functional, performance or psychological goals, including money and time spent to achieve the buying goals (Lin et al., 2009).

3.1.1 | Understandings of risk in tourism

Understanding how tourists feel about risk is important because its presence, whether real or perceived, has the power to influence tourist decision-making (Floyd & Pennington-Gray, 2004; Karl, 2018). Understanding why travellers avoid certain destinations is just as relevant as why they choose to travel to others (Sönmez & Graefe, 1998a), and this is a critical gap when considered in a cruise context.

In most studies examining tourists' perceptions of risk, it is considered to be a negative and unwanted factor, and overwhelmingly positioned in relation to health or safety (see Fuchs & Reichel, 2011; Le & Arcodia, 2018; Roehl & Fesenmaier, 1992; Simpson & Siguaw, 2008; Sönmez & Graefe, 1998b). Risk is treated as negative because the theorising of risk in tourism has largely drawn on risk as understood within consumer decision-making, which posits risk from a positivist perspective and is largely based on expected utility theory from economics (Mansfeld, 1992; Schoemaker, 1982; Sirakaya & Woodside, 2005). In expected utility theory, individuals are

considered rational decision-makers, goal-oriented and able to maximise utility (Bettman et al., 1998; Decrop & Snelders, 2005; Hosany & Witham, 2010; Mansfeld, 1992; Sirakaya & Woodside, 2005), with risk considered to be an impediment to achieving an objective. Li et al. (2020) found if there is too much risk, the purchase is abandoned, or steps taken to mitigate the level of risk as they found a direct negative relationship between risk perception and purchase behaviour.

Much of the conceptualisation of risk in tourism has drawn on the work of Jacoby and Kaplan (1972) and Roselius (1971), which have been fundamental for considering how risk influences consumer decision-making. Jacoby and Kaplan (1972) identified five types of perceived risk in a consumer purchase situation: financial, performance, physical, psychological and social. Financial risk refers to the chance of losing money or wealth if the purchase does not work. Performance risk is the likelihood of the purchase not working effectively or not meeting expectations of how the purchase should work. Physical risk is the possibility that the item may be unsafe or that it may be harmful or injurious to health or well-being. Psychological risk refers to the chance that the item does not align well with self-image or self-concept, in contrast to social risk, which denotes concern about what others may think about that person by association with or by using the product or service. Roselius (1971) identified a sixth risk, time-loss, referring to the potential for a product to fail where the consumer wastes time and effort in repairing, replacing or adjusting the item. A seventh risk, opportunity-loss (D. Lee et al., 2001) evolved later in response to concerns that perceived time-loss did not sufficiently explain the loss of opportunity and potential regret when a purchase failed by comparison with the time, effort and cost taken to search for an alternative product or service. However, with the exception of online purchasing, opportunity-loss risk has not been widely accepted in the literature (see Osman et al., 2010; Puranik & Bansal, 2014). This is because in terms of non-monetary loss related to time, opportunity and/or convenience, time-loss risk has been considered a more appropriate description of risk perception. An eighth risk, equipment risk, is found only in the tourism literature and is defined as 'the possibility of mechanical, equipment or organisational problems with a purchase' (Roehl & Fesenmaier, 1992, p. 18) encompassing the malfunctioning or unavailability of equipment including mechanical failure. Equipment risk is not widely applied outside of tourism research, perhaps reflective of the dominance of early classifications of risk. However, within marketing, functional risk has emerged as a category of risk referring to financial, performance and physical concerns (see Zhang & Hou, 2017). Although functional and equipment risk are used interchangeably in the tourism literature, for consistency this review adopts the term functional risk to refer to the potential risks associated with mechanical, equipment or organisational failures. Table 1 summarises the typologies of risk discussed above.

While Jacoby and Kaplan's framework has been extensively applied to consumer and tourist studies on risk (see Park & Tussyadiah, 2017; Reisinger & Mavondo, 2006; Roehl & Fesenmaier, 1992; Simpson & Siguaw, 2008), the existing application

of consumer risk within a tourism context is underdeveloped. This is largely because tourism is a multi-faceted service industry characterised by perishability, intangibility, inseparability, and variability (Fuchs & Reichel, 2011). Such factors mean that there is a higher level of risk associated with travel products due to the high costs involved in providing a service and the complex decision-making involved (Lin et al., 2009). The consumer risk typology is inadequate to fully explain the multi-dimensional nature of risk in travel because it was created with consumer goods in mind, not services. Furthermore, Deng and Ritchie (2018) argued not only was there no widely accepted model for examining individual tourists' risk perceptions, but also the prevailing methodologies and frameworks were inconsistent across tourism studies, making the comparison of findings difficult thereby hampering the empirical and conceptual development of risk perception. Wolff et al. (2019) further argued research on tourist risk perceptions are hindered by diverging conceptual and operational definitions and lack awareness of the effect of heuristics and biases. These represent critical gaps and demonstrate a need for more research on understanding how tourists perceive and understand risk.

Before exploring how risk is conceptualised in cruise holidays, it is necessary to first consider risk in tourism. Table 2 presents the key contributions emanating from the literature for considering risk in tourism, organised by theme and main contribution of the article. The table identifies seminal research influencing the understanding of tourist risk perceptions, understandings that continue to shape the discourse of risk, including risk in cruising. Notably, few entries are conceptual (see Korstanje, 2009; Williams & Baláz, 2013), with most adopting an empirical and quantitative approach. The literature also reflects an emphasis on research positioning risk in relation to the effect on destination decision-making.

Four main conclusions can be drawn from Table 2. Firstly, it demonstrates tourism risk research has focused primarily on identifying specific factors that help inform the perception of risk, such as preference for novelty/familiarity and sensation-seeking (Cohen, 1972; Lepp & Gibson, 2003; Wang et al., 2019), socio-cultural factors (H. Gibson & Yiannakis, 2002; D. J. Kim et al., 2008), subjective knowledge (Perpiña et al., 2021) and travel experience (Karl et al., 2020; Morakabati et al., 2012; Roehl & Fesenmaier, 1992). The extent to which, and how gender influences tourist risk perceptions continues to raise questions, (see Jordan & Gibson, 2005; Lepp & Gibson, 2003; Li et al., 2020; Yang et al., 2017) with no agreed opinion. The propensity for risk-taking behaviour is also influenced by national culture, as

TABLE 1 Types of perceived risk

Risk type	Source
Time-loss	Roselius (1971)
Financial, performance, physical, psychological and social	Jacoby and Kaplan (1972)
Opportunity-loss	D. Lee et al. (2001)
Equipment/Functional	Roehl and Fesenmaier (1992)

TABLE 2 Key contributions to conceptualising risk in tourism

Theme	Main contribution	Author/Authors
Factors influencing individual risk perceptions		
<i>Desire for novelty/familiarity</i>	Developed seminal typology/continuum of tourist roles based on preference for novelty or familiarity	Cohen (1972)
	Explored risk perceptions for three identified groups (functional, place and neutral) in relation to attitudes about risk and desire for novelty	Roehl and Fesenmaier (1992)
	Revealed the preference for familiarity influences the perception of risk with tourists seeking more familiarity are more risk averse	Lepp and Gibson (2003)
<i>Sensation-seeking</i>	Explored the significance of sensation-seeking on tourist role, finding higher SS tourists prefer less familiarity, but notably risk perceptions are not affected by sensation-seeking propensity	Lepp and Gibson (2008); Chien et al. (2017)
	Identified the importance of attitude and propensity for sensation-seeking as important factors influencing risk perception	Wang et al. (2019)
<i>Demographic characteristics: Age, Gender</i>	Explored tourist roles and identified age and gender as potentially influencing the preference for familiarity	H. Gibson and Yiannakis (2002)
	Explored the role of gender in relation to risk perceptions, with female tourists often perceiving more risk or were more risk averse compared to male tourists	Lepp and Gibson (2003); Jordan and Gibson (2005); Yang et al. (2017)
	Explored gender on risk perceptions and sensation-seeking, finding gender is not a significant factor	Lepp and Gibson (2008)
	Identified risk perceptions are influenced by age, gender and culture	H. Kim et al. (2016)
<i>Socio-cultural characteristics</i>	Investigated cultural dimensions for influencing tourist risk perceptions, using Hofstede's uncertainty avoidance scale, finding culture influences perceived risk	Kozak et al. (2007)
	Explored cultural and religious differences to tourist destination risk perceptions	Fuchs and Reichel (2004)
	Developed a conceptual model exploring individual travellers' psychological and sociodemographic factors for influence on health risk perceptions, finding emotion/affect significantly influences the amount of risk perceived	Chien et al. (2017)
Prior travel experience		
<i>Influences risk perceptions</i>	Investigated how past travel experience influences risk perceptions by reducing the perception of risk for destinations previously visited, Prior experience to a destination reduces the perception risk for that destination	Sönmez and Graefe (1998a); H. Kim et al. (2016)
	Examined risk perceptions, finding that tourists with more travel experience are more likely to continue to travel even when facing increased risk, although safety concerns will override this	Floyd et al. (2003)
	Investigated the role of prior knowledge for risk perceptions, finding tourist subjective knowledge influences how risk is perceived	Sharifpour, Walters, and Ritchie (2014)
	Examined differences in perceived risks between first time visitors and tourists with previous experiences	Fuchs and Reichel (2011)
Travel risk categorisations/dimensions		
<i>Types of travel risks</i>	Adapted Jacoby & Kaplan's types of consumer risk by identifying 3 dimensions of perceived risk in travel: physical-equipment, vacation and destination. Notably first to identify equipment risk in travel	Roehl and Fesenmaier (1992)
	Added to Jacoby & Kaplan and Roehl & Fesenmaier by adding travel risks for health, terrorism and political instability	Sönmez and Graefe (1998a)
	Considered risk to be related to travel, destination or safety concerns	Floyd et al. (2003)

TABLE 2 (Continued)

Theme	Main contribution	Author/Authors
	Identified five main tourist risks: political, environmental, health, planning and property	Dolnicar (2005)
	Adapted Jacoby & Kaplan to create a travel risk typology adding airplane hijacking, bombing, biochemical attacks, cultural and political risks	Reisinger and Mavondo (2005)
	Identified six risk travel dimensions: human-induced, financial, service quality, socio-psychological, natural disaster/car accident, food/safety/weather	Fuchs and Reichel (2006)
	Applied Jacoby & Kaplan's risk types into travel specific concerns	Simpson and Siguaw (2008)
	Investigated risk perceptions finding 3 dimensions: general travel, travel to a destination and within the destination	H. Kim et al. (2016)
Influence of risk on tourist decision-making		
<i>Destination avoidance</i>	Examined the influence of risk perceptions resulting in destination avoidance when risk is perceived to be higher	Sönmez and Graefe (1998b); Reisinger and Mavondo (2005); Kozak et al. (2007)
	Explored personality traits as influencing destination choice whereby tourists seeking higher levels of sensation-seeking are more likely to travel to destinations considered riskier	Lepp and Gibson (2008)
	Examined the significance of political, social and physical risk on tourist decision-making, finding political risks are the most dominant influence on destination choice	Gray and Wilson (2009)
Conceptualisation of risk in travel		
<i>Critical review</i>	Critical discussion of rationalist and constructivist approaches and call for more theoretical research	Williams and Baláz (2013)
	Critical review of risk and gender research, identifying four themes of travel risk: role of gender & culture, the 'omnipresent' geography of risk, tourist management of risk through mitigation and acceptance and risk taking to construct self and/or gender identities	Yang et al. (2017)
<i>Conceptual framework</i>	Applied attachment theory to risk perceptions and assists in explaining why some tourists feel more anxiety which influences tourist decision-making	Korstanje (2009)
	Proposed a conceptual framework of risk integrating travel risks, Hofstede's cultural dimensions, Cohens' tourist role and Plog's tourist personality to predict travel intentions in relation to perceived risk	Yang and Nair (2014)
	Reviewed the tourism risk literature from 1960 to 2018 focusing on risk as crisis or disaster, finding overall a lack of conceptual and theoretical foundations, model and/or framework testing and unbalanced research themes (much research focuses on crisis response and recovery)	Ritchie and Jiang (2019)

evidenced by Hofstede's (1983) uncertainty avoidance dimension scale, but also through differences in social risk-taking, such as not wanting to disrupt group cohesion (Hsee & Weber, 1999; Mandel, 2003). Ultimately, how risk is perceived differs between individuals and depends on factors including personality attributes, demographics, socio-cultural dimensions and past tourist experience (Bowen et al., 2014; Chien et al., 2017; Fuchs & Reichel, 2004; Le & Arcodia, 2018; Lepp & Gibson, 2003; Wang et al., 2019).

Although Table 2 represents a significant body of work, tourism risk research to date is often reductionist in that it overly focuses on demographics and psychographics to the detriment of explicit

acknowledgement as to the complexity of how risk may be perceived, constructed and interpreted. Using a reductionist approach also fails to take into account the socially constructed nature of risk, and how nuanced perceptions can be.

Secondly, Table 2 reflects the differentiation of travellers in terms of what is referred to as risk appetite (Society for Risk Analysis, 2018) and in relation to the amount of risk a tourist is willing to accept in the pursuit of values and/or interests. Cohen's (1972) tourist typology was an early conceptualisation of tourist decision-making in relation to preference for novelty or familiarity. However, his work does not take account of different holidays, diverse decision-making strategies,

associated with the purpose of the trip, destination, or who is travelling. Others have argued novelty-seekers tolerate higher levels of risk (see Lepp & Gibson, 2003; Morakabati et al., 2012; Reisinger & Mavondo, 2005) in terms of how personality influences perceived risk and risk taking (see Morakabati & Kapuściński, 2016; Sönmez & Graefe, 1998a). This highlights the need for future research into the relationship between personality and risk perception.

Thirdly, Table 2 emphasises the extent to which some of the literature is based upon variations of Jacoby and Kaplan's (1972) risk typology. While useful as a starting point, such variations do not fully explain the complexity of risk in leisure travel because, as already noted, the typology was created for a consumer goods context; yet the tourism literature continues to draw on this early categorisation (see examples Dayour et al., 2019; Gong & Liang, 2019). Indeed, many studies have applied their risk types to tourism contexts per se when what is required is an appreciation of specific holiday types for example, where multiple destinations are visited or where particular modes of travel comprise a key element of the holiday experience. While Reisinger and Mavondo (2005) and Simpson and Siguaw (2008) offer a more comprehensive overview of travel risks, these have not been developed further or embraced by the tourism literature.

Fourthly, the literature indicates a focus on the relationship between risk and tourist decision-making in relation to destination choice. Several studies (see Floyd et al., 2003; Fuchs & Reichel, 2011; Karl, 2016, 2018; H. Kim et al., 2016; Kozak et al., 2007; Lepp & Gibson, 2008; Reisinger & Mavondo, 2005; Yang & Nair, 2014) recognise perceived risk as a significant factor influencing destination choice and travel decision-making, especially travel intentions, information search and pre-purchase behaviours. Risk has largely been theorised as having a negative effect on destination choice (Floyd & Pennington-Gray, 2004; H. Kim et al., 2016; Sharifpour, Walters, & Ritchie, 2014; Sönmez & Graefe, 1998b) which again fails to address the complexity of risk. Indeed, few studies explore risk beyond conventional consumer risk applications, and much of the tourism literature treats risk as being synonymous with the notion of crisis, identifying a need to manage risk and provide managerial responses (see Pennington-Gray, 2018; Ritchie & Jiang, 2019). Dolnicar's (2005) study is a significant contribution to risk in relation to tourism because of its use of both qualitative and quantitative methods to conduct a comprehensive exploration of risk dimensions in relation to political, environmental, health, planning, and property.

In summary, Table 2 highlights the over-reliance by researchers of Jacoby and Kaplan's categorisation as applied to tourism. The Table further demonstrates the need to adopt research methods and theoretical frameworks embracing alternative approaches to those associated with deductive reasoning and positivism. While Yang et al. (2017) is one of the few studies to move in this direction, the lack of other such research indicates there is a significant gap in understanding the subtleties inherent in the relationship between risk and tourist decision-making in tourism beyond destination avoidance. The other gaps identified include the need to better understand how tourists perceive and understand risk and the relationship between personality and risk perception. The following section builds on the

above discussion to focus more specifically on the understanding of risk in cruise holidays including key contributions and research gaps.

4 | EXISTING UNDERSTANDINGS OF RISK IN CRUISE HOLIDAYS

As previously argued, cruises are particularly relevant for examining conceptualisations of risk. The consumer decision-making process is complex (Bahja et al., 2019; Petrick et al., 2007; Xie et al., 2012) and the consumption experience is characterised by what P. Gibson (2012) refers to as 'complementarity'. Here, ocean cruising is not a single product but a series of complementary services that come together to create an overall cruise experience. A cruise is a simultaneous consumption of transportation, accommodation, hospitality and ports visited. A cruise is a complex tourist experience and deciding to take a cruise is often a highly involved and emotive process (Bahja et al., 2019; Hung & Petrick, 2011b; Petrick et al., 2007). The complexity of decision-making lies in the need to select from more than 60 cruise brands with widely differing destinations and itineraries, varying cabin types and complex pricing structures. A cruise consumer also needs to consider: transportation to and from the ship, which often includes international air travel (Bahja et al., 2019), shore excursions; and a range of onboard aspects such as attire including social expectations and dining etiquette (Lester, 2017), and what may be the prevailing 'norms' associated with staff gratuities (see Lynn & Kwornik, 2015; Torres, 2016). Existing elements of tourist risk focus on a singular destination, whereas a cruise encompasses multiple destinations, all with differing images and associated risk perceptions. The complexity of decision-making associated with a cruise holiday highlights the multi-faceted nature of risk not only in relation to the eight perceived risks as summarised by Table 1. These risks could be in relation to the inherent social practices distinctive to a cruise holiday including formal dining and the social conventions connected with maritime traditions and histories (Lester, 2017; Yarnal & Kerstetter, 2005).

This critical review moves beyond a focus on physical risk in relation to health and safety concerns (see Holland, 2020; Le & Arcodia, 2018; Liu-Lastres et al., 2018) and argues for a broader and more nuanced understanding of risk that takes into account risk factors that include but also go beyond financial, performance, social and psychological, functional, time-loss and opportunity-loss as these have been found unsatisfactory when applied to cruise. This position is in line with the findings from contemporary research by such as Le and Arcodia (2018) and Gong and Liang (2019). For example, Le and Arcodia's (2018) framework for understanding risk in cruising suggests physical and equipment risk as being the most relevant risk types based upon findings that identified infectious outbreaks, sexually transmitted diseases, motion sickness, cruise accidents, terrorism, piracy and crime as the most significant risks. Similarly, Gong and Liang's (2019) research into risk perceptions in relation to cruising utilising existing consumer risk definitions identified three new dimensions of risk perception (service, facility and communication).

Significantly, communication risk focuses on the potential concerns and anxieties cruise tourists may have through difficulties with language or cultural barriers. Likewise, there are new types of risk emerging that may be cruise specific, such as Panko and Henthorne's (2019) study of criminal activity, which introduced environmental risk in relation to air and water pollution. Air or water pollution are not mentioned in the consumer or tourist literature in relation to how risk may be interpreted in a cruise context and hence how such aspects might influence tourist decision-making. As important as the above studies are, they still do not fully account for the complexities inherent in the relationship between risk perception and decision making in the context of ocean cruising.

Therefore, Table 3 brings together key contributions to theorising risk in cruising and is organised by risk type to demonstrate emphasis, and chronologically to show conceptual development. The studies included were selected according to the methodology previously outlined. Where appropriate, some entries are listed more than once if the key contribution of the research is relevant for more than one aspect of risk. Notably, the majority of these entries pertain to health or safety and are quantitative in nature.

Table 3 highlights how the existing understanding of risk in cruise holidays is overwhelmingly conceptualised in relation to health, safety and physical well-being. A summary of the extent to which this is so is provided by Table 4. This is not to negate the significance of these risk types for example, events such as the grounding of the *Costa Concordia* and the COVID-19 pandemic are reminders of why these types of risk tend to dominate the cruise research agenda. Significantly, however, at the time of writing there are few studies specifically focusing on risk awareness, perceptions and decision-making in the aftermath of the COVID-19 pandemic. Radic et al. (2020) explored cruise lines' crisis management and weak leadership during the pandemic, while other studies have examined rates of infection amongst passengers and crew (Mizumoto & Chowell, 2020; Rocklöv et al., 2020). Holland et al. (2021) explores how risk perceptions have changed as a result of Covid-19, and the impact this has on willingness and intentions to cruise. While useful, it is too early to determine the extent to which these areas will feature as part of future research examining the impact of the global pandemic and reveals once again research on risk in cruising rarely encompasses other aspects of consumer or tourist risk, beyond those mentioned earlier, by such as Jacoby and Kaplan (1972).

The following section more closely examines those risk types that tend not to dominate the cruise literature as illustrated in Table 4, namely, financial, performance, social and psychological, functional, time-loss and opportunity risk. At this point it is important to note nearly all of the literature reviewed focuses on travellers with cruise experience. Only a few articles explore non-cruiser perceptions of risk (see Lebrun, 2015; Park, 2006; Tang et al., 2019). This is a critical gap in the literature as further interest must be paid to how non-cruisers interpret or perceive risk in cruising, particularly as the industry must focus on attracting potential cruisers as well as encourage repeat cruisers to return (Sun et al., 2018). This will be even more important as the industry seeks to rebuild after COVID-19, and cruise companies

will need to attract both previous cruisers and those new to cruising (Choquet & Sam-Lefebvre, 2021).

4.1 | Financial risk

Financial risk refers to 'the potential loss of money or wealth if the item does not work' (Jacoby & Kaplan, 1972, p. 382) or does not provide value for money (Sönmez & Graefe, 1998a). The majority of studies address financial risk in regard to cruising from the perspective of tourists' attitudes towards value-for-money. Table 3 reveals that concerns about money in a cruise context are perceived differently according to whether people have or have not previously taken a cruise holiday.

Gong and Liang (2019) is one of the few studies to discuss financial risk explicitly. Their research highlights how some cruise tourists are concerned about the potential for additional expenses through onboard purchases. However, this particular concern has not been widely researched beyond the Chinese market or in terms of non-cruisers. Indeed, a focus on 'hidden' expenses as influencing risk perception is not well represented in the literature, meaning that more studies are needed to better understand the nuances associated with this aspect of financial risk.

Furthermore, the literature fails to address financial concerns at the corporate level, with unease about a cruise company ceasing to trade or the potential financial losses associated with cruise holidays cancellations, as seen with the financial collapse of Swan Hellenic and the demise of Ocean Village (Cholwill, 2015). Similarly, financial risk is revealed when a cruise is cut short or itinerary impacted because of a company's financial problems, as occurred in 2019 with One Ocean Expeditions where 140 passengers were left stranded in Buenos Aires (Bennett, 2020). Nevertheless, at the time of writing no studies were found to examine risk perceptions in relation to these occurrences, all of which may influence decision-making. Moreover, the global pandemic of 2020 revealed financial risks associated with the costs of passenger repatriation as several ships were quarantined in port and unable to reach the scheduled home port. Furthermore, as a result of the pandemic, at least three cruise lines have gone into administration or ceased trading (The Maritime Executive, 2020). Although there has been some research into the use of financial incentives to encourage repurchase intentions during or after a crisis (see Soulard & Petrick, 2016), this will need to be developed much further in the future given the far-reaching consequences of Covid-19. There is also little research examining financial risk in relation to satisfaction and performance aspects, with no studies found that examine concerns about the cost of a cruise in relation to meeting expectations. In combination, these aspects of financial risk and how they are perceived, experienced and understood represent a further critical gap. As such, more research needed to examine the nuanced interpretation of financial concerns in cruising, moving beyond a cruise as value-for-money/expensive dichotomy. In summary, while a focus on financial risk has much to reveal about the product offering and associated decision-making, most notably in terms of non-cruisers, it is surprising that this risk type is underexplored.

TABLE 3 Key studies related to risk in cruise holidays

Type of risk	Author	Key contribution
Physical	Jaakson (2004)	Identified cruise passengers are concerned about crime in port and use risk strategies to mitigate including staying within a geographical bubble near the ship
	Lois et al. (2004)	Proposed a formal safety assessment framework for cruise ships which is needed to identify procedures for assessing and reducing risks related to safety
	Greenberg et al. (2006)	Conducted a comprehensive analysis of six terrorism-specific risk and potential significant human and economic consequences for cruise ships, noting while vulnerable, ships design and safety measures have reduced the risks
	Stewart et al. (2007)	Conducted a comprehensive evaluation of risks for cruise ships sailing in the Arctic, identifying the potential for sea-ice hazards and negative implications for cruise tourism
	Stewart and Draper (2008)	Examined challenges for cruise ships sailing in Polar regions as a result of increased ice hazards from climate change, and identifying the need for more development in policy, planning and management to manage safety risks for individuals, communities and the environment
	Lück et al. (2010)	Identified increased risks associated with polar cruising including safety and environmental risks in the event of an incident and difficulty in rescuing large ships due to limited response capabilities and potential for adverse weather conditions
	Brosnan (2011)	Investigated the increased risk of safety incidents from ageing cruise ships sailing in the Arctic without having the correct level of ice-strengthened hull
	Cramer et al. (2011)	Identified past crisis events in relation to safety, piracy, fire and norovirus outbreaks. Critical discussion of the crisis response for the Carnival Splendour fire, noting both failings and success of specific communications
	Baker (2013)	Investigated cruise passenger's perceptions of safety and security in relation to crime, fire and falling overboard with results indicating cruise passengers are not concerned about these risks
	Henthorne et al. (2013)	Investigated difference in safety perceptions between first time and repeat visitors to a cruise port with previous experience reduces risk perceptions
	Nikolić and Missoni (2013)	Investigated risk of piracy to cruise ships compared to yachts with results indicating cruise ships are at a lower risk of an incident
	Ventikos (2013)	Investigated frequency of fire onboard cruise ships, noting most fires occur when the ship is at sea and although fires occur frequently, severe fires are rare
	Ahola et al. (2014)	Investigated the feeling of safety in cruising which is significantly influenced by the architecture of the ship, life-saving appliances, and communication from the cruise line and staff
	Bowen et al. (2014)	Analysed cruise passenger perceptions of risk in relation to terrorism, finding although many passengers think a terrorist event is likely they are confident in the cruise lines to take action to reduce the risk, with more experienced cruisers perceiving less risk
	Bryce (2014)	Examined public reaction to the communication given by a cruise line for two fires and critically discussed the importance of social media in crisis communication
	Dawson et al. (2014)	Examined and critically discussed existing literature on marine regulations and governance in the Canadian Arctic. Identified specific risks of sailing in polar regions including charts being obsolete or not existing and a lack of a management and regulatory framework
	Mileski et al. (2014)	Conducted large scale safety assessments by examining 580 incidents on cruise ships, finding the most often causes are mechanical failure and human error
	Lebrun (2015)	Analysed travel intentions and constraints to cruise and found non-cruisers' worry about safety and ship disasters and cruisers do not share these concerns
	Button (2016)	Examined risks related to terrorism and piracy for all marine shipping, finding cruise ships have a low risk with few incidents
	Eliopoulou et al. (2016)	Investigated the increasing number of safety accidents on cruise ships compared to other passenger ships with many ships used beyond their service life, with greater potential for mechanical failure
	Papathanassis (2016)	Examined passenger reactions after being onboard during an emergency, finding information is mediated by previous travel experience, prior knowledge and observations

TABLE 3 (Continued)

Type of risk	Author	Key contribution
	Tarlow (2017)	Explored security (terrorism attacks, passenger/crew security, theft) and safety (food service, ship's condition, health issues, storms) as most significant risks for cruise passengers
	Zou and Petrick (2017)	Examined Chinese tourists' perceptions of a cruise and found safety concerns are a significant constraint to cruise
	Penco et al. (2019)	Reputation of the cruise brand impacts how crisis messages are interpreted and affects future intentions to cruise, with stronger brand reputation inferring trust in the brand
	Tang et al. (2019)	Examined constraints to cruise for the Chinese market, finding fears about safety are influential on cruise decision-making
	Dahl (2019)	Investigation of the factors leading to large scale ship incidents by examining the Viking Sky incident and response
Health	Kura et al. (2006)	Examined risk of contracting Legionella onboard a cruise ship through water sources to provide guidance on prevention
	Bledsoe et al. (2007)	Investigated illnesses and injuries which may occur on a cruise ship, identifying motion sickness as the most common reason to seek medical care
	Neri et al. (2008)	Examined perceptions of risk and behaviour during norovirus outbreaks onboard, identifying the need for more screening prior to embarkation and providing more education to passengers on the importance of reporting symptoms and following prevention guidance
	Baker and Stockton (2013)	Investigated cruise ship passenger health perceptions with responses indicating while most are not concerned about health risks, those who cruise more often take more precautions to avoid getting sick
	Mouchtouri and Rudge (2015)	Examination of potential risk for contracting legionella compared between hotels, ferries and cruise ship. Legionella was detected in 81% of ferries, 49% of hotels but not on any of the cruise ships in the study
	Klein (2016)	Analysed three types of crime onboard (physical assault, theft and sexual assault), for a specific cruise line, finding physical assault and thefts occur less frequent than on land, and incidents related to sexual assault are higher on a cruise than on land
	Liu et al. (2016)	Examined cruise passenger risk perceptions for norovirus outbreaks, finding that more severe outbreaks influence attitude towards the cruise line, and perceived self-efficacy moderates the relationship between perceived risk of getting norovirus and perceived safety overall of cruising
	Klein et al. (2017)	Examined health risks for cruise passengers including illness outbreaks, onboard crime, falling overboard, sexual assaults and access to health services onboard
	Le and Arcodia (2018)	Developed a conceptual model for perceptions of cruise-related risks which identified 5 cruise-related risks: infection outbreaks, sexually transmissible infections, motion sickness, cruise accidents, and terrorism, piracy, crime
	Liu-Lastres et al. (2018)	Examined how communication from cruise lines influence cruiser's information search behaviour, safety perceptions and cruise travel intentions, using contracting norovirus as the risk. Applied the risk perception attitude framework to find risk tolerance and cruise experience influence information search behaviour, safety perceptions and intentions to take a cruise, with emotion affecting how messages are interpreted
	Panko and Henthorne (2019)	Critically discussed potential for crime onboard cruise ships in relation to sexual assault, illicit drug use, theft and pollution
	Tang et al. (2019)	Examined constraints to cruise for the Chinese market, finding influential constraints are fears about seasickness
Financial	Petrick (2004b)	Investigated perceived value between first-time and repeat cruisers, finding value affects repeat cruisers' intentions to cruise whereas first-time cruisers n to cruise again are more affected by quality of experience
	Park (2006)	Explored perceptions of a cruise for cruisers and non-cruisers, revealing non-cruisers view cruises as expensive and cruisers view cruises as good financial value
	Petrick and Li (2006)	Investigated perceived value in cruising, finding value is not always related to cost and depends on price sensitivity, with higher perceived value influencing repurchase behaviour

(Continues)

TABLE 3 (Continued)

Type of risk	Author	Key contribution
	Hung and Petrick (2011b)	Examined motivations to cruise and revealed cruises are considered high value for the price paid
	Hung and Petrick (2012)	Investigated constraints to cruise for cruisers and non-cruisers revealing perceived high cost of a cruise is a constraint
	Hur and Adler (2013)	Examined perceptions of a cruise with results indicating perceived expense was the most significant reason for not choosing a cruise holiday
	Cholwill (2015)	Examined financial losses to individual tourists as well as corporate & reputational risk to cruise lines with the collapse of Swan Hellenic and the restructuring of Ocean Village
	Lebrun (2015)	Analysed travel intentions, constraints to cruise and social representations with findings revealing non-cruisers perceive cruises to be expensive
	Miller (2005)	Identified the financial consequences of a mechanical failure resulting in a cancelled cruise through passenger refunds and compensation
	Soulard and Petrick (2016)	Examined the use of financial incentives and communications strategies to encourage repurchase intentions during critical incidents onboard
	Chua et al. (2017)	Examined effect of involvement, revealing repeat cruisers perceived significantly lower price and higher value in cruise holidays compares to first-time cruisers
	Zou and Petrick (2017)	Examined Chinese tourists' perceptions of a cruise and found perceived expense is a significant constraint to cruise
	Tang et al. (2019)	Examined constraints to cruise for the Chinese market, finding perceived cost is a significant constraint
Performance/ Satisfaction	Petrick (2004a)	Investigated the importance of service quality and value on satisfaction, which can be applied to understanding performance risk
	Huang and Hsu (2010)	Examined impact of other passengers on satisfaction overall of cruise holiday
	Brida et al. (2012)	Examined how attributes and shipscape influence satisfaction with a cruise holiday
	Zhang et al. (2015)	Investigated how ship attributes influence satisfaction and dissatisfaction for a cruise, finding poor service quality, dining, price and embarkation affect satisfaction perceptions most
	Tang et al. (2019)	Examined constraints to cruise for the Chinese market, identifying interpersonal concerns including lack of companions, boredom and seasickness affect enjoyment and satisfaction with a cruise holiday
Social/Psychological	Yarnal and Kerstetter (2005)	Examined the role of the self and use cruise ships as spaces to feel comfortable and free, with the social interactions providing a sense of community and belonging which reduces risk
	Park (2006)	Explored perceptions of a cruise for cruisers and non-cruisers, finding non-cruisers view a cruise as superficial and constraining with too many elderly passengers
	Hung and Petrick (2011a)	Examined congruity and destination image within a cruise context, finding self-congruity influences intentions to cruise
	Papathanassis (2012)	Explored guest interactions onboard, identifying the significance of social comparison on perceived social and psychological risks
	Hyun and Han (2015)	Examined social value in being able to afford to cruise
	Lebrun (2015)	Analysed travel intentions, constraints and social representations of a cruise where non-cruisers perceive cruises are for the elderly
Function	Cramer et al. (2011)	Examined the effect of a major fire on passenger experience with loss of amenities and power/sewage system failures onboard negatively affecting the cruise experience through equipment failure
	Eliopoulou et al. (2016)	Investigated the greater potential for mechanical failure due to many cruise ships used beyond their service life
	Papathanassis (2016)	Examined passenger perceptions and behaviour after an emergency occurred onboard, noting service failure may during and after any incident at sea and passengers will react in different ways depending on personal coping mechanisms
Time-loss/ Opportunity-loss	Park (2006)	Explored how some cruisers view cruises as reducing risks associated with time-loss and worries about organising the holiday

TABLE 3 (Continued)

Type of risk	Author	Key contribution
	Andriotis and Agiomirgianakis (2010)	Investigated cruise passenger experience ashore with findings indicating amount of time in port is considered insufficient to experience all the activities passengers wanted to do
	Tang et al. (2019)	Examined constraints to cruise for the Chinese market, finding perceived boredom is a constraint and may refer to wasting time
Multiple/Multi-dimensional	Gong and Liang (2019)	Applied Xu et al. (2013)'s nine dimensions of risks to domestic cruise tourists in China, adapting existing consumer risks to a cruise context and adding service, facility and communication in a cruise context

4.2 | Performance risk

This section adopts Jacoby and Kaplan's (1972) definition of performance risk previously outlined including satisfaction aspects as noted by Sönmez and Graefe (1998a). In Table 3, performance risk is largely identified in relation to a ship's attributes or service quality (Brida et al., 2012; Petrick, 2004a). Similarly, Zhang et al., 2015 identify specific cruise ship attributes influence overall satisfaction or dissatisfaction for a cruise holiday, identifying poor service quality, high price and slow embarkation procedures as significant factors. Gong and Liang (2019) differentiate performance from service risk choosing to separate concerns about poor service quality as a different risk. In so doing they raise the important point that the existing use of performance risk may be too broad. There may be more nuanced interpretations of risk related to satisfaction and performance with a cruise holiday especially as there are, as identified earlier, many components to such holidays both onboard ship and in the ports visited.

Huang and Hsu (2010) explored how interactions with other passengers can have a significant impact on overall holiday satisfaction, such as enhancing the cruise experience through positive interactions. This illuminates the influence other passengers can have on a cruise tourists' satisfaction with the cruise, which has an impact on performance risks; a factor not fully explained by existing understandings of performance risk, as this can also relate to social and psychological aspects. This again points to the limitations of using existing typologies for understanding the complexity of risk. This was also found when examining constraints to cruising, such as concerns about the holiday related to interpersonal constraints, including dissatisfaction due to boredom or the lack of dining companions (Tang et al., 2019).

Papathanassis (2016) represents an important contribution to understanding performance risk by examining how the aftereffects of a critical event (such as a fire or major mechanical failure) can affect overall satisfaction with the cruise holiday. He notes the deteriorating service and limitations to provide basic amenities during a critical event, resulting in a negative cruise experience which fails to meet the expectations of a cruise holiday. The study also identifies the competition amongst passengers for resources and how this affected satisfaction, which is also not fully addressed by current conceptualisations of performance risk.

In summary, the literature reveals performance risk is largely considered in terms of service quality, which does not adequately explain

how ports, onboard attributes and the hospitality experience together influence risk perception. Additionally, it fails to address non-cruiser's perceptions of performance risk and concerns over satisfaction. Hence future cruise research could focus on for example, whether performance, satisfaction and service risk should be differentiated, or if performance risk as an overall risk type is capable of capturing the inherent complexities.

4.3 | Social and psychological risk

Both social and psychological concerns involve self-concept, which is a multidimensional construct defined as 'the totality of the individual's thoughts and feelings having reference to himself as an object' (Rosenberg, 1979, p. 7). Self-concept also includes an individual's sense of self and extends to products and services consumed and the people with whom someone may associate (Todd, 2001). This review discusses both factors together, as although these risks are different, there is little differentiation in the literature set out in Table 3.

There is little research exploring either social or psychological risk in cruising, particularly when compared to other types of risk shown in Table 3. Park (2006) and Lebrun (2015) represent important contributions as their studies reveal differences between potential cruise tourists' and non-cruisers' perceptions about a cruise product as it relates to self-concept. Park (2006) found non-cruisers view cruises as superficial and constraining, revealing for the first time the potential social and psychological risk in not wanting to be seen by others as choosing this type of holiday. This highlights the emergence of perceived risk when there is a mismatch or incongruity between self-concept and product image. In addition, both Park (2006) and Lebrun (2015) found non-cruisers perceive cruises as holidays for the elderly, again relating to perceived self-concept not considering themselves, or wanting to be seen by others, as elderly.

Hung and Petrick's (2011a) seminal study on self-congruity in cruise decision-making illuminates the importance of self-concept, however the study did not examine this in relation to social and psychological risk. Their later study revealed self-congruity influences intentions to cruise, such that when an individual's self-image is more closely aligned with that of a cruise holiday the more likely the individual is to go on a cruise (Hung & Petrick, 2012). Self-congruity in cruising has not been developed much beyond Hung and Petrick (2011a), a

notable gap in the literature which if addressed could help to explain social and psychological risk perceptions. This is important as social and psychological aspects are relevant for understanding why some individuals choose a cruise holiday, but perhaps more importantly why non-cruisers in particular reject them.

Two notable studies focusing on the Chinese cruise market reveal contrasting findings related to social and psychological risk factors. For example, Tang et al. (2019)'s study found no significant intrapersonal concerns that influenced cruise decision-making for this market. Conversely, Gong and Liang's (2019) research revealed that social and psychological risks existed for Chinese domestic cruisers, but only to a limited extent with concerns relating to the potential that family and friends may view cruising negatively. However, the reasons for such views were not fully explained and the research did not focus on self-concept and potential incongruency with the self. Given the complex nature of (self)identity generally and particularly in relation to social and psychological factors more research is needed into the relationship between all these aspects in terms of both cruisers and non-cruisers.

In summary, reviewing the existing literature on social and psychological risks notes a lack of research exploring the critical role of self-concept in relation to social and psychological concerns to cruise decision-making.

4.4 | Functional risk

Sönmez and Graefe (1998a) define functional risk as the possibility of mechanical, equipment or organisational problems occurring during travel or, at the destination in relation to such aspects as transportation, accommodation or particular attractions. Equipment risk has also been used to explain this (Roehl & Fesenmaier, 1992). Table 3 reveals few studies focus on functional risk in a cruise context, indicating this area is not clearly understood in relation to cruise decision-making. This is a significant gap considering the relative frequency of such events and the numerous ways in which mechanical, or equipment failure can occur. For example, Brosnan (2011) and Eliopoulou et al. (2016) note some ships are used beyond their service life or, in relation to Arctic cruises, without the necessary structural adjustments for the conditions encountered.

TABLE 4 Frequency of risk type

Risk type as focus of article	Number of articles
Physical	26
Health	13
Financial	13
Performance/Satisfaction	5
Social/Psychological	6
Function	3
Time-loss/Opportunity-loss	3

Likewise, many cruises are cancelled or schedules altered to accommodate repairs to a ship caused by mechanical failure or as a result of a disabling incident (Holland, 2020). Changes due to mechanical issues have a negative effect not only on passengers and cruise lines, but also on tertiary companies providing services such as hotels, airlines, ground transportation, shore excursions and port services (London, 2012). Both Cramer et al. (2011) and Bryce (2014) highlight functional risks faced by cruise passengers, noting how the loss of power after a major fire caused passengers to experience significant and deteriorating conditions for many days: limited food service, no functioning toilets or air conditioning, raw sewage backing up into cabins and corridors, and passengers asked to place their human waste into plastic bags. This example reflects the interconnectedness of functional and performance aspects, further highlighting the limitations of existing consumer risk applications given the multi-dimensional nature of risk in cruise holidays.

In summary, functional risk is not fully understood in relation to a cruise holiday and more research is needed that examines and explores, for example, aspects of mechanical, equipment and organisational failures onboard cruise ships. Overall, risk issues associated with these elements are more nuanced and complex than the existing literature suggests.

4.5 | Time-loss and opportunity-loss risk

According to Roselius (1971) time-loss risk refers to the time wasted and the inconvenience and effort required by a consumer in adjusting, repairing or replacing a product when it fails. Sönmez and Graefe (1998a) extend this to reflect the possibility that the travel experience itself will take too much time or will be a waste of time. Opportunity-loss differs by referring to 'the risk that by taking one action a consumer will miss out on doing something else he/she would really prefer to do' (D. Lee et al., 2001, p. 111). Hence this risk describes the loss of opportunity associated with the time, effort and cost invested in the choice of a product that may fail as compared to the same time, effort and cost applied to an alternative product or service. Although both time-loss and opportunity-loss refer to similar aspects of time related risks, the tourism literature does not differentiate between the two. Indeed, there are few studies focusing on consumer concerns related to either time- or opportunity-loss. Yet time considerations are not the same for all consumers. Retired passengers may have very different time constraints to those in full time employment and/or with school age children.

One of the few studies to examine time-loss is Park (2006), who found some tourists choose a cruise specifically to minimise concerns associated with time-loss since several countries can be visited on the one trip and time is not 'wasted' by waiting at airports or on coaches. Likewise, the convenience associated with a cruise resembles the benefits of buying a land-based package holiday as opposed to tourists purchasing separately the transport, accommodation and attractions elements of a trip. Such aspects make a significant contribution to why some tourists choose to cruise specifically to reduce time-loss.

However, as Andriotis and Agiomirgianakis (2010) note in Table 3, some cruise passengers feel the limited amount of time in a port provides them with incomplete impressions of the place and the local people. Meaning that there is not enough time to fully explore and to do everything the tourists had wished to do. Conversely, Gong and Liang (2019, p. 3) argue time risk is not significant to cruise tourists because they have 'abundant leisure time' due to being older and retired. However, such market generalisations are incorrect given the increase in younger families choosing to cruise and the global average age of a cruise passenger has decreased to 47 years old (CLIA, 2018a). Indeed, Generation Z has been recognised as an important consumer market (see CLIA, 2018b; Le & Arcodia, 2018) and influence any future global age average. Gong and Liang (2019) also adopt a limited application of time-loss in relation to the overall time spent on the holiday, as compared to a more nuanced understanding of time use while on the ship. Furthermore, they do not focus on opportunity-loss in their application of risk in cruising. This suggests more studies are needed to examine time and opportunity aspects in relation to how time is used both ashore and onboard.

Opportunity-loss and time-loss risks on a cruise ship not only refer to the potential for regret when comparing other ways in which the overall holiday time could have been spent, but also within the onboard and in port experience there may be more additional interpretations of time and opportunity risks. For example, there may be anxieties associated with waiting in line or choosing what activities and amenities to participate in. There may also be new interpretations of opportunity risk for cruise passengers in relation to when a cruise ship omits a published port due to mechanical failure, poor weather or medical emergency. Similarly, there is a lack of research exploring aspects of time in terms of waiting to arrive at the destination, and how time onboard the ship on a sea day may be considered by some tourists to be 'wasted'. The literature is limited with regard to such aspects generally and in relation to how both cruisers and non-cruisers think about and interpret time and opportunity risks.

Overall, Table 3 highlights that risk in cruising is conceptually underdeveloped meaning that there is a need to better understand how risk is interpreted and perceived in relation to cruise holidays.

5 | CONCLUDING REMARKS AND FUTURE RESEARCH DIRECTIONS

This review argues risk categorisations currently employed do not fully explain the subtle complexities of each risk type as they relate to ocean cruising decision-making. Indeed, the following key knowledge gaps identified are:

1. A lack of understanding in relation to the complex set of variables inherent in financial risk, performance risk, time-loss and opportunity risk, function risk and social and psychological risk
2. A lack of research focusing on how non-cruisers' interpret and perceive risk
3. A lack of research examining how some tourists may choose a cruise holiday specifically to reduce perceived travel-related risks
4. A need to better understand choice rejection for cruise holidays as this is beyond destination avoidance
5. An over reliance on positivist approaches and quantitative methodologies that in themselves are unable to adequately explore the multi-dimensional, complex and socially constructed nature of risk perception
6. A need for culturally-specific understanding of risk

In light of the above gaps and the preceding discussion four areas for future research have been identified.

Firstly, there is a need for more research to advance empirical frameworks and conceptual foundations for understanding risk in tourism generally and specifically in relation to cruise holidays. Given that existing conceptualisations of risk in tourism are too narrow to fully explain risk in relation to cruise holidays, a wider approach to risk is required that goes beyond Jacoby and Kaplan (1972). Although their work is important it fails to consider the nuanced interpretations of risk as it relates to cruise holidays. Indeed, other scholars have called for a move beyond risk classification in tourism arguing that useful as such classifications are as a managerial tool for operational responses a more granular understanding is needed that goes beyond the eight risks found in the literature (see Korstanje, 2011; Pennington-Gray, 2018; Reisinger & Mavondo, 2005; Ritchie & Jiang, 2019; Williams & Baláž, 2015). Furthermore, existing classifications fail to fully explain the interconnectedness between risk types.

Secondly, framing risk in relation to destination avoidance is not helpful for a cruise holiday. More empirical and conceptual research is needed to better understand the influence of risk on cruise decision-making for both cruisers and non-cruisers beyond risk negatively affecting destination choice. Little is known about non-cruisers interpretation of risk or how risk may act as a constraint to cruise. Existing literature demonstrates that while perceptions of physical risk and risk as crisis influence tourist decision-making these aspects do not fully explain how tourists actually make holiday decisions. Indeed, future research should seek a wider understanding of risk in cruising moving beyond an emphasis on physical risks to embrace the complex, socially constructed and manufactured nature of risk. For example, more empirical research is needed to explore the role of self-congruity in influencing risk perceptions extending to include risks associated with the complex social environment onboard as understood by cruisers and non-cruisers. A focus on such aspects requires greater use of qualitative methodologies capable of uncovering the complexities and contradictions inherent in risk as a social construction. Future research that draws upon more varied epistemological and ontological approaches acknowledges that risk perceptions are influenced by individual interpretation and are the product of particular historical and cultural contexts. Given the global and hence culturally diverse cruise market the limited focus on both history and culture represents a considerable gap in the literature (see e.g., Yang et al., 2017).

Thirdly, future studies should explore risks related to finance, performance, function, time and opportunity. For example, exploring the

interpretation and use of time and space on cruise holidays. Specifically, use of time onboard when the ship is at sea and perceptions of time being wasted may extend beyond time and opportunity risks and reveal a more nuanced understanding of financial risks as they influence cruise decision-making. Indeed, performance risk should move beyond a focus on satisfaction and service quality, and fully examine what performance risk means in relation to the unique bounded and enclave environment of a cruise holiday. Lastly, given the potential for mechanical and organisational failure, and the significant impact a cancelled or altered voyage has, more work is needed to explore functional/equipment risk as these relate to cruising, especially after COVID-19. More research is needed to understand the interpretation of risk in relation to potential cancellations, changes to cruise itineraries and potential for time-loss with possible quarantine should there be an outbreak onboard.

Fourthly, more needs to be understood about how some tourists may reject cruising because of perceived risks, as this has a significant impact upon the potential for market growth. Likewise, more research is needed focusing on whether and how some tourists choose cruising as a means of reducing risk, including the extent to which individuals may choose a cruise holiday as a way to reduce (or optimise) time-related or other risks. Some studies also suggest that choosing to cruise, may reduce or influence the interpretation of social and psychological risks. Hence, some cruisers choose to do so in order to feel comfortable and at ease, viewing the ship as a means of self-expression and freedom (Park, 2006; Yarnal & Kerstetter, 2005). More empirical research would be useful to explore the concept of the 'tourist bubble' (see Jaakson, 2004; Weaver, 2005) and to fully examine the influence of familiarity and home-like spaces of a cruise ship as a way to reduce risk in travelling. Future research could also focus on the relationship between risk and the home-like cruise ship environment, because as Wolff et al. (2019) suggest risk perceptions may also be evaluated in comparison to 'home', with home judged as less risky than abroad. Although familiarity has been found to reduce the perception of risk in tourism generally (Lepp & Gibson, 2003; Sharifpour, Walters, Ritchie, & Winter, 2014; Tan & Wu, 2016), this aspect has not been widely examined in relation to cruise tourism.

Finally, this review is an important contribution to the discourse on risk in cruise holidays by calling for a wider conceptualisation of risk that moves beyond an emphasis on physical risk and positivist approaches to understanding risk perception. A constructionist approach for example can contribute depth and richness to current understandings of how risk may be perceived, constructed and interpreted by tourists and cruise passengers. Such an approach has much to contribute in terms of developing future empirical and conceptual frameworks. As risk is inherent in travel and plays a key role in tourist decision-making, this study makes an important contribution by identifying key gaps in the literature for understanding tourists' risk perceptions in ocean cruising and suggests specific avenues for further research.

CONFLICT OF INTEREST

No potential conflict of interest was reported by the authors.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

ORCID

Jennifer Holland  <https://orcid.org/0000-0002-5393-8794>

Clare Weeden  <https://orcid.org/0000-0002-3168-3516>

Catherine Palmer  <https://orcid.org/0000-0002-4680-6558>

Jo-Anne Lester  <https://orcid.org/0000-0003-0723-0549>

REFERENCES

- Ahola, M., Murto, P., Kujala, P., & Pitkänen, J. (2014). Perceiving safety in passenger ships—user studies in an authentic environment. *Safety Science*, 70, 222–232. <https://doi.org/10.1016/j.ssci.2014.05.017>
- Andriotis, K., & Agiomirgianakis, G. (2010). Cruise visitors' experience in a Mediterranean port of call. *International Journal of Tourism Research*, 12(4), 390–404. <https://doi.org/10.1002/jtr.770>
- Aven, T., & Kristensen, V. (2005). Perspectives on risk: Review and discussion of the basis for establishing a unified and holistic approach. *Reliability Engineering & System Safety*, 90(1), 1–14. <https://doi.org/10.1016/j.res.2004.10.008>
- Aven, T., & Renn, O. (2009). On risk defined as an event where the outcome is uncertain. *Journal of Risk Research*, 12(1), 1–11. <https://doi.org/10.1080/13669870802488883>
- Bahja, F., Cobanoglu, C., Berezina, K., & Lusby, C. (2019). Factors influencing cruise vacations: The impact of online reviews and environmental friendliness. *Tourism Review*, 74(3), 400–415. <https://doi.org/10.1108/TR-12-2017-0207>
- Baker, D. (2013). Cruise passengers' perceptions of safety and security while cruising the Western Caribbean. *Rosa Dos Ventos*, 5(1), 140–154.
- Baker, D. M., & Stockton, S. (2013). Smooth sailing! Cruise passengers demographics and health perceptions while cruising the Eastern Caribbean. *International Journal of Business and Social Science*, 4(7), 8–17.
- Bauer, R. (1960). Consumer behaviour as risk taking. In R. S. Hancock (Ed.), *Dynamic marketing for a changing world* (pp. 389–398). American Marketing Association.
- Bennett, M. (2020). The strange saga of RCGS Resolute. <https://www.maritime-executive.com/editorials/the-strange-saga-of-rcgs-resolute>
- Bettman, J. R., Luce, M. F., & Payne, J. W. (1998). Constructive consumer choice processes. *Journal of Consumer Research*, 25(3), 187–217. <https://doi.org/10.1086/209535>
- Bledsoe, G. H., Brill, J. D., Zak, D., & Li, G. (2007). Injury and illness aboard an Antarctic cruise ship. *Wilderness & Environmental Medicine*, 18(1), 36–40. <https://doi.org/10.1580/06-WEME-OR-029R.1>
- Boholm, M., Möller, N., & Hansson, S. O. (2016). The concepts of risk, safety, and security: Applications in everyday language. *Risk Analysis*, 36(2), 320–338. <https://doi.org/10.1111/risa.12464>
- Bowen, C., Fidgeon, P., & Page, S. J. (2014). Maritime tourism and terrorism: Customer perceptions of the potential terrorist threat to cruise shipping. *Current Issues in Tourism*, 17(7), 610–639. <https://doi.org/10.1080/13683500.2012.743973>
- Brida, J., Garrido, N., & Devesa, M. J. S. (2012). Cruise passengers' satisfaction: Cartagena de Indias. *Benchmarking: An International Journal*, 19(1), 52–69. <https://doi.org/10.1108/14635771211218353>
- Brosnan, I. G. (2011). The diminishing age gap between polar cruisers and their ships: A new reason to codify the IMO guidelines for ships operating in polar waters and make them mandatory? *Marine Policy*, 35(2), 261–265. <https://doi.org/10.1016/j.marpol.2010.09.007>
- Bryce, K. R. (2014). The role of social media in crisis management at Carnival Cruise Line. *Journal of Business Case Studies*, 10(3), 231–238. <https://doi.org/10.19030/jbcs.v10i3.8713>

- Button, K. (2016). *The economics and political economy of transportation security*. Edward Elgar Publishing.
- Chen, S., Law, R., & Zhang, M. (2021). Review of research on tourism-related diseases. *Asia Pacific Journal of Tourism Research*, 26(1), 44–58. <https://doi.org/10.1080/10941665.2020.1805478>
- Chien, P. M., Sharifpour, M., Ritchie, B. W., & Watson, B. (2017). Travelers' health risk perceptions and protective behavior: A psychological approach. *Journal of Travel Research*, 56(6), 744–759. <https://doi.org/10.1177/0047287516665479>
- Cholwill, M. J. (2015). Reflecting on the development of British ocean cruise tourism: Keeping the romance afloat (Master's thesis, Plymouth University). <https://pearl.plymouth.ac.uk/bitstream/handle/10026.1/3549/2015cholwill10255975mphil.pdf?isAllowed=y&sequence=1>
- Choquet, A., & Sam-Lefebvre, A. (2021). Ports closed to cruise ships in the context of COVID-19: What choices are there for coastal states? *Annals of Tourism Research*, 86, 103066. <https://doi.org/10.1016/j.annals.2020.103066>
- Chua, B. L., Lee, S., & Han, H. (2017). Consequences of cruise line involvement: A comparison of first-time and repeat passengers. *International Journal of Contemporary Hospitality Management*, 29(6), 1658–1683. <https://doi.org/10.1108/IJCHM-09-2015-0452>
- Cohen, E. (1972). Toward a sociology of international tourism. *Social Research*, 39(1), 164–182. <https://www.jstor.org/stable/40970087>
- Cordemeyer, M., & Papatthanassis, A. (2011). Safety perceptions in the cruise sector: A grounded theory approach. In *Cruise sector challenges* (pp. 127–146). Gabler Verlag.
- Cox, D. F., & Rich, S. U. (1964). Perceived risk and consumer decision-making - The case of telephone shopping. *Journal of Marketing Research*, 1(4), 32–39. <https://doi.org/10.1177/002224376400100405>
- Cramer, R., De Lemos, S., Divel, L., & O'Rourke, J. S. (2011). Carnival cruise lines: Fire aboard a stranded cruise ship. *Journal of Organizational Behavior Education*, 4, 65–78.
- Cruise Lines Industry Association. (2019). *2020 State of the Industry Outlook*. <https://cruising.org/-/media/research-updates/research/state-of-the-cruise-industry.ashx>
- Cruise Lines International Association. (2018a). *2017 Annual report*. <https://cruising.org/-/media/research-updates/research/featured/2017-annual-report.ashx>
- Cruise Lines International Association. (2018b). *Cruise travel report*. <https://cruising.org/-/media/research-updates/research/consumer-research/2018-clia-travel-report.ashx>
- Cruise Lines International Association. (2020). *FAQs: The Cruise Community and COVID-19*. https://cruising.org/-/media/Facts-and-Resources/Cruise-Industry-COVID-19-FAQs_August-13-2020
- Cunningham, S. M. (1967). The major dimensions of perceived risk. In D. F. Cox (Ed.), *Risk taking and information handling in consumer behavior* (pp. 82–111). Harvard University Press.
- Dahl, E. (2019). Large-scale helicopter rescue of cruise passengers and freighter crew off the coast of Norway in stormy weather. *International Maritime Health*, 70(2), 79–81. <https://doi.org/10.5603/IMH.2019.0012>
- Dawson, J., Johnston, M. E., & Stewart, E. J. (2014). Governance of Arctic expedition cruise ships in a time of rapid environmental and economic change. *Ocean & Coastal Management*, 89, 88–99. <https://doi.org/10.1016/j.ocecoaman.2013.12.005>
- Dayour, F., Park, S., & Kimbu, A. N. (2019). Backpackers' perceived risks towards smartphone usage and risk reduction strategies: A mixed methods study. *Tourism Management*, 72, 52–68. <https://doi.org/10.1016/j.tourman.2018.11.003>
- Decrop, A., & Snelders, D. (2005). A grounded typology of vacation decision-making. *Tourism Management*, 26(2), 121–132. <https://doi.org/10.1016/j.tourman.2003.11.011>
- Deng, R., & Ritchie, B. W. (2018). International university students' travel risk perceptions: An exploratory study. *Current Issues in Tourism*, 21(4), 455–476. <https://doi.org/10.1080/13683500.2016.1142939>
- Dolnicar, S. (2005). Understanding barriers to leisure travel: Tourist fears as a marketing basis. *Journal of Vacation Marketing*, 11(3), 197–208. <https://doi.org/10.1177/1356766705055706>
- Douglas, M., & Wildavsky, A. (1982). How can we know the risks we face? Why risk selection is a social process. *Risk Analysis*, 2, 49–58. <https://doi.org/10.1111/j.1539-6924.1982.tb01365.x>
- Dowling, G. R. (1986). Perceived risk: The concept and its measurement. *Psychology & Marketing*, 3(3), 193–210. <https://doi.org/10.1002/mar.4220030307>
- Eliopoulou, E., Papanikolaou, A., & Voulgarellis, M. (2016). Statistical analysis of ship accidents and review of safety level. *Safety Science*, 85, 282–292. <https://doi.org/10.1016/j.ssci.2016.02.001>
- Floyd, M. F., Gibson, H., Pennington-Gray, L., & Thapa, B. (2003). The effect of risk perceptions on intentions to travel in the aftermath of September 11, 2001. *Journal of Travel & Tourism Marketing*, 15(2-3), 19–38. https://doi.org/10.1300/J073v15n02_02
- Floyd, M. F., & Pennington-Gray, L. (2004). Profiling risk perceptions of tourists. *Annals of Tourism Research*, 31(4), 1051–1054. <https://doi.org/10.1016/j.annals.2004.03.011>
- Fuchs, G., & Reichel, A. (2004). Cultural differences in tourist destination risk perception: An exploratory study. *Tourism (Zagreb)*, 52(1), 21–37.
- Fuchs, G., & Reichel, A. (2006). Tourist destination risk perception: The case of Israel. *Journal of Hospitality & Leisure Marketing*, 14(2), 83–108. https://doi.org/10.1300/J150v14n02_06
- Fuchs, G., & Reichel, A. (2011). An exploratory inquiry into destination risk perceptions and risk reduction strategies of first time vs. repeat visitors to a highly volatile destination. *Tourism Management*, 32(2), 266–276. <https://doi.org/10.1016/j.tourman.2010.01.012>
- Gibson, H., & Yiannakis, A. (2002). Tourist roles: Needs and the lifecourse. *Annals of Tourism Research*, 29(2), 358–383. [https://doi.org/10.1016/S0160-7383\(01\)00037-8](https://doi.org/10.1016/S0160-7383(01)00037-8)
- Gibson, P. (2012). Cruise hotel managers: Evolution of the species. In A. Papatthanassis, T. Lukovic, & M. Vogel (Eds.), *Cruise tourism and society: A socio-economic perspective* (pp. 193–204). Springer.
- Gong, X., & Liang, M. (2019). Study on risk perception of domestic cruise tourists. *IOP Conference Series: Earth and Environmental Science*, 252(4), 1–7.
- Gray, J. M., & Wilson, M. A. (2009). The relative risk perception of travel hazards. *Environment and Behavior*, 41(2), 185–204. <https://doi.org/10.1177/0013916507311898>
- Greenberg, M. D., Chalk, P., Willis, H. H., Khilko, I., & Ortiz, D. S. (2006). *Maritime terrorism: Risk and liability*. Centre for Terrorism Risk Management Policy. RAND Corporation.
- Henthorne, T. L., George, B. P., & Smith, W. C. (2013). Risk perception and buying behavior: An examination of some relationships in the context of cruise tourism in Jamaica. *International Journal of Hospitality & Tourism Administration*, 14(1), 66–86. <https://doi.org/10.1080/15256480.2013.753808>
- Hofstede, G. (1983). The cultural relativity of organizational practices and theories. *Journal of International Business Studies*, 14(2), 75–89. <https://doi.org/10.1057/palgrave.jibs.8490867>
- Holland, J. (2020). Risk perceptions of health and safety in cruising. *AIMS Geosciences*, 6(4), 422–436.
- Holland, J., Mazzarol, T., Soutar, G. N., Tapsall, S., & Elliott, W. A. (2021). Cruising through a pandemic: The impact of COVID-19 on intentions to cruise. *Transportation Research Interdisciplinary Perspectives*, 9, 1–15. <https://doi.org/10.1016/j.trip.2021.100328>
- Hosany, S., & Witham, M. (2010). Dimensions of cruisers' experiences, satisfaction, and intention to recommend. *Journal of Travel Research*, 49(3), 351–364. <https://doi.org/10.1177/0047287509346859>
- Hsee, C. K., & Weber, E. U. (1999). Cross-national differences in risk preference and lay predictions. *Journal of Behavioral Decision Making*, 12(2), 165–179. <https://doi.org/10.1057/palgrave.jibs.8490867>

- Huang, J., & Hsu, C. H. (2010). The impact of customer-to-customer interaction on cruise experience and vacation satisfaction. *Journal of Travel Research*, 49(1), 79–92. <https://doi.org/10.1177/0047287509336466>
- Hung, K., & Petrick, J. F. (2011a). The role of self-and functional congruity in cruising intentions. *Journal of Travel Research*, 50(1), 100–112. <https://doi.org/10.1177/0047287509355321>
- Hung, K., & Petrick, J. F. (2011b). Why do you cruise? Exploring the motivations for taking cruise holidays, and the construction of a cruising motivation scale. *Tourism Management*, 32(2), 386–393. <https://doi.org/10.1016/j.tourman.2010.03.008>
- Hung, K., & Petrick, J. F. (2012). Testing the effects of congruity, travel constraints, and self-efficacy on travel intentions: An alternative decision-making model. *Tourism Management*, 33(4), 855–867. <https://doi.org/10.1016/j.tourman.2011.09.007>
- Hur, Y., & Adler, H. (2013). An exploratory study of the propensity for south Koreans to take cruises: Investigating Koreans' perceptions of cruise ship travel. *International Journal of Tourism Research*, 15(2), 171–183. <https://doi.org/10.1002/jtr.1862>
- Hyun, S. S., & Han, H. (2015). Luxury cruise travelers: Other customer perceptions. *Journal of Travel Research*, 54(1), 107–121. <https://doi.org/10.1177/0047287513513165>
- Jaakson, R. (2004). Beyond the tourist bubble?: Cruiseship passengers in port. *Annals of Tourism Research*, 31(1), 44–60. <https://doi.org/10.1016/j.annals.2003.08.003>
- Jacoby, J., & Kaplan, L. (1972). The components of perceived risk. In M. Venkatesan (Ed.), *Proceedings of the Third Annual Convention of the Association for Consumer Research* (pp. 382–393). Association for Consumer Research. <https://www.acrwebsite.org/volumes/12016/volumes/>
- Jordan, F., & Gibson, H. (2005). "We're not stupid...But we'll not stay home either": Experiences of solo women travelers. *Tourism Review International*, 9(2), 195–211. <https://doi.org/10.3727/154427205774791663>
- Karl, M. (2016). Risk and uncertainty in travel decision-making: Tourist and destination perspective. *Journal of Travel Research*, 57(1), 129–146. <https://doi.org/10.1177/0047287516678337>
- Karl, M. (2018). The influence of risk perception on destination choice processes. *European Journal of Tourism Research*, 18, 160–163.
- Karl, M., Muskat, B., & Ritchie, B. W. (2020). Which travel risks are more salient for destination choice? An examination of the tourist's decision-making process. *Journal of Destination Marketing & Management*, 18, 100487. <https://doi.org/10.1016/j.jdmm.2020.100487>
- Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems*, 44(2), 544–564. <https://doi.org/10.1016/j.dss.2007.07.001>
- Kim, H., Schroeder, A., & Pennington-Gray, L. (2016). Does culture influence risk perceptions? *Tourism Review International*, 20(1), 11–28. <https://doi.org/10.3727/154427216X14581596798942>
- Klein, R. A. (2016). Crime at sea: A comparison of crime on carnival cruise lines, 2007–2011. In A. Papathanassis (Ed.), *Cruise business development. Safety, product design and human capital* (pp. 17–28). Springer International Publishing.
- Klein, R. A., Lück, M., & Poulston, J. (2017). Passengers and risk: Health, wellbeing and liability. In R. Dowling & C. Weeden (Eds.), *Cruise ship tourism* (2nd ed., pp. 106–123). CABI.
- Korstanje, M. (2009). Re-visiting risk perception theory in the context of travel. *e-Review of Tourism Research*, 7(4), 68–81.
- Korstanje, M. (2011). Why risk why now? Conceptual problems around the risk perception in tourism industry. *Revista Brasileira de Pesquisa em Turismo*, 5(1), 4–22.
- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, 9(4), 233–242. <https://doi.org/10.1002/jtr.607>
- Kungwani, P. (2014). Risk management - An analytical study. *IOSR Journal of Business and Management*, 16(3), 83–89. <https://doi.org/10.9790/487X-16338389>
- Kura, F., Amemura-Maekawa, J., Yagita, K., Endo, T., Ikeno, M., Tsuji, H., Taguchi, M., Kobayashi, K., & Watanabe, H. (2006). Outbreak of Legionnaires' disease on a cruise ship linked to spa-bath filter stones contaminated with *Legionella pneumophila* serogroup 5. *Epidemiology & Infection*, 134(2), 385–391. <https://doi.org/10.1017/S095026880500508X>
- Le, T. H., & Arcodia, C. (2018). Risk perceptions on cruise ships among young people: Concepts, approaches and directions. *International Journal of Hospitality Management*, 69, 102–112. <https://doi.org/10.1016/j.ijhm.2017.09.016>
- Lebrun, A. M. (2015). Representation of cruise: Cruisers and noncruisers cross views. *International Journal of Tourism Research*, 17(5), 511–520. <https://doi.org/10.1002/jtr.2021>
- Lee, C. C., Olasehinde-Williams, G., & Akadiri, S. S. (2021). Geopolitical risk and tourism: Evidence from dynamic heterogeneous panel models. *International Journal of Tourism Research*, 23(1), 26–38. <https://doi.org/10.1002/jtr.2389>
- Lee, D., Park, J., & Ahn, J. H. (2001). On the explanation of factors affecting e-commerce adoption In Proceedings of the Twenty-Second International Conference on Information Systems (Vol. 14), pp. 109–120. <https://aisel.aisnet.org/icis2001/14>
- Lepp, A., & Gibson, H. (2003). Tourist roles, perceived risk and international tourism. *Annals of Tourism Research*, 30(3), 606–624. [https://doi.org/10.1016/S0160-7383\(03\)00024-0](https://doi.org/10.1016/S0160-7383(03)00024-0)
- Lepp, A., & Gibson, H. (2008). Sensation seeking and tourism: Tourist role, perception of risk and destination choice. *Tourism Management*, 29(4), 740–750. <https://doi.org/10.1016/j.tourman.2007.08.002>
- Lester, J. A. (2017). Mediating the cruise experience. In R. Dowling & C. Weeden (Eds.), *Cruise ship tourism* (2nd ed., pp. 188–204). CABI.
- Li, Z., Sha, Y., Song, X., Yang, K., Zhao, K., Jiang, Z., & Zhang, Q. (2020). Impact of risk perception on customer purchase behavior: A meta-analysis. *Journal of Business & Industrial Marketing*, 35(1), 76–96. <https://doi.org/10.1108/JBIM-12-2018-0381>
- Lin, P. J., Jones, E., & Westwood, S. (2009). Perceived risk and risk-relievers in online travel purchase intentions. *Journal of Hospitality Marketing & Management*, 18(8), 782–810. <https://doi.org/10.1080/19368620903235803>
- Liu, B., Pennington-Gray, L., & Krieger, J. (2016). Tourism crisis management: Can the Extended Parallel Process Model be used to understand crisis responses in the cruise industry? *Tourism Management*, 55, 310–321. <https://doi.org/10.1016/j.tourman.2016.02.021>
- Liu-Lastres, B., Schroeder, A., & Pennington-Gray, L. (2018). Cruise line customers' responses to risk and crisis communication messages: An application of the risk perception attitude framework. *Journal of Travel Research*, 58(5), 849–865. <https://doi.org/10.1177/0047287518778148>
- Lois, P., Wang, J., Wall, A., & Ruxton, T. (2004). Formal safety assessment of cruise ships. *Tourism Management*, 25(1), 93–109. <https://doi.org/10.1080/10548408.2011.562851>
- London, W. (2012). Economic risk in the cruise sector. *Études Caribéennes*, 18, 1–12. <https://doi.org/10.4000/etudescaribeennes.5134>
- Lück, M., Maher, P. T., & Stewart, E. J. (Eds.). (2010). *Cruise tourism in Polar Regions: Promoting environmental and social sustainability?*. Earthscan.
- Lynn, M., & Kwortnik, R. J. (2015). The effects of tipping policies on customer satisfaction: A test from the cruise industry. *International Journal of Hospitality Management*, 51, 15–18. <https://doi.org/10.1016/j.ijhm.2015.08.005>
- Mandel, N. (2003). Shifting selves and decision making: The effects of self-construal priming on consumer risk-taking. *Journal of Consumer Research*, 30(1), 30–40. <https://doi.org/10.1086/374700>
- Mansfeld, Y. (1992). From motivation to actual travel. *Annals of Tourism Research*, 19(3), 399–419. [https://doi.org/10.1016/0160-7383\(92\)90127-B](https://doi.org/10.1016/0160-7383(92)90127-B)
- Mileski, J. P., Wang, G., & Beacham, L. L., IV. (2014). Understanding the causes of recent cruise ship mishaps and disasters. *Research in*

- Transportation Business & Management*, 13, 65–70. <https://doi.org/10.1016/j.rtbm.2014.12.001>
- Miller, P. (2005). P&I clubs may be liable for losses from canceled cruise. *Business Insurance*, 39(4), 17.
- Mitchell, V.-W. (1999). Consumer perceived risk: Conceptualisations and models. *European Journal of Marketing*, 33, 163–195. <https://doi.org/10.1108/03090569910249229>
- Mizumoto, K., & Chowell, G. (2020). Transmission potential of the novel coronavirus (COVID-19) onboard the diamond Princess Cruises Ship, 2020. *Infectious Disease Modelling*, 5, 264–270. <https://doi.org/10.1016/j.idm.2020.02.003>
- Morakabati, Y., Fletcher, J., & Prideaux, B. (2012). Tourism development in a difficult environment: A study of consumer attitudes, travel risk perceptions and the termination of demand. *Tourism Economics*, 18(5), 953–969. <https://doi.org/10.5367/te.2012.0162>
- Morakabati, Y., & Kapuściński, G. (2016). Personality, risk perception, benefit sought and terrorism effect. *International Journal of Tourism Research*, 18(5), 506–514. <https://doi.org/10.1002/jtr.2068>
- Mouchtouri, V. A., & Rudge, J. W. (2015). Legionnaires' disease in hotels and passenger ships: A systematic review of evidence, sources, and contributing factors. *Journal of Travel Medicine*, 22(5), 325–337. <https://doi.org/10.1111/jtm.12225>
- Neri, A. J., Cramer, E. H., Vaughan, G. H., Vinjé, J., & Mainzer, H. M. (2008). Passenger behaviors during norovirus outbreaks on cruise ships. *Journal of Travel Medicine*, 15(3), 172–176. <https://doi.org/10.1111/j.1708-8305.2008.00199.x>
- Nikolić, N., & Missoni, E. (2013). Piracy on the high seas—Threats to travelers' health. *Journal of Travel Medicine*, 20(5), 313–321.
- Osman, S., Yin-Fah, B. C., & Hooi-Choo, B. (2010). Undergraduates and online purchasing behavior. *Asian Social Science*, 6(10), 133–146. <https://doi.org/10.5539/ass.v6n10p133>
- Panko, T. R., & Henthorne, T. L. (2019). Crimes at sea: A review of crime onboard cruise ships. *International Journal of Safety and Security in Tourism and Hospitality*, 20, 1–23.
- Papathanassis, A. (2012). Guest-to-guest interaction on board cruise ships: Exploring social dynamics and the role of situational factors. *Tourism Management*, 33(5), 1148–1158. <https://doi.org/10.1016/j.tourman.2011.11.016>
- Papathanassis, A. (2016). 'Stranded at sea': Exploring passengers' reactions during incidents at sea. In A. Papathanassis (Ed.), *Cruise business development. Safety, product design and human capital* (pp. 29–51). Springer International Publishing.
- Park, S., & Tussyadiah, I. P. (2017). Multidimensional facets of perceived risk in mobile travel booking. *Journal of Travel Research*, 56(7), 854–867. <https://doi.org/10.1177/0047287516675062>
- Park, S. Y. (2006). *Tapping the invisible market: The case of the cruise industry* (Doctoral dissertation, Texas A&M University). <https://oaktrust.library.tamu.edu/bitstream/handle/1969.1/ETD-TAMU-1862/PARK-DISSERTATION.pdf>
- Penco, L., Profumo, G., Remondino, M., & Bruzzi, C. (2019). Critical events in the tourism industry: Factors affecting the future intention to take a cruise. *International Journal of Contemporary Hospitality Management*, 31, 3547–3566. <https://doi.org/10.1108/IJCHM-05-2018-0423>
- Pennington-Gray, L. (2018). Reflections to move forward: Where destination crisis management research needs to go. *Tourism Management Perspectives*, 25, 136–139. <https://doi.org/10.1016/j.tmp.2017.11.013>
- Perpiña, L., Prats, L., & Camprubí, R. (2021). Image and risk perceptions: An integrated approach. *Current Issues in Tourism*, 24(3), 367–384. <https://doi.org/10.1080/13683500.2020.1715355>
- Petrack, J. F. (2004a). The roles of quality, value, and satisfaction in predicting cruise passengers' behavioral intentions. *Journal of Travel Research*, 42(4), 397–407. <https://doi.org/10.1177/0047287504263037>
- Petrack, J. F. (2004b). First timers' and repeaters' perceived value. *Journal of Travel Research*, 43(1), 29–38. <https://doi.org/10.1177/0047287504265509>
- Petrack, J. F., & Li, X. (2006). What drives cruise passengers' perceptions of value. In R. K. Dowling (Ed.), *Cruise ship tourism* (pp. 63–73). CABI.
- Petrack, J. F., Li, X., & Park, S. Y. (2007). Cruise passengers' decision-making processes. *Journal of Travel & Tourism Marketing*, 23(1), 1–14. https://doi.org/10.1300/J073v23n01_01
- Priest, G. L. (1990). The new legal structure of risk control. *Daedalus*, 119(4), 207–227.
- Puranik, R., & Bansal, A. (2014). A study of internet users' perception towards e-shopping. *Pacific Business Review International*, 6(9), 37–44.
- Quintal, V., Sung, B., & Lee, S. (2021). Is the coast clear? Trust, risk-reducing behaviours, and anxiety toward cruise travel in the wake of COVID-19. *Current Issues in Tourism*, 1–13. <https://doi.org/10.1080/13683500.2021.1880377>
- Radic, A., Law, R., Lück, M., Kang, H., Ariza-Montes, A., Arjona-Fuentes, J. M., & Han, H. (2020). Apocalypse now or overreaction to coronavirus: The global cruise tourism industry crisis. *Sustainability*, 12(17), 1–19. <https://doi.org/10.3390/su12176968>
- Reichel, A., Fuchs, G., & Uriely, N. (2009). Israeli backpackers: The role of destination choice. *Annals of Tourism Research*, 36(2), 222–246. <https://doi.org/10.1016/j.annals.2008.11.002>
- Reisinger, Y., & Mavondo, F. (2005). Travel anxiety and intentions to travel internationally: Implications of travel risk perception. *Journal of Travel Research*, 43(3), 212–225. <https://doi.org/10.1177/0047287504272017>
- Reisinger, Y., & Mavondo, F. (2006). Cultural differences in travel risk perception. *Journal of Travel & Tourism Marketing*, 20(1), 13–31. https://doi.org/10.1300/J073v20n01_02
- Renn, O. (2017). *Risk governance: Coping with uncertainty in a complex world* (2nd ed.). Routledge.
- Ritchie, B. W., & Jiang, Y. (2019). A review of research on tourism risk, crisis and disaster management: Launching the annals of tourism research curated collection on tourism risk, crisis and disaster management. *Annals of Tourism Research*, 79, 1–15. <https://doi.org/10.1016/j.annals.2019.102812>
- Rocklöv, J., Sjödin, H., & Wilder-Smith, A. (2020). COVID-19 outbreak on the diamond princess cruise ship: Estimating the epidemic potential and effectiveness of public health countermeasures. *Journal of Travel Medicine*, 27(3), 1–7. <https://doi.org/10.1093/jtm/taaa030>
- Roehl, W. S., & Fesenmaier, D. R. (1992). Risk perceptions and pleasure travel: An exploratory analysis. *Journal of Travel Research*, 30(4), 17–26. <https://doi.org/10.1177/004728759203000403>
- Roselius, T. (1971). Consumer rankings of risk reduction methods. *Journal of Marketing*, 35(1), 56–61. <https://doi.org/10.1177/002224297103500110>
- Rosenberg, M. (1979). *Conceiving the self*. Basic Books.
- Schiffman, L. G., O'Cass, A., Paladino, A., D'Alessandro, S., & Bednall, D. (2011). *Consumer behaviour* (5th ed.). Pearson Publications.
- Schoemaker, P. J. (1982). The expected utility model: Its variants, purposes, evidence and limitations. *Journal of Economic Literature*, 20(2), 529–563.
- Sharifpour, M., Walters, G., & Ritchie, B. W. (2014). Risk perception, prior knowledge, and willingness to travel: Investigating the Australian tourist market's risk perception towards the Middle East. *Journal of Vacation Marketing*, 20, 111–123. <https://doi.org/10.1177/1356766713502486>
- Sharifpour, M., Walters, G., Ritchie, B. W., & Winter, C. (2014). Investigating the role of prior knowledge in tourist decision making: A structural equation model of risk perceptions and information search. *Journal of Travel Research*, 53(3), 307–322. <https://doi.org/10.1177/0047287513500390>
- Simpson, P. M., & Siguaw, J. A. (2008). Perceived travel risks: The traveller perspective and manageability. *International Journal of Tourism Research*, 10(4), 315–327. <https://doi.org/10.1002/jtr.664>
- Sirakaya, E., & Woodside, A. G. (2005). Building and testing theories of decision making by travellers. *Tourism Management*, 26(6), 815–832. <https://doi.org/10.1016/j.tourman.2004.05.004>

- Sjöberg, L. (2000). Factors in risk perception. *Risk Analysis*, 20, 1–11. <https://doi.org/10.1111/0272-4332.00001>
- Slovic, P., Fischhoff, B., & Lichtenstein, S. (1981). Facts and fears: Understanding perceived risk. In R. C. Schwing & W. A. Albers (Eds.), *Societal risk assessment* (pp. 181–216). Springer.
- Slovic, P., Fischhoff, B., & Lichtenstein, S. (1982). Why study risk perception? *Risk Analysis*, 2(2), 83–93. <https://doi.org/10.1111/j.1539-6924.1982.tb01369.x>
- Society for Risk Analysis. (2018). *Society for risk analysis glossary: Updated August 2018*. <https://www.sra.org/sites/default/files/pdf/SRA%20Glossary%20-%20FINAL.pdf>
- Sönmez, S. F., & Graefe, A. R. (1998a). Determining future travel behavior from past travel experience and perceptions of risk and safety. *Journal of Travel Research*, 37(2), 171–177. <https://doi.org/10.1177/004728759803700209>
- Sönmez, S. F., & Graefe, A. R. (1998b). Influence of terrorism risk on foreign tourism decisions. *Annals of Tourism Research*, 25(1), 112–144. [https://doi.org/10.1016/S0160-7383\(97\)00072-8](https://doi.org/10.1016/S0160-7383(97)00072-8)
- Soulard, J., & Petrick, J. F. (2016). Messages in the bottle: Customers' reactions to expertise, blame, and compensation after a severe cruising crisis. *Tourism in Marine Environments*, 11(2–3), 192–200. <https://doi.org/10.3727/154427315X14513374773689>
- Stern, D. E., Lamb, C. W., & MacLachlan, D. L. (1977). Perceived risk: A synthesis. *European Journal of Marketing*, 11(4), 312–319. <https://doi.org/10.1108/EUM0000000005017>
- Stewart, E. J., & Draper, D. (2008). The sinking of the MS Explorer: Implications for cruise tourism in Arctic Canada. *Arctic*, 61(2), 224–228.
- Stewart, E. J., Howell, S. E., Draper, D., Yackel, J., & Tivy, A. (2007). Sea ice in Canada's Arctic: Implications for cruise tourism. *Arctic*, 60(4), 370–380.
- Sun, X., Kwortnik, R., & Gauri, D. K. (2018). Exploring behavioral differences between new and repeat cruisers to a cruise brand. *International Journal of Hospitality Management*, 71, 132–140. <https://doi.org/10.1016/j.ijhm.2017.12.006>
- Tan, W. K., & Wu, C. E. (2016). An investigation of the relationships among destination familiarity, destination image and future visit intention. *Journal of Destination Marketing & Management*, 5(3), 214–226. <https://doi.org/10.1016/j.jdmm.2015.12.008>
- Tang, C., Weaver, D., Shi, F., Huang, M. F., & Liu, Y. (2019). Constraints to domestic ocean cruise participation among higher income Chinese adults. *International Journal of Tourism Research*, 21(4), 519–530. <https://doi.org/10.1002/jtr.2279>
- Tarlow, P. E. (2006). Terrorism and tourism. In J. Wilkes, D. Pendergast, & P. Leggat (Eds.), *Tourism in turbulent times: Towards safe experiences for visitors (Advances in tourism research)* (pp. 79–92). Routledge.
- Tarlow, P. E. (2017). Cruises, safety and security in a violent world. In R. K. Dowling (Ed.), *Cruise ship tourism* (pp. 236–257). CABl.
- Taylor, J. W. (1974). The role of risk in consumer behavior: A comprehensive and operational theory of risk taking in consumer behavior. *The Journal of Marketing*, 38(2), 54–60. <https://doi.org/10.1177/002224297403800211>
- The Maritime Executive. (2020). *CMV becomes third cruise line to go out of business in a month*. <https://www.maritime-executive.com/article/cmv-becomes-the-third-cruise-line-to-go-out-of-business-in-a-month>
- Todd, S. (2001). Self-concept: A tourism application. *Journal of Consumer Behaviour*, 1(2), 184–196. <https://doi.org/10.1002/cb.64>
- Torres, E. N. (2016). Guest interactions and the formation of memorable experiences: An ethnography. *International Journal of Contemporary Hospitality Management*, 28(10), 2132–2155. <https://doi.org/10.1108/IJCHM-02-2015-0065>
- Ventikos, N. P. (2013). Exploring fire incidents/accidents onboard cruise and passenger ships. *SPOUDAI - Journal of Economics and Business*, 63(3–4), 146–157.
- Wang, J., Liu-Lastres, B., Ritchie, B. W., & Pan, D. Z. (2019). Risk reduction and adventure tourism safety: An extension of the risk perception attitude framework (RPAF). *Tourism Management*, 74, 247–257. <https://doi.org/10.1016/j.tourman.2019.03.012>
- Weaver, A. (2005). The Mcdonaldization thesis and cruise tourism. *Annals of Tourism Research*, 32(2), 346–366. <https://doi.org/10.1016/j.annals.2004.07.005>
- Williams, A. M., & Baláz, V. (2013). Tourism, risk tolerance and competences: Travel organization and tourism hazards. *Tourism Management*, 35, 209–221. <https://doi.org/10.1016/j.tourman.2012.07.006>
- Williams, A. M., & Baláz, V. (2015). Tourism risk and uncertainty: Theoretical reflections. *Journal of Travel Research*, 54(3), 271–287. <https://doi.org/10.1177/0047287514523334>
- Wolff, K., Larsen, S., & Øgaard, T. (2019). How to define and measure risk perceptions. *Annals of Tourism Research*, 79, 102759. <https://doi.org/10.1016/j.annals.2019.102759>
- Xie, H. J., Kerstetter, D. L., & Mattila, A. S. (2012). The attributes of a cruise ship that influence the decision making of cruisers and potential cruisers. *International Journal of Hospitality Management*, 31(1), 152–159. <https://doi.org/10.1016/j.ijhm.2011.03.007>
- Xu, H., Xu, S. R., & Wang, R. Z. (2013). Identification and difference analysis of consumers' perceived risk dimensions for tourism. *Tourism Tribune*, 28, 71–80.
- Yang, C. L., & Nair, V. (2014). Risk perception study in tourism: Are we really measuring perceived risk. *Procedia-Social and Behavioral Sciences*, 144(1), 322–327. <https://doi.org/10.1016/j.sbspro.2014.07.302>
- Yang, E. C. L., Khoo-Lattimore, C., & Arcodia, C. (2017). A systematic literature review of risk and gender research in tourism. *Tourism Management*, 58, 89–100. <https://doi.org/10.1016/j.tourman.2016.10.011>
- Yarnal, C. M., & Kerstetter, D. (2005). Casting off: An exploration of cruise ship space, group tour behavior, and social interaction. *Journal of Travel Research*, 43(4), 368–379. <https://doi.org/10.1177/0047287505274650>
- Zhang, Z., & Hou, Y. (2017). The effect of perceived risk on information search for innovative products and services: The moderating role of innate consumer innovativeness. *Journal of Consumer Marketing*, 34(3), 241–254. <https://doi.org/10.1108/JCM-04-2016-1768>
- Zhang, Z., Ye, Q., Song, H., & Liu, T. (2015). The structure of customer satisfaction with cruise-line services: An empirical investigation based on online word of mouth. *Current Issues in Tourism*, 18(5), 450–464. <https://doi.org/10.1080/13683500.2013.776020>
- Zou, S. S., & Petrick, J. F. (2017). Tapping the Chinese market: An examination of Chinese tourists' images and constraints towards cruising. *Tourism Review International*, 21(4), 347–364. <https://doi.org/10.3727/154427217X15094520591330>

How to cite this article: Holland, J., Weeden, C., Palmer, C., & Lester, J.-A. (2021). Conceptualising risk in cruise holidays: A critical review. *International Journal of Tourism Research*, 1–18. <https://doi.org/10.1002/jtr.2488>