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ABSTRACT

This paper examines the impacts of COVID-19 on Chinese nationals' tourism preferences. Employing a mixed-method research design, two rounds of nation-wide online surveys were conducted, one in February 2020 when COVID-19 cases started to peak in China and another one in June 2020 when COVID-19 was a global pandemic; both survey studies were accompanied with semi-structured in-depth interviews and altogether 37 interviews were conducted in two stages. Based on both quantitative survey data and qualitative interview data, the research identified that: 1) COVID-19 significantly reduced Chinese nationals' preferences to travel to countries with high infection numbers, and geographically faraway, administratively and culturally distant outbound destinations; 2) Chinese nationals reduced their preferences in all travel modes and most of the tourism forms, but most of them would prefer nature-based, rural, and cultural destinations after COVID-19; and 3) shortened trips in short travel distance are preferred after COVID-19. The findings offer rich insights and practical implications for governments, industry organisations, and tourism operators to formulate tourism recovery strategies toward Chinese tourists.

Keywords:

COVID-19; Chinese tourist; travel preference; outbound travel; tourist psychology

1. Introduction

The COVID-19 pandemic has emerged as an unprecedented human history condition that may significantly change people's perceptions of tourism. Before the pandemic, China was already the world's biggest outbound tourist market in terms of visitor number and spending power. According to the China Tourism Academy (2019), China recorded 149.7

million outbound tourism departures in 2018, with a total of US$ 120 billion outbound tourist expenditure. In 2018, domestic tourist trips in China reached 5.54 billion, generating 5.13 trillion RMB tourism income (Luo, 2019). The scale of tourism involving Chinese nationals and the contribution of Chinese national tourism (including domestic and outbound tourism) to world tourism before the COVID-19 pandemic were immense. Therefore, understanding how the COVID-19 pandemic affected Chinese nationals' tourism behaviours and preferences appears to be extremely important for the recovery of world tourism after the pandemic.

The overall impact of the COVID-19 pandemic on global tourism appears to be far-reaching. Evidence shows that sectors like airlines, hotels, cruises and tour operation experienced devastating damage (Gössling, Scott, & Hall, 2020; Yang, Altschuler, Liang, & Li, 2020; Uğur & Akbıyık, 2020). While the short-term consequences of the pandemic on global tourism are more visible in industry figures (Yang et al., 2020), the impact of the pandemic on tourist behaviours and consumer psychology around tourism seems to be invisible and albeit should be given due attention. In effect, understanding how and to what extent the pandemic affects tourist consumer psychology may be more important for the recovery of global tourism from a market demand perspective.

As the COVID-19 pandemic represents an unprecedented global change condition to tourism (Gössling et al., 2020), it is necessary to conceptualise it as a ubiquitous context and test how it can change the general public's tourism preferences. In general, how the pandemic will affect Chinese nationals' perceptions of tourism, especially their tourism preferences, seems to be an important concern regarding the post-COVID-19 international tourism development. Therefore, this research focuses on the impacts of COVID-19 on Chinese nationals' tourism preferences. Employing a mixed-method multi-study design, this research is intended to achieve the following objectives: 1) to examine the extent to which the

COVID-19 pandemic changes Chinese nationals' preferences of outbound travel destinations; and, 2) to examine the extent to which the COVID-19 pandemic changes Chinese nationals' preferences of travel mode, tourism forms and products. The study contributes to the literature of tourism behaviour and psychology in the context of COVID-19. Practically, as Chinese tourists constituted a significant international travel market before the pandemic, the study's focus on Chinese tourists will offer empirical evidence and insights for governments, industry organisations, and tourism operators to better recover the Chinese tourist market and related tourism businesses.

This paper is structured as follows. After this introduction section (Section 1), a literature review (Section 2) is offered to examine the impacts of pandemics on tourism in general and tourist psychology in particular. Section 3 elaborates on the methods used in the study. Section 4 provides the study results while Section 5 discusses the findings and offer conclusions. Section 6 briefly acknowledges the study limitations and shows some future research directions.

2. Literature Review

2.1 Impact of Influenza Epidemic/Pandemic on Tourism

Tourism is vulnerable to many types of crisis events. The world has seen that tourism, both at global and regional levels, was affected significantly by major crisis events such as the 9/11 terrorist attack, the 2003 severe acute respiratory syndrome (SARS) outbreak, and the 2004 Indian Ocean Tsunami. Virus-caused contagious diseases can cause public health crisis and thus be more detrimental to regional and international tourism, as travellers can transmit the virus in their travel and can also be victims to get infected by other virus carriers during the travel (Pine & McKercher, 2004). The scale of the current COVID-19 pandemic is unprecedented in human history; therefore, it is prudent to say while we can learn from the

past epidemics/pandemics for their impact on tourism, our existing knowledge on the relationship between pandemic and tourism may be very limited in the current context of COVID-19.

Although not comparable to COVID-19 in many aspects, SARS has been studied by researchers in the context of tourism. After the SARS outbreak, tourism scholars have examined the impact of SARS on tourism and tourism industries/sectors from different perspectives (e.g., Au, Ramasamy, & Yeung, 2005; Chen, Jang, & Kim, 2007; Cooper, 2005; Kuo, Chen, Tseng, Ju, & Huang, 2008; Pine & McKercher, 2004). Au et al. (2005) examined the impact of SARS on tourist arrivals in Hong Kong. Their study identified SARS as an exogenous shock factor that can have a permanent impact on the number of tourist arrivals. However, the authors suggested that measures specific to source countries should be considered by tourism authorities in managing the negative effect of SARS. In another study, Kuo et al. (2008) compared the impacts of SARS and Avian Flu on international tourism demand in Asia. They found that while the number of affected cases had a significant impact on the SARS affected countries, such influence on the Avian Flu affected countries was not significant.

The effect of an epidemic on tourism could be far-reaching and can be demonstrated in tourism-related sectors. Henderson and Ng (2004) examined the consequences of SARS in Singapore's hotel sector. Similarly, Chen et al. (2007) investigated the impact of SARS on hotel stock performance in Taiwan. The findings revealed that the publicly traded hotel companies experienced steep declines in earnings and stock price due to the effect of SARS.

Beyond impact studies, studies on the tourism recovery patterns and strategies after an epidemic or pandemic have formed another line of research (Mao, Ding, & Lee, 2010; Page, Yeoman, Munro, Connell, & Walker, 2006; Tew, Lu, Tolomiczenko, & Gellatly, 2008). In this regard, Mao et al. (2010) applied a catastrophe theory to analyse the post-SARS tourist

arrival recovery patterns from Japan, Hong Kong and USA to Taiwan. The proposed cusp catastrophe model effectively explained the difference between the recovery patterns with the three source markets.

Since the outbreak of the COVID-19 pandemic, researchers have been concerned with the overall impact of COVID-19 on global tourism (Gössling et al., 2020). However, most of the published articles around the impact of COVID-19 on tourism seem to be either conceptual or commentaries. Among the few empirical investigations, Yang et al. (2020) constructed the COVID19tourism index to show the impact of COVID-19 on tourism in general and on different tourism-related sectors such as aviation and hotel sectors. Researchers also resorted to secondary online data to monitor the impact of COVID-19 on global tourism. For instance, Uğur and Akbıyık (2020) employed text mining techniques on TripAdvisor comments and delineated travellers' concerns due to the pandemic in different geographic regions. Polyzos, Samitas, and Spyridou (2020) applied the Long Short Term Memory (LSTM) artificial neural network methods and used data from the 2003 SARS to simulate the impact of Chinese tourists' arrivals to the USA and Australia due to the current COVID-19 pandemic. The results suggest that it may take 6 to 12 months for the market to recover to the pre-pandemic levels. Similarly, Fotiadis, Polyzos, and Huan (2021) employed both LSTM and the Generalized Additive Model to simulate the impact of COVID-19 on tourism. Their results indicated that international tourist arrivals could drop between 30.8% to 76.3% and the decline would not stop before June 2021.

It has been observed that since international tourism involves both source market countries and destination countries with unique features and different cultures, the impacts of an epidemic on countries and the recovery patterns could be different (Kuo et al., 2008; Mao et al., 2010; Tew et al., 2008). Based on this observation, we designed to have multiple

destination countries included in our examination of Chinese nationals' outbound tourism destination preferences in relation to the first study objective.

2.2 Impact of Influenza Epidemic/Pandemic on Tourist Psychology

Relatively little is known about how an influenza epidemic or pandemic can possibly affect consumer psychology in tourism. However, understanding the micro-level psychological impact of an epidemic in tourism is important and can provide a key to understanding the macro-level impact on the whole sector and industry. Once again, since the COVID-19 pandemic is unhistorical and may be creating a new normal mega-context for human life, the issue of its impact on tourist psychology remains to be novel; therefore, very limited references in the literature can be resorted to understand the issue. Nevertheless, there have been some relevant studies lightly touching the issue. For instance, Wen, Huimin, and Kavanaugh (2005) investigated the impacts of SARS on the consumer behaviour of Chinese domestic tourists. They concluded that the impacts of SARS on tourist behaviour bear the nature of paroxysm and are subject to the time period; tourists' internal motivation and the external compulsory measures and travel bans collectively worked toward the reduced travel and tourism. It is believed perceived travel risk would be a determining factor to tourist behaviour when tourists are facing terrorism and diseases like SARS and bird flu (Rittichainuwat & Chakraborty, 2009). Rittichainuwat and Chakraborty (2009) found that when people perceive the high risk of either terrorism or disease, they do not discontinue traveling completely but choose to have compromised or alternative travel options.

In the current pandemic context, Pan, Shu, Kitterlin-Lynch, and Beckman (2021) examined the consumer perceptions of the cruise industry during the pandemic and found that while travel constraints negatively affected behavioural intention via negativity bias, perceived crisis management positively affected behavioural intention via the trust attitude. In

another study, Kock, Nørfelt, Josiassen, Assaf, and Tsionas (2020) found perceived COVID-19 infectability affected a series of tourist psychological variables, such as tourism xenophobia, tourism ethnocentrism, crowding perceptions, group travel preference, intention to book travel insurance and destination loyalty. Despite these efforts, the impact of COVID-19 on tourist psychology remains largely unknown. As a summary, Table 1 lists the major studies in this literature review.

Table 1
Main studies on the impact of epidemic/pandemic on tourism/tourist psychology

Categories	Studies
Impact on tourism in general	
SARS studies	
Impact focussed	Au, Ramasamy, & Yeung (2005) Chen, Jang, & Kim (2007) Henderson & Ng (2004) Kuo, Chen, Tseng, Ju, & Huang (2008)
Recover focussed	Mao, Ding, & Lee (2010) Tew, Lu, Tolomiczenko, & Gellatly (2008)
COVID studies	Fotiadis, Polyzos, & Huan (2021) Polyzos, Samitas, & Spyridou (2020) Yang, Altschuler, Liang, & Li (2020) Uğur & Akbıyık (2020)
Impact on tourist psychology	
SARS studies	Rittichainuwat & Chakraborty (2009) Wen, Huimin, & Kavanaugh (2005)
COVID studies	Kock, Nørfelt, Josiassen, Assaf, & Tsionas (2020) Pan, Shu, Kitterlin-Lynch, & Beckman (2021)

3. Methods

This research involves a two-stage mixed-method inquiry approach in its research design. In the first stage, when COVID-19 became an epidemic and a public health crisis in China, we conducted a nation-wide online survey (see Appendix 1) and 27 in-depth interviews (see Appendix 2). The first stage data collection was conducted from 21 February to 6 March 2020. When COVID-19 further evolved to be a pandemic, we conducted the second stage data collection which include another nation-wide online survey and 10 in-depth interviews from 6 to 10 of June 2020.

Specifically, the first online survey (hereafter referred to as Study 1) was conducted through one of the online survey platforms in China, Wenjuanxing (www.wjx.cn), and was completed between 21-24 February, when China's coronavirus infection cases started to plateau.

The study 1 questionnaire included 5 sections. Section 1 asks respondents to state their preferences of visiting 22 outbound tourist destinations on a scale of 0 ("not at all") to 100 ("very much prefer to visit") before the COVID-19 outbreak as well as after the COVID-19 outbreak. The 22 outbound tourism destinations include the top 12 outbound foreign country tourist destinations publicised by China Tourism Academy (2019), namely Thailand, Japan, Vietnam, South Korea, the United States, Singapore, Malaysia, Cambodia, Russia, Indonesia, Australia, and the Philippines. In addition, based on the overall China outbound visitation landscape, we added another 10 foreign country destinations: New Zealand, France, Germany, the United Kingdom, Italy, Spain, Other European countries (than France, Germany, UK, Italy and Spain), Egypt, South Africa, and the Maldives. Section 2 asks about the respondents' preferences of travel mode before and after the COVID-19 outbreak. The following 4 travel modes are listed: 1) full package tour – everything arranged by a travel agent/tour operator; 2) partial package tour – joining tour at destination while arranging travel to the destination by oneself; 3) complete free and independent travel – small group of 2-5

people; 4) complete free and independent travel – solo travel. Section 3 asks the respondent's preference of participating in the following forms of tourism before and after the COVID-19 outbreak: 1) cruise tourism, 2) self-driving tourism, 3) caravan tourism, 4) adventure tourism, 5) ecotourism, 6) railway tourism, 7) theme park, 8) backpacking travel, 9) bicycle tourism, 10) gastronomy tourism, 11) health tourism, 12) volunteer tourism. Section 4 included 7 questions asking whether the respondent will change their travel behaviours after the COVID-19 outbreak has passed.

The second online survey (hereafter referred to as Study 2) was conducted through the same online survey platform Wenjuanxing from 9 to 10 June 2020, when COVID-19 was a global pandemic. The Study 2 questionnaire contains the same questions as in Study 1.

In Study 1, the online survey company collected a total of 1082 valid responses for us. The recorded IP addresses for accessing the online survey showed that the respondents were located to all mainland Chinese provinces except for the Tibet Autonomous Region. Some provinces had disproportionately fewer cases than other provinces. Therefore, we cannot claim that we have a representative national sample in this study. Some provinces (e.g., Beijing-8.13%, Guangdong-16.36%, Jiangsu-6.93%, Shanghai-7.86%) had a higher percentage of respondents than other provinces. But these provinces are also main source markets for outbound tourism. In Study 2, the online survey company collected a total of 609 valid responses for us. The recorded IP addresses show that respondents were from all mainland Chinese provinces except for the Tibet Autonomous Region and Qianhai Province. Those provinces with higher proportions of respondents are Guangdong (9.85%), Jiangsu (7.22%), Shanghai (6.90%), Hubei (6.90%), and Beijing (4.09%).

As online surveys may be subject to common-method bias in examining the impacts of COVID-19 on Chinese nationals' tourism preferences, in both study stages, we conducted in-depth interviews, mostly through the online communication tool WeChat. In the first stage,

we conducted 27 personal in-depth interviews from 22 of February to 6 of March to further explore the issues under examination. The interviews lasted from 20 minutes to 60 minutes. Except for one offline face-to-face interview, all the interviews were conducted through WeChat. Using online communication tool WeChat allowed our research team to interview people from different provinces, and largely circumvent the restrictions of social distancing in the COVID-19 period. We recruited interviewees considering the coverage of gender, age, education level, marital status, occupation, and past tourism experiences. The following 4 questions are the key questions designated in the interview guide: 1) "how do you think COVID-19 will affect your attitude toward tourism? Please explain." 2) "how do you think COVID-19 will affect your future choice of destination types (e.g., sightseeing vs. holiday destination; urban vs rural destination, domestic vs international destination)? Why?" 3) "how do you think COVID-19 will affect your future choice of travel mode (e.g., package tour vs. partial package tour vs. free and independent travel)? Why?", and, 4) "how do you think COVID-19 will affect your future choice of tourism forms or tourism products? Why?"

In the second stage, as COVID-19 had evolved into a global pandemic, we conducted 10 extra interviews from 6 to 8 of June, 2020, following the same research protocol to see whether there are new findings emerged. All the interviews were voice-recorded with the permission of the interviewees and were later transcribed. Content analysis was conducted in the analysis through reading and re-reading the transcripts and coding on the key contents among multiple authors.

We used IBM SPSS Statistics version 26 to analyse the survey data. Specifically, to test whether respondents changed their outbound tourist destination preferences, travel mode preferences, and tourism form/product preferences due to COVID-19, paired t-test was conducted to compare their pre-COVID-19 preference ratings and post-COVID-19 preference ratings on the key variables. In addition, independent t-test was applied to

compare whether the Study 1 sample (n=1082) and the Study 2 sample (n=609) differ in their pre-COVID-19 preferences and post-COVID-19 preferences on the key variables. As our study focused on the impact of COVID-19 on tourist psychology taking Chinese nationals as a sample, it is reasonable to apply the concept of "psychic distance" in the examination of Chinese nationals' preferences to different foreign countries. In this regard, we adopted the 4-dimension psychic distance framework (Berry, Guillén, & Zhou 2010; Dinner, Kushwaha, & Steenkamp, 2019) on the basis of Ghemawat (2001), secondary data were collected from different data sources to construct 4 psychic distance dimensions, namely cultural distance, administrative distance, geographic distance, and economic distance, and these distance scores were then correlated with the pre-COVID-19 and post-COVID-19 outbound destination preferences to see whether psychic distance plays a role in the preference changes due to COVID-19. For the interview data, we applied thematic analysis on the interview transcripts in Chinese and the findings are summarised, translated and reported in English.

4. Results

4.1 Findings of Two Survey Studies

1. Sample Profiles

As shown in Table 2, in Study 1, among the 1082 respondents, there were slightly more female (52.5%) than male respondents. Respondents were relatively young; 32.62% of them were in the age group of 18-25 and another 45.38% were in the age group of 26-35. 66.73% of the respondents held a bachelor's degree. The Study 1 sample thus can be regarded as well educated. Other demographic characteristics of the sample are shown in Table 2. The Study 2 respondent profile was shown alongside that of Study 1 in Table 2. Comparing the percentages and frequency figures in each category, we found Study 2 respondents shared highly similar demographic characteristics to that of Study 1.

Table 2

Socio-demographic profile of respondents (Study 1: n=1082; Study 2: n=609)

Variables	Subgroups	Frequency（N） Study 1/Study 2
Age	18-25	353/187
	26-35	491/288
	36-45	182/94
	46-55	47/31
	56-65	9/9
	Over 65	0/0
Gender	Male	499/277
	Female	568/327
	Not to tell	15/5
Educational background	Primary and under	7/0
	Secondary	38/9
	High school/vocational school	83/37
	College (3-year study)	130/71
	University (Bachelor Degree)	722/449
	Postgraduate and above	102/43
Personal monthly income (RMB)	<2,000	174/81
	2,000 - 5,000	203/130
	5,001 – 8,000	267/147
	8,001 - 11,000	227/146
	11,001 - 14,000	107/60
	14,001 – 17,000	46/24
	> 17,000	58/21

Marital status	Never married	457/232
	Married	608/373
	Other	17/4
How many times did you travel overseas in the last year?	N/A	359/225
	1	373/251
	2	235/99
	3	70/30
	4	22/1
	5	14/1
	6 or more	9/2
How many times did you travel in China in the last year?	N/A	105/27
	1	198/86
	2	332/212
	3	262/168
	4	74/55
	5	40/37
	6 or more	71/24
Do you have any personal friends or relatives who have been confirmed of COVID-19 infection?	Yes	26/15
	No	1030/594
	Not sure	26/0

2. Chinese Nationals' Outbound Tourist Destination Preferences

In Study 1, we found that for all 22 outbound tourist destinations, the post-COVID-19 preference mean values were significantly lower than the pre-COVID-19 preference mean values (Figure 1). The mean differences ranged from 4.429 for South Africa to 20.121 for Japan. A further check revealed that the ranking order of these destinations changed from their pre-COVID-19 preference values to their post-COVID-19 preference values. Specifically, while Japan ($3^{rd} \rightarrow 8^{th}$), Singapore ($6^{th} \rightarrow 10^{th}$); United States ($7^{th} \rightarrow 13^{th}$); South Korea ($9^{th} \rightarrow 15^{th}$), Thailand ($13^{th} \rightarrow 14^{th}$), Cambodia ($18^{th} \rightarrow 19^{th}$) lowered their ranks, UK ($4^{th} \rightarrow 3^{rd}$), Italy ($5^{th} \rightarrow 4^{th}$), New Zealand ($8^{th} \rightarrow 6^{th}$), Australia ($10^{th} \rightarrow 9^{th}$), Germany ($11^{th} \rightarrow 7^{th}$), Russia ($12^{th} \rightarrow 5^{th}$), other European countries ($14^{th} \rightarrow 11^{th}$), Spain ($15^{th} \rightarrow 12^{th}$) each moved up in the ranking ladder respectively. The other 7 countries did not change their ranking position. Based on the mean differences of the pre- and post-COVID-19 preference values, it seems that hot destinations like Japan, Singapore, US, South Korea, and Thailand are affected more than those less popular destinations.

In Study 2, for all the 22 outbound tourist destinations, the post-COVID-19 preference mean values were significantly lower than the pre-COVID-19 preference mean values. The mean differences ranged from 7.023 for South Africa to 28.852 for France. The most significant preference drops were found to be with France (28.852), Italy (26.956), UK (26.007), US (25.407), Australia (23.967), Maldives (21.887). Comparing the ranks between pre- and post-COVID-19 preferences, it was found while New Zealand ($12^{th} \rightarrow 7^{th}$), Russia ($11^{th} \rightarrow 6^{th}$), Singapore ($7^{th} \rightarrow 3^{rd}$), Thailand ($8^{th} \rightarrow 5^{th}$), Egypt ($17^{th} \rightarrow 14^{th}$) improved their ranks, Italy ($4^{th} \rightarrow 12^{th}$), US ($15^{th} \rightarrow 22^{nd}$), France ($2^{nd} \rightarrow 9^{th}$), Australia ($5^{th} \rightarrow 10^{th}$), UK ($9^{th} \rightarrow 13^{th}$) dropped their ranks significantly. While some countries that dropped their ranks like Italy, US, France, UK happened to be those countries badly hit by the COVID-19 pandemic, there are other countries that managed well in combating the COVID-19 pandemic but still

saw a significant drop in the preference ranking. Australia had been performing relatively well in controlling COVID-19 virus infection cases in its borders by the time of the survey. However, its preference rank dropped from 5th to 10th in this survey. In the survey result in Study 1, Australia, together with New Zealand, was among those countries who moved up on the ranking ladder. On the other hand, Germany, almost equally hit by the pandemic as France in terms of confirmed cases, gained 2 places on the ranking ladder from 10th to 8th. This suggests that the ranking drop in a specific country case may not be solely determined by the severity of damage caused by the pandemic in the country. In the case of Australia, comparing to New Zealand, it is speculated that the deteriorating Australia-China bilateral relationship may have contributed to this ranking drop. Similarly, the tension between US and China may have caused the particularities with the US as an outbound tourist destination to Chinese nationals. While political relations between countries may be one reason to explain the preference drop, there may be other confounding factors in association with the pandemic that may cause the preference changes.

Using independent group *t*-test, we further examined whether the pre- and post-COVID-19 preferences for each country were different between the two study sample groups (listed in Appendix 3). For the majority of the countries, Study 2 respondents had a higher preference rating than Study 1 respondents in the pre-COVID-19 preference values (Figure 1). However, there was an exception with the US, in which Study 2 respondents had a lower pre-COVID-19 preference value instead. For post-COVID-19 preferences, there were no significant differences between the two study samples with half of the countries listed (i.e., Egypt, Philippines, Cambodia, Malaysia, Maldives, South Africa, Japan, Thailand, Singapore, Vietnam, Indonesia). For the countries with significant differences of post-COVID-19 preference rating, they tend to be those countries who suffered the most from the pandemic.

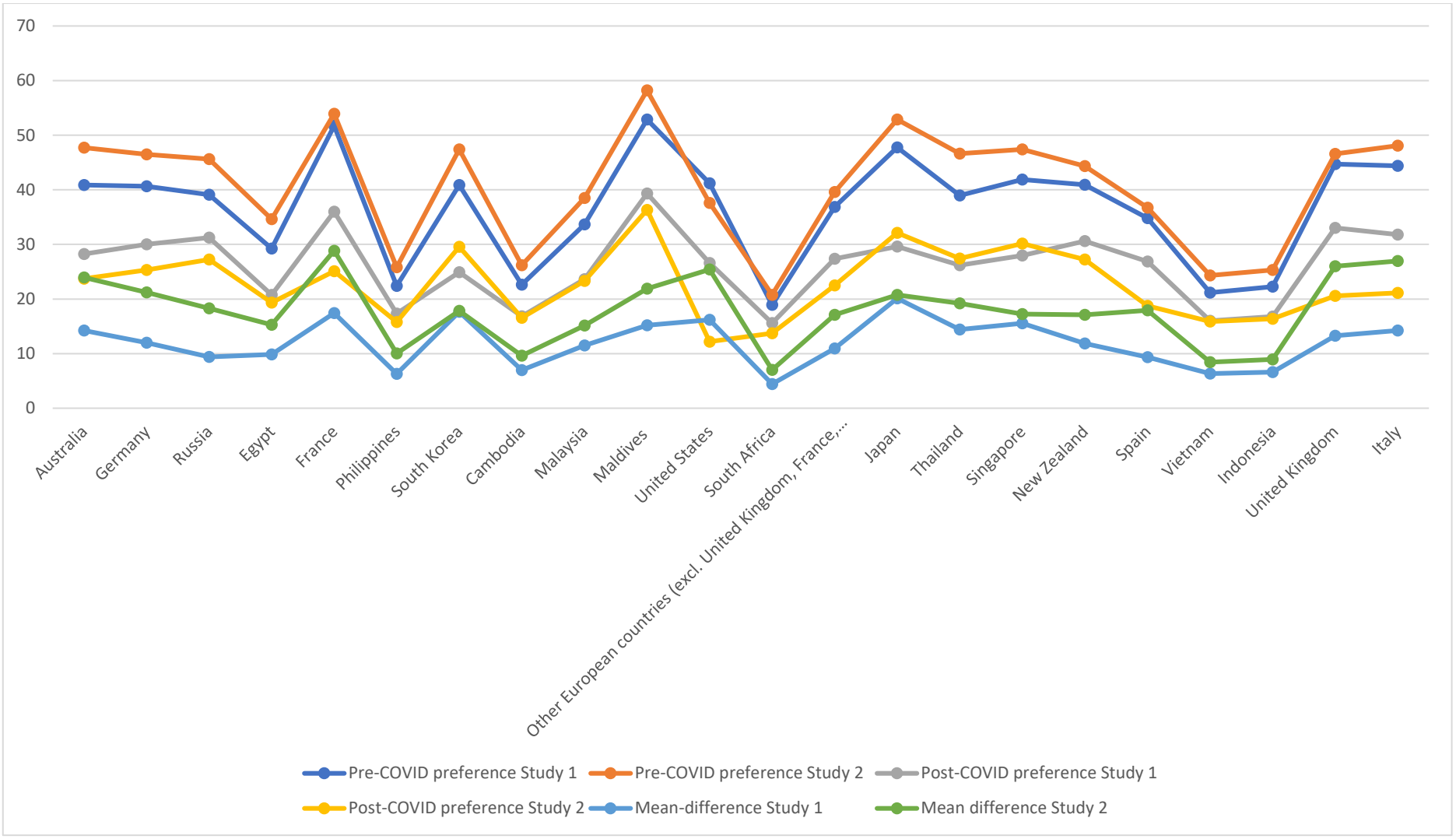

Fig. 1. Mean values and differences of pre- and post-COVID-19 destination preferences

To further check whether the changes of preference were affected by the psychic distance between China and these destination countries. We adopted Ghemawat (2001)'s conceptualisation of distance and considered the four components of distance at the national level, namely, cultural distance, administrative distance, economic distance and geographic distance. The Ghemawat (2001)'s distance framework has been widely cited as the framework of psychic distance (Dinner et al., 2019). Among the 22 listed destinations, we excluded "other European countries", Cambodia and Maldives, for the reason that the first is not a country and the other two countries do not have available data for us to calculate the different distance indicators. We used the Worldwide Governance Indicators 2018 for calculating the administrative distance values, Hofstede's 6 national cultural dimensions scores (https://www.hofstede-insights.com/) and the World Values Survey (WVS) data 2010-2014 (www.worldvaluessurvey.org) to calculate two cultural distance indicators values, the Global Competitiveness Index of the World Economic Forum database 2019 to calculate economic distance values. The geographic distance values were calculated as the distance from Beijing as the capital city of China to the respective capital city of each destination country.

Altogether, we were able to generate both composite psychic distance scores (one taking Hofstede cultural distance and another one taking WVS cultural distance) and individual components distance scores (Hofstede score-based cultural distance, WVS-based cultural distance, administrative distance, economic distance, and geographic distance) for 19 out of the 22 destinations listed. We then used the three national mean scores from our survey, namely, pre-COVID-19 preference mean value, post-COVID-19 preference mean value, and the difference between pre- and post-COVID-19 preference mean values to run pair-wise bi-variate correlation with the psychic distance values. We must acknowledge that these are all national-level measures so we only had 19 cases (countries) to calculate the correlations.

Because of the limited number of observations, we set up a more tolerating p-value for the significance test to be 0.15.

For Study 1, among the pair-wise correlation coefficients, we found pre-COVID-19 preference was negatively correlated with economic distance between China and the destination country (r=-0.370, p=0.119), post-COVID-19 preference was positively correlated to administrative distance (r=0.405, p=0.086), and the difference between pre- and post-COVID-19 preferences was negatively correlated to economic distance. In addition, although the p-value is outside our set threshold, post-COVID-19 preference was found to be positively correlated to administrative distance (r=0.330, p=0.168), and post-COVID-19 preference was negatively correlated to economic distance (r=-0.309, p=0.198). These figures suggest that a destination having a larger economic distance to China normally gain low preference for Chinese nationals to visit it, whilst a country having a larger administrative distance to China would solicit higher preference for Chinese nationals to visit it.

Similarly, with the data from Study 2, we ran pair-wise bivariate correlation analysis between the set of pre-COVID-19 preference, post-COVID-19 preference, and the difference between pre- and post-COVID-19 preference, and the set of psychological distance and its four composing measures. Post-COVID-19 preference was found to be negatively correlated to geographical distance (r=-0.356, p=0.135), and WVS-based cultural distance (r=-0.467, p=0.044), suggesting that the respondents would have low preference to those countries with larger geographic and cultural distance. Interestingly, the drop of the preference values, i.e., the difference between pre- and post-COVID-19 preference values, was found to be positively correlated to Hofstede score-based cultural distance (r=0.484, p=0.036), and administrative distance (r=0.419, p=0.074), but negatively correlated to economic distance (r=-0.442, p=0.058). This means that respondents lowered their travel preferences to

countries with larger cultural and administrative distance more significantly, but the drop of preference is smaller with countries which have a larger economic distance to China.

3. Chinese Nationals' Travel Mode Preferences

In Study 1, paired sample *t*-tests showed that post-COVID-19 preference mean values were significantly reduced compared to pre-COVID-19 preference mean values in three of the four travel mode options (Figure 2, Appendix 4). Only solo travel was not affected by the COVID-19 ($t = 1.449$, $p = 0.148$). In Study 2, respondents had consistently lowered their travel preferences in all four modes. However, independent group *t*-tests between the two study groups showed while the two study groups did not differ in their pre-COVID-19 preference in the 4 travel modes, they did differ significantly in two travel modes in their post-COVID-19 preferences. Compared to Study 1 respondents, Study 2 respondents had significantly higher preference rating in full package tour and lower rating in solo travel.

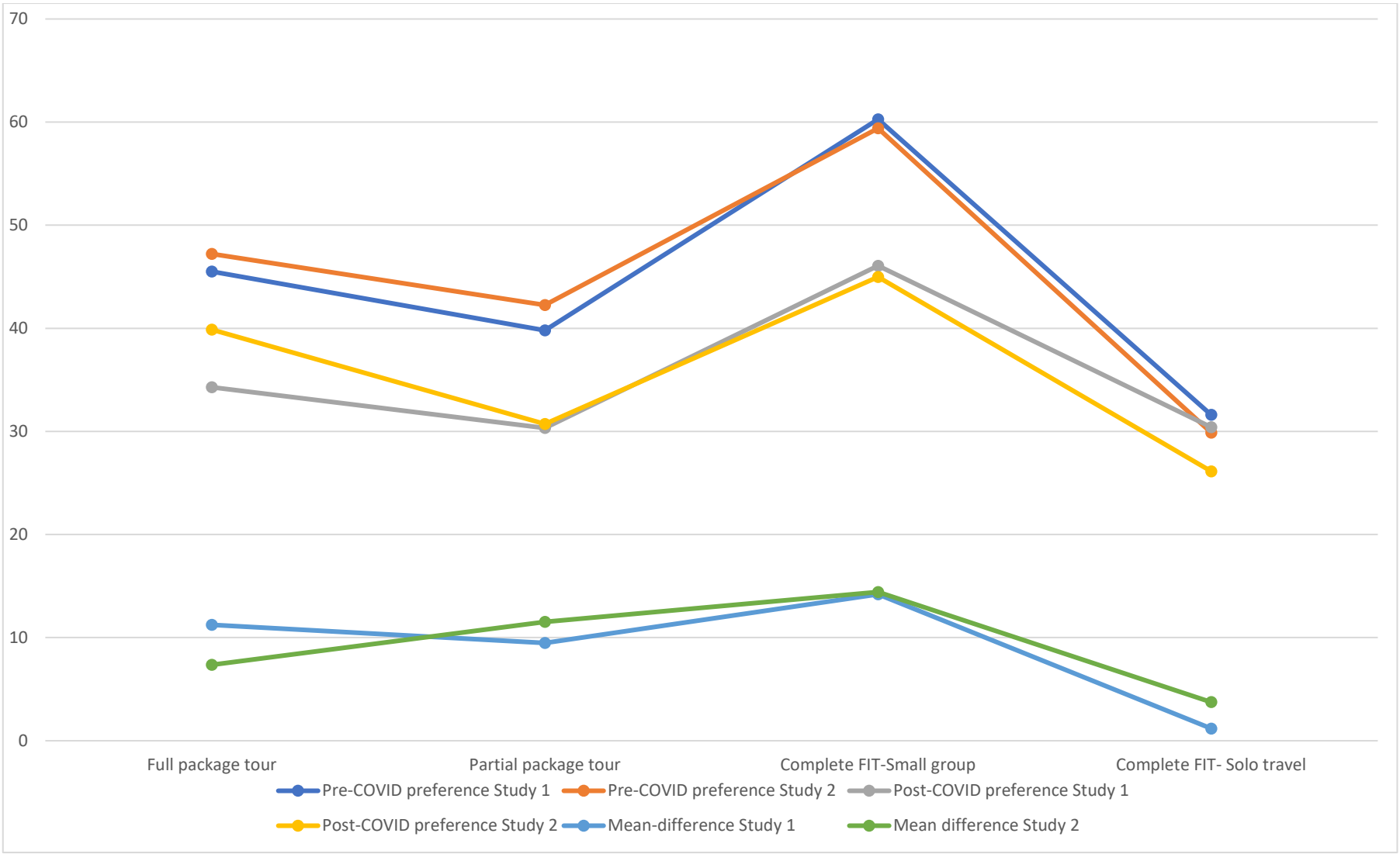

Fig. 2. Mean values and differences of pre- and post-COVID-19 travel mode preference

4. Chinese Nationals' Preferences in Tourism Forms/Products

As for the 12 tourism forms, as shown in Figure 3, respondents' preference to participate in these tourism forms or selecting these tourism products significantly decreased (listed in Appendix 5). With Study 2 respondents, except for bicycle tourism, all the other tourism forms saw a significant reduction between the pre- and post-COVID-19 preference values. However, through comparing the two study groups, it was found that Study 2 respondents rated their preferences in ecotourism and theme park consistently higher than their Study 1 counterparts. On the other hand, Study 2 respondents had a higher post-COVID-19 preference in bicycle tourism.

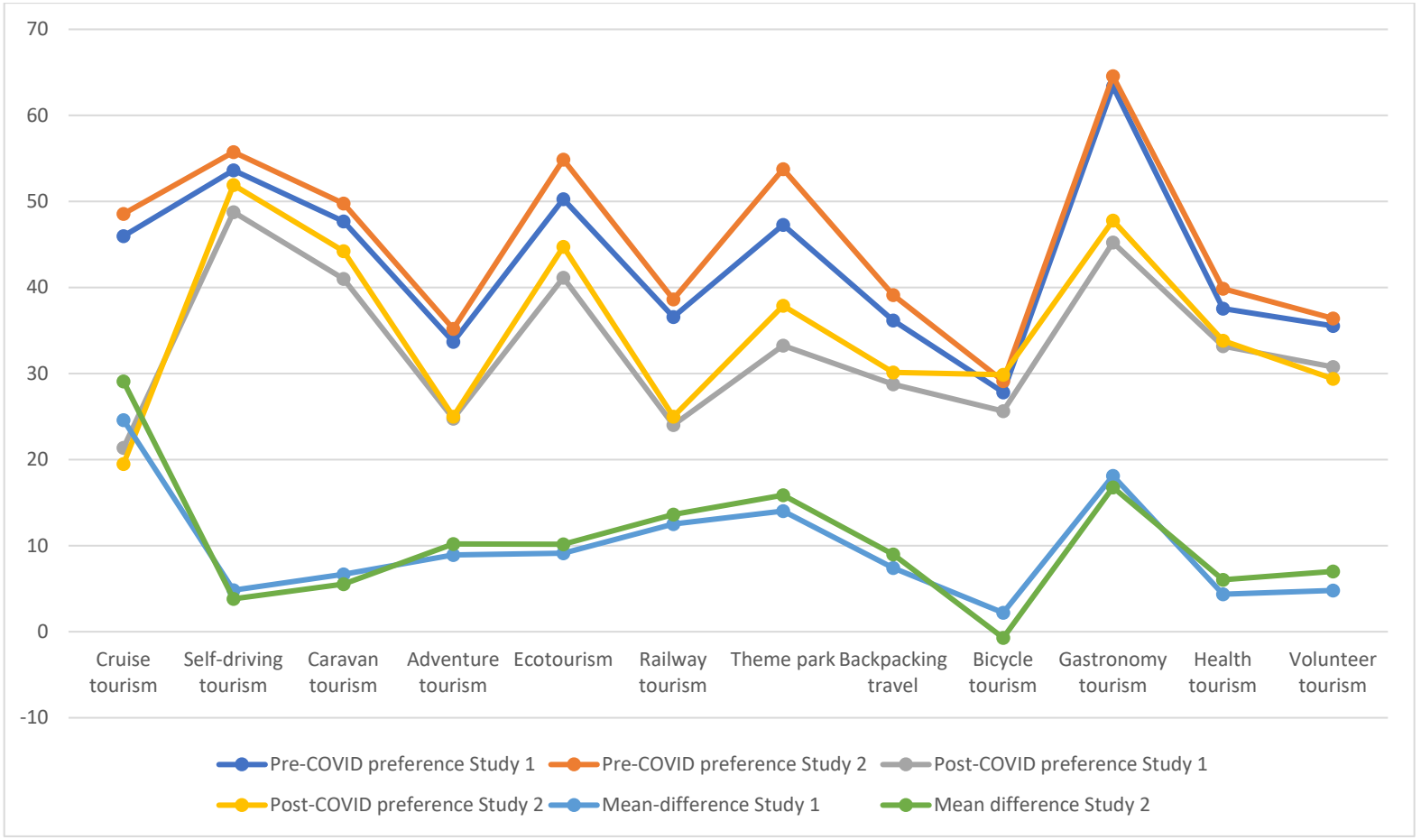

Fig. 3. Mean values and differences of pre- and post-COVID-19 tourism form/product preferences

5. Chinese Nationals' Future Travel/Tourism Tendencies

As shown in Appendix 6, our results show that in Study 1, 63.49% of the respondents tend to agree on that "after the COVID-19 outbreak has finished, I will try to reduce my travels as much as possible". 82.16% of the respondents indicated that they prefer to travel to nature-based destinations after COVID-19; 65.71% of the respondents indicated their preference to "travel to destinations with rich history, culture and cultural heritages". 62.48% of the respondents indicated their preference to travel to rural tourism destinations; contrastingly, only 31.98% of the respondents showed their preference to travel to urban tourist destinations. Overall, only 37.52% of the respondents indicated that the COVID-19 outbreak will not change their travel preference. These percentages showed that the majority of Chinese nationals will be affected by COVID-19 in terms of their travel preferences. Most of them will prefer to travel to nature-based, cultural, and rural tourist destination whilst at the same time avoiding urban tourist destination.

For the Study 2 results, it was found that more respondents (76.68%) tended to agree on that "after the COVID-19 outbreak has finished, I will try to reduce my travels as much as possible". Independent group *t*-test also showed the agreement level is significantly higher with Study 2 respondents than that with Study 1 respondents for their intention to reduce post-COVID-19 travels. In addition, Study 2 respondents tended to resist to travel to destinations with rich history, culture, and cultural heritages, compared to Study 1 respondents. They also tended to disagree more on the statement "the COVID-19 outbreak will not change my travel preferences".

4.2 Interview Findings

Table 3 shows the demographic profiles of the interviewees. The following findings are based on the first stage interviews.

Table 3

Profile of interviewees

Characteristics		Stage 1	Stage 2	Total
Gender				
	Male	13	4	17
	Female	14	6	20
Age				
	18-25 years	6	2	8
	26-35 years	6	2	8
	36-45 years	7	2	9
	46-55 years	4	3	7
	⩾56 years	4	1	5
Marital Status				
	Unmarried	9	3	12
	Married	18	7	25
Education				
	Primary or Illiterate	0	1	1
	Junior high	2	2	4
	Senior high	8	2	10
	College	11	4	15
	Postgraduate or above	6	1	7
Occupation				
	Healthcare	1	1	2
	Education	6		6
	Civil service	3	1	4
	Housewife	1		1
	Transportation	1		1
	Finance		2	2
	Real estate	2		2
	Construction		1	1
	Manufacturing		1	1
	Internet	1		1

Tourism		1	1
Catering	1	1	2
Self-employed	6		6
Exhibition	1		1
Student	1	1	2
Retired	3	1	4
Location			
Chongqing	2	1	3
Gansu	1		1
Guizhou	3		3
Shaanxi	3		3
Hubei	3		3
Sichuan	3	2	5
Shanghai	1		1
Beijing	1		1
Jiangxi	1	1	2
Shanxi	2		2
Guangdong	3		3
Henan	4	2	6
Ningxia		1	1
Qinghai		1	1
Xinjiang		1	1
Yunnan		1	1
Travel in recent two years			
Domestic	26	10	36
Outbound	6	2	8
Domestic tourism times			
0 times	1		1
1-3 times	7	3	10
4-6 times	4	3	7
7-9 times	8		8
⩾10 times	7	4	11

Outbound tourism times			
0 times	21	8	29
1-3 times	3		3
4-6 times	1	1	2
7-9 times		1	1
⩾10 times	2		2

1. *Travel and tourism will continue but in the "new normal" manner.*

The majority of the interviewees said COVID-19 will not change their travel behaviour significantly, but they will attend to personal hygiene issues and travel hygiene issues more closely and cautiously while traveling after COVID-19. They will wear protective masks, take personal antiseptic gels and sprays, and wash hands more carefully when travelling in the future. They will also request the accommodation facilities to be clean. Some would pay more to stay in hotels with good hygiene conditions. Travels will be greatly reduced and only short one-day tours will be considered.

On the other hand, many interviewees expressed they will be more careful on eating while travelling in future and will not touch food made of wildlife. Many said they would avoid high tourism seasons to travel and would stay away from crowded places. This finding has implication on the Golden Weeks holiday tourism in future and may help ease the crowdedness situation during high tourism seasons in China.

The 14-day home quarantine requirement made many interviewees feel isolated and they would engage in tourism to get relaxed. Many participants expressed they will travel once COVID-19 has passed, probably after 2-3 months upon the clearance of the virus.

2. *FIT travel and destinations with natural sceneries are preferred after the COVID-19.*

Many interviewees would prefer free and individualised travel mode over package tours. After COVID-19, this preference for free and independent travel is strengthened mostly. The majority of interviewees prefer places with natural scenery as their travel destination, but a few interviewees prefer destinations with history and culture.

3. *Travels to COVID-19 epicentre will be avoided in short term but demand to dark tourism sites increases.*

Many interviewees expressed that they would not travel to Wuhan in the next few months or even years. This indicated the most affected places by the COVID-19 may take

longer time to recover for its tourism. A small number of interviewees said after COVID-19 is gone, they would like to visit some dark tourism sites. Interviewee #4 would like to visit the earthquake tourism site in Sichuan. Interviewee #17 would like to visit Huoshenshan Hospital and Leishenshan Hospital (the two purposely built emergency hospitals in Wuhan during Wuhan's lockdown) after the epidemic has passed.

4. Shorter duration and shorter distance trips are preferred.

Many interviewees indicated that they prefer short trips to long ones for the time being. Majority of the interviewees expressed that COVID-19 would not significantly change their travel purposes. But interviewee #22 would like to experience different lifestyles rather than seeking relaxation while traveling after the pandemic. And interviewee #3 would combine tourism with exercise, such as mountaineering.

The 10 additional interviews in stage 2 mostly confirmed what has been found in the previous interviews. In addition, the following new findings are revealed.

Some of the interviewees in stage 2 had travelled after April 2020, and they expressed that their travel experience is not as good as that before the outbreak of COVID-19. However, interviewee #31 said that COVID-19 had caused a reduction of tourist numbers, which led to a better travel experience. Many of the stage 2 interviewees said that COVID-19 had led to fewer choices of tourist destinations. In terms of domestic tourism, a small number of interviewees cannot travel across provinces because of the regulations of their employers and companies. Many of them would not consider outbound tourism and some said that domestic travel is safer than outbound travel.

5. Discussion

This research project aims to investigate the impacts of COVID-19 on Chinese nationals' tourism preferences. In terms of the impact of COVID-19 on Chinese outbound

destination preferences, our research found the outbound destination preferences changed from the time of COVID-19's early outbreak and development stage (February-March 2020) in China to the time when COVID-19 was declared a global pandemic (June 2020). In the early stage when the COVID-19 outbreak only happened in China, those hotspot Chinese outbound destinations such as Japan, Singapore, US, South Korea, and Thailand seemed to be the most affected by COVID-19, as their ranks based on the preference rating dropped significantly. In the later stage of COVID-19 as a global pandemic, those countries badly struck by COVID-19, namely Italy, US, France, UK, were among those countries which had a significant ranking drop. However, our findings suggest that the severity of COVID-19 infection in a destination is not the only reason for preference drop. Australia also had a significant ranking drop from 5th to 10th in Study 2 although its containment measures on COVID-19 were most effective and exemplary across the globe. It seems COVID-19 has caused repercussions in many fields including international relations and politics. The rapidly deteriorating Australia-China relationship after April 2020 may have contributed to this preference drop. The findings suggest the impact of COVID-19 on tourist psychology may not be direct. Somehow, the COVID-19 pandemic may be the main cause of many interconnected changes in our world (e.g., political mistrust between countries, social unrest due to the COVID-19), and these changes can further cause changes in tourist preferences.

These findings have significant theoretical and policy implications. The impact of COVID-19 on the tourism system seems to be complicated. While regulations and rules on travel may be more visible forces affecting tourism and tourism recovery, psychological effect may not be so easily spotted. While some psychological effects could be primarily subjected to COVID-19, others may be secondary and derived from third factors like tension and damaged trust between countries due to COVID-19. The literature has shown that in the case of SARS, the effects on tourism varied across countries (Kuo et al., 2008; Mao et al.,

2010; Tew et al., 2008). Our findings reinforce this point and suggest that there is no one-size-fits-all solution in the tourism recovery strategies. Countries need to consider the specificity of their own tourism resources and each source market's situation in recovering their major international tourism markets.

The two survey studies generally confirmed that the post-COVID-19 outbound travel preferences are negatively related to geographic and cultural distance. Countries with a long geographic distance and cultural distance from China will be less preferred as outbound destinations for Chinese nationals. This finding is consistent to the distance decay law in tourist flows as identified by some tourism scholars (McKercher & Lew, 2003) and that cultural distance could present a barrier for outbound tourism (Ng, Lee & Soutar, 2007; Yang & Wong, 2012). The additional layer of interpretation our study added on here is, since these correlations are found with post-COVID-19 outbound travel preferences, it was suggested that the perceived insecurity of travelling under the COVID-19 threat may have moderated the relationship between cultural distance and travel preference. Bi and Lehto (2018) found a nonlinear relationship between cultural distance and Chinese tourists' outbound travel demand. And it is not unusual to see studies identified a positive correlation between cultural distance and outbound travel (Yang, Liu, Li, & Harrill, 2018). Our study thus provides some additional insights on the relationship between culture distance and Chinese nationals' outbound travel preferences.

It was also found that large administrative distance between China and a destination country caused a significant drop from pre-COVID-19 to post-COVID-19 destination preferences. However, if there is a large economic distance between China and a destination country, the drop of preferences is small. This shows that countries having a large administrative distance from China may have more difficulties in re-attracting Chinese tourists to their countries, whilst countries with few economic ties with China would not face

large drop of Chinese tourist arrivals. These findings also bear practical implications. Countries with large administrative distance and cultural distance with China will face more challenges in regaining Chinese inbound tourists due to the impact of COVID-19.

Our research found that COVID-19 not only reduced the Chinese nationals' preferences in travel modes, but also reduced their preferences in most of the tourism forms. Understandably, some tourism forms, such as cruise tourism and bicycle tourism, received contrasting tourist preference changes in the post-pandemic period. The sharp drop of the cruise tourism preferences in study 2 echoes Pan et al.'s (2021) study which found negativity bias mediated the effect of travel constraints on tourists' behavioural intention to take cruise tourism. It seems COVID-19 will make more people prefer to travel to nature-based destinations, rural destinations, and destinations with rich history and cultural heritages. Therefore, with some confidence, we may see rural tourism destinations become more popular to Chinese tourists after COVID-19. Tourism businesses which would attract Chinese tourists in the post-COVID-19 recovery may stress on nature-based, rural tourism, and cultural tourism provisions and offerings.

In summary, the survey findings confirmed the impact of COVID-19 pandemic on tourist psychology. So far, very few studies have attended to examining the impact of the pandemic on tourist psychology. An exceptional study is Kock et al. (2020), which empirically testified that perceived COVID-19 infectability significant affected many of tourist behavioural tendencies, including tourism xenophobia, crowding perceptions, preference of group travel, and destination loyalty. Our study offers further empirical evidence to show the impact of COVID-19 on tourist psychology, thus contributing to this line of research on COVID-19 impact on tourist psychology.

With the interviews, we are able to obtain some rich information to triangulate the survey findings. The interview findings cautioned us not to overestimate the changes of travel

preferences due to the pandemic. Most of our interviewees expressed that COVID-19 will not change their travel preferences significantly; but most of them would pay more attention to hygiene issues, food and wildlife in their future travels. It is clear that due to COVID-19, people will prefer short-distance and short duration trips. Therefore, we foresee that after the COVID-19 pandemic, domestic tourism may recover more quickly than outbound tourism in China. On the global scale, COVID-19 may have shocked tourism flows to retract significantly. Countries targeting Chinese tourists as a significant inbound market are advised that in the short term, long-haul international travel may not be preferred by a majority of Chinese nationals.

6. Conclusion

This study applied two rounds of questionnaire survey and in-depth interviews to investigate the impact of COVID-19 on Chinese nationals' tourism preferences, as demonstrated in outbound tourist destinations, travel modes, and tourism forms/products. Results show that Chinese nationals' preferences of travel to outbound tourist destinations drop significantly due to the impact of the COVID-19 pandemic. However, the impact does not seem to be symmetrical to the COVID-19 infection severity in the destination countries. Our findings suggest that the COVID-19 pandemic created derived issues pertaining to international tourism, which function together with the perceived health risks due to the pandemic, to change Chinese nationals' tourism preferences. Chinese nationals reduced their preferences to geographically faraway, culturally and administratively distant destination countries due to COVID-19. In addition, they reduced their preferences in all travel modes and most of the tourism forms. On the other hand, Chinese nationals exhibited a preference for nature-based, rural and cultural destinations after the pandemic is passed; they also preferred shortened trips in short travel distance after the pandemic.

7. Limitations and Future Research

Our survey design may suffer from the limitation of common-method bias. Asking respondents to answer their pre-COVID-19 travel preferences in the time of COVID-19 may present the bias of self-hinting and social favouritism. And there does not seem to be an effective method to divest such design-related bias. The interview findings also suggest the surveys may bear some common method limitations. We would also like to note that our samples, despite their national coverage, are not geographically representative to the population distribution in China. As such, the survey results may not be representative of all Chinese nationals. Readers are advised to interpret the results with caution. Nevertheless, altogether with the two survey studies and the interviews, our research has revealed multi-faceted and insightful findings around the issues we examined. Future studies could focus on issues like how changed international relationships due to COVID-19 influence Chinese nationals' outbound travel to specific destination countries, assuming that Chinese tourists may still be a relatively strong international travel market.

Appendices

(Please refer to the attached file)

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