Macrothink Institute™

International Journal of Learning and Development
ISSN 2164-4063
2024, Vol. 14, No. 1

The Study of Travel Intention after Easing Coronavirus Restrictions—A Case Study in Taiwan

Hung-Yen Li

Assistant Professor, Department of Tourism

Meiho University, Taiwan

Pei-En Hsieh

College Junior, Department of Commercial Design

National Taichung University of Science and Technology, Taiwan

Chiung-Li Li (corresponding author)

Associate Professor, Department of Tourism, Meiho University, Taiwan

Received: January 22, 2024 Accepted: February 15, 2024 Published: February 16, 2024

doi:10.5296/ijld.v14i1.21649 URL: https://doi.org/10.5296/ijld.v14i1.21649

Abstract

The Coronavirus has significantly influenced the lives of most people in the world. Coronavirus lockdown extended to the globe. Travel plays an essential role for many people's lives. However, travel became a dream during COVID-19 pandemic because the global lockdowns have continued for more than three years. Fortunately, global lockdowns have been lifted gradually since 2022. This study aimed to explore the travel intentions of people in Taiwan after the easing of coronavirus restrictions. An online survey was carried out to investigate Taiwanese people's travel intention after COVID-19 pandemic. The researchers designed a travel intention questionnaire and analysed the data by SPSS 23.0. Descriptive analysis, as well as chi-square and ANOVA tests, were employed to examine variability among the subjects. The study comprised 587 valid samples. The researchers identified statistically significant associations between gender, age, occupation, travel length, travel frequency, travel partner, and travel intention after the lifting of lockdowns.

Keywords: Coronavirus, Restriction, Travel intention

1. Introduction

1.1 Research Background and Motivation

The COVID-19 pandemic has continued in the world for more than three years. It influences many people's lives, especially people cannot travel to the world for the sake of safety. Brajša-Žganec et al. (2011) found that leisure activities, including travel, play a necessary role in people's lives because those activities provide different opportunities to meet life values and needs. Travel often makes people feel comfortable, relaxed, and joyful; moreover, travel can promote mental and physical health. Several research findings indicated that experiencing satisfaction during leisure time positively influenced psychological well-being, while an overwhelming workload had a detrimental impact on leisure time satisfaction (Pearson; 1998, 2008). After easing Coronavirus restrictions, a lot of people around the world cannot wait for traveling to relax. Consequently, the researchers wish to know Taiwanese people's travel intention after lifting COVID-19 restrictions.

1.2 Research Purpose and Questions

The researchers aim to explore potential correlations between the subject's gender, age, occupation, travel frequency, travel length, travel partner and travel intention after lifting lockdowns. Hence, several research questions were formulated based on the research objectives, as outlined below:

1) Are there any relationships between subject's gender and travel intention after lifting lockdowns?
2) Are there any relationships between subject's age and travel intention after lifting lockdowns?
3) Are there any relationships between subject's occupation and travel intention after lifting lockdowns?
4) Are there any differences between subject's travel frequency and travel intention after lifting lockdowns?
5) Are there any differences between subject's travel length and travel intention after lifting lockdowns?
6) Are there any differences between subject's travel partner and travel intention after lifting lockdowns?

2. Literature Review

The COVID-19 pandemic has changed many people's lives. COVID-19 caused the restrictions on outdoor activities (Lim & Pranata, 2021), especially restricted on travel. The world was put into lockdown, people were forced to stop most outdoor leisure activities, and cannot travel freely. Travel is a kind of outdoor leisure activities which may mitigate depressive symptoms (Morgan et al., 2021) because travel brings happiness and relaxation to us. Travel behavior is associated with many factors like age (Mwale et al., 2022; Siren & Haustein, 2013), gender

(Mwale et al., 2022) and personal empowerment (Aguiléra & Grébert, 2014), lifestyle choices (La Paix Puello et al., 2019) or occupation (Yang et al., 2012) influencing people's choices. Borkowski et al. (2021) found that age and gender affected travel time under epidemic conditions; the more the respondent was afraid of coronavirus, the more the traveler shortened the travel time. In other words, subject's background may have some effects on travel intention. Therefore, according to the research questions, the researchers would state some related literature reviews.

2.1 Gender and Travel Intention

Zhang and Van Acker (2017) indicated that travel behavior research aims to investigate how travel decisions and choices are made, such as how many trips people make, where they go, which mode they use, who they travel with, which route to take, and so forth. Zhang and Lee (2021) found that gender had effects on travel behavior, and some studies explored the relationship between gender and travel intention. For example, gender significantly affected the perceived image of tourist destinations (Baloglu & McCleary, 1999; Chen & Kerstetter, 1999; Prajapati & Khan, 2022); females had stronger motivations to travel than males (Andreu et al., 2006); males preferred more recreation and activity in the destination (Mwale et al., 2022); females had stronger relaxation and escape-based motives (Andreu et al., 2006; Carballo et al., 2022; Goel et al., 2023; Prajapati & Khan, 2022; Yoo, 2022).

Moreover, Yang et al. (2022) found that distance to a destination contributes more to males' active travel, such as cycling, or walking; population density contributes more to females' active travel, and the built environment attributes have non-linear associations with active travel among older males and females. In addition, Otegui-Carles et al. (2022) showed that males like to contact with nature, explore new places, try new foods, meet people from other cultures, travel to destinations marked with adventure, local arts and cultural activities, and young, single males traveling alone look for sports and party holidays. However, Jönsson & Devonish (2008) found that gender did not exert a statistically significant influence on tourists' motivations to visit cultural sites.

Based on the aforementioned literature reviews, the majority of studies observed distinctions between gender and travel intention, but some did not. In this study, the researchers would engage in discussions with prior studies.

2.2 Age and Travel Intention

Some studies have found that age significantly affected the perceived image of tourist destinations (Baloglu & McCleary, 1999; Chen & Kerstetter, 1999; Jönsson & Devonish, 2008). For example, Mwale et al. (2022) showed that older people are more likely to undertake primary discretionary trips than young people (Jönsson & Devonish, 2008; Tembe, 2019); age of a tourist had a significant effect on cultural motivations and relaxation-based motivations (Jönsson & Devonish, 2008), and the built environment attributes have non-linear associations with active travel time among older people (Yang et al., 2022). However, some studies found that age of a tourist had no significant influence on travel motivations (Andreu et al., 2006).

In other words, the association between age and travel intention has exhibited inconsistency in

various studies. In this study, the researchers aim to investigate potential disparities in travel intention among different age groups in Taiwan after lifting lockdowns.

2.3 Occupation and Travel Intention

Whether there are any relationships between occupation and travel behavior was explored by some studies. For example, Chang et al. (2020) found the demographic variables, including occupation, impact tourist behavior; Zhang and Lee (2021) and Zhang et al. (2022) showed that occupation had some effects on travel behavior. And the impact of demographic variable on tourist visit intention behavior was to be significant, and socioeconomic background of the tourist was found to have a significant impact on tourist intention to visit a destination (Zhang et al., 2022). Moreover, Cusatis and Garbarski (2019) discovered that individuals involved in manufacturing/agriculture, those who were unemployed, and those in various other occupations were engaging in physical activity, such as cycling, walking, or active recreation, significantly more than those in managerial/professional occupations.

However, certain studies indicated that there was no significant correlation between occupations and travel intention, for example, Boro (2022) found that there was a positive relationship between tourist level of satisfaction and revisit intention and their relationship is not impacted by the occupation of tourist. Therefore, in this study, the researchers would like to explore potential variations in travel intention across diverse occupational groups in Taiwan after lifting lockdowns.

2.4 Travel Style and Travel Intention

Some people like to travel alone; some like to travel by plane, car, or train, and some pay attention to travel length or travel expense. Most people have their own travel style. Baumgartner et al. (2023) indicated that journey attributes describe factors like travel time (Ohnmacht & Scherer, 2010), travel motive (An et al., 2021), trip length (Gutiérrez et al., 2020; Rubin et al., 2014), trip cost (Axhausen et al., 2021) and comfort (de Oña et al., 2015).

Otegui-Carles et al. (2022) indicated that there were not many studies comparing solo travelers with accompanied ones, and some studies indicated that solo travelers had fewer complaints than people who travel accompanied; however, some indicated that solo travelers have higher requirements for indoor environmental quality, indoor air quality, acoustic environments, and playful environments and that they have a less satisfying travel experience than those who travel accompanied. Su et al. (2020) found that the presence or absence of a travel companion was identified as a moderating factor in the relationship between tourist activity type and emotional arousal; the presence of a travel companion enhances the positive impact of adventure travel on a tourist's arousal, whereas engaging in adventure travel alone diminishes the arousal effect.

Whereas the availability of a car, thinking of a travel partner, traveling fast and perceiving this way of traveling as the only viable option were negatively related to this mode choice (Baumgartner et al., 2023). Remoaldo et al. (2020) found that most travelers with companions visited for seeking novelty, learning knowledge and skills, and creative tourism activities. Moreover, Otegui-Carles et al. (2022) showed that accompanied tourists tend to stay in the

destination longer than solo travelers; however, other data point to the fact that solo travelers make longer trips than other tourists.

Mackett (2021) showed that more females than males significantly suffered from some anxieties when travelling, such as the need for support, concern about way-finding, interacting with fellow travelers and concerns about the failure of the bus, train or car, and more males than females wanted improvements to the traveling environment, such as less clutter on the street. And some studies showed that freedom and self-development were regarded as important motivations for women to travel alone (Bianchi, 2016; Jordan & Gibson, 2005; Osman et al., 2020).

Based on the preceding literature reviews, studies identified variations between traveling alone and traveling with companions, including travel length, travel cost, or travel motive. The researchers would like to examine potential distinctions in travel styles, including travel frequency, travel partner, travel length and travel intention, and compare these results with those presented in previous studies conducted in Taiwan after the lifting of lockdowns.

3. Methodology

3.1 Subjects

The study included a total of 587 subjects from Taiwan, comprising 222 males and 365 females. From October 2022 to December 2022, the subjects willingly opted to partake in the online survey.

3.2 Research Instrument

The researchers first designed a questionnaire about travel intention with 20 items and then two experts were invited to ensure the appropriateness and clarity of the item descriptions. The researchers invited 102 participants to conduct a pilot study on the questionnaire. After six rounds of factor analysis and the removal of 7 items, the final travel intention questionnaire (see Appendix) comprised 13 variables. The factors were labeled as follows: Factor 1 - travel theme, Factor 2 - travel transportation, Factor 3 - sports travel, and Factor 4 - popular spots.

The questionnaire consists of two parts. The first part emphasizes participants' background, encompassing gender, age, occupation, travel frequency, travel length, and travel partner. The second part is dedicated to measuring travel intention. Data collection was carried out online. The researchers employed the questionnaire as the primary research tool, and gathered a total of 587 valid samples, including 222 males and 365 females. Formal data collection took place online between October 20th and December 9th, 2022.

3.2.1 Reliability Test & Validity Test

The reliability test aims to evaluate the measurement scale's internal consistency. The analysis indicates that the Cronbach's α coefficient value of the scale is 0.809, which indicates that the measurement of this study has great reliability. Validity is the extent to which the scores from a measure represent the variable they are intended to. The validity test is mainly evaluated by convergent validity and discriminant validity. Convergent validity refers to the correlation

between different items of the same variable. Based on the criteria proposed by Hair et al. (2006), all the factor loads in the present study are bigger than 0.5, and the *p* values are significant. After six rounds of factor analysis and the removal of 7 items, the final travel intention questionnaire comprised 13 variables (four factors) which can explain 70.403% of the variance, indicating that the variables have good discriminant validity. The four factors were labeled as follows: Factor 1-travel theme- encompasses four variables; Factor 2-travel transportation-includes two variables; Factor 3-sports travel-incorporates three variables; and Factor 4-popular spots-consists of four variables.

4. Results and discussion

4.1 Descriptive Statistics

Following the data analysis, the researchers observed that a majority, exceeding 62%, of the subjects were female (see Table 1). Furthermore, nearly half of the subjects were over 45 years old (44.3%). In addition, close to one-third of the subjects were students (32.5%). It appears that students exhibit a greater willingness to participate in online surveys. What's more, more than one-fourth of the subjects were soldiers, teachers and government employees (26.4%). In general, they adhere to fixed working hours, making it potentially easier for them to participate in an online survey. Furthermore, near half of the subjects (48.9%) travelled over 3 times a year; over half of the subjects (54.7%) used to stay a tourist spot for about 1-3 days, and most of the subjects (92.9%) travelled with companions before COVID.

Table 1. Demographic Characteristics and Backgrounds of the Subjects (*N*=587)

Category	*n*	*%*
Gender		
Female	365	62.2%
Male	222	37.8%
Age		
under 18	70	11.9%
18-25	138	23.5%
25-35	39	6.6%
35-45	80	13.6%
45-55	179	30.5%
55-65	58	9.9%
over 65	23	3.9%

Occupation		
Student	191	32.5%
Soldier/teacher/government employee/teacher	155	26.4%
Service industry	85	14.5%
Industry and commerce	29	4.9%
Medical Staff	31	5.3%
Retirees	64	10.9%
Others	32	5.5%
Travel Frequency		
Less than 1 time	55	9.4%
1-3 times	245	41.7%
3-5 times	132	22.5%
More than 5 times	155	26.4%
Travel Length		
1 day	79	13.5%
1-3 days	321	54.7%
3-5 days	107	18.2%
5-7 days	53	9.0%
More than 1 week	27	4.6%
Travel Partner		
alone	15	2.6%
family	359	61.2%
friend	186	31.7%
others	27	4.6%

4.2 Inferential Statistics

In this study, the travel intention is categorized into four factors: theme, transportation, sports travel, and popular spots. Factor 1, labeled "theme," comprises four variables (scene, historic

site, museum, American/European); Factor 2, denoted as "transportation," includes two variables (bus, cruise); Factor 3, named "sports travel," incorporates three variables (adventure, cycling, hiking); and Factor 4, titled "popular spots," consists of four variables (shopping, filming spot, NE Asia, SE Asia).

In order to answer research question 1 (*Are there any relationships between subject's gender and travel intention after lifting lockdowns?*), a chi-square test of independence was conducted to assess the relationships between the variables (see Tables 2-5).

Table 2. The Chi-Square Test between Gender and Travel Theme (*N*=587)

Theme		scenery	historic site	museum	American/European
gender	value	χ^2_{4df}=9.080	χ^2_{4df}=28.576	χ^2_{4df}=7.261	χ^2_{4df}=18.820
	p	.059	.000	.123	.001

χ^2_{15df}=66.813, *p*=.000, *N* of male=222, *N* of female=365.

A chi-square test of independence was performed to examine the relation between gender and travel theme. From Table 2, the relation between these variables was significant, χ^2_{15df}=66.813, *p*=.000. Females were more likely than males to care about travel themes. The result is inconsistent with the study of Otegui-Carles et al. (2022) who showed that males seek contact with nature, explore new places, try new foods, meet people from other cultures, travel to destinations marked by poverty, and even seek danger.

Table 3. The Chi-Square Test between Gender and Travel Transportation (*N*=587)

Transportation		bus	cruise
gender	value	χ^2_{4df}=45.896	χ^2_{4df}=42.692
	p	.000	.000

χ^2_{5df}=46.353, *p*=.000, *N* of male=222, *N* of female=365.

A chi-square test of independence was performed to examine the relation between gender and travel transportation. From Table 3, the relation between these variables was significant, χ^2_{5df}=46.353, *p*=.000. Females were more likely than males to care about travel transportation. The result is consistent with the study of Goel et al. (2023) who stated that females are more likely than males to use public transport.

Table 4. The Chi-Square Test between Gender and Sports Travel (*N*=587)

Sports		adventure	cycling	hiking
gender	value	χ^2_{4df}=15.183	χ^2_{4df}=65.437	χ^2_{4df}=86.429
	p	.001	.000	.000

χ^2_{12df}=86.045, *p*=.000, *N* of male=222, *N* of female=365.

A chi-square test of independence was performed to examine the relation between gender and sports travel. From Table 4, the relation between these variables was significant, χ^2_{12df}=86.045, *p*=.000. Males were more likely than females to care about sports travel. The result is consistent with the study of Otegui-Carles et al. (2022) who showed that males like adventure, that of Goel et al. (2023) who stated that females are more likely than males to walk, but often less likely go cycling than males, and that of Carballo et al. (2022) who showed that females are more likely than males to reduce their visit to a destination whenever there is an increase in their risk perceptions.

Table 5. The Chi-Square Test between Gender and Popular Spots (*N*=587)

Popular Spots		shopping	filming spot	NE Asia	SE Asia
gender	value	χ^2_{4df}=61.076	χ^2_{4df}=6.832	χ^2_{4df}=13.874	χ^2_{4df}=25.944
	p	.000	.145	.008	.000

χ^2_{16df}=55.335, *p*=.000, *N* of male: 222, *N* of female=365.

A chi-square test of independence was performed to examine the relation between gender and popular spots. From Table 5, the relation between these variables was significant, χ^2_{16df}=55.335, *p*=.000. Females were more likely than males to care about popular spots except filming spots. The result is consistent with the study of Otegui-Carles et al. (2022) who showed that males seek contact with nature, explore new places, try new foods, meet people from other cultures, travel to destinations marked by poverty, and even seek danger, and males like adventure, local arts, and cultural activities.

In summary, in this study, researchers identified associations between gender and travel intention were statistically significantly associated after lifting lockdowns, including travel theme, travel transportation, sports travel, and popular spots. More specifically, females were

more inclined than males to prioritize aspects such as travel themes, popular tourist spots, and transportation modes in their travels after lifting lockdowns. However, males were more inclined than females to express interest in sports-related travel. Perhaps females like to watch films more than males and would like to visit those filming spots to relive the film scenes. The result is consistent with the study of Saito et al. (2015) indicating that men were more prone to participating in outdoor activities, that of Mwale et al. (2022) indicating that males generally tend to undertake more work and school trips than females, and that of Prajapati & Khan (2022) indicating that women are less mobile and travel for shorter distances than male. Additionally, Mackett (2021) demonstrated that a higher proportion of females, compared to males, experienced significant anxieties during travel, including a need for support, way-finding concerns, interactions with fellow travelers, and worries about transportation failures such as buses, trains, or cars. Conversely, a greater number of males expressed a desire for improvements in the travel environment, such as reduced street clutter.

In order to answer research question 2 (*Are there any relationships between subject's age and travel intention after lifting lockdowns?*), a one-way ANOVA test was used to ascertain if there were any discrepancies between the age of the subjects and their travel intention after lifting lockdowns (see Tables 6-9).

Table 6. One-Way ANOVA between Age and Travel Theme (*N*=587)

age	*N*	*Mean*	*SD*	*df*	*F*	*p*
18-	70	15.657	2.760			
18-25	138	15.290	4.105			
25-35	39	16.103	3.705	Between 6		
35-45	80	17.000	2.667	Within 580	3.637	.001
45-55	179	16.816	3.158	Total 586		
55-65	58	15.862	4.639			
65+	23	16.783	3.190			

A one-way between subjects ANOVA was conducted to compare the effect of age on travel theme in seven groups. From Table 6, age had a notable impact on the choice of travel theme at the $p<.05$ level for the seven groups [$F(6, 580) = 3.637$, $p = 0.001$]. Post hoc comparisons conducted with the Tukey HSD test revealed that the mean score for the 35-45 age group (M =

17.000, *SD* = 2.667) was significantly different from the 18-25 age group (*M* = 15.290, *SD* = 4.105). Moreover, the mean score for the 45-55 age group (*M* = 16.816, *SD* =3.158) was significantly different from the 18-25 age group (*M* = 15.290, *SD* =4.105). Collectively, these findings imply that age indeed influenced the choice of travel themes. Specifically, our results suggest that between the ages of 35 and 55, the subjects expressed a greater concern for travel themes compared to the 18-25 age group. In other words, the subjects in their midlife consider what they want to visit more important after lifting lockdowns. The result is consistent with the study of Jönsson & Devonish (2008) who found that older tourists (56 years and over) had significantly stronger cultural motivations, compared with younger tourists (18-35 years), and tourists in the 36-55 age group had significantly stronger relaxation-based motivations to travel, compared with younger ones (18-35 years). In other words, older tourists were more likely to travel for reasons based on cultural exploration and relaxation, whereas younger tourists were more likely to travel to engage in sports.

Table 7. One-Way ANOVA between Age and Travel Transportation (*N*=587)

age	*N*	*Mean*	*SD*	*df*	*F*	*p*
18-	70	6.543	2.301			
18-25	138	5.964	2.518			
25-35	39	7.026	2.378	Between 6		
35-45	80	6.050	2.418	Within 580	5.325	.000
45-55	179	7.073	2.682	Total 586		
55-65	58	5.793	2.845			
65+	23	8.000	2.000			

A one-way between-subjects ANOVA was performed to examine the impact of age on travel transportation in seven groups. From Table 7, there was a significant effect of age on travel transportation at the $p<.05$ level for the seven groups [$F(6, 580) = 5.325$, $p = 0.000$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the 45-55 age group (*M* = 7.073, *SD* = 2.682) was significantly different from the 18-25 age group (*M* = 5.964, *SD* = 2.518), the 35-45 age group (*M* = 6.050, *SD* = 2.418) and the 55-65 age group (*M* = 5.793, *SD* = 2.845). Moreover, the mean score for the over 65 age group (*M* = 8.000, *SD* =2.000) was significantly different from the 18-25 age group (*M* = 5.964, *SD* =2.518), the 35-45 age group (*M* = 6.050, *SD* = 2.418), and the 55-65 age group (*M* = 5.793, *SD* = 2.845). In summary, these

findings imply that age significantly influenced the choice of travel transportation. Specifically, our results suggest that when the subjects were in the 45-55 age group, their highest priority was given to travel transportation. That is to say, middle-aged subjects exhibit a heightened focus on the choice of transportation during their travels after lifting lockdowns.

Table 8. One-Way ANOVA between Age and Sports Travel (*N*=587)

age	*N*	*Mean*	*SD*	*df*	*F*	*p*
18-	70	9.071	3.200			
18-25	138	8.667	3.593			
25-35	39	11.023	3.030	Between 6		
35-45	80	9.763	2.896	Within 580	5.583	.000
45-55	179	8.531	3.114	Total 586		
55-65	58	8.535	2.792			
65+	23	7.348	2.166			

A one-way between-subjects ANOVA was carried out to assess the impact of sports travel on age in seven groups. From Table 8, there was a significant effect of age on sports travel at the $p<.05$ level for the seven groups [$F(6, 580) = 5.583$, $p = 0.000$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the 25-35 age group ($M = 11.023$, $SD = 3.030$) was significantly different from the under 18 age group ($M = 9.071$, $SD = 3.200$), the 18-25 age group ($M = 8.667$, $SD = 3.593$), the 45-55 age group ($M = 8.531$, $SD = 3.114$), the 55-65 age group ($M = 8.535$, $SD = 2.792$) and the over 65 age group ($M = 7.348$, $SD = 2.166$) except the 35-45 age group ($M = 9.763$, $SD = 2.896$). Moreover, the mean score for the 35-45 age group ($M = 9.763$, $SD = 2.896$) was significantly different from the over 65 age group ($M = 7.348$, $SD = 2.166$). Taken together, these results suggest that age really had an effect on sports travel. Specifically, our results suggest that when the subjects were in the 25-35 age group, their primary focus was on sports-related travel. In other words, physical activities were favored by young subjects after lifting lockdowns. The result is consistent with the study of Otegui-Carles et al. (2022), indicating that young, single males traveling alone would seek sports-related activities. The result is also consistent with Jönsson & Devonish's study (2008), indicating that younger tourists were more inclined to engage in sports during their travels.

Table 9. One-Way ANOVA between Age and Popular Spots (*N*=587)

age	*N*	*Mean*	*SD*	*df*	*F*	*p*
18-	70	16.000	2.610			
18-25	138	15.261	3.723			
25-35	39	14.667	3.909	Between 6		
35-45	80	12.150	4.458	Within 580	12.601	.000
45-55	179	13.827	3.720	Total 586		
55-65	58	11.690	4.918			
65+	23	13.217	3.204			

A one-way between subjects ANOVA was conducted to compare the effect of age on popular spots in seven groups. From Table 9, there was a significant effect of age on popular spots at the $p<.05$ level for the seven groups [$F(6, 580) = 12.601$, $p = 0.000$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the under 18 age group ($M = 16.000$, $SD = 2.610$) was significantly different from the 35-45 age group ($M = 12.150$, $SD = 4.458$), the 45-55 age group ($M = 13.827$, $SD = 3.720$), the 55-65 age group ($M = 11.690$, $SD = 4.918$), and the over 65 age group ($M = 13.217$, $SD = 3.204$). Moreover, the mean score for the 18-25 age group ($M = 15.261$, $SD = 3.723$) was significantly different from the 35-45 age group ($M = 12.150$, $SD = 4.458$), the 45-55 age group ($M = 13.827$, $SD = 3.720$), and the 55-65 age group ($M = 11.690$, $SD = 4.918$). In addition, the mean score for the 25-35 age group ($M = 14.667$, $SD = 3.909$) was significantly different from the 35-45 age group ($M = 12.150$, $SD = 4.458$), and the 55-65 age group ($M = 11.690$, $SD = 4.918$). Furthermore, the mean score for the 45-55 age group ($M = 13.827$, $SD = 3.720$) was significantly different from the 35-45 age group ($M = 12.150$, $SD = 4.458$), and the 55-65 age group ($M = 11.690$, $SD = 4.918$). Taken together, these results suggest that age did have an effect on popular spots. Specifically, our results suggest that when the subjects were under 18 years old, their primary focus was on popular tourist spots. In other words, the majority of teenagers in the study preferred popular tourist spots the most after lifting lockdowns.

In short, in this study, the researchers found that age and travel intention were statistically significantly associated. More specifically, during the travel, the subjects in their midlife prioritized destinations; the middle-aged subjects placed a greater emphasis on transportation modes; physical activities were particularly favored by younger subjects, and popular tourist spots were the top choice for most teens after lifting lockdowns.

Perhaps most people in their midlife know their minds and they will decide their travel theme. Moreover, middle-aged people usually like leisurely travel style and they prefer travel by bus or cruise. Furthermore, young people have more energy and like to do challenging activities or physical activities, like bungee jumping, cycling, or hiking. What's more, teenagers like to check in filming spots and take pictures of the spots and make Instagram stories of them.

In order to answer research question 3 (*Are there any relationships between subject's occupation and travel intention after lifting lockdowns?)*, a one-way ANOVA test was employed to determine if there were any distinctions between the participants' occupations and travel intentions after lifting lockdowns (see Tables 10-13).

Table 10. One-Way ANOVA between Occupation and Travel Theme (*N*=587)

occupation	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	191	15.215	3.728			
G2	155	18.032	2.056	Between 6		
G3	85	16.259	2.863	Within 580		
G4	29	14.931	2.738	Total 586	15.649	.000
G5	31	18.226	2.986	G2>G1,G3,G4,G6,G7 G5>G1,G4,G6,G7		
G6	64	15.359	4.452	G3>G7		
G7	32	13.938	4.464			

Note. G1: student; G2: soldier, teacher, government employee; G3: service industry; G4: industrial & commercial; G5: medical staff; G6: retiree; G7: others.

A one-way between subjects ANOVA was conducted to compare the effect of occupation on travel themes in seven groups. From Table 10, there was a significant effect of occupation on travel themes at the $p<.05$ level for the seven groups [$F(6, 580) = 15.649$, $p = 0.000$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 2 (M = 18.032, SD =2.056) was significantly different from the group 1 (M = 15.215, SD = 3.728), the group 3 (M = 16.259, SD = 2.863), the group 4 (M = 14.931, SD = 2.738), the group 6 (M = 15.359, SD = 4.452), and the group 7 (M = 13.938, SD = 4.464) except the group 5 (M = 18.226, SD = 2.986). Moreover, the mean score for the group 5 (M = 18.226, SD =2.986) was significantly different from the group 1 (M = 15.215, SD = 3.728), the group 4 (M = 14.931, SD = 2.738), the group 6 (M = 15.359, SD = 4.452), and the group 7 (M = 13.938, SD = 4.464). In addition, the mean score for the group 3 (M = 16.259, SD =2.863) was significantly different

from the group 7 (M = 13.938, SD =4.464). In conclusion, these findings imply that occupation significantly influenced the choice of travel themes. Specifically, our results suggest that when the subjects were medical staff, their highest concern was travel themes.

Table 11. One-Way ANOVA between Occupation and Travel Transportation (N=587)

occupation	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	191	6.152	2.507			
G2	155	6.619	2.721			
G3	85	6.965	2.212	Between 6 Within 580		
G4	29	5.241	2.531	Total 586	2.986	.007
G5	31	7.290	2.559	G3>G2,G4 G5>G4		
G6	64	6.683	2.949			
G7	32	6.813	2.264			

Note. G1: student; G2: soldier, teacher, government employee; G3: service industry; G4: industrial & commercial; G5: medical staff; G6: retiree; G7: others.

A one-way between-subjects ANOVA was conducted to assess the effect of occupation on travel transportation in seven groups. From Table 11, there was a significant effect of occupation on travel transportation at the p<.05 level for the seven groups [F(6, 580) = 2.986, p = 0.007]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 3 (M = 6.965, SD =2.212) was significantly different from the group 2 (M = 6.619, SD = 2.721), and the group 4 (M = 5.241, SD = 2.531). Moreover, the mean score for the group 5 (M = 7.290, SD =2.559) was significantly different from the group 4 (M = 5.241, SD = 2.531). In summary, these findings imply that occupation significantly influenced the choice of travel transportation. Specifically, our results suggest that when the subjects were medical staff, their highest priority was travel transportation modes.

Table 12. One-Way ANOVA between Occupation and Sports Travel (*N*=587)

occupation	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	191	8.984	3.575			
G2	155	9.419	2.704			
G3	85	8.553	3.111	Between 6		
G4	29	9.069	3.229	Within 580	1.787	.099
G5	31	8.548	3.650	Total 586		
G6	64	8.000	3.142			
G7	32	9.063	3.121			

Note. G1: student; G2: soldier, teacher, government employee; G3: service industry; G4: industrial & commercial; G5: medical staff; G6: retiree; G7: others.

A one-way between subjects ANOVA was conducted to assess the impact of occupation on sports travel in seven groups. From Table 12, there was not a significant effect of occupation on sports travel at the $p<.05$ level for the seven groups [$F(6, 580) = 1.787$, $p = 0.099$]. Collectively, these results indicate that occupation did not impact sports travel.

Table 13. One-Way ANOVA between Occupation and Popular Spots (*N*=587)

occupation	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	191	15.613	3.450			
G2	155	13.974	4.389	Between 6		
G3	85	12.529	3.705	Within 580		
G4	29	14.552	3.089	Total 586	11.585	.000
G5	31	13.903	3.249	G1>G2, G3, G6, G7		
G6	64	12.047	4.380	G2>G6		
G7	32	12.188	3.995			

Note. G1: student; G2: soldier, teacher, government employee; G3: service industry; G4: industrial & commercial; G5: medical staff; G6: retiree; G7: others.

A one-way between-subjects ANOVA was performed to assess the influence of occupation on popular spots in seven groups. From Table 13, there was a significant effect of occupation on popular spots at the $p<.05$ level for the seven groups [$F(6, 580) = 11.585$, $p = 0.000$]. Post hoc

comparisons using the Tukey HSD test indicated that the mean score for the group 1 (M = 15.613, SD =3.450) was significantly different from the group 2 (M = 13.974, SD = 4.389), the group 3 (M = 12.529, SD = 3.705), the group 6 (M = 12.047, SD = 4.380), and the group 7 (M = 12.188, SD = 3.995). Moreover, the mean score for the group 2 (M = 13.974, SD =4.389) was significantly different from the group 6 (M = 12.047, SD = 4.380). Taken together, these results suggest that occupation really had an effect on popular spots. Specifically, our results suggest that when the subjects were students, their greatest concern was directed towards popular tourist spots.

In short, in this study, this study revealed a statistically significant association between occupation and travel intention, including travel theme, travel transportation, sports travel, and popular spots. The result was consistent with the studies of Chang et al. (2020), Zhang and Lee (2021), and Zhang et al. (2022), but inconsistent with the study of Boro (2022).

More specifically, in this study, medical staff expressed the highest concern for travel themes and transportation during their travels. In addition, soldiers, teachers, and government employees exhibited a greater interest in sports-related travel. Meanwhile, students showed a predominant interest in popular tourist spots after lifting lockdowns. Perhaps, medical staff are usually under a lot of job stress, choosing diverse travel themes and transportation as a way of stress relief. In addition, soldiers, teachers, and government employees usually have fixed working hours; maybe they seek sports-related travel to bring variety into their lives. Moreover, students usually like shopping, and filming spots, maybe they find enjoyment in these activities as a way to pass the time and share pictures on their Instagram.

In order to answer research question 4 (*Are there any differences between subject's travel frequency and travel intention after lifting lockdowns?*), a one-way ANOVA test was employed to identify whether there were any differences between subject's travel frequency and travel intention after lifting lockdowns (se Tables 14-17).

Table 14. One-Way ANOVA between Travel Frequency and Travel Theme (N=587)

Frequency	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	65	13.946	4.739	Between 3		
G2	245	15.959	3.283	Within 583		
G3	132	17.386	3.367	Total 586	13.584	.000
G4	155	16.374	3.224	G1<G2,G3,G4 G3>G2		

Note. G1: less than one time; G2: 1-3 times; G3: 3-5 times; G4: more than 5 times.

A one-way between-subjects ANOVA was carried out to examine the impact of travel frequency on travel themes within four distinct groups. From Table 14, there was a significant effect of travel frequency on travel themes at the $p<.05$ level for the four groups [$F(3, 583) = 13.584$, $p = 0.000$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 1 ($M = 13.946$, $SD = 4.739$) was significantly different from the group 2 ($M = 15.959$, $SD = 3.283$), the group 3 ($M = 17.386$, $SD = 3.367$), and the group 4 ($M = 16.374$, $SD = 3.224$). Moreover, the mean score for the group 3 ($M = 17.386$, $SD = 3.367$) was significantly different from the group 2 ($M = 15.959$, $SD = 3.283$). Taken together, these results suggest that travel frequency really had an effect on travel themes. Specifically, our results suggest that when the subjects traveled 3-5 times per year, their primary focus was on travel themes.

Table 15. One-Way ANOVA between Travel Frequency and Transportation (N=587)

Frequency	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	65	5.746	2.750	Between 3	3.104	.026
G2	245	6.804	2.164	Within 583		
G3	132	6.258	2.918	Total 586		
G4	155	6.555	2.813	G2>G1		

Note. G1: less than one time; G2: 1-3 times; G3: 3-5 times; G4: more than 5 times.

A one-way between-subjects ANOVA was employed to assess the influence of travel frequency on travel transportation across four groups. From Table 15, there was a significant effect of travel frequency on travel transportation at the $p<.05$ level for the four groups [$F(3, 583) = 3.104$, $p = 0.026$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 1 ($M = 5.746$, $SD = 2.750$) was significantly different from the group 2 ($M = 6.804$, $SD = 2.164$). Collectively, these findings imply that travel frequency significantly influenced travel transportation. Specifically, our results suggest that when the subjects traveled 1-3 times per year, their primary focus was on travel transportation modes.

Table 16. One-Way ANOVA between Travel Frequency and Sports Travel (*N*=587)

Frequency	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	65	7.855	3.112	Between 3	4.567	.004
G2	245	8.629	3.217	Within 583		
G3	132	9.409	3.181	Total 586		
G4	155	9.323	3.203	G1< G3, G4		

Note. G1: less than one time; G2: 1-3 times; G3: 3-5 times; G4: more than 5 times.

A one-way between-subjects ANOVA was performed to evaluate the impact of travel frequency on sports travel within four distinct groups. From Table 16, there was a significant effect of travel frequency on sports travel at the $p<.05$ level for the four groups [$F(3, 583) = 4.567$, $p = 0.004$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 1 ($M = 7.855$, $SD = 3.112$) was significantly different from the group 3 ($M = 9.409$, $SD = 3.181$), and the group 4 ($M = 9.323$, $SD = 3.203$). Taken together, these findings indicate that travel frequency significantly influenced sports-related travel. Specifically, our results suggest that when the subjects traveled 3-5 times per year, their primary focus was on sports-related travel.

Table 17. One-Way ANOVA between Travel Frequency and Popular Spots (*N*=587)

Frequency	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	65	12.964	4.753	Between 3	1.792	.147
G2	245	13.906	4.222	Within 583		
G3	132	14.303	3.882	Total 586		
G4	155	14.316	3.671			

Note. G1: less than one time; G2: 1-3 times; G3: 3-5 times; G4: more than 5 times.

A one-way between subjects ANOVA was conducted to compare the effect of travel frequency on popular spots in four groups. From Table 17, there was not a significant effect of travel frequency on popular spots at the $p<.05$ level for the four groups [$F(3, 583) = 1.792$, $p = 0.147$]. Taken together, these results suggest that travel frequency did not have an effect on popular

tourist spots.

In short, in this study, the researchers identified a significant association between travel frequency and travel intention was statistically significantly associated, including travel theme, travel transportation, and sports travel except popular spots. More specifically, during the travel, the subjects who traveled 1-3 times per year cared about travel transportation the most, and the subjects who traveled 3-5 times per year cared about travel theme and sports-related travel the most after lifting lockdowns. Perhaps, the subjects who undertook more trips per year would place more emphasis on destination choices and transportation modes, as their increased travel frequency reflected a wider range of travel experiences.

In order to answer research question 5 (*Are there any differences between subject's travel length and travel intention after lifting lockdowns?*), a one-way ANOVA test was utilized to determine if there were any distinctions between the subjects' travel length and travel intention after lifting lockdowns (see Tables 18-21).

Table 18. One-Way ANOVA between Travel Length and Travel Theme (*N*=587)

Length	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	79	14.861	4.128	Between 4		
G2	321	16.299	3.210	Within 582	5.228	.000
G3	107	17.318	3.064	Total 586		
G4	53	15.585	4.786	G1<G2,G3		
G5	27	15.741	3.369	G3>G4		

Note. G1: 1 day; G2: 1-3 days; G3: 3-5 days; G4: 5-7 days; G5: more than a week.

A one-way between-subjects ANOVA was performed to assess the impact of travel length on travel themes within five groups. From Table 18, there was a significant effect of travel frequency on travel themes at the $p<.05$ level for the five groups [$F(4, 582) = 5.228$, $p = 0.000$]. Post hoc comparisons, conducted with the Tukey HSD test, revealed that the mean score for the group 1 ($M = 14.861$, $SD = 4.128$) was significantly different from the group 2 ($M = 16.299$, $SD = 3.210$), and the group 3 ($M = 17.318$, $SD = 3.064$). Moreover, the mean score for the group 4 ($M = 15.585$, $SD = 4.786$) was significantly different from the group 3 ($M = 17.318$, $SD = 3.064$). Taken together, these results suggest that travel length really had an effect on travel themes. Specifically, our results suggest that when the subjects stayed for 3-5 days every trip, they cared about travel themes the most.

Table 19. One-Way ANOVA between Travel Length and Travel Transportation (*N*=587)

Length	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	79	6.582	2.772	Between 4	8.281	.000
G2	321	6.928	2.426	Within 582		
G3	107	5.318	2.583	Total 586		
G4	53	6.264	2.802	G3<G1,G2		
G5	27	6.667	2.287			

Note. G1: 1 day; G2: 1-3 days; G3: 3-5 days; G4: 5-7 days; G5: more than a week.

A one-way between-subjects ANOVA was carried out to assess the impact of travel length on travel themes within five groups. From Table 19, there was a significant effect of travel length on travel theme at the $p<.05$ level for the five groups [$F(4, 582) = 8.281$, $p = 0.000$]. Post hoc comparisons, employing the Tukey HSD test, revealed that the mean score for the group 3 ($M = 5.318$, $SD = 2.583$) was significantly different from the group 1 ($M = 6.582$, $SD = 2.772$), and the group 2 ($M = 6.928$, $SD = 2.426$). Overall, these results suggest that travel length significantly influenced travel transportation. Specifically, our findings indicate that when the subjects stayed for 3-5 days every trip, they cared about travel transportation the less.

Table 20. One-Way ANOVA between Travel Length and Sports Travel (*N*=587)

Length	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	79	9.430	3.529	Between 4	.786	.535
G2	321	8.816	3.246	Within 582		
G3	107	8.804	2.586	Total 586		
G4	53	8.736	3.531			
G5	27	9.370	3.723			

Note. G1: 1 day; G2: 1-3 days; G3: 3-5 days; G4: 5-7 days; G5: more than a week.

A one-way between subjects ANOVA was performed to compare the impact of travel length on sports travel in five groups. From Table 20, there was not a significant effect of travel length on sports travel at the $p<.05$ level for the five groups [$F(4, 582) = 0.786$, $p = 0.535$]. Taken together, these results suggest that travel length did not have a significant influence on engagement in sports-related travel.

Table 21. One-Way ANOVA between Travel Length and Popular Spots (N=587)

Length	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	79	13.899	4.471	Between 4		
G2	321	14.003	3.898	Within 582		
				Total 586	7.684	.000
G3	107	15.430	3.410	G1>G4		
G4	53	11.830	4.410	G4<G2		
G5	27	13.185	4.616	G3>G2, G4		

Note. G1: 1 day; G2: 1-3 days; G3: 3-5 days; G4: 5-7 days; G5: more than a week.

A one-way between subjects ANOVA was conducted to assess the effect of travel length on popular spots in five groups. From Table 21, there was a significant effect of travel length on popular spots at the $p<.05$ level for the five groups [$F(4, 582) = 7.684$, $p = 0.000$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 1 (M = 13.899, SD =4.471) was significantly different from the group 4 (M = 11.830, SD = 4.410). Moreover, the mean score for the group 4 (M = 11.830, SD =4.410) was significantly different from the group 2 (M =14.003, SD = 3.898). In addition, the mean score for the group 3 (M = 15.430, SD =3.410) was significantly different from the group 2 (M =14.003, SD = 3.898) and the group 4 (M =11.830, SD =4.410). Taken together, these results suggest that travel length really did have an effect on popular spots. Specifically, our results suggest that when the subjects stayed for 3-5 days per trip, their primary focus was on popular tourist spots.

In conclusion, this study demonstrated a statistically significant correlation between travel length and travel intention, including travel theme, travel transportation, and popular spots except sports travel. The outcome aligns with the findings of Baumgartner et al. (2023), Ohnmacht and Scherer (2010), and Gutiérrez et al. (2020).

More specifically, the subjects who spent 3-5 days per trip exhibited a higher level of concern for travel themes and popular spots during their travels after lifting lockdowns. Notably, their emphasis on travel transportation was comparatively lower. However, travel length did not have an effect on engagement in sports-related travel.

To address research question 6 (*Are there any differences between subject's travel partner and travel intention after lifting lockdowns?*), a one-way ANOVA test was utilized to determine if

there were any distinctions between the subjects' travel partner and travel intention after lifting lockdowns (see Tables 22-25).

Table 22. One-Way ANOVA between Travel Partner and Travel Theme (*N*=587)

Partner	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	15	17.267	3.390	Between 3	5.176	.002
G2	359	16.591	3.403	Within 583		
G3	186	15.538	3.629	Total 586		
G4	27	15.000	4.288	G2< G3		

Note. G1: alone; G2: family; G3: friend; G4: others.

A one-way between subjects ANOVA was carried out to compare the effect of travel partner on travel theme in four groups. From Table 22, there was a significant effect of travel partner on travel themes at the $p<.05$ level for the four groups [$F(3, 583) = 5.176$, $p = 0.002$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 2 (M = 16.591, SD =3.403) was significantly different from the group 3 (M = 15.538, SD = 3.629). Collectively, these findings indicate that the choice of travel partner significantly influenced travel themes. Specifically, our results suggest that when the subjects traveled alone, their primary focus was on travel themes. The result is inconsistent with the study of Remoaldo et al. (2020) indicating that travelers with companions predominantly engaged in activities aimed at seeking novelty, acquiring knowledge and skills, and participating in creative tourism.

Table 23. One-Way ANOVA between Travel Partner and Travel Transportation (*N*=587)

Partner	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	15	7.067	2.604	Between 3	3.800	.010
G2	359	6.644	2.516	Within 583		
G3	186	6.075	2.584	Total 586		
G4	27	7.556	3.250	G3< G4		

Note. G1: alone; G2: family; G3: friend; G4: others.

A one-way between subjects ANOVA was conducted to compare the effect of travel partner on travel transportation in four groups. From Table 23, there was a significant effect of travel partner on travel transportation at the $p<.05$ level for the four groups [$F(3, 583) = 3.800$, $p = 0.010$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 3 ($M = 6.075$, $SD = 2.584$) was significantly different from the group 4 ($M = 7.556$, $SD = 3.250$). Taken together, these results suggest that travel partner really had an effect on travel transportation. Specifically, our results suggest that when the subjects traveled with friends, they paid less attention to travel transportation. The result is consistent with the study of Baumgartner et al. (2023) indicating that the selection of transportation mode was negatively associated with travel partner.

Table 24. One-Way ANOVA between Travel Partner and Sports Travel (N=587)

Partner	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	15	11.467	3.292	Between 3	6.842	.000
G2	359	8.515	2.954	Within 583		
G3	186	9.393	3.607	Total 586		
G4	27	9.519	2.806	G1< G3; G3>G2		

Note. G1: alone; G2: family; G3: friend; G4: others.

A one-way between-subjects ANOVA was performed to compare the impact of travel partner on sports travel within four groups. From Table 24, there was a significant effect of travel partner on sports travel at the $p<.05$ level for the four groups [$F(3, 583) = 6.842$, $p = 0.000$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 1 ($M = 11.467$, $SD = 3.292$) was significantly different from the group 3 ($M = 9.393$, $SD = 3.607$). Moreover, the mean score for the group 3 ($M = 9.393$, $SD = 3.607$) was significantly different from the group 2 ($M = 8.515$, $SD = 2.954$). Taken together, these results suggest that travel partner really had an effect on sports travel. Specifically, our results suggest that when the subjects traveled alone, their primary focus was on sports-related travel.

Table 25. One-Way ANOVA between Travel Partner and Popular Spots (*N*=587)

Partner	*N*	*Mean*	*SD*	*df*	*F*	*p*
G1	15	12.400	3.397	Between 3	3.694	.012
G2	359	13.869	4.093	Within 583		
G3	186	14.645	3.916	Total 586		
G4	27	12.519	4.510	G3>G4		

Note. G1: alone; G2: family; G3: friend; G4: others.

A one-way between subjects ANOVA was conducted to assess the impact of travel partner on popular spots in four groups. From Table 25, there was a significant effect of travel partner on popular spots at the $p<.05$ level for the four groups [$F(3, 583) = 3.694$, $p = 0.012$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the group 3 (M = 14.645, SD =3.916) was significantly different from the group 4 (M = 12.519, SD = 4.510). In conclusion, these findings suggest that the decision regarding a travel partner had a notable impact on the choice of popular spots. Specifically, our results suggest that when the subjects traveled with friends, their primary focus was on popular tourist spots.

In brief, in this study, the researchers identified that travel partner was statistically significantly associated, including travel theme, travel transportation, sports travel, and popular spots. More specifically, during the travel, the subjects who traveled alone exhibited the highest concern for travel themes and sports-related activities, whereas those traveling with friends showed a greater preference for popular tourist spots while paying minimal attention to travel transportation modes after lifting lockdowns. The result is consistent with the study of Su et al. (2020) indicating that adventure travel had a more positive influence on a tourist's arousal when accompanied by a companion, while the impact on arousal from participating in adventure travel was diminished when traveling alone.

Additionally, Otegui-Carles et al. (2022) indicated that accompanied tourists tend to extend their stay in the destination compared to solo travelers. However, contrasting data suggest that solo travelers undertake longer trips than other types of tourists. Furthermore, several studies indicated that women often view freedom and self-development as crucial motivations for solo travel (Bianchi, 2016; Jordan & Gibson, 2005; Osman et al., 2020).

5. Conclusion

Based on the results, the researchers reached the following conclusions. Firstly, there was a statistically significant association between gender and travel intention after lifting lockdowns, encompassing travel theme, travel transportation, sports travel, and popular spots. Specifically, females exhibited a greater inclination than males towards prioritizing elements such as travel

themes, popular tourist spots, and transportation modes in their travels. Conversely, males were more likely than females to show interest in sports-related travel.

Secondly, there was a statistically significant association between age and travel intention. To elaborate, the subjects in their midlife showed a preference for prioritizing destinations during their travels, while those in the middle-aged group placed a heightened emphasis on transportation modes. Younger subjects exhibited a particular fondness for engaging in physical activities, whereas popular tourist spots were the preferred choice for the majority of teenagers after lifting lockdowns.

Thirdly, there was a statistically significant association between occupation and travel intention, encompassing travel theme, travel transportation, sports travel, and popular spots. Specifically, medical subjects demonstrated the highest level of concern for travel themes and transportation modes during their travels. Furthermore, soldiers, teachers, and government employees displayed a heightened interest in sports-related travel. On the other hand, students exhibited a predominant interest in popular tourist spots after lifting lockdowns. Moreover, students often inclined towards activities like shopping and exploring filming spots.

Fourthly, there was a statistically significant association between travel frequency and travel intention, encompassing travel theme, travel transportation, and sports travel, excluding popular spots. To be more specific, those who traveled 1-3 times per year expressed the highest concern for travel transportation modes during their travels. Meanwhile, those who traveled 3-5 times per year exhibited the greatest interest in travel themes and sports-related activities after lifting lockdowns.

Fifthly, there was a statistically significant association between travel length and travel intention, involving travel theme, travel transportation, and popular spots, excluding sports travel. Specifically, those who spent 3-5 days per trip showed a heightened concern for travel themes and popular tourist spots during their travels. Notably, their emphasis on travel transportation modes was relatively lower. However, the length of travel did not influence engagement in sports-related travel.

Finally, there was a statistically significant association between travel partner and travel intention, encompassing travel theme, travel transportation, sports travel, and popular spots. Specifically, during the travel, subjects traveling alone exhibited the highest concern for travel themes and sports-related activities. In contrast, those traveling with friends displayed a greater preference for popular tourist spots, while paying minimal attention to travel transportation modes after lifting lockdowns.

6. Implications, Limitations, and Future Research

6.1 Implications

Our research has indicated potentially significant influences of subjects' backgrounds on travel intention, like subjects' gender, age, occupation, and travel frequency, travel transportation, and travel partner after the lifting of lockdowns. Based on the findings, the research has implications as follows.

Firstly, gender and age may be worthwhile when planning a trip, especially in terms of travel themes, travel transportation, popular spots, and sports-related travel.

Secondly, if the tourists happen to be medical staff, their travel emphasis may center around travel themes and transportation modes, and if the travelers are students, their travel focus may revolve around popular tourist spots.

Thirdly, those with a travel experience ranging from 3 to 5 times may center their travels around themes, transportation modes, and sports-related activities.

Fourthly, if travelers intend to spend 3-5 days on a trip, their focus might center around travel themes and popular tourist spots, excluding travel transportation.

Finally, for solo travelers, the emphasis of the trip may be on travel themes and sports-related activities. Conversely, when traveling with friends, the focus could shift to popular tourist spots, with less attention to transportation modes.

6.2 Limitations and Recommendations for Future Research

While the current study has produced findings with both theoretical and practical implications, its design is not flawless. In future research, additional variables, such as subjects' income, educational level (Park et al., 2019), residence, and others, could be incorporated to enhance the generalizability of the findings. Based on the results, some recommendations for future research are as follows,

Firstly, conducting a subsequent study to explore the specific types of sports-related activities undertaken by male travelers and younger travelers during their journeys is feasible. Moreover, delving deeper into the travel intentions of medical staff could be an intriguing area of exploration. Furthermore, it would be valuable to undertake a more in-depth analysis of the interplay between travel frequency, travel duration, and travel theme.

Lastly, it is viable to undertake a subsequent study to assess the impact of travel partner factors involved comparing individuals who traveled alone with those who traveled with companions.

Funding

None.

Informed Consent

Obtained.

Provenance and Peer Review

Not commissioned; externally double-blind peer reviewed.

Data Availability Statement

The data that support the findings of this study are available on request.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

References

Aguiléra, A., & Grébert, J. (2014). Passenger transport mode share in cities: exploration of actual and future trends with a worldwide survey. *International Journal of Automotive Technology and Management, 14*(3/4), 203. https://doi.org/10.1504/IJATM.2014.065290

An, Z., Heinen, E., & Watling, D. (2021). The level and determinants of multimodal travel behavior: Does trip purpose make a difference? *International Journal of Sustainable Transportation, 30*, 1-15. https://doi.org/10.1080/15568318.2021.1985195

Andreu, L., Kozak, M., Avci, N., & Cifter, N. (2006). Market segmentation by motivations to travel: British tourists visiting Turkey. *Journal of Travel & Tourism Marketing, 19*(1), 1-14. https://doi.org/10.1300/J073v19n01_01

Axhausen, K. W., Molloy, J., Tchervenkov, C., Becker, F., Hintermann, B., Schoeman, B., … & Tomic, U. (2021). *Empirical analysis of mobility behavior in the presence of Pigovian transport pricing* (Report No. 1704 Vol. 1704). ETH Zurich. https://doi.org/10.3929/ethz-b-000500100

Baloglu, S., & McCleary, K. W. (1999). A model of destination image formation. *Annals of tourism research, 26*(4), 868-897. https://doi.org/10.1016/S0160-7383(99)00030-4

Baumgartner, A., Schubert, I., Sohre, A., Tomic, U., Moser, C., & Burger, P. (2023). Toward a reduction of car-based leisure travel: An analysis of determinants and potential measures. *International Journal of Sustainable Transportation, 17*(8), 911-930. https://doi.org/10.1080/15568318.2022.2121234

Bianchi, C. (2016). Solo holiday travellers: Motivators and drivers of satisfaction and dissatisfaction. *International Journal of Tourism Research, 18*(2), 197-208. https://doi.org/10.1002/jtr.2049

Borkowski, P., Jażdżewska-Gutta, M., & Szmelter-Jarosz, A. (2021). Lockdowned: Everyday mobility changes in response to COVID-19. *Journal of Transport Geography, 90*, 102906. https://doi.org/10.1016/j.jtrangeo.2020.102906

Boro, K. (2022). Destination service quality, tourist satisfaction and revisit intention: The moderating role of income and occupation of tourist. *Journal of Tourism, Hospitality and Culinary Arts, 14*(3), 23-40.

Brajša-Žganec, A., Merkaš, M., & Šverko, I. (2011). Quality of life and leisure activities: How do leisure activities contribute to subjective well-being?. *Social indicators research, 102*(1), 81-91.

Carballo, R. R., León, C. J., & Carballo, M. M. (2022). Gender as moderator of the influence of tourists' risk perception on destination image and visit intentions. *Tourism Review, 77*(3), 913-924. https://doi.org/10.1108/TR-02-2021-0079

Chang, S. H., Hernández-Díaz, R. J., & Lo, W. S. (2020). The impact of low-carbon service operations on responsible tourist behavior: The psychological processes of sustainable cultural tourism. *Sustainability, 12*(12), 4943. https://doi.org/10.3390/su12124943

Chen, P. J., & Kerstetter, D. L. (1999). International students' image of rural Pennsylvania as a travel destination. *Journal of travel research, 37*(3), 256-266. https://doi.org/10.1177/004728759903700307

Cusatis, R., & Garbarski, D. (2019). Different domains of physical activity: The role of leisure, housework/care work, and paid work in socioeconomic differences in reported physical activity. *SSM-Population Health, 7*, 100387. https://doi.org/10.1016/j.ssmph.2019.100387

de Oña, J., de Oña, R., Eboli, L., & Mazzulla, G. (2015). Heterogeneity in perceptions of service quality among groups of railway passengers. *International Journal of Sustainable Transportation, 9*(8), 612-626. https://doi.org/10.1080/15568318.2013.849318

Goel, R., Oyebode, O., Foley, L., Tatah, L., Millett, C., & Woodcock, J. (2023). Gender differences in active travel in major cities across the world. *Transportation, 50*(2), 733-749. https://doi.org/10.1007/s11116-021-10259-4

Gutiérrez, M., Hurtubia, R., & Ortúzar, J. d. D. (2020). The role of habit and the built environment in the willingness to commute by bicycle. *Travel Behaviour and Society, 20*, 62-73. https://doi.org/10.1016/j.tbs.2020.02.007

Hair, Jr., J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th Ed.). Pearson-Prentice Hall, Upper Saddle River, NJ.

Jönsson, C., & Devonish, D. (2008). Does nationality, gender, and age affect travel motivation? A case of visitors to the Caribbean island of Barbados. *Journal of Travel & Tourism Marketing, 25*(3-4), 398-408. https://doi.org/10.1080/10548400802508499

Jordan, F., & Gibson, H. (2005). "WE'RE NOT STUPID... BUT WE'LL NOT STAY HOME EITHER": EXPERIENCES OF SOLO WOMEN TRAVELERS. *Tourism Review International, 9*(2), 195-211. https://doi.org/10.3727/154427205774791663

La Paix Puello, L., Chowdhury, S., & Geurs, K. (2019). Using panel data for modelling duration dynamics of outdoor leisure activities. *Journal of Choice Modelling, 31*, 141-155. https://doi.org/10.1016/j.jocm.2018.03.003

Lim, M. A., & Pranata, R. (2021). Sports activities during any pandemic lockdown. *Irish Journal of Medical Science (1971-), 190*(1), 447-451. https://doi.org/10.1007/s11845-020-02300-9

Mackett, R. (2021, September). Mental health, gender and travel intention. *Conference on Advancing Transportation Equity*. https://doi.org/10.1007/s11116-021-10231-2

Morgan, P. C., Washburn-Busk, M., Stanfield, M. H., & Durtschi, J. A. (2021). The Role of Leisure Activities on Partnered Men's and Women's Types of Depressive Symptoms Over Time. *Marriage & Family Review, 57*(8), 741-763. https://doi.org/10.1080/01494929.2021.1902454

Mwale, M., Luke, R., & Pisa, N. (2022). Factors that affect travel behaviour in developing cities: A methodological review. *Transportation Research Interdisciplinary Perspectives, 16*, 100683. https://doi.org/10.1016/j.trip.2022.100683

Ohnmacht, T., & Scherer, M. (2010). More comfort, shorter travel time, or low fares?: Comparing rail transit preferences of commuters, holiday and leisure travelers, business travelers, and shoppers in Switzerland. *Transportation Research Record: Journal of the Transportation Research Board, 2143*(1), 100-107. https://doi.org/10.3141/2143-13

Osman, H., Brown, L., & Phung, T. M. T. (2020). The travel motivations and experiences of female Vietnamese solo travellers. *Tourist Studies, 20*(2), 248-267. https://doi.org/10.1177/1468797619878307

Otegui-Carles, A., Araújo-Vila, N., & Fraiz-Brea, J. A. (2022). Solo travel research and its gender perspective: A critical bibliometric review. *Tourism and Hospitality, 3*(3), 733-751. https://doi.org/10.3390/tourhosp3030045

Pearson, Q. M. (1998). Job satisfaction, leisure satisfaction, and psychological health. *The Career Development Quarterly, 46*(4), 416-426. https://doi.org/10.1002/j.2161-0045.1998.tb00718.x

Pearson, Q. M. (2008). Role overload, job satisfaction, leisure satisfaction, and psychological health among employed women. *Journal of Counseling & Development, 86*(1), 57-63. https://doi.org/10.1002/j.1556-6678.2008.tb00626.x

Prajapati, P., & Khan, R. (2022, September). Assessment of Gender and Income-Based Inequality in Travel Intention of Vadodara City. In *International Conference on Transportation Infrastructure Projects: Conception to Execution* (pp. 95-111). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-99-2556-8_8

Remoaldo, P., Serra, J., Marujo, N., Alves, J., Gonçalves, A., Cabeça, S., & Duxbury, N. (2020). Profiling the participants in creative tourism activities: Case studies from small and medium sized cities and rural areas from Continental Portugal. *Tourism Management Perspectives, 36*, 100746. https://doi.org/10.1016/j.tmp.2020.100746

Rubin, O., Mulder, C. H., & Bertolini, L. (2014). The determinants of mode choice for family visits - Evidence from Dutch panel data. *Journal of Transport Geography, 38*, 137-147. https://doi.org/10.1016/j.jtrangeo.2014.06.004

Siren, A., & Haustein, S. (2013). Baby boomers' mobility patterns and preferences: what are the implications for future transport? *Transport Policy, 29*, 136-144. https://doi.org/10.1016/j.tranpol.2013.05.001

Su, L., Cheng, J., & Swanson, S. R. (2020). The impact of tourism activity type on emotion and storytelling: The moderating roles of travel companion presence and relative ability. *Tourism Management, 81*, 104138. https://doi.org/10.1016/j.tourman.2020.104138

Tembe, A., Nakamura, F., Tanaka, S., Ariyoshi, R., & Miura, S. (2019). The demand for public buses in sub-Saharan African cities: Case studies from Maputo and Nairobi. *IATSS Res, 43*:

122-130. https://doi.org/10.1016/j.iatssr.2018.10.003

Yang, X. H., Wang, B., Chen, S.Y., & Wang, W. L. (2012). Epidemic dynamics behavior in some bus transport networks. *Physica A: Statistical Mechanics and its Applications, 391*(3), 917-924. https://doi.org/10.1016/j.physa.2011.08.070

Yang, Y., Sasaki, K., Cheng, L., & Liu, X. (2022). Gender differences in active travel among older adults: Non-linear built environment insights. *Transportation research part D: transport and environment, 110*, 103405. https://doi.org/10.1016/j.trd.2022.103405

Yoo, J. (2022). Attitude toward leisure, satisfaction with leisure policy, and happiness are mediated by satisfaction with leisure activities. *Scientific Reports, 12*. https://doi.org/10.1038/s41598-022-16012-w

Zhang, J., Huang, R., Chen, Q., & Zhao, G. (2022). Post-pandemic outbound travel intentions and preparations of Chinese residents: The effects of media coverage and risk perception. *Journal of Hospitality and Tourism Management, 51*, 156-164. https://doi.org/10.1016/j.jhtm.2022.03.007

Zhang, J., & Lee, J. (2021). Interactive effects between travel behaviour and COVID-19: a questionnaire study. *Transportation Safety and Environment, 3*(2), 166-177. https://doi.org/10.1093/tse/tdab003

Zhang, J., & Van Acker, V. (2017). Life-oriented travel intention research: An overview. *Transportation Research Part A: Policy and Practice, 104*, 167-178. https://doi.org/10.1016/j.tra.2017.06.004

Appendix

Travel Intention Survey after Easing Coronavirus Restrictions

A. What is your gender? □male □female

B. What is your age? □under 18 years old □18-25 years old □25-35 years old □35-45 years old □45-55 years old □55-65 years old □over 65 years old

C. What is your occupation? □student □soldier, government employee, teacher □service industry □industrial & commercial □medical staff □retirees □others_____

D. How often did you typically travel each year before the onset of COVID-19?
□less than one time □1-3 times □3-5 times □more than 5 times

E. For how long do you typically travel? □1 day □1-3 day □3-5 days □5-7 days □more than a week

F. With whom do you typically travel? □alone □family □friend □other

Theme					
1. I wish to visit a location with beautiful scenery once the lockdowns are lifted.	1	2	3	4	5
2. I aspire to embark on a cultural journey once the lockdowns are lifted.	1	2	3	4	5
3. I would like to visit museums after lifting lockdowns.	1	2	3	4	5
4. I would like to travel American or European countries after lifting lockdowns.	1	2	3	4	5
Transportation					
5. I am interested in taking bus trips once the lockdowns are lifted.	1	2	3	4	5
6. I would like to have cruise trips after lifting lockdowns.	1	2	3	4	5
Sports travel					
7. I would like to have adventure trips after lifting lockdowns.	1	2	3	4	5
8. I would like to have bike trips after lifting lockdowns.	1	2	3	4	5
9. I would like to go hiking after lifting lockdowns.	1	2	3	4	5

Popular spots					
10. I would like to have shopping trips after lifting lockdowns.	1	2	3	4	5
11. I would like to travel with filming spots after lifting lockdowns.	1	2	3	4	5
12. I would like to travel North-Eastern countries after lifting lockdowns.	1	2	3	4	5
13. I would like to travel South-Eastern countries after lifting lockdowns.	1	2	3	4	5

Note: 1—strongly disagree, 2—disagree, 3—neutral, 4—agree, 5—strongly agree