Covid-19 Risk Perception of Travel Destination Development and Validation of a Scale

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Abstract
Although traveler risk perception is a widely used term in the hospitality and tourism literature, the pandemic related risk perception of tourist destination lacks a clear conceptualization and measurement. This study develops and validates a six item scale to measure Covid-19 risk perception of travel destinations. The scale is developed using multiple data collection methods including interviews, focus group, and survey questionnaires. The exploratory stage involved in-depth interviews and the subsequent quantitative stage gathered data through a survey questionnaire. The scale offers a framework for future empirical research on Covid-19 risk perception that will shape tourism decisions in years to come. Implications for hospitality industry and limitations are also discussed.

Keywords
COVID-19, tourist risk perception, travel destination, scale development

Introduction
Since Covid-19 surfaced, the travelers around the world fear catching the disease since traditionally destinations with risky hygiene and health conditions are avoided so that they might not get ill or infected (Liu & Pennington-Gray, 2015). Since risk perception affect traveling decisions (Fuchs & Richel, 2006) which includes physical risk, psychological risk, functional risk, and political risk (Lepp & Gibson, 2003; Reichel et al., 2007; Reisinger & Mavondo, 2005; Sönmez & Graefe, 1998b). While traveling a risk free travel is every tourist’s need and it affects the tourism demand of travel destinations, different studies have focused on various types of perceived risks associated with traveling which includes terrorism risk (Fuchs, 2013; Rittichainuwat & Chakraborty, 2009) life threatening hazards (Sarman et al., 2016) health risk (Chien et al., 2017) country risk (Shemma, 2014).

Since tourists perceive the tourist sites as risky in terms of active spread of Covid-19 (Ahmed & Memish, 2020), however the extant tourism and hospitality literature fails to answer two important questions which have become the focal apprehensions of the tourists during Covid-19. Firstly, we don’t have the answers to important research questions like how the Covid-19 risk perception of travel destination is affecting tourism decision. Secondly, we don’t have a robust instrument to measure the perceived covid-19 pandemic risk associated with that destination to travel. These questions are pressing as future of hospitality and tourism and hospitality industry in coming years is coupled with tourist assessment of travel destination’s perceived Covid-19 risk.

Our study thus contributes in two important ways in tourism and hospitality literature. First, we will attempt to theoretically explain how the perception of pandemic risk can affect tourism decisions. Secondly, we will develop a robust scale to measure Covid-19 pandemic risk perception which will help future studies to correctly quantify the risk perception and to see how it will affect tourism and hospitality related decisions in years to come.

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Literature Review

Covid-19 Pandemic’s Effect on Hospitality and Tourism

The Covid-19 is one of the major pandemics world has ever seen (Ying et al., 2020) and it has hit every sector but the hospitality sector is among the hardest hit. The travel restrictions and social distancing policies have had a serious effect on the industry (Millán-Oñate et al., 2020). The World Tourism Organization UNWTO (2020) reports that either all the hotel chains are closed or 6 out of 10 rooms in hotels are empty. Moreover, tourists are apprehensive to travel due to the perceived risk that lurks in their minds. Thus, developing negative thoughts and fears about a travel destination (Reichel et al., 2007).

In past, outbreak of diseases badly affected tourism industry in various parts of the world which includes Ebola in Africa (Mizrachi & Fuchs, 2016), Swine Flu in UK (Page et al., 2012), and SARS in Taiwan (Mao et al., 2010). Studies suggest that tourist fear of becoming ill due to pandemic should be given attention in literature (Bagnoli et al., 2007).

Even though, researchers around the world have been interested in the influences of natural disasters on tourism, little research has occurred into exploring how much impact they have at the destination level (Becken & Hughey, 2013). Considering the fact that most of the risk perception emerges as a psychological reaction to the prevailing conditions at the destination (Chien et al., 2017), it is imperative for the traveling companies to alleviate the worry associated with the traveling. Risk that is linked with traveling actually is the product of uncertainty and the consequences (Conchar et al., 2004). Moreover, the level of risk perceived by the travelers is different for each individual and is according to one’s interest and concern toward the destination (Cheron & Ritchie, 1982). The theory of perceived risk provides possible explanation how and why consumers move from the desired state to the action state (Tian-Que, 2012) and can be applied on travel-related risks (Fuchs & Reichel, 2006; Wildavsky & Duke, 1990). Earlier studies provide evidence of pandemics affecting tourism in different parts of the world like foot and mouth disease (Blake et al., 2003), SARS (Yang & Chen, 2009), and Swine flu (Page et al., 2012). The Covid-19 risk emerged after a pandemic spread from Wuhan—China (Bogoch et al., 2020) resulting in a worldwide lockdown since human interaction became hazardous and, in a Covid-19 infected world, people were obligated to act upon social distancing. Bearing in mind the ability of this virus, to infect through human interaction either by physical contact or inhalation in the same atmosphere, has taken down industries across the globe, triggering the multinational businesses to make tough choices with scant data availability (Ayittey et al., 2020).

The Covid-19 pandemic brought aviation and hospitality industry at a standstill by a massive demand halt (Stephany et al., 2020) since prominent tourist destinations like Rome, Paris, Madrid, Venice, Germany, Saudi Arabia, Dubai, Malaysia, Thailand, Singapore, Vietnam, and Korea were abandoned (Ahmed & Memish, 2020; Fernandes, 2020; Karim et al., 2020; Mao et al., 2020). The mobility across borders increases the risk of interacting with the disease more and more and creates a perception that hinders the travelers’ ability to choose a certain destination (Smith, 2006).

Existing Scales on Tourist Risk Perceptions

Risk perception is “subjective assessment of the probability of a specified type of accident happening and how concerned we are with the consequences” (Rundmo & Moen, 2006) and it involves valuation of a negative outcome. An overview of risk perception scales shows various dimensions but is inadequate for evaluation of tourist risk perception during COVID-19. The pioneering work of Roehl and Fesenmaier (1992), identified three major dimensions of perceived risk tourist risk i.e. physical-equipment risk, vacation risk, and destination risk. Later Tsaur et al. (1997) restricted the perceived risk into two dimensions namely physical risk including injury and sickness, and equipment risk including malfunctioning equipment and inadequate telecom services. Another study by Boshoff (2002), evaluates the influence of three independent variables on potential service buyers’ risk perceptions. Floyd and Pennington-Gray (2004) has profiled the types of tourists according to their risk perception. Continuing on the research of aftershock following September 11, 2001, Floyd et al. (2004) published another research on the effect of perceived risk on travel intentions in view of the dimensions of income, travel experience, social risk. Cui et al., (2016), have precisely categorized tourist risk perception into three dimensions which are subjective feelings, objective evaluation as well as tourist cognition.

Apart from above mentioned studies various other research papers have been published on the major dimensions of risk perception which include; financial risk and is concerned with the undervalued and unworthy service consumption (Boksberger et al., 2007) psychological risk meaning indulgence in the buying of some tourism products will result in a loss of self-image (Boshoff, 2002; Liu & Gao, 2008) social risk, in which, the tourists develop a sense of social insecurity due to factors such as political unrest, terrorist activities, crime, etc. performance risk is when the tourists feel that the service quality available at tourist destinations may not meet the expected benchmarks of service quality and Health risk, that is, the tourists’ sense of a particular risk as a result of body injury due to any ailment, accidental mishap or security issue during the trip (Li et al., 2020; Liu & Gao, 2008; Sönmez & Graefe, 1998a).

Need to Develop Covid-19 Risk Perception Scale

Various risk perception scales; terrorism (Rittichainuwat & Chakraborty, 2009), natural disasters (Park & Reisinger,
Fessors with specialization in tourism marketing teaching in
ling tourism. The four academic experts were university pro-
about their understanding of perceived Covid 19 risk regard-
experts of epidemic/pandemic diseases were interviewed
Four academic experts from tourism marketing and two
they intend to visit, following steps were followed;
To study the risk perception of the tourists for the country
needs to be measured as a new dimension in perceived risk
pennington-gray, 2015; Zhang et al., 2014).
2003; Rittichainuwat & Chakraborty, 2009; Schroeder &
dowling & staelin, 1994; Jonas et al., 2011; Lepp & Gibson,
and hygiene problems (Becken & Hughey,
foreign cuisine and hygiene problems (Becken & Hughey,
important factor for travel decisions and some developed a
scale to measure health and medical risk and associated it to
prominent role in tourism, covid-19 pandemic risk perception
be measured as a new dimension in perceived risk
In a study cautioned that there will be pandemic out
breaks in future, hence more systematic research should be
on its deadly consequences. Some studies (e.g.,
see Liu & Gao (2008) also considered health risk as an
impact on tourism, covid-19 pandemic risk perception
addressed in general terms and the incorporation of tourist
risk perception due to pandemic like covid-19 has not been
operationalized and measured in these scales. Due to its pro-
found impact on tourism, covid-19 pandemic risk perception
needs to be measured as a new dimension in perceived risk
perception of tourism.

Methodology
To study the risk perception of the tourists for the country
they intend to visit, following steps were followed;
(1) an extensive literature review was conducted on risk
perception, it’s dimensions and available scales,
(2) interviews were conducted from the subject area spe-
cialists as well as academicians, and
(3) interviews were conducted from potential tourists
and tour guides.

Four academic experts from tourism marketing and two
experts of epidemic/pandemic diseases were interviewed
about their understanding of perceived Covid 19 risk regard-
ing tourism. The four academic experts were university pro-
fessors with specialization in tourism marketing teaching in
universities at USA, Pakistan, and China. Online interviews
were conducted with average time of 63 minutes. The two
epidemic/pandemic disease experts are working in the USA,
having 8–10 years of professional experience in practicing at
hospitals. The average interview time was 45 minutes.
The first author interviewed 4 tourist guides with an experi-
ence of multiple international destinations and 12 tourists with
frequent traveling history were interviewed on their under-
standing of overall risk perception and Covid 19 risk. The tour-
ists had a traveling history of visiting different countries for
recreation; academic and business purposes, that is, (1) Asian
Countries, (2) Australia, (3) Canada, (4) East Asian Countries,
and (5) European countries. Lastly, tour guides were also inter-
viewed to seek their opinion on pandemic risk perception that
accompanied tourists in aforementioned destinations.

An online appointment was booked with tour guides and
tourists to conduct interviews. The tour guides were short-
listed based on the data available on their websites. Tourists
were further requested to share a list of tourists they accom-
panied or would accompany in the near future after the pan-
demic ends. The tourists were randomly selected based on
their availability and consent to be interviewed via Google
meet.

A pool of items was derived from open ended interviews
that were combined with the items derived from the literature
of pandemic risk. Content analysis of 80 items were con-
ducted by PhD specialists in which they were requested to
rate each item on a 7-point Likert scale of (1) extremely irre-
levant to (7) extremely relevant. This process reduced items
to 30 items including, (Q1) “Probability of Covid 19 pan-
demic outbreak” (Q5) “Infected through service providers”
(Q14) “Might not survive if get infected” (Q14) “shortage of
precautionary measures such as masks, etc.” (Q17) “might
get symptoms quickly” (Q19) “afraid of being quarantined”
(Q21) “currency might cause infection” (Q24) “might not
rely on sources of information provided on social media”
(Q28) “Afraid that infection would put me life at risk” (Q30),
trip would end up on anxiety.”
To run EFA, the items were measured on a 7-point scale
ranging from (1) Not likely to (7) extremely likely. The data
were collected from 250 individuals who intend to visit the
countries. This was done as per the recommendations of
Fuchs (2006) who suggested conducting a study to deter-
mine the risk perception of tourists who were planning to
visit a destination. The study also recommended having a
different version of questionnaire with minimal overlapping
among and between variables and dimensions. Therefore, a
different dimension of risk, that is, Covid 19 risk perception
of tourists was checked with a sample size of 300 and 250
complete responses were obtained with a response rate of
83% which was very high. Principal Component Analysis
(PCA) with Varimax rotation reduced the items to 8. Items
derived for Covid 19 risk perception of tourists from PCA
process included “prior to my trip, I am worried that I might
get infected during journey, “during shopping,” “by interacting with service providers,” “without appearance of symptoms,” “through currency,” “through food,” and “might not rely on source of information provided on media.” The ages ranged from 20 to 60 and above with 71% of the responses were from the tourists with age range of 20 to 45. Among 250 responses, 64% were male and 36% were females. The reason of high response rate from males were the societal mind-set in Pakistan in which most of the females are not allowed to visit foreign countries alone for the purpose of tourism or recreation thus they are accompanied by the family or spouse which ultimately decreases the number of female tourists. The income range of 52% of the respondents was “same as average income” as middle class is high in numbers.

### Designing the Scale

The questionnaire designed for study 2 included six questions that measured the overall risk perception. The sixth question in overall risk perception was Covid 19 risk which had highest factor loading in pandemic risk perception scale of tourists. Another reason for adding the question of pandemic risk in overall risk perception was its impact on tourism. As due to the lockdown and pandemic outbreak, tourists had to cancel the bookings ranging from airline tickets to hotel bookings which had a huge impact on tourism, tour guide companies, traveling companies, etc. Additionally, 22 items were adopted from the work of Fuchs (2006) to measure the risk perception of tourists on 6 dimensions including human induced risk (5 items), financial Risk (4 items), service quality (5 items), socio-psychological risk (3 items), risk of natural disaster and car accidents (2 items), and risk of food safety, and weather (3 items) were added. Moreover, 8 items of tourist destination Covid 19 risk perception scale were derived from the theory, and EFA were also added in the main study for validation (convergence & divergence). A 7-point Likert scale ranging from “strongly disagree” to “strongly agree” was used to get the responses of tourists. Since the items derived from the work Fuchs (2006) measured overall risk perception and six dimensions of risk perception.

All the items were modified to measure the risk perception of the destination tourists intend to visit by responding to their call for adapting it in future studies. The content and face validity of the scale was assessed from the subject area specialist prior to dissemination of questionnaire. For instance, a question about “XXX is a safe country for tourists” was adapted as “Country X is safe for tourists,” “I worried before my trip about crime in XXX” was modified as “I worried before my trip about crime in country X.” likewise, question about financial risk “I worried that trip to XXX would involve unexpected extra expenses” was changed into “I worried that trip to Country X would involve unexpected extra expenses.” Based on these, the questions of Covid 19 risk perception of tourists were developed which include

| Table 1. Age distribution, Gender, Perceived Income, Country Intend to Visit. |
|---------------------------------|-----------------|-----------------|
| Age group                      | Frequency | Percentage |
| 18–28                          | 432       | 76.5          |
| 29–39                          | 58        | 10.3          |
| 40–49                          | 53        | 9.5           |
| 50–59                          | 17        | 3.0           |
| 60 above                       | 5         | .9            |
| Total                          | 565       | 100.0         |
| Gender                         | Frequency | Percentage |
| Male                           | 348       | 61.6          |
| Female                         | 217       | 38.4          |
| Total                          | 565       | 100.0         |
| Perceived Income               | Frequency | Percentage |
| Much below average income      | 90        | 15.9          |
| Below Average Income           | 75        | 13.3          |
| Same as Average Income         | 240       | 42.5          |
| Above average income           | 134       | 23.7          |
| Much above Average Income      | 12        | 2.1           |
| Don’t want to tell             | 14        | 2.5           |
| Total                          | 565       | 100.0         |
| Country Intend to visit        | Frequency | Percentage |
| USA/Canada                     | 167       | 29.6          |
| Europe                         | 225       | 39.8          |
| South America                  | 10        | 1.8           |
| Africa                         | 5         | .9            |
| Asia                           | 155       | 27.4          |
| Missing                        | 3         | .5            |
| Total                          | 565       | 100.0         |

“Prior to my trip, I am worried about that there might be any chances of Covid 19 at Country X,” “Prior to my trip, I am worried that I might get infected during the journey,” and “I am concerned I might get infectious without appearance of symptoms.” Most of the questions of Covid 19 risk perception were phrased as statements to assess the responses of the tourists prior to the trip. Table 1 below shows demographical composition of sample.

The target population of the main study was also the international tourists who had a travel history and intended to visit other countries in the near future as their plans had been postponed due to the Covid 19 outbreak. Tourists were given choice of different countries such as USA, Canada, Europe, South America, Africa, and Asia. The locations were grouped into six categories based on the data provided by traveling companies in which frequency of visitation was given.

In the end of February, hotel managers were contacted through landlines, on which they were briefed about the purpose of the research and asked for the permission to conduct online interviews through Zoom which was approved after much delay as hotels had to follow their standard operating procedures (SOPs) to reach out to the tourists. As a result of this, 79 interviews were completed online till third week of March by using online and face to face interviews as few
tourists were available in March because it had not spread much in Pakistan and there was not any lockdown at that time. After a partial lockdown was announced by the Government in last week of March, traveling companies were contacted and data of tour guides and travelers registered with companies to travel to their countries after lockdown was received. Among 25 companies, the data of 780 tourists was shared who were emailed to seek their consent and convenience time for interview. After preparing the list, interviews were conducted online with 486 respondents who had travel history and had plan to visit one of the countries mentioned in six categories of the country.

Among 565 respondents, 348 were male which accounted for 62% and 217 were females which was 38% of the responses. Moreover, 76% of the respondents were from the age range of 18–28, 10% were from age range of 29–39 however only 1% of the respondents were above 60. The largest category of income was 42% which was “same as average income” followed by 23% of “above average income.”

### Results and Analysis

The overall risk perception of scale was modified with addition of a new dimension. There was an addition of Q6 regarding Covid 19 outbreak which had not been studied in the previous studies. The reason behind adding the item of Covid 19 risk was the financial, cognitive, and social loss it has caused to the global tourism industry with the chances of reoccurring in a second wave in the near future. As already altered by Fuchs (2006), a consistent scale was used to measure an overall risk perception of the tourists. Table 2 depicted the altered scale of the overall risk perception, mean values, standard deviation, and reliability respectively. The highest mean for Q6 = 4.79 measured the risk of Covid 19 outbreak during visit. The value of Cronbach alpha also predicted that the alpha value would not be improved if the item was removed. Thus, this signifies the need of Covid 19 risk outbreak in the scale of overall risk perception. The second highest value was of Q2 = 4.72 which measured the “friends’ concern on safety during the tour” with S. D = 1.86. Whereas, lowest mean was recorded for Q3 = 3.72, (measuring the perception of the country as more dangerous than the other). The alpha reliability for the scale of overall risk perception was .591 and after deleting Q1 which measured the perception of tourists regarding safety of the country they intend to visit increased with the value of .759.

Table 3 projected the validation results of seven factors, six were adapted from the work Fuchs (2006), and one was the extension of the scale of tourism destination risk by adding Covid 19 risk at destination developed in the present study. Each type of risk was measured by different questions. Table 3 projected the reliability of all the seven types of risks. The values of reliability showed an acceptable inter-item consistency with minimum value of $\alpha = .677$ for financial risk and maximum value of $\alpha = .855$ for Covid 19 risk. The values of “alpha if item deleted” showed no improvement in alpha value by deleting any item. Thus, all 18 items were retained at this stage to measure six types of risks. However, to measure seventh type of risk, Covid 19 destination risk, seven questions were retained after EFA/CFA with the threshold value of 0.6 measuring; risk of Covid 19 outbreak, weak coping mechanism, mental health, vulnerability (getting infectious through air, during journey), media information. The items with weak loadings or cross loadings were deleted, ending up on a 7 item Likert scale to measure the Covid 19 destination risk.

Factor 1 “human induced risk” consisted of political unrest, terrorism, crowding, and crime with eigenvalue of 9.857 and % variance was explained 32.858, with alpha value of .758. The factor loadings for political unrest was .775, terrorism had value of .646, crime had relatively low loadings of .599 which can be eliminated from further analysis, while crowded had factor loading of .712.

Factor 2 “financial risk” explained by items of extra expenses at destination, expansiveness, incidental expenses at home and impact on financial situation. The items were loaded with eigenvalue 3.004% and 10.013% of variance was explained. The Cronbach alpha was counted as .775, terrorism had value of .646, crime had relatively low loadings of .599 which can be eliminated from further analysis, while crowded had factor loading of .712.
### Table 3. Correlation Between Overall Risk Perception and Risk Types (N=565).

|   | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
|---|---|---|---|---|---|---|---|---|
| 1. Overall risk perception | 1 |   |   |   |   |   |   |   |
| 2. Human-induced risk | .388 | 1 |   |   |   |   |   |   |
| 3. Financial risk | .242 | .403 | 1 |   |   |   |   |   |
| 4. Service quality risk | .510 | .631 | .321 | 1 |   |   |   |   |
| 5. Socio-psychological risk | .329 | .455 | .321 | .594 | 1 |   |   |   |
| 6. Natural disaster risk | .239 | .623 | .308 | .489 | .373 | 1 |   |   |
| 7. Food safety risk | .348 | .538 | .451 | .541 | .424 | .565 | 1 |   |
| 8. Covid-19 risk | .476 | .362 | .547 | .545 | .486 | .239 | .621 | 1 |

**Correlation is significant at the .01 level (two-tailed).**

### Table 4. Validation Results: Factor Analysis Results (Varimax Rotation).

| Factor | Loading | Eigenvalues | % of variance explained | Cronbach’s Alpha |
|---|---|---|---|---|
| Factor 1 | 9.857 | 32.858 | .758 |
| “Human-induced risks” | | | |
| Political unrest | 0.775 |
| Terrorism | 0.646 |
| Crime | 0.599 |
| Crowded | 0.712 |
| Factor 2 | 3.004 | 10.013 | .677 |
| “Financial” | | | |
| Extra expenses at destination | 0.694 |
| More expansive than . . | 0.425 |
| Incidental Expenses at home. . | 0.614 |
| Impact on financial situation | 0.571 |
| Factor 3 | 1.928 | 6.427 | .757 |
| “Service Quality” | | | |
| Country X would not be friendly | 0.676 |
| Facilities would not be acceptable | 0.681 |
| Hotels unsatisfactory | 0.642 |
| Factor 4 | 1.658 | 5.527 | .737 |
| Socio-psychological | | | |
| Way friends think | 0.834 |
| Way family thinks | 0.734 |
| Self-image | 0.780 |
| Factor 5 | 1.499 | 4.998 | .846 |
| Natural disaster and car accidents | | | |
| natural disasters | 0.725 |
| car accidents | 0.804 |
| Factor 6 | 1.279 | 4.262 | .617 |
| Food safety problem and weather | | | |
| Food safety | 0.623 |
| Weather | 0.807 |
| Factor 7 | 1.086 | 3.619 | .855 |
| Covid-19 risk | | | |
| Chances of Covid 19 existence | 0.677 |
| Might not able to survive | 0.775 |
| Remain depressed | 0.780 |
| Infected during journey | 0.680 |
| Infected by service providers | 0.680 |
| might catch infection quickly | 0.625 |
| Anxiety during trip | 0.658 |
| Not rely on media information | 0.571 |
was in minimum threshold value. The factor loadings for extra expenses were highest 0.694 however second of more expensive was 0.425 which may be deleted from further analysis. The factor loading for impact on financial situation was low 0.571 which can be retained for further analysis as this is closer to 0.6 however; the value for incidental expenses was 0.614. Table 4 below shows the results of factor analysis.

Factor 3 “service quality” was explained by three items measuring friendliness, facilities, and hotels. All three items were reverse coded with eigenvalue of 1.928 and 6.427% of variance was explained. The factor loadings were recorded above 0.6 with alpha value of .757. The item of friendliness loaded with a value of 0.676, unacceptability of facilities = 0.681, and unsatisfactory hotels were loaded as 0.642.

Factor 4, “socio-psychological risk” explained by how family and friends think about tour and the self-image of tourist. The Cronbach alpha value showed a good inter-item consistency with an alpha value of .737% and 5.527% of variance was explained. The factor of friends’ and family’s perception was loaded as 0.834 and 0.734, respectively. How self-image was explained with a factor loading of 0.780.

Factor 5 “natural disaster & car accidents” was explained by two items of natural disaster and car accidents with an alpha value of .846. The factor loadings for both items were above 0.7, natural disaster=.725, car accidents=.804, with 4.998% of variance. However, the eigenvalue was recorded as 1.499.

Factor 6 “food safety problem & weather” comprising two items with Cronbach alpha value of .617. The two items factor recorded eigenvalue of 1.279 and 4.262% of variance explained. The item of food safety was loaded as .623 and weather risk was .807 which was higher than food safety.

Factor 7 “Covid 19 risk” consisted of eight items including chances of Covid 19 pandemic at destination, weak coping mechanism (might not able to survive, might catch infection quickly), cognitive risk (remain depressed during visit, anxiety during trip), risk of active/passive infection transmission (getting infection during journey, by service providers), risk of exposure through media. The Cronbach alpha value was counted as .855% and 3.619% of variance was explained with the eigenvalue of 1.086. The factor loading of chances of pandemic at country X was recorded as 0.677, might not be able to survive=0.775, might catch infection quickly=0.625, remain depressed=0.780, anxiety during trip=.658, getting infection during journey=.680, by service providers=.689, and risk of exposure through media was loaded as .571 which may be deleted from further analysis.

Discussion

This study was conducted on tourists who intend to visit various tourism destinations in near future. Since many countries have now eased the lockdown and tourism destinations are now opened for tourists with proper implementation of SOPs such as wearing masks and maintain the desired social distancing is necessary. However, WHO (2020) has warned about second wave of Pandemic which is “most dangerous” thus warned countries that do not rush to ease lockdown. For instance, China eased lockdown and after a month cases soared to 50 due to which they implemented curfew with immediate effect.

Fight operations are partially opened and not all counties have opened their air spaces. New Zealand, for instance, has closed their flights to the foreign countries and country is under control of Army to strictly implement Corona SOPs. This recent development shows among many risks which have been cited in the literature, one of the most challenging is Covid 19 risk.

Past literature indicate that most studied types of risk during 1972 to 1999 are physical (induced by human behaviors, physical dangers), financial (financial burden, expensive, threats of theft or stolen cases), and social/psychological risk (cultural acceptability, racism, perception of friends and family, self-image) (Jacoby & Kaplan, 1972; Roehl & Fesenmaier, 1992; Sönmez & Graefe, 1998a; Tsaur et al., 1997). With the change in time, the studies on types of risks expanded to natural disasters, safety concerns, cultural risks, geographic differences, and socio-political difficulties at international destinations (Floyd et al., 2004; Fuchs & Reichel, 2006; Reichel et al., 2007; Wu et al., 2001).

The contribution of present study is addition of a new risk dimension. Though, Fuchs and Reichel (2006) has studied the risk of epidemic disease at tourism destination but that was measured by only one item under the category of physical risk according to theoretical construct. The present study, however, has focused on studying Covid 19 risk perception as one of the emerging risks which will be considered by tourists in the near future before selecting any tourism destination. Second reason behind studying the construct of Covid 19 risk is increased awareness among people regarding the Covid 19 pandemic outbreak which has hit global tourism. Thirdly, previous work on pandemic or epidemic is limited to health care or medical studies which focused to measure economic effects, health effects, the detection of disease, and response (Smith, 2006). Thus most of the scales available on measuring the pandemic risk perception were measuring the cognitive risk, coping mechanism, response toward SARS, knowledge about Ebola and its treatment, or change in lifestyle during Ebola while studying aforementioned in terms of medical, health, buying behaviors, lifestyles, and hospital employees (Abdulkareem et al., 2021; Bagnoli et al. 2007; De Zwart et al., 2009; Obenauer et al., 2018).

In our study, the focus has been given to conceptualization and operationalization of Covid 19 risk perception which is an addition to measure tourist destination risk. The eight item scale comprehensively covers Covid 19 risk perception of tourists which includes categories such as chances of Covid 19 at destination, weak coping mechanism (might not able to survive, might catch infection quickly), cognitive
risk (remain depressed during visit, anxiety during trip), risk of active/passive infection transmission (getting infection during journey, by service providers), and risk of exposure through media. Thus, this study is beyond the work of Fuchs and Reichel (2006), who have proposed six dimensions of tourist risk perception about destination. Another difference is that present study provides a scale to measure tourist’s destination risk perception for different destinations. Moreover, the present study has also validated the scale so tourist risk perception proposed by Fuchs and Reichel (2006).

**Theoretical and Managerial Implications**

The result of the present study is aligned with numerous past studies which demonstrate destination risk as a multidimensional construct. Since the focus of the study was operationalization and measurement of another dimension which is Covid 19 risk perception, which is like other types of risk, consists of several questions to identify its correlation with overall risk perception and other risk index. The findings of the study suggest that Covid 19 risk will be an important consideration for future travel and hospitality industry has to adopt a proactive approach. The hotels will have to develop this confidence in customers that everything they do is redesigned in wake of the Covid 19 pandemic to ensure risk free stay of travellers. The aviation industry has to ensure travel without any fear of being infected and there should be zero tolerance for this in SOPs. Moreover, the study offers multiple implications for various services related industries where consumer interaction with service provider is high and marketers are interested to predict buying behavior. For instance, studies on risk perception will help researchers and marketers to predict online shopping behavior for high involvement products such as branded phones, electronic products (ACs, refrigerators, etc.). Additionally, risk perception may also be studied on cross-platform buying behavior to predict the critical factors for consumers of emerging markets after COVID-19. Likewise, studies may also be conducted to know the role of risk perception to evaluate quality-value relationships in services sector which will help managers to improve consumer-service related touchpoints.

**Limitations and Future Research**

The attempt to incorporate the Covid 19 risk into the tourist risk perception scale needs to be empirically tested in various conceptual and theoretical studies for the purpose of additional validation. Apart from that, a more diversified tourist sample for the empirical studies will aid in the improvement of the reliability and validity of the questionnaire.

The operationalization of the Covid 19 risk dimension addition to the tourist risk perception leads to various questions. Risk perceptions vary according to the personality types, overall surroundings, and the native culture of the tourists. Hence, future researches could examine the differences in the tourist risk perception including Covid 19 risk in different ethnic groups as well as across different personality types. Furthermore, tourist risk perceptions have a great impact on the interests (both tourist and tourist destination institutions). For that purpose, new studies could be conducted on the effect of tourist risk perceptions during and after Covid 19 pandemic on the independent and co existing interests of the all the stake holders in the tourism and hospitality industry.

Tourism also has a deep rooted connection with the automotive and airline industry, thus affecting the said businesses in the shorter and longer terms. Hence, future studies can test use this questionnaire with relation to the operations of the airlines with special focus on the interdependence of tourist risk perceptions and job uncertainty of the airline and automotive industry human resource. Lastly, with a robust and reliable TRP scale including Covid 19 risk, hospitality and tourism research can be expanded into various experimental and mix method studies.

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