Mansoura University
Faculty of Tourism and Hotels

Vicarious Travel: The COVID-19 Tourism Experience Paradigm (Examining Attitudes and Risk Perceptions)

By

Radwa Ali Hamed

Tourism Studies Department, Faculty of Tourism and Hotels (FTH), Alexandria University, Alexandria, Egypt

Mahmoud Ahmed Aboushouk

Tourism Department, Faculty of Tourism and Hotel Management, Pharos University in Alexandria (PUA), Alexandria, Egypt

المستخلص

برز السفر دون انتقال كبديل آمن للسفر المادي، وملجأ للاسترخاء، وتخفيف التوتر والهروب في ظل الحجر الصحي المنزلي وقيود السفر المفروضة بسبب جائحة كورونا.

تهدف الدراسة إلى فحص مواقف المصريين تجاه السفر دون انتقال ومدي استعدادهم لتبنيه وسط وبعد جائحة كورونا مع تقصي إدراك المصريين لمخاطر السفر وسلوك التخطيط للسفر ونوايا السفر وسط الوباء.

وقد تم جمع البيانات باستخدام استبانة عبر الإنترنت وتم استخدام نمذجة المعادلة الهيكلية لتحليل البيانات إحصائيا. وتظهر النتائج أن هناك علاقة ذو دلالة بين إدراك مخاطر السفر وسط جائحة كورونا والاستعداد لتجربة السفر دون انتقال. علاوة على ذلك، تكشف النتائج أن الموقف من السفر دون انتقال له تأثير إيجابي على نوايا السفر.

وبشكل عام، تلقي الدراسة الضوء على السفر دون انتقال في سياق الأزمات وتقدم تعريفًا موجزًا لهذا المفهوم الذي غالبًا ما يتم تجاهله في الأدب السياحي. وتعد أفكار الدراسة ذات قيمة للأوساط الأكاديمية والهيئات السياحية.

الكلمات الرئيسية: السفر دون انتقال، سلوك السفر، المواقف، إدراك المخاطر، جائحة كورونا

Abstract

With COVID-19 travel restrictions and home quarantines, vicarious travel has emerged as a safe physical travel alternative and a refuge for relaxation, stress relief, and escapism. This study aims to examine Egyptians' attitudes towards vicarious travel and their willingness to adopt it amid and post-COVID-19 while investigating Egyptians' travel risk perception, travel planning behavior, and travel intentions amid the pandemic. Data were collected using an online questionnaire and structural equation modeling (SEM) was employed for statistical data analysis. Findings show that there is a significant correlation between travel risk perception amid COVID-19 and the willingness to experience vicarious travel. Furthermore, findings reveal that attitude towards vicarious travel has a positive impact on travel intentions. Overall, the study sheds the light on vicarious travel in the context of crises and introduces a concise definition for this often-overlooked concept in tourism literature. Study insights should be of value to academia and tourism authorities.

Keywords: vicarious travel; travel behavior; attitudes; risk perception; COVID-19

Introduction

The COVID-19 pandemic is an unprecedented crisis that

severely hit the whole world all at once (Bratić et al., 2021; Chebli & Ben Said, 2020). The outbreak of this pandemic has deeply affected global tourism. According to WTTC (2021), the global travel and tourism industry witnessed a massive loss estimated at around USD 4.5 trillion in 2020 due to the COVID-19 pandemic. These massive losses are estimated at 11 times the losses incurred because of the 2009 global economic crisis (UNWTO, 2021b). As many countries enforced strict measures such as lockdowns, curfews, and airspace closure to contain the virus, these widespread imposed travel restrictions resulted in an unprecedented decline in travel demand where international tourist arrivals fell by 74% in 2020 from 2019 (UNWTO, 2021b). According to UNWTO (2021b), the figures for international tourism in 2020 are the worst on record so far.

In times of crisis, consumers' behavior changes drastically (Mehta et al., 2020; Sawhney & Madan, 2021). Hence, the COVID-19 crisis has brought about significant changes in travel behavior and tourist psychology (Kock et al., 2020) and has resulted in increased digital consumption (De' et al., 2020) and internet usage, especially for social media engagement (Beech, 2020; Pandya & Lodha, 2021).

With COVID-19 home confinement and tourist destinations worldwide having to cancel events and shut down attractions (Gössling et al., 2020), people began to look for physical travel substitutes and seek travel experiences from the comfort of their homes (UNWTO, 2021a) to satisfy their wish for travel, escape quarantine, enhance their wellbeing and reduce psychological stress (Yang et al., 2021). According to UNWTO (2021a), COVID-19 resulted in an unprecedented demand for virtually accessing heritage sites, museum collections, and theatre performances. So, to

encourage the citizens to comply with stay-at-home orders
and maintain social distancing, many tourist attractions
such as heritage sites (e.g. Machu Picchu, Great Wall of
China, Taj Mahal), museums (e.g. the Louvre, British
Museum, the Vatican museums), and national parks (e.g.
Yellowstone, Yosemite) offered online virtual tours (Snow,
2020) that can be remotely experienced from home.

Similarly, the Egyptian Ministry of Tourism and
Antiquities created an e-initiative entitled 'Explore Egypt
from Home'. It included launching several virtual tours of
Egyptian museums and ancient archaeological sites, which
were made available on the ministry's official website and
its social media platforms for everyone worldwide to watch
from the comfort of their homes during the quarantine
(Egyptian Ministry of Tourism and Antiquities, 2020;
Essam, 2020). This initiative has sparked the idea of this
research study.

Accordingly, the study's main objective is to investigate
whether Egyptians have experienced vicarious travel amid
COVID-19 and their willingness to adopt it as a substitute
for physical travel in times of crisis when travel
opportunities are limited.

To achieve this objective, the study at hand applies the
theory of planned behavior (TPB) by Ajzen (1985) which
indicates that behavioral intentions are influenced by
attitudes about the likelihood that the behavior will reach
the expected results besides the subjective evaluation of the
risk and benefits of that result. Therefore, this study aims to
(1) measure the impact of the attitude toward vicarious
travel during crises, especially amid the COVID-19
pandemic on the behavioral intention of adopting vicarious
travel. (2) measure the impact of COVID-19 subjective risk

perception on the behavioral intention of adopting vicarious travel during crises, particularly amid the COVID-19 pandemic. (3) measure the impact of subjective travel risk perception of respondents amid the COVID-19 pandemic on their attitude toward the adoption of vicarious travel experiences. Moreover, it (4) explores to what extent the tourists' are willing to replace corporeal travel with vicarious travel during crises, particularly amid the COVID-19 pandemic; (5) determines the advantages of vicarious travel experiences over corporeal travel experiences; (6) explores the vicarious travel experiences that respondents are willing to pay for; (7) If not willing to alter corporeal travel to vicarious travel, explores why do they think vicarious travel experiences can't replace corporeal travel experiences?; (8) determines the purposes for travel amid COVID-19; (9) measures the impact of the COVID-19 pandemic on respondents' travel planning behavior and travel habits; (10) explores the attitudes toward vicarious travel and the willingness to adopt it amid and post COVID-19; (11) describes the travel risk perception amid the COVID-19 pandemic; (12) analyzes the future intention to adopt vicarious travel amid and post COVID-19.

By achieving the previous aims new knowledge will be added to the current literature and a new reliable and valid model regarding developing countries like Egypt is developed providing practical benefits and implications for researchers and practitioners.

Literature review
Vicarious travel definition

A theoretical framework for vicarious travel has not been established yet and there is no precise definition for vicarious tourism up till now. According to Webster's New World College Dictionary (2020), to experience something vicariously is to experience it through imagined participation in someone else's experience. Therefore, to travel vicariously is to experience travel indirectly through imagination without having to physically travel.

Robinson et al. (2011) supported this notion by stating that 'physical travel is no longer necessary to achieve touristic experiences' (p.55). Similarly, Robinson (2014) discussed the importance of considering the vicarious elements of the travel experience as touristic encounters, regardless of the physical presence in the destination.

Armchair travel is a more commonly used synonym for vicarious travel. Although the term is not new to tourism literature, it is rarely discussed. Armchair travel was originally used to refer to the sensory travel experiences of elder or physically disabled people (Trembath, 2020). However, lately, with the COVID-19 quarantine, the term is brought back to the spotlight with a broader meaning.

According to Baxter & Pieszek (2011), armchair travel is a form of niche tourism that enables participants to explore destinations from the comfort of their homes without having to physically travel. They further explained that it can be experienced through books, television, or the internet. In this sense, the above definition of armchair tourism contradicts the WTO (1994) tourism definition stated below:

Tourism comprises the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes not related to the exercise of an activity remunerated from within the place visited (WTO, 1994, p.8).

However, Baxter & Pieszek (2011) argued that tourism activity is not about physical change rather it can be regarded as a temporary psychological change in a person's state of mind, environment, and lifestyle experienced for several purposes such as recreation, adventure, education ... etc. Accordingly, vicariously traveling can be considered a form of tourism.

Another commonly used synonym for vicarious travel is virtual travel. Verhoeff (2006) considered virtual tourism as the new form of vicarious travel that uses modern media to create visual, sensual, and intellectual experiences and further asserted that today's vicarious tourism focuses on experience rather than physical presence since destinations' accessibility is much easier than before. Similarly, according to Spector (2015), today's virtual travel is merely yesterday's armchair travel. However, virtual travelers are more capable of controlling their travel experiences by choosing and customizing their tour components.

Generally, the vicarious components of the travel experience have often been overlooked in tourism literature while physical travel and bodily tourism have always been privileged in academia (Mura et al., 2017; Robinson, 2014). In other words, vicarious travel experiences haven't been discussed thoroughly in tourism literature but are merely referred to in the contexts of tourism experiences and tourism media (Table 1).

[Table 1 near here]

Overall, several previous studies discussed the notion of vicarious travel. Nevertheless, the previous literature was not able to capture the whole picture of vicarious tourism. Most of the prior studies attempted to address vicarious travel in the context of modern media and ICT. However, vicarious travel rather reflects an umbrella term that encompasses all non-corporeal travel experiences whether technologically or non-technologically driven.

In an attempt to provide a more comprehensive understanding of the concept of vicarious travel, this study proposes the following definition: vicarious travel is all about non-corporeal travel experiences that allow participants to travel freely across time and space without having to endure real-world travel constraints where vicarious travel can be experienced through 3D VR tours, 360° travel videography, travel vlogs, travel photography, travel live streaming (TLS), travel T.V. shows and documentaries, travel podcasts, holiday books, and travel guides as well as folk music.

Vicarious travel experiences amid COVID-19

Facing these unprecedented challenges of uncertainty and travel anxiety, tourist destinations and attractions (supply side) began to develop alternative forms of travel and offer innovative tourism experiences to keep potential tourists interested in their destinations during the pandemic and entice future visits (Aminy, 2020). For example, Singapore Tourism Board (2020) launched the 'Experience Singapore now. Travel later' initiative which offers visitors 360° virtual experiences of Singapore's most popular attractions

to explore from the comfort of their homes. Similarly, Japan National Tourism Organization released 'Japan: Where Tradition Meets the Future'; a 360° virtual tour on YouTube of the most famous attractions of Japan that can be remotely accessed from any mobile device (May, 2020). Moreover, to generate revenue and mitigate the losses incurred during COVID-19 and keep potential visitors engaged, some tour operators, tourist attractions, and accommodation establishments began offering live video streaming, online classes, and selling souvenirs online (Deng et al., 2021; Qiu et al., 2021; Verbin, 2021). For example, San Diego and Houston Zoos offered live streaming so that visitors can virtually enjoy watching their animals. Aquariums such as Monterey Bay Aquarium, and New England Aquarium also offered live streams of their sea creatures (Bloom, 2020; Schlichter, 2020). Also, to survive the crisis, many tourism and hospitality businesses tried to come up with innovative vicarious tourism experiences. For example, many resort hotels started offering live-stream classes (yoga, cooking, dancing, pottery, scuba diving … etc.) or offered live guided tours within the resorts and live music. Some theatres offered live-stream performances of plays, opera, and ballet (e.g., the Metropolitan Opera, the Globe Theatre, and the Royal Opera House) (Michel, 2021).

Many travel agencies also adopted live-streaming (O'Neill, 2020) and started offering customized online tourism experiences for their customers in the form of interactive virtual tours where a local tour guide takes participants on a live sightseeing tour by sharing a live video of the tourist places, he is visiting over a video call using his smartphone while narrating the history of these places. Participants can

ask their guide and get answered instantly as if they were on an actual tour. These tours were a way for local guides to earn a living during the pandemic. Travel agencies also have made good profits since the costs incurred for organizing physical sightseeing tours were no longer present (Ahaskar, 2020). Some travel agencies contacted local craft sellers to promote their products as souvenirs and sell them online through their official websites (Aminy, 2020).

Furthermore, many international organizations developed initiatives to help destination managers worldwide in their fight against COVID-19. For instance, UNESCO (2021) in collaboration with Google has launched a virtual tours exhibition of many world heritage sites and national parks to encourage people to comply with stay-at-home orders and keep them engaged with travel destinations amid the pandemic.

On the demand side, people began seeking vicarious travel experiences as physical travel alternatives during lockdowns. MacSween & Canziani (2021) indicated that respondents increasingly visited online travel resources during Covid-19 home confinement mainly for entertainment and relaxation purposes. Similarly, Rastati (2020) stated that people experienced virtual tours as a way of relaxing during the quarantine while addressing virtual tours as alternative tourism experiences amid COVID-19 that could even last after the pandemic is over as vicarious travel experiences are a much cheaper option, especially for those who 'do not have the resources, economic capacity, spare time, and access' (p.493). For instance, vicarious travel experiences offer a better travel alternative for people with disabilities or seniors with limited mobility who

cannot have physical tourism experiences (Rastati, 2020; Williams & Hobson, 1995).

Travel planning behavior and consumption patterns amid COVID-19

COVID-19 has resulted in significant impacts on tourists' travel planning behavior and consumption patterns (Abdullah et al., 2020; Hall et al., 2021; Toubes et al., 2021). Generally, the pandemic heightened travel anxiety that arises from the presence of travel-related risks, which in turn influence travel intentions, travel planning behavior (Bratić et al., 2021; Luo & Lam, 2020) and eventually reshape travel habits (Eichelberger et al., 2021; Shamshiripour et al., 2020).

Therefore, travel fear and anxiety arising from the possibility of contracting COVID-19 have resulted in massive trip cancellations (Eichelberger et al., 2021; Gössling et al., 2020) and travel avoidance (Gupta et al., 2021). In other words, tourists' perception of COVID-19 as a travel-related risk has compelled them to alter their vacation plans in terms of destination, transportation, accommodation, and activity choices (Bratić et al., 2021). For instance, COVID-19 has resulted in international travel avoidance (Chua et al., 2020), domestic trips preference (Del Chiappa et al., 2021), overcrowded destinations and big cities avoidance (Marques Santos et al., 2020), reduced length of stay (Bratić et al., 2021), favoring outdoor tourist activities to indoor events (Marques Santos et al., 2020) as well as the preference of independent travel to group travel (Wen et al., 2020) and using private cars as a mode of transportation (Abdullah et al., 2020; Beck & Hensher,

2020; De Haas et al., 2020). Also, tourists started adopting new health-protective behaviors (e.g. wearing face masks, using hand sanitizers or disposable gloves, and practicing social distancing) for safe travel (Addo et al., 2020; Bhati et al., 2020) with increased interest in hospitality establishments that apply strict safety measures (e.g. testing temperature, implementing social distancing, a limited number of guests, visible sanitizing/cleaning efforts) and offer contactless experiences (keyless entry, smart self-check-in/out kiosks, contactless payment, touchless elevators, digital menus, service robots … etc.) (Gursoy & Chi, 2020).

Furthermore, COVID-19 has contributed to lessened disposable income influencing the tourists' willingness to pay for travel and tourism products in the first place (Toubes et al., 2021). Nevertheless, studies have shown that tourists are willing to pay extra fees for safe tourism services that ensure their safety amid COVID-19 (Gursoy & Chi, 2020; Jeon & Yang, 2021; Sánchez-Cañizares et al., 2020). Besides, with the uncertainty related to COVID-19, tourists tend to delay their travel purchase decisions and opt for last-minute bookings (Toubes et al., 2021).

As for consumption patterns, COVID-19 has mainly resulted in an accelerated shift towards digital consumption (UNCTAD, 2020) with consumers adopting more of a 'millennial mindset' regardless of their age group (Puttaiah et al., 2020) in which they have become more reliant on online information sources and digital transactions where e-commerce became indispensable (Murphy, 2021). These consumer behavioral changes towards increased digital adoption and online shopping are more likely going to continue after the pandemic for they offer consumers

convenience and well-being (Puttaiah et al., 2020; Torkington, 2021). Accordingly, more travelers will be planning and booking their trips over the Internet. Therefore, to successfully operate in a post-pandemic digitally transformed tourism industry, tourism businesses take into consideration these new consumption patterns and adapt to the new situation accordingly.

Research hypotheses

The theory of planned behavior (TPB) is considered the supporting theory to explain the relations among the study variables. It indicates that behavioral intentions are influenced by attitudes about the likelihood that the behavior will reach the expected results in addition to the subjective evaluation of the risk and benefits of that result (Ajzen, 1985).

The theory of planned behavior includes constructs representing the person's actual control over behavior which are: (1) Attitudes refer to the degree to which a person has a favorable or unfavorable evaluation of the behavior of interest. (2) Behavioral intention refers to the motivational factors that influence a given behavior; the stronger the intention to perform the behavior, the more likely the behavior will be performed. (3) A subjective norm is the belief that the majorities of people approve or disapprove of the behavior. (4) Perceived power refers to the perceived presence of factors that can help or hinder the performance of the behavior. (5) Perceived behavioral control refers to a person's perception of how easy or difficult it is to perform the desired behavior. Hence the following hypotheses are

proposed:

H1: Attitude towards vicarious travel experiences has a significant positive impact on the behavioral intention to adopt vicarious travel.

H2: The subjective evaluation of the COVID-19 pandemic risk has a significant positive impact on the behavioral intention to adopt vicarious travel.

H3: The subjective evaluation of the COVID-19 pandemic risk has a significant positive impact on attitudes toward vicarious travel experiences.

Moreover, previous studies such as Zhang et al. (2022) regarding travel risk perception amid the COVID-19 pandemic and attitude towards vicarious travel experiences found a significant positive impact of travel risk perception on attitude towards vicarious travel experiences, which means positive attitudes of tourists toward vicarious travel experience are affected by crises situations through perceiving the subjective evaluation of the risk of COVID-19 pandemic.

Also, proceeding studies such as Wen et al. (2020) found a significant impact of the COVID-19 pandemic on future travel preferences and related behaviors post the disaster where Chinese tourists will be more likely to seek out destinations with established infrastructure and high-quality medical facilities post-COVID-19 outbreak and purchase travel insurance while reserving a tour to cover illness like COVID-19, they may also avoid traveling to crowded tourist sites and they will be cautious while

selecting tourism destinations in the future. Nazneen et al. (2020) found a significant impact of the COVID-19 pandemic on the Chinese decision for traveling and travel behavior intentions where tourists intended to postpone their travel plans for the next 12 months and it also raised their concerns about the safety and hygiene of public transportation, hotels, and recreation sites.

Rahman et al. (2021) found that COVID-19 has a great impact on travel risk perception, and it affected tourists' travel planning and intentions where they will avoid overpopulated destinations and prefer short-distance travel. It also has a positive impact on following strict hygiene and safety procedures.

Furthermore, Bae & Chang (2020) found that attitude is a significant mediator between affective risk perception and future travel intention.

El-Said & Aziz (2021), Bratić et al. (2021), and Turnšek et al. (2020) investigated the travel risk perception amid the COVID-19 pandemic and the travel intentions toward vicarious travel and found that COVID-19 pandemic risk perception positively impacted tourists future travel intention to adopt vicarious travel and that they will recommend and encourage their friends to experience vicarious travel amid the COVID-19 pandemic.

[Figure 1 near here]

Method

To gain in-depth insights concerning attitudes towards vicarious travel experiences amid COVID-19, the study adopted the deductive approach and quantitative method using hypotheses to measure the causal relationship among the study variables.

Data collection and sampling

The survey targeted Egyptian internet users (18 years of age and above) who are interested in travel (members of active travel groups and communities). For data collection, the researchers used the non-probability sampling technique (self-selection sampling technique). According to Saunders et al. (2016), this technique is used when each case, usually an individual, is allowed to identify their desire to participate in the research. Researchers publicized the need for participants by advertising on Egyptian travel groups and communities on social networking sites such as (Facebook, and LinkedIn).

The study used an online questionnaire created using Google Forms which was sent to interested participants. A total number of 292 valid responses were received between April 29th to August 5th, 2021. According to Hair et al. (2014), the minimum sample size in SEM is (100) for models containing five or fewer constructs, each with more than three items (observed variables), and with high item communalities (0.6 or higher).

Questionnaire development

The study questionnaire included closed-ended questions that allowed respondents to select the most relevant answers. The questionnaire survey consisted of six sections. The first section aimed to examine the respondents' travel planning behavior amid COVID-19. It included ten questions concerning their travel arrangements, travel purposes, travel budget, length of stay, mode of transportation, and safety precautions amid COVID-19.

These questions were derived from Howard (2020).

The second section had the purpose of investigating the respondents' subjective evaluation of the risk of the COVID-19 pandemic. Respondents were required to indicate how strongly they agree or disagree with six statements using a five-point Likert scale ranging from (1) 'Strongly disagree' to (5) 'Strongly agree'. The statements were adapted from (Cahyanto et al., 2016; El-Said & Aziz, 2021; Lindell & Perry, 2000; Nazneen et al., 2020).

The third section aimed at evaluating the respondents' perception of vicarious travel experiences. The respondents were asked about their past vicarious travel experiences, the pros, and cons of vicarious travel, the types of vicarious travel experiences they are willing to pay for, and finally, if they are completely satisfied after consuming vicarious travel experiences or more interested in physically visiting the destination. The last question was adapted from (Huang et al., 2013).

The fourth section was concerned with examining the respondents' attitudes toward adopting vicarious travel amid COVID-19. The study adopted previously validated measurement scales used in previous literature of similar contexts (online travel vlogs, VR in tourism) as shown in Table 2. All items were measured on a five-point Likert scale.

[Table 2 near here]

Using a five-point Likert scale, the fifth section (nine statements) aimed at investigating the respondents' future intentions concerning adopting vicarious travel to reach travel safety, avoiding crowded attractions, preferring high-quality accommodation and restaurants, using public transport, traveling extensively, and taking longer trips. The

statements were derived from (Bratić et al., 2021; Cheng et al., 2020; Nazneen et al., 2020; Richards & Morrill, 2020; Turnšek et al., 2020; Z. Wen et al., 2008).

The final section of the questionnaire had the purpose of collecting the respondents' profiles in terms of their gender, age group, marital status, education level, work status, travel frequency, travel duration, and travel companionship.

Tools for data analysis

The advanced multivariate structural equation modeling (SEM) technique was used for quantitative data analysis. Furthermore, the structural equation modeling analysis was carried out using the Amos software version (26). The statistical package for social sciences (SPSS version 22, Chicago, IL) was also used.

The questionnaire validity and the pilot testing

Validity for the measurement model is accomplished through two types of validity: convergent validity and discriminant validity. Convergent validity is measured by two measures: composite reliability (CR) which measures construct reliability and average variance extracted (AVE). For convergent validity, the loadings of factors of each construct should be greater than 0.70 and according to Chin (2009), the items with factor loadings lower than 0.40 should be eliminated so that the only remaining of high factor loading can process for the subsequent step according to Hair et al. (2011). Accordingly, the analysis reduced the construct of travel risk perception from five items to four items by removing the fifth item and reduced the construct of future intention from nine items to four items by eliminating the second, third, fourth, fifth, and ninth items.

The findings of convergent validity of the measurement model are revealed in Table 3 where composite reliability and Cronbach's alpha according to Hair et al. (2016) for all constructs exceed 0.70 and AVEs greater than 0.50 (Table 4), indicating convergent validity as mentioned by Altman & Bland (1994) and Chin (2009).

Discriminant validity (Table 4) measures the distinction of latent variables in the model from each other according to Hair et al. (2011) where the findings show that the square root of the AVE for each variable is higher than all of the correlation among the latent variable and other latent variables in the model revealing acceptable discriminant validity for the model.

Furthermore, the multivariate normality of data was tested using an online tool (https://www.statology.org/skewness-and-kurtosis-calculator/), and the result indicated that the data set is normal as it has skewness between (- and+1) and kurtosis between (- and+3) that matches a normal distribution.

[Table 3 near here]
[Table 4 near here]

Results
Respondents' profile

All respondents were Egyptians. The demographic profile of respondents is shown in Table 5. Concerning travel frequency, 51% of respondents travel once a year, 25% 2-3 times a year, 18% rarely travel, and 6% travel more than 3 times a year. The average length of vacation for 47% of

responders is 4-6 days, 32% 2-3 days, 14% 7-10 days, and 7% 11-15 days. As for travel companionship, 47% of respondents travel with family, 23% with their spouses, 19% with friends, 6% in groups, and 5% travel solo.

[Table 5 near here]

Descriptive findings

First, the findings demonstrate that about 50% of respondents agreed and strongly agreed on replacing their corporeal travels with vicarious travel experiences amid the COVID-19 pandemic, while 26 % of respondents disagreed and strongly disagreed with that (Table 6).

Moreover, the findings showed that 69% of the respondents who agreed and strongly agreed on replacing their corporeal travels with vicarious travel experiences amid the COVID-19 pandemic, enjoyed travel vlogs during COVID-19 quarantine, 41% enjoyed travel photography, 36% enjoyed movies that inspire for travel, 35% enjoyed 360° travel videos, 33% enjoyed travel T.V shows, 26% enjoyed 3D VR tours, 14% enjoyed travel destinations live streaming, 8% enjoyed holiday books and travel guides, 6% enjoyed travel podcasts and 0.34% Google map street view (Table 6).

Also, respondents identified the following advantages of vicarious travel experiences over corporeal travel experiences: 46% pointed out that it is a good alternative for those who cannot physically visit tourist sites, 34% indicated that it is an affordable travel alternative, 29% said that it brings distant destinations closer, 28% selected it allows tourists to visit inaccessible sites, and 21% said it can recreate destroyed historical sites, 9% said that it's a more environmentally conscious travel choice, and 33% of respondents mentioned all the above (Table 6).

In addition, findings revealed that the vicarious travel experiences that respondents were willing to pay for are: VR sightseeing tours (21%), VR museum tours (17%), virtual resort experiences (15%), VR scuba diving tours (11%), subscribe to cable travel channels (10%), VR national parks tours (6%), buy holiday books and travel guides (5%), none of the above (16%) (Table 6).

Furthermore, 26% of the total respondents disagreed and strongly disagreed that vicarious travel experiences can replace corporeal travel experiences where 45% of them would miss the sensual aspects of travel, 35% would miss walking and exploring places, 29% would miss visiting local markets and buying souvenirs, 29% would miss local food and drinks and 25% would miss getting in touch with locals, 24% would miss swimming, diving, hiking, and enjoying nature/wildlife, and 43% mentioned all the above (Table 6).

[Table 6 near here]

Second, the findings revealed that 43% of respondents were willing to travel amid COVID-19 for business/work and for relaxation/leisure, 36% for visiting family and friends, 30% for studying, 23% for health reasons, 13% for religious reasons, 10% for adventure/exploration, 4% for honeymooning, and 12% were not planning to travel amid COVID-19 (Table 7).

[Table 7 near here]

Third, for the impact of the COVID-19 pandemic on respondents' travel planning behavior and travel habits, the findings show that during 2020 most of the respondents (75%) canceled their travel arrangements due to the outbreak of COVID-19. More than half of the respondents (55.5%) did not plan for going on a vacation in 2021.

82.5% of respondents have not made any travel arrangements (booked hotels, flight tickets ... etc.) during 2021. Around 69% of respondents were not encouraged by accommodation and flight deals and discounts to travel amid COVID-19. Only 28% of respondents will reduce their length of stay if on vacation. 48% stated that there is no change in their travel budgets due to COVID-19, 40% decreased their travel budgets and only 12% increased their travel budgets.

Moreover, most respondents (79%) believed that using private cars is the safest mode of transportation amid COVID-19. As for safety precautions during travel, the findings showed that 68% of respondents used face masks, 64% practiced social distancing, 61% used hand sanitizers, 60% avoided crowded places, 55% washed hands regularly, 45% used disposable cutlery, 34% used contactless payment, 27% participated in outdoor activities only, 24% chose isolated accommodation, 23% used contactless check-in/out, 18% used virtual room keys, 39% did all the above and 1% of them did not follow any of these safety precautions (Table 8).
[Table 8 near here]

Fourth, for the attitudes towards vicarious travel and the willingness to adopt it amid COVID-19, it was found that 67% of respondents agreed and strongly agreed that vicarious travel experiences helped them to pass time, about 63% agreed and strongly agreed that vicarious travel experiences helped them overcome boredom, 64% agreed and strongly agreed that vicarious travel experiences are entertaining, 47.5% agreed and strongly agreed that vicarious travel experiences helped them to feel relax while 24% disagreed and strongly disagreed, about 55% agreed

and strongly agreed that experiencing vicarious travel let them imagine themselves being at the destination, 42.5% agreed and strongly agreed that experiencing vicarious travel made them feel as if they were a part of the travel journey while 30% disagreed and strongly disagreed, Around 42% agreed and strongly agreed that vicarious travel experiences helped them escape from reality while 30% disagreed and strongly disagreed, Also, 69.5% agreed and strongly agreed that vicarious travel is a safe alternative that protects them from contracting COVID-19, about 50% agreed and strongly agreed that vicarious travel should replace physical travel during the times of crises while 26% disagreed and strongly disagreed, and 49% agreed and strongly agreed that they will recommend experiencing vicarious travel to their friends instead of corporeal travel amid COVID-19 (Table 9).

[Table 9 near here]

Fifth, for the travel risk perception amid the COVID-19 pandemic, findings showed that 70% of respondents perceived that traveling is unsafe due to COVID-19, 75% were worried about contracting COVID-19 during traveling, about 71% would not travel within groups amid COVID-19, and 86% did not feel safe in crowded tourist attractions (Table 10).

[Table 10 near here]

Finally, concerning the intention to adopt vicarious travel and future travel intentions, for 84% of respondents, safety will be the deciding factor when they choose where to travel in the future. More than half of respondents (63.5%) will travel again after it becomes safe, they will take long trips and will also increase the length of their stay. After COVID-19, 68% will experience vicarious travel to inspire

them to visit new destinations and 72% will experience vicarious travel to help them better plan their vacations (Table 11).
[Table 11 near here]
Measurement model (see Figure 2)

To extend the reliability of the measurement model, composite reliability (CR) (Nunnally & Bernstein, 1994) was also suggested. Both previously mentioned approaches carry the same concept, but CR seemed a better preference (Afthanorhan et al., 2014).

Hair et al. (2014) indicates that the model fit indices should be within target limits when analyzing the measurement model's findings.
The model fit indices: Chi-square = 434, Degrees of freedom = 223 (must be > 0) which is representing the amount of mathematical information available to estimate model parameters. Chi-square P-value = .061 (ideal when >.05) small Chi-square ($\chi 2$) value (and corresponding large p-value), indicate that there is no statistically significant difference between the two matrices, supporting the notion that a proposed theory fits reality
Measurement model incremental fit indices:
Comparative Fit Index CFI = .952 (ideal when > 0.9). A better fit is described by higher values. RMSEA= .058 Lower RMSEA values indicate a better fit. Where it demonstrates how well a model fits a population rather than merely a sample used for estimation. PNFI Ratio= .735 (highest PNFI values represent good fit). In terms of the criteria reflected by this index, the highest PNFI value is the most supported.

[Figure 2 near here]
Structural model: (see Figure 3)

Structural model Goodness of Fit: Chi-square = 417. Degrees of freedom = 221 (must be > 0) where it represents the amount of mathematical information available to estimate model parameters. Chi-square P-value =0.61 (ideal when >.05) where we look for a relatively small Chi-square ($\chi2$) value (and corresponding large p-value), showing that there is no statistically significant difference between the two matrices, supporting the notion that a proposed theory fits reality.

Structural model incremental fit indices: Comparative Fit Index CFI = .958 (ideal when > 0.9). A better fit is determined by higher values. RMSEA= .055 where lower values show a better fit. It demonstrates how well a model fits a population rather than merely a sample used for estimation. PNFI Ratio= .733 (highest PNFI values indicate good fit) and the most supported.

[Figure 3 near here]
Hypotheses testing
Findings of the structural model indicated that attitudes of the Egyptians towards vicarious travel experiences have a significant positive impact on their behavioral intention to adopt vicarious travel where (β= 0.50 and P<0.05). Thus, H1 is supported.

Findings also showed that subjective evaluation of the COVID-19 pandemic risk by respondents has a weak positive impact on their intention to adopt vicarious travel and their future travel where (β= 0.24 and P<0.05). Therefore, H2 is supported.

Furthermore, the subjective evaluation of the COVID-19 pandemic risk of respondents was found to have a positive impact on their attitude towards vicarious travel experiences where (β= 0.36 and P<0.05). Thus, H3 is supported.

Discussion and conclusion

The current study focuses on vicarious travel as a new tourism experience brought about by COVID-19. It also examines the subjective evaluation of the COVID-19 pandemic risk, attitude toward vicarious travel, and intentions to adopt vicarious travel as well as travel safety procedures amid the pandemic.

Findings indicated that 50% of respondents agreed and strongly agreed on replacing their corporeal travels with vicarious travel experiences amid the COVID-19 pandemic. Also, they enjoyed travel vlogs, travel photography, travel destinations live streaming, movies that inspire travel, 360° travel videos, travel T.V shows, 3D VR tours, and travel podcasts during the COVID-19 quarantine. These findings agree with MacSween & Canziani (2021) who reported an increase in visiting online travel resources during COVID-19 quarantine mainly for entertainment and relaxation, Rastati (2020) who stated that people experienced virtual tours as a way of relaxing during quarantine, and Sarkady et al. (2021) who found that VR gives users a sense of escapism to overcome infectious diseases as a barrier for traveling.

Moreover, the advantages of vicarious travel experiences over corporeal travel experiences were identified by respondents as being a good alternative for those who cannot physically visit tourist sites, being an affordable travel alternative, bringing distant destinations closer,

allowing tourists to visit inaccessible sites, recreating destroyed historical sites, being a more environmentally conscious travel choice, and one-third of respondents mentioned all the above. This finding agrees with the findings of Rastati (2020).

According to findings, respondents are willing to pay for VR sightseeing tours, VR museum tours, virtual resort experiences, VR scuba diving tours, subscribe to cable travel channels, VR national parks tours, and buy holiday books and travel guides.

Furthermore, the answer to why 26% of respondents disagree that vicarious travel experiences can replace corporeal travel experiences is because they will miss the sensual aspects of travel, visiting local markets, buying souvenirs, local food and drinks, getting in touch with locals, swimming, diving, hiking, enjoying nature and wildlife, and 43% mentioned all the above. This finding agrees with the findings of Gössling (2021) and Urry (2002) who argued that virtual travel can never replace corporeal travel. Most respondents also stated that after consuming vicarious travel experiences, they are more interested in physically visiting the destination.

The findings show that during 2020, the majority of the respondents canceled their travel arrangements due to the outbreak of COVID-19 which agrees with the findings of Eichelberger et al. (2021) and Gössling et al. (2020) who stated that COVID-19 has resulted in massive trip cancellations. More than half of the respondents did not plan on going on a vacation in 2021 and most respondents have not made any travel arrangements (booked hotels, flight tickets ... etc.) during 2021. These findings agree with

Gupta et al. (2021) who reached similar results concerning Indians' travel avoidance amid COVID-19.

According to study findings, using private cars was found to be the safest mode of transportation amid COVID-19. This finding agrees with the findings of Abdullah et al. (2020), Beck & Hensher (2020), and De Haas et al. (2020).

Findings show that the attitudes toward vicarious travel have a positive impact on the intention to adopt it amid the COVID-19 pandemic based on many reasons; it is a safe alternative that protects them from contracting COVID-19, it helped them pass time, overcome boredom, feel relaxed, and escape from reality. Also, it is entertaining, it lets them imagine themselves being at the destination, and it makes them feel as if they are a part of the travel journey which is consistent with the findings of Bae & Chang (2020) who found that attitude is a significant mediator between affective risk perception and travel intention. Furthermore, Sánchez-Cañizares et al. (2020) found that a positive attitude increases travel intention.

According to the findings the perceived subjective evaluation of the COVID-19 pandemic risk, has a weak positive impact on the intention to adopt vicarious travel as respondents perceived traveling as unsafe due to COVID-19, they were worried about contracting COVID-19 during traveling, they were not willing to travel within groups amid COVID-19, and they did not feel safe in crowded tourist attractions which is consistent with the findings of (El-Said & Aziz, 2021; Bratić et al., 2021; Turnšek et al., 2020) who found that COVID-19 pandemic risk perception positively impacted tourists travel intention. In addition, they will recommend and encourage their friends to experience vicarious travel amid the COVID-19 pandemic.

The findings indicated that concerning the future travel intention amid and post COVID-19, they will experience vicarious travel during and post COVID-19 pandemic which inspires them to visit new destinations and helps them better plan their vacation. Also, safety will be the deciding factor when they choose where to travel in the future. They will travel again after it becomes safe, they will take long trips, and increase the length of their stay.

Furthermore, findings revealed that the perceived subjective evaluation of the COVID-19 pandemic risk has a positive impact on their attitude towards adopting vicarious travel experiences which is consistent with Zhang et al. (2022) who found a significant positive impact of travel risk perception on attitude toward vicarious travel experiences. This finding agrees with the findings of Sánchez-Cañizares et al. (2020) who found that respondents' perceived subjective evaluation of the COVID-19 pandemic risk has a negative influence on both their attitude towards corporeal travel and their willingness to travel. Also, Sarkady et al. (2021) found that the intention to avoid or cancel travel during a pandemic, such as COVID-19, is highly related to risk perception towards travel in general, and especially towards destinations with reported cases. However, these findings are inconsistent with the findings of Boto-García & Leoni (2021) who reported that Spanish people who were severely affected by COVID-19 were still willing to travel amid the pandemic. This could be attributed to the cultural differences between countries. People in different countries differ in cultural attitudes toward travel behavior. It can also be attributed to the factors that influence travelers' risk perception such as the growth rate of the pandemic in the country, media coverage, and governance.

Research implications

The following implications are provided based on the study findings:

Theoretical implications

First, the study at hand contributes to the existing tourism literature by thoroughly discussing and conceptualizing the often-overlooked vicarious travel experience, which differs in nature from the often-privileged corporeal travel experiences.

Second, while most of the prior studies attempted to address vicarious travel in the context of modern media and ICT focusing on virtual reality experiences, this research study is one of the few empirical studies that introduces a concise definition for vicarious travel to provide a more comprehensive understanding of the concept which encompass all non-corporeal travel experiences whether technologically or non-technologically driven.

Third, the study proposes a conceptual model of vicarious travel in the context of crises that consists of three dimensions which include travel risk perception, attitudes, and future travel intention.

Lastly, the study results have revealed that, in general, vicarious travel replaces corporeal travel in times of crisis and that consuming vicarious travel experiences raises interest in physically visiting tourist destinations. In this respect, these results may encourage future research to investigate how vicarious travel affects the willingness to physically visit certain destinations and how can tourist destination managers benefit from this to entice future travel visits needed for post-pandemic recovery.

Practical implications

First, travel destinations and tourism businesses should try to understand tourists' preferences and new consumption patterns and adapt accordingly. Second, DMOs should stress safety and health precautions as well as any activities that could make tourists feel safe to travel again and decrease their travel risk perception. Lastly, creative marketing strategies should be developed to effectively market vicarious travel experiences as customized innovative tourism products amid and post-pandemic.

Limitations and future work

This study examined Egyptians' attitudes towards vicarious travel experiences amid the COVID-19 crisis. Data were only obtained from Egyptians therefore findings may need to be compared to the peer studies related to other countries. For this reason, future studies should consider thoroughly discussing vicarious travel in a wider context and apart from the crises' framework. Accordingly, the post-pandemic attitudes of both frequent and non-frequent travelers should be examined. Also, attitudes of seniors (50+) in comparison to those of younger generations (Gen Z, Millennials, and Gen X) should be investigated to get deeper insights into the motives that could entice Egyptians to embrace vicarious travel post-pandemic.

References

Abdullah, M., Dias, C., Muley, D., & Shahin, M. (2020). Exploring the impacts of COVID-19 on travel behavior and mode preferences. *Transportation Research*

Interdisciplinary   Perspectives,   *8*,   100255.
https://doi.org/10.1016/J.TRIP.2020.100255

Addo, P. C., Jiaming, F., Kulbo, N. B., & Liangqiang, L.
(2020). COVID-19: fear appeal favouring purchase
behavior towards personal protective equipment. *The
Service   Industries   Journal*,   *40*(7–8),   471–490.
https://doi.org/10.1080/02642069.2020.1751823

Ahaskar, A. (2020, July 7). *Virtual tours over Zoom call
keep tourists, guides happy amid covid disruption*. Mint.
https://www.livemint.com/news/india/virtual-tours-over-
zoom-call-keep-tourists-guides-happy-amid-covid-
disruption-11594382679649.html

Ajzen, I. (1985). From intentions to actions: A theory of
planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-
control: From   cognition   to   behavior* (pp.   11–39).
Heidelberg: Springer.

Altman, D. G., & Bland, J. M. (1994). Statistics Notes:
Diagnostic tests 1: sensitivity and specificity. BMJ: British
Medical   Journal,   308(6943),   1552.
https://doi.org/10.1136/BMJ.308.6943.1552

Aminy, M. M. (2020, December 2). *Can virtual tourism save local businesses in tourist destinations?* The Conversation . https://theconversation.com/can-virtual-tourism-save-local-businesses-in-tourist-destinations-149537

Bae, S. Y., & Chang, P. J. (2020). The effect of coronavirus disease-19 (COVID-19) risk perception on behavioural intention towards 'untact' tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism*, *24*(7), 1017–1035. https://doi.org/10.1080/13683500.2020.1798895

Baxter, A., & Pieszek, L. (2011). Armchair tourism: Bringing the world into your living room. In A. Papathanassis (Ed.), *The Long Tail of Tourism* (pp. 171–183). Gabler Verlag. https://doi.org/10.1007/978-3-8349-6231-7_18

Beck, M. J., & Hensher, D. A. (2020). Insights into the impact of COVID-19 on household travel and activities in Australia – The early days of easing restrictions. *Transport Policy*, *99*, 119. https://doi.org/10.1016/J.TRANPOL.2020.08.004

Beech, M. (2020, March 25). *COVID-19 Pushes Up Internet Use 70% And Streaming More Than 12%, First Figures Reveal*. Forbes. https://www.forbes.com/sites/markbeech/2020/03/25/covid-19-pushes-up-internet-use-70-streaming-more-than-12-first-figures-reveal/?sh=46875f583104

Bhati, A. S., Mohammadi, Z., Agarwal, M., Kamble, Z., & Donough-Tan, G. (2020). Motivating or manipulating: the influence of health-protective behaviour and media engagement on post-COVID-19 travel. *Current Issues in Tourism*, *24*(15), 2088–2092. https://doi.org/10.1080/13683500.2020.1819970

Bloom, L. B. (2020, April 27). *Ranked: The World's 15 Best Virtual Tours To Take During Coronavirus*. Forbes. https://www.forbes.com/sites/laurabegleybloom/2020/04/27/ranked-worlds-15-best-virtual-tours-coronavirus/?sh=48b38af76709

Boto-García, D., & Leoni, V. (2021). Exposure to COVID-19 and travel intentions: Evidence from Spain. *Tourism Economics*. https://doi.org/10.1177/1354816621996554

Bratić, M., Radivojević, A., Stojiljković, N., Simović, O.,
Juvan, E., Lesjak, M., & Podovšovnik, E. (2021). Should I
Stay or Should I Go? Tourists' COVID-19 Risk Perception
and Vacation Behavior Shift. *Sustainability*, *13*(6), 3573.
https://doi.org/10.3390/SU13063573

Cahyanto, I., Wiblishauser, M., Pennington-Gray, L., &
Schroeder, A. (2016). The dynamics of travel avoidance:
The case of Ebola in the U.S. *Tourism Management
Perspectives*, *20*, 195–203.
https://doi.org/10.1016/J.TMP.2016.09.004

Chebli, A., & Ben Said, F. (2020). The Impact of COVID-
19 on Tourist Consumption Behaviour: A Perspective
Article. *Journal of Tourism Management Research*, *7*(2),
196–207.
https://doi.org/10.18488/journal.31.2020.72.196.207

Cheng, Y., Wei, W., & Zhang, L. (2020). Seeing
destinations through vlogs: implications for leveraging
customer engagement behavior to increase travel intention.
*International Journal of Contemporary Hospitality
Management*, *32*(10), 3227–3248.
https://doi.org/10.1108/IJCHM-04-2020-0319

Chin, W. W. (2009). How to Write Up and Report PLS
Analyses. *Handbook of Partial Least Squares*, 655–690.
https://doi.org/10.1007/978-3-540-32827-8_29

Chua, B.-L., Al-Ansi, A., Lee, M. J., & Han, H. (2020).
Impact of health risk perception on avoidance of
international travel in the wake of a pandemic. *Current
Issues in Tourism*, *24*(7), 985–1002.
https://doi.org/10.1080/13683500.2020.1829570

De', R., Pandey, N., & Pal, A. (2020). Impact of digital
surge during Covid-19 pandemic: A viewpoint on research
and practice. *International Journal of Information
Management*, *55*, 102171.
https://doi.org/10.1016/J.IJINFOMGT.2020.102171

De Haas, M., Faber, R., & Hamersma, M. (2020). How
COVID-19 and the Dutch 'intelligent lockdown' change
activities, work, and travel behaviour: Evidence from
longitudinal data in the Netherlands. *Transportation
Research Interdisciplinary Perspectives*, *6*, 100150.
https://doi.org/10.1016/J.TRIP.2020.100150

Del Chiappa, G., Bregoli, I., & Atzeni, M. (2021).
Uncovering knowledge on travel behaviour during COVID-

19: a convergent parallel mixed-methods study in the context of Italy. *Italian Journal of Marketing*, 1–27. https://doi.org/10.1007/S43039-021-00036-7

Deng, Z., Benckendorff, P., & Wang, J. (2021). Travel live streaming: an affordance perspective. *Information Technology & Tourism*, *23*(2), 189–207. https://doi.org/10.1007/S40558-021-00199-1

Dicks, B. (2004). *Culture On Display: The Production of Contemporary Visitability*. Open University Press.

Egyptian Ministry of Tourism and Antiquities. (2020, April 3). *Discover Egypt's Monuments*. https://egymonuments.gov.eg/en/mpSearchResult?q=virtual+tours

Eichelberger, S., Heigl, M., Peters, M., & Pikkemaat, B. (2021). Exploring the role of tourists: Responsible behavior triggered by the covid-19 pandemic. *Sustainability*, *13*(11). https://doi.org/10.3390/SU13115774

El-Said, O., & Aziz, H. (2021). Virtual Tours a Means to an End: An Analysis of Virtual Tours' Role in Tourism Recovery Post COVID-19: *Journal of Travel Research*, 1–21. https://doi.org/10.1177/0047287521997567

Essam, A. (2020, April 3). *Egypt organizes virtual visits to unique archaeological sites*. Egypt Today. https://www.egypttoday.com/Article/4/83298/Egypt-organizes-virtual-visits-to-unique-archaeological-sites

Gössling, S. (2021). Technology, ICT, and tourism: from big data to the big picture. *Journal of Sustainable Tourism*, *29*(5), 849–858. https://doi.org/10.1080/09669582.2020.1865387

Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: a rapid assessment of COVID-19. *Journal of Sustainable Tourism*, *29*(1), 1–20. https://doi.org/10.1080/09669582.2020.1758708

Gupta, V., Cahyanto, I., Sajnani, M., & Shah, C. (2021). Changing dynamics and travel evading: a case of Indian tourists amidst the COVID 19 pandemic. *Journal of Tourism Futures*. https://doi.org/10.1108/JTF-04-2020-0061

Gursoy, D., & Chi, C. G. (2020). Effects of COVID-19 pandemic on hospitality industry: review of the current situations and a research agenda. *Journal of Hospitality*

Marketing & Management, *29*(5), 527–529. https://doi.org/10.1080/19368623.2020.1788231

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. Journal of Marketing Theory and Practice, 19(2), 139–152. https://doi.org/10.2753/mtp1069-6679190202

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A primer on partial least squares structural equation modeling (PLS-SEM). SAGE publication.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2016). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). SAGE publication.

Hall, M. C., Prayag, G., Fieger, P., & Dyason, D. (2021). Beyond panic buying: consumption displacement and COVID-19. *Journal of Service Management*, *32*(1), 113–128. https://doi.org/10.1108/JOSM-05-2020-0151

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

Howard, J. (2020, December 8). *COVID -19 Impacts on Travel Habits: New Study of 1045 U.S Travelers*. https://couponlawn.com/covid-19-impacts-on-travel-habits-new-study-of-1045-u-s-travelers/?msID=89458375-1643-4c1f-be04-7ee169edca82

Huang, Y. C., Backman, S. J., Backman, K. F., & Moore, D. W. (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. *Tourism Management*, *36*, 490–501. https://doi.org/10.1016/J.TOURMAN.2012.09.009

Jeon, C.-Y., & Yang, H.-W. (2021). The Impact of the COVID-19 Pandemic on Tourists' WTP: Using the Contingent Valuation Method. *Int. J. Environ. Res. Public Health*, *18*(16), 1–14. https://doi.org/10.3390/ijerph18168605

Jung, N. Y., & Seock, Y. K. (2017). Effect of service recovery on customers' perceived justice, satisfaction, and word-of-mouth intentions on online shopping websites. *Journal of Retailing and Consumer Services*, *37*, 23–30. https://doi.org/10.1016/J.JRETCONSER.2017.01.012

Kim, H., & Richardson, S. L. (2003). Motion picture impacts on destination images. *Annals of Tourism Research*, *30*(1), 216–237. https://doi.org/10.1016/S0160-7383(02)00062-2

Kock, F., Nørfelt, A., Josiassen, A., Assaf, A. G., & Tsionas, M. G. (2020). Understanding the COVID-19 tourist psyche: The Evolutionary Tourism Paradigm. *Annals of Tourism Research*, *85*, 103053. https://doi.org/10.1016/J.ANNALS.2020.103053

Lee, C. S., & Ma, L. (2012). News sharing in social media: The effect of gratifications and prior experience. *Computers in Human Behavior*, *28*(2), 331–339. https://doi.org/10.1016/J.CHB.2011.10.002

Lindell, M. K., & Perry, R. W. (2000). Household Adjustment to Earthquake Hazard: A Review of Research. *Environment and Behavior*, *32*(4), 461–501. https://doi.org/10.1177/00139160021972621

Luo, J. M., & Lam, C. F. (2020). Travel Anxiety, Risk Attitude and Travel Intentions towards "Travel Bubble" Destinations in Hong Kong: Effect of the Fear of COVID-19. *International Journal of Environmental Research and*

Public Health, *17*(21), 1–11. https://doi.org/10.3390/IJERPH17217859

MacSween, S., & Canziani, B. (2021). Travel booking intentions and information searching during COVID-19. *International Hospitality Review*, *35*(2), 208–223. https://doi.org/10.1108/IHR-08-2020-0046

Marder, B., Archer-Brown, C., Colliander, J., & Lambert, A. (2018). Vacation Posts on Facebook: A Model for Incidental Vicarious Travel Consumption. *Journal of Travel Research*, *58*(6), 1014–1033. https://doi.org/10.1177/0047287518786465

Marques Santos, A., Madrid Gonzales, C., Haegeman, K., & Rainoldi, A. (2020). *Behavioural Changes in Tourism in times of COVID-19*. Publications Office of the European Union.

May, S. (2020, April 6). *A 360° Virtual Tour of Japan, Anyone?* Zafigo. https://zafigo.com/stories/zafigo-stories/japan-national-tourism-organization-360-degrees-virtual-tour/

Mehta, S., Saxena, T., & Purohit, N. (2020). The New Consumer Behaviour Paradigm amid COVID-19:

Permanent or Transient? *Journal of Health Management*, *22*(2), 291–301. https://doi.org/10.1177/0972063420940834

Michel, O. (2021, January 28). *Virtual travel 2021: Best virtual travel experiences in lockdown*. Boat International. https://www.boatinternational.com/destinations/virtual-travel-tours-trips-vr-experiences--43207

Molz, J. G. (2006). 'Watch us Wander': Mobile Surveillance and the Surveillance of Mobility: *Environment and Planning A: Economy and Space*, *38*(2), 377–393. https://doi.org/10.1068/A37275

Mura, P., Tavakoli, R., & Pahlevan Sharif, S. (2017). 'Authentic but not too much': exploring Perceptions of Authenticity of Virtual Tourism. *Information Technology and Tourism*, *17*(2), 145–159. https://doi.org/10.1007/S40558-016-0059-Y

Murphy, A. (2021). *How Digitalization in Tourism can Empower Travellers Amidst Covid-19*. New Metrics. https://www.newmetrics.net/insights/how-digitalization-in-tourism-can-empower-travellers-amidst-covid-19/

Nazneen, S., Hong, X., & Ud Din, N. (2020). COVID-19
Crises and Tourist Travel Risk Perceptions. *SSRN
Electronic Journal*. https://doi.org/10.2139/SSRN.3592321

Novelli, M. (2005). *Niche Tourism* . Elsevier Butterworth-
Heinemann.

O'Neill, S. (2020, October 26). *Travel Companies Adapt to
a Livestreaming Trend That May Outlast the Pandemic*.
Skift. https://skift.com/2020/10/26/travel-companies-adapt-
to-a-livestreaming-trend-that-may-outlast-the-pandemic/

Pandya, A., & Lodha, P. (2021). Social Connectedness,
Excessive Screen Time During COVID-19 and Mental
Health: A Review of Current Evidence. *Frontiers in Human
Dynamics*, *3*. https://doi.org/10.3389/FHUMD.2021.684137

Puttaiah, M. H., Raverkar, A. K., & Avramakis, E. (2020,
December 10). *All change: how COVID-19 is transforming
consumer behaviour*. Swiss Re Institute.
https://www.swissre.com/institute/research/topics-and-risk-
dialogues/health-and-longevity/covid-19-and-consumer-
behaviour.html

Qiu, Q., Zuo, Y., & Zhang, M. (2021). Can Live Streaming
Save the Tourism Industry from a Pandemic? A Study of

Social Media. *International Journal of Geo-Information*, *10*(9), 595–611. https://doi.org/10.3390/ijgi10090595

Rahman, M. K., Gazi, A. I., Bhuiyan, M. A., & Rahaman, A. (2021). Effect of Covid-19 pandemic on tourist travel risk and management perceptions. PLOS ONE, 16(9), 256–486. https://doi.org/10.1371/JOURNAL.PONE.0256486 Q

Rastati, R. (2020). Virtual Tour: Tourism in the Time of Corona. *Advances in Social Science, Education and Humanities Research*, *510*. https://doi.org/10.2991/ASSEHR.K.201219.074

Richards, G., & Morrill, W. (2020). Motivations of global Millennial travelers. *Revista Brasileira de Pesquisa Em Turismo*, *14*(1), 126–139. https://doi.org/10.7784/rbtur.v14i1.1883

Robinson, P., Heitmann, S., & Dieke, P. (2011). *Research Themes for Tourism*. CABI.

Robinson, S. (2014). Toys on the Move: Vicarious Travel, Imagination and the Case of the Travelling Toy Mascots. In G. Lean, R. Staiff, & E. Waterton (Eds.), *Travel and Imagination* (pp. 168–183). Ashgate.

Sánchez-Cañizares, S. M., Cabeza-Ramírez, L. J., Muñoz-Fernández, G., & Fuentes-García, F. J. (2020). Impact of the perceived risk from Covid-19 on intention to travel. *Current Issues in Tourism*, *24*(7), 970–984. https://doi.org/10.1080/13683500.2020.1829571

Sarkady, D., Neuburger, L., & Egger, R. (2021). Virtual Reality as a Travel Substitution Tool During COVID-19. *Information and Communication Technologies in Tourism 2021*, 463. https://doi.org/10.1007/978-3-030-65785-7_44

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Pearson Education Limited.

Sawhney, S., & Madan, A. (2021, July 22). *Changing consumer behaviour in post-COVID scenario*. Observer Research Foundation (ORF). https://www.orfonline.org/expert-speak/changing-consumer-behaviour-post-covid-scenario/

Schlichter, S. (2020, March 20). *21 Virtual Tours and Live Streams to Enjoy While You're Stuck at Home*. Smarter Travel. https://www.smartertravel.com/virtual-tours-live-streams/

Shamshiripour, A., Rahimi, E., Shabanpour, R., & Mohammadian, A. (Kouros). (2020). How is COVID-19 reshaping activity-travel behavior? Evidence from a comprehensive survey in Chicago. *Transportation Research Interdisciplinary Perspectives*, *7*, 100216. https://doi.org/10.1016/j.trip.2020.100216

Singapore Tourism Board. (2020). *Experience Singapore now. Travel later*. https://www.visitsingapore.com/virtual-experiences/

Snow, B. (2020, October 8). *The best virtual tours to explore the world from home*. Lonely Planet. https://www.lonelyplanet.com/articles/virtual-tours-travel-destinations

Spector, J. M. (2015). *The SAGE Encyclopedia of Educational Technology*. SAGE Publications.

Terpstra, T., & Lindell, M. K. (2012). Citizens' Perceptions of Flood Hazard Adjustments: An Application of the Protective Action Decision Model. *Environment and Behavior*, *45*(8), 993–1018. https://doi.org/10.1177/0013916512452427

Torkington, S. (2021, July 7). *The pandemic has changed consumer behaviour forever - and online shopping looks set to stay*. World Economic Forum. https://www.weforum.org/agenda/2021/07/global-consumer-behaviour-trends-online-shopping/

Toubes, D. R., Vila, N. A., & Fraiz Brea, J. A. (2021). Changes in consumption patterns and tourist promotion after the covid-19 pandemic. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(5), 1332–1352. https://doi.org/10.3390/jtaer16050075

Trembath, A. (2020, April 14). *Armchair travel guide: how to see the world from home*. https://careergappers.com/armchair-travel/

Turnšek, M., Brumen, B., Rangus, M., Gorenak, M., Mekinc, J., & Štuhec, T. L. (2020). Perceived Threat of COVID-19 and Future Travel Avoidance: Results from an Early Convenient Sample in Slovenia. *Academica Turistica*, *13*(1), 3–19. https://doi.org/10.26493/2335-4194.13.3-19

UNCTAD. (2020). *COVID-19 and E-commerce: Findings from a survey of online consumers in 9 countries*.

https://unctad.org/system/files/official-document/dtlstictinf2020d1_en.pdf

UNESCO. (2021). *Exploring World Heritage from home with UNESCO*. https://en.unesco.org/covid19/cultureresponse/exploring-world-heritage-from-home-with-unesco

UNWTO. (2021a). *Cultural tourism & COVID19*. https://www.unwto.org/cultural-tourism-covid-19

UNWTO. (2021b, January 28). *2020: Worst Year in Tourism History with 1 Billion Fewer International Arrivals*. https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals

Urry, J. (2002). Mobility and Proximity. *Sociology*, *36*(2), 255–274. https://doi.org/10.1177/0038038502036002002

Verbin, I. (2021). *Corporate Responsibility in the Digital Age*. Routledge.

Verhoeff, N. (2006). *The West in Early Cinema: After the Beginning*. Amsterdam University Press.

Webster's New World College Dictionary. (2020). *Vicarious definition* (5th ed.). Webster's New World.

Weed, M. (2008). *Sport & Tourism: A Reader* (1st ed.). Routledge.

Wen, J., Kozak, M., Yang, S., & Liu, F. (2020). COVID-19: potential effects on Chinese citizens' lifestyle and travel. *Tourism Review*, *76*(1), 74–87. https://doi.org/10.1108/TR-03-2020-0110

Wen, Z., Huimin, G., & Kavanaugh, R. R. (2008). The Impacts of SARS on the Consumer Behaviour of Chinese Domestic Tourists. *Current Issues in Tourism*, *8*(1), 22–38. https://doi.org/10.1080/13683500508668203

Williams, P., & Hobson, J. P. (1995). Virtual reality and tourism: fact or fantasy? *Tourism Management*, *16*(6), 423–427. https://doi.org/10.1016/0261-5177(95)00050-X

WTO. (1994). *Recommendations on Tourism Statistics: Report of the World Tourism Organization: Vol. Series M* (Issue 83). World Tourism Organization. https://unstats.un.org/unsd/statcom/27th-session/documents/doc93/1993-14-TourismStats-E.pdf

WTTC. (2021). *Travel and Tourism Economic Impact 2021: Global Economic Impact and Trends 2021*.

https://wttc.org/Portals/0/Documents/Reports/2021/Global Economic Impact and Trends 2021.pdf

Yang, T., Lai, I. K. W., Fan, Z. Bin, & Mo, Q. M. (2021). The impact of a 360° virtual tour on the reduction of psychological stress caused by COVID-19. *Technology in Society*, *64*. https://doi.org/10.1016/J.TECHSOC.2020.101514

Zhang, S. N., Li, Y. Q., Ruan, W. Q., & Liu, C. H. (2022). Would you enjoy virtual travel? The characteristics and causes of virtual tourists' sentiment under the influence of the COVID-19 pandemic. *Tourism management*, *88*, 104429. https://doi.org/10.1016/j.tourman.2021.104429

Table 1. Reference to vicarious travel experiences in prior tourism literature

In the context of tourism experiences	In the context of tourism media
• **Weed (2008) referred to sports spectators as vicarious participants in sports tourism experiences.** • **Kim & Richardson (2003) argued that vicarious travel experiences of destinations featured in films count as tourism experiences.**	• Dicks (2004) highlighted the role of the internet as a means of non-corporeal travel enabling users to experience tourist destinations virtually from the comfort of their armchairs. • Novelli (2005) indicated that the internet has facilitated virtual reality (VR) journeys as vicarious tourism experiences bringing travel to one's own home while arguing that VR travel is more likely to entice actual travel rather than adopting vicarious travel. • Molz (2006) referred to vicarious travel as virtual travel where travelers share their travel stories on their websites in real-time turning the interacting audience

into virtual travelers by giving them the chance to participate vicariously and even influence the travel journey while it is happening by their comments and suggestions.

- Marder et al. (2018) referred to 'vicarious travel consumption' (VTC) as 'the indirect experience of travel-related content' (p.1014) while discussing the consumption of vacation posts on Facebook.

Source: Dicks, 2004; Kim & Richardson, 2003; Marder et al., 2018; Molz,2006; Novelli, 2005; Weed,2008.

Table 2. Attitudes towards adopting Vicarious Travel amid
COVID-19 pandemic.

Variables	Measurement Scales
Entertainment	• Vicarious travel experiences help me pass time, overcome boredom, relax • Vicarious travel experiences are entertaining
Escapism	• Vicarious travel lets me imagine myself being at the destination • Vicarious travel makes me feel as if I am a part of the travel journey • Vicarious travel makes me feel like I am physically present in the destination even though I did not travel in person • Vicarious travel experiences help me escape from reality
Hazard recognition	• Various travel is a safe alternative that protects me from contracting COVID-19 • I think vicarious travel should replace physical travel during times of crises
	• I will recommend experiencing vicarious travel to my

Word of mouth	friends instead of physical travel amid covid-19

Source: Adapted from Cheng et al., 2020; El-Said & Aziz, 2021; Hosany & Witham, 2010; Jung & Seock, 2017; Lee & Ma, 2012; Terpstra & Lindell, 2012.

Table 3. Statistics of the measurement model.

Construct	Indicator	Standardized loading	Error variance	Item R-square	CR	AVE	α	Normality	
								Skew	Kurtosis
Attitude towards vicarious travel	**Entertainment**								
	Vicarious travel experiences help me pass time	0.687	0.528	0.472				**0.337**	**-1.632**
	Vicarious travel experiences help me overcome boredom	0.650	0.577	0.423				**0.348**	**-1.608**
	Vicarious travel experiences are entertaining	0.720	0.482	0.518	0.919	0.533	0.926	**0.332**	**-1.620**
	Vicarious travel experiences help me relax	0.826	0.318	0.682				**0.497**	**-1.354**
	Escapism								
	Experiencing vicarious travel lets me imagine myself being at the destination	0.816	0.334	0.666				**0.412**	**-1.502**
	Experiencing vicarious travel makes me feel as if I am a part of the travel	0.784	0.385	0.615				**0.585**	**-1.220**

	journey					
	Experiencing vicarious travel makes me feel like I am physically present in the destination even though I did not travel in person	0.720	0.482	0.518	**0.716**	**-0.942**
	Vicarious travel experiences help me escape from reality	0.693	0.520	0.480	**0.603**	**-1.195**
	Hazard recognition					
	Vicarious travel is a safe alternative that protects me from contracting COVID-19	0.611	0.627	0.373	**0.326**	**-1.662**
	I think vicarious travel should replace physical travel during times of crises	0.605	0.634	0.366	**0.567**	**-1.313**
	Word of mouth					
	I will recommend experiencing vicarious travel to my friends instead of physical travel amid COVID-19	0.696	0.516	0.484	**0.527**	**-1.344**
Travel risk perceptions	Nowadays, traveling is unsafe due to COVID-	0.670	0.551	0.449	**0.292**	**-1.691**

	Item								
	19								
	I am worried about contracting COVID-19 during traveling	0.791	0.374	0.626	**0.831**	**0.522**	**0.814**	**0.252**	**-1.747**
	I prefer to travel only with my family amid COVID-19		(dropped)						
	I will not travel with groups amid COVID-19	0.709	0.497	0.503				**0.336**	**-1.708**
	I don't feel safe in crowded tourist attractions	0.714	0.490	0.510				**0.173**	**-1.874**
	I refuse to physically visit indoor tourist attractions because of the risk of contracting COVID-19 virus		(dropped)						
Future intentions	Safety will be the deciding factor when I choose where to travel in the future	0.687	0.528	0.472				**0.178**	**-1.836**
	In the future, I will no longer visit crowded cities/ attractions, or attend crowded events		(dropped)		**0.814**	**0.523**	**0.807**		

After it is safe to travel again, I will take long trips (increase the length of my stay)	0.721	0.480	0.520		**0.301**	**- 1.644**
After it is safe to travel again, I will travel extensively to make up for lost time		(dropped)				
After COVID-19, I prefer to stay in high-quality hotels and eat food in high-quality restaurants		(dropped)				
In the future, I will have no problem using airplanes, trains, or buses as they will be safe again soon		(dropped)				
After COVID-19, I will experience vicarious travel to inspire me to visit new destinations	0.754	0.431	0.569		**0.290**	**- 1.678**
After COVID-19, I will experience vicarious	0.729	0.469	0.531		**0.267**	**- 1.715**

travel to help me better plan my vacation trips		
After COVID-19, I will prefer vicarious travel to physical travel if vicarious travel experiences are offered at a lower cost than equivalent traditional experiences (e.g., museum VR tour vs real-life visit)	(dropped)	

Note: CR = composite reliability; AVE = average variance extracted; α = Cronbach's alpha

Table 4. Square roots of AVEs and correlations among constructs.

	Travel risk perception	Attitude towards vicarious travel	Future intentions
Travel risk perception	**0.522**		
Attitude towards vicarious travel	0.336	**0.533**	
Future intentions	0.375	0.376	**0.511**

Table 5. Demographic variables.

Variables	N	%
Age		
18-25 years	38	13
26-40 years	177	60.6
41-50 years	46	15.8
Above 50 years	31	10.6
Gender		
Female	153	52.4
Male	139	47.6
Marital Status		
Single	96	32.9
Married	186	63.7
Other	10	3.4
Education level		
High school	5	1.7
degree	145	49.7
Bachelors' degree	74	25.3
Master's degree	68	23.3
Ph.D. degree		
Work Status		
Employed full-	175	59.9
time	31	10.6
Self-employed	12	4.1

Employed part-time	25	8.6
	17	5.8
Homemaker	23	7.9
Students	9	3.1
Retired		
Unemployed		

Table 6. Vicarious travel experiences amid COVID-19.

Are you willing to replace your corporal travels with vicarious travel experiences amid COVID-19 pandemic?	**Strongly disagree**	**11.9**
	Disagree	14.0
	Neutral	24.2
	Agree	20.5
	Strongly agree	29.4
	Total	100

Did you enjoy any vicarious travel experiences during COVID-19 quarantine?	**Travel vlogs on YouTube, Facebook, or Instagram**	**69**
	Travel photography	41
	Movies that inspire travel	36
	360-degree travel videos	35
	Travel T.V. shows	33
	3D virtual reality tours	26
	Destinations live streaming	14

(Check all that apply)	Holiday books and travel guides	8
	Travel podcasts	6
	Other (Google map street view)	0.3
In your opinion, what are the advantages of vicarious travel experiences when compared to real-life travel experiences? (Check all that apply)	A good alternative for people who cannot physically visit tourist sites (e.g., people with disabilities, seniors, or less privileged people)	46
	Affordable travel alternative	34
	Bring far destinations closer	29
	Allow tourists to visit inaccessible places and sites.	28
	Can recreate destroyed historic attractions and heritage sites	21
	A more environmentally conscious travel choice	9
	All the above	33
Which of the following vicarious travel experiences are you willing to pay for? (Check all that apply)	Virtual reality sightseeing tours	21
	Virtual reality museum tours	17
	Virtual resort experiences (live online cooking, yoga, surfing, music, or wellness classes)	15
	Virtual reality scuba diving tours	11
	Subscribe to cable travel channels	10
	Virtual reality national parks tours	6
	Buy holiday books and travel guides	5
	None of the above	16

Why do think vicarious travel experiences cannot replace real-life travel experiences?	I would miss the sensual aspects of traveling (feeling air/sun on my skin, touching the water, walking barefoot on grass/ sand, etc.).	45
	I would miss walking and exploring places	35
	I would miss visiting local markets and buying souvenirs	29
	I would miss local food and drinks	29
	I would miss getting in touch with the local host communities	25
	I would miss swimming, diving, hiking, and nature/wildlife	24
	All the above	63

Table 7. Travel purposes amid COVID-19.

		%
Why are you willing to travel amid Covid-19? (Check all that apply)	Business/work	43
	Relaxation/leisure	43
	Visiting family and friends	36
	Studying	30
	Health purposes	23
	Religious purposes	13
	Adventure/Exploration	10
	Honeymooning	4
	I am not planning to travel amid Covid-19	12

Table 8. Safety precautions amid COVID-19.

		%
Which of the following safety	Wear a face mask	68
	Practice social distancing	64
	Use hand sanitizers regularly	61
	Avoid crowded places	60
	Wash hands regularly	55
	Use disposable plastic cutlery	45
	Contactless payment (using smartphones or	34

precautions are you going to follow? (Check all that apply)	debit/credit cards)	
	Participate in outdoor activities only	27
	Choose isolated accommodation (apartments, chalets, villas)	24
	Contactless check-in/out	23
	Virtual room keys	18
	All the above	39
	None of the above	1

Table 9. Attitudes toward vicarious travel.

		SD	D	N	A	SA
Attitudes toward vicarious travel in case of enjoying any vicarious travel experiences during the COVID-19 quarantine	**Vicarious travel experiences help me pass time**	3.8	9.6	19.8	35.8	31.1
	Vicarious travel experiences help me overcome boredom	4.8	6.8	25.6	33.1	29.7
	Vicarious travel experiences are entertaining	3.1	8.9	23.9	35.2	29.0
	Vicarious travel experiences help me relax	6.8	17.4	28.3	27.0	20.5
	Experiencing vicarious travel lets me imagine myself being at the destination	6.1	11.9	27.3	35.8	18.8
	Experiencing vicarious travel makes me feel as if I am a part of the travel journey	12.3	17.7	27.3	27.3	15.4
	Experiencing vicarious travel makes me feel like I am physically present in the destination even though I did not travel in person	16.0	22.9	25.9	20.8	14.3
	Vicarious travel experiences help me escape from reality	13.7	18.1	26.3	28.3	13.7
	Vicarious travel is a safe alternative that protects me from contracting COVID-19	4.8	7.5	18.1	36.2	33.4
	I think vicarious travel should replace physical travel during the times of crises	11.9	14.0	24.2	20.5	29.4
	I will recommend experiencing	10.6	13.3	27.3	26.6	22.2

vicarious travel to my friends instead
of physical travel amid covid-19

Table 10. Travel risk perception amid COVID-19.

		SD	D	N	A	SA
Travel risk perception amid COVID-19 pandemic	Nowadays, traveling is unsafe due to COVID-19	2.7	6.1	21.2	29.7	40.3
	I am worried about contracting COVID-19 during traveling	2.4	4.4	18.1	29.7	45.4
	I will not travel with groups amid COVID-19	5.5	8.5	15.4	13.7	57.0
	I don't feel safe in crowded tourist attractions	3.1	2.7	6.8	21.2	66.2

Table 11. Future travel intention.

|		SD	D	N	A	SA
Future travel intention	Safety will be the deciding factor when I choose where to travel in the future	1.4	2.7	11.6	28.7	55.6
	After it is safe to travel again, I will take long trips (increase the length of my stay)	1.0	6.5	29.0	26.3	37.2
	After Covid-19, I will experience vicarious travel to inspire me to visit new destinations	3.1	4.8	23.9	34.8	33.4
	After Covid-19, I will experience vicarious travel to help me better plan my vacation trips	2.7	4.1	21.2	34.1	37.9
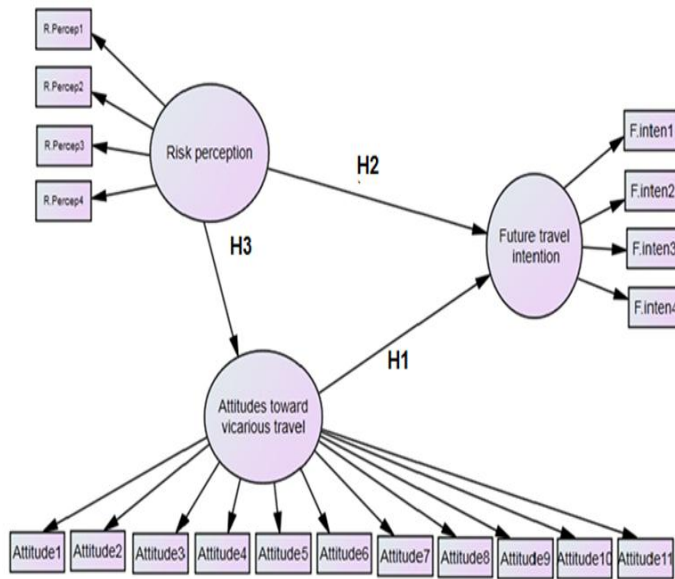
Figure 1. The conceptual model of the study.
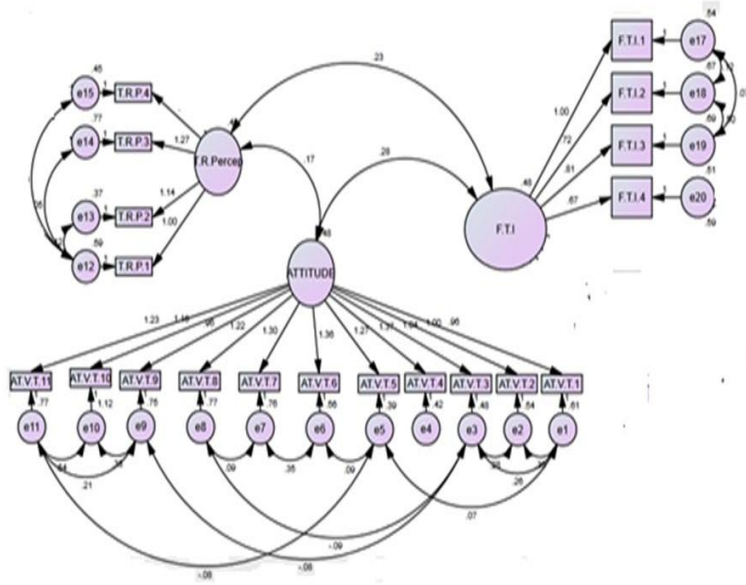
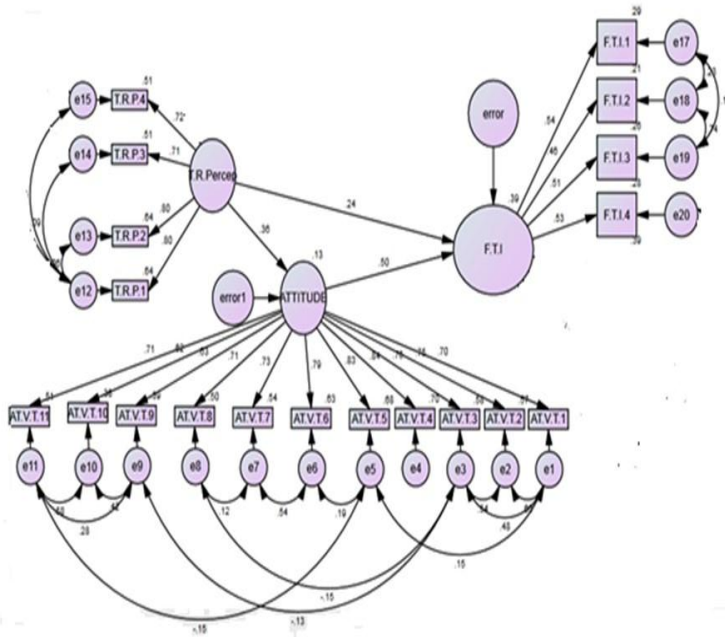Figure 2. Observed variables (indicators) specified to latent variables.

Figure 3. The structured model of travel risk perception,
attitude, and future travel intentions.