How do travelers go back to COVID-hit destinations? Examining the patterns and underlying motivations

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Introduction

Research linking travel and disasters is on the rise (Wut et al. 2021), with increased focus on tourism resilience amid diverse shocks, stressors, adaptation and transformation (Calgaro et al. 2014; Cheer and Lew 2018; Hall et al. 2017; Hall et al. 2020; Lew and Cheer 2018; Tsao and Ni 2016). Amid the burgeoning number of COVID-19-related studies, however, very few analyze data based on actual travel recovery behaviors. Most are based on theoretical discussions and propositions (e.g., Kock et al. 2020), surveys on stakeholders' opinions and intentions (e.g., Kim et al., 2021), or experiments on hypothetical scenarios (e.g., Volgger et al. 2021). While some studies do analyze first-hand accounts and real-world data linked, for example, to social media posts (Sung et al. 2021) or general public mobility (Yang et al. 2021), these studies rarely include data that depict post-pandemic travel recovery alongside in-depth analyses of reasons behind travelers' behaviors.

As of early 2022, many global destinations still face ongoing COVID-related distress or, at best, fluctuating / early-stage recovery. However, destinations and tourism businesses need to prepare for the return of tourists. Thus, it is valuable to examine the patterns of travel recovery, such as who are the first returning tourists and why, to better inform tourism operations. Under this premise, this study looks into longitudinal tourism sales data in Hubei Province, China, focusing on the period of April to July 2020. During this period, the pandemic was brought under control in the region and travel recovered significantly. In addition, the authors analyze similar datasets from neighboring Hunan Province to provide benchmarking and comparison both longitudinally and geographically. Further, this study collected qualitative data (long interviews) from 17 travelers of various backgrounds who traveled in Hubei and/or planned to do so after COVID-19 emerged. Guided by McCracken's (1988) long interview method, the authors assess detailed reasons and feelings of these travelers regarding their actual or intended travel back to Wuhan (the capital city of Hubei Province and former epicenter of COVID-19), offering additional insights into travel recovery patterns among different traveler groups. Based on these real-world traveler recovery patterns along with in-depth interview findings, this study provides insightful directions for both researchers and practitioners when predicting travel recovery patterns in disaster-hit destinations.

Literature Review

Previous literature analyzing the relationship between perceived risk and human behavior have emerged from a variety of fields (e.g., medicine, psychology, economics, conservation, sociology, etc.), extended by and informing tourism research (Mitchell et al., 1999; Teichmann & Zins, 2009) with considerable implications for understanding and managing travel behavior in post-disaster contexts.

Early studies on the concept of risk and its ties to decision-making (e.g., where someone might travel) emphasize the importance of ways people perceive risk over measures of actual or objective forms of risk (e.g., infection rate VS. perceived uncertainty) (Bauer, 1967). Medical and tourism studies suggest that return travel (or travel avoidance) in destinations like Hubei Province may be influenced by differences in perceived risk by gender, age, and proximity of place of origin.

First, in terms of gender, research on risk perceptions and disease-avoidance has long highlighted men as having lower perceived risk while being more risk-seeking than women on average, when faced with the same situation (Duncan et al., 2009; Lewis & Duch, 2021). This suggests that men might be willing to return to former COVID-19 epicenters like Wuhan more quickly than women. Second, differences in risk perceptions and travel behaviors also appear tied to age, though previous studies do present unexpected findings. In one study on Ebola and travel avoidance, for example, Cahyanto et al. (2016) found a negative relationship between age and travel avoidance, highlighting younger travelers as more likely to avoid travel due to risk perceptions associated with the disease. Third, gaps exist in analyses of risk perceptions tied to distance from place of origin to pandemic epicenters. That said, a nationwide study in China on fear and travel avoidance in the COVID-era did find surprising differences in levels of so-called “travel fear” tied to place of origin (Zheng et al., 2021). Specifically, individuals from provinces in China with only average infection rates were more frightened, nervous, and anxious to travel than individuals from areas with high infection rates, highlighting possible socio-psychological factors influencing travel decisions in pandemic-hit destinations. Therefore, we propose that travel recovery patterns can differ based on their gender, age, and proximity to the destination.

Compared with other destinations around the world, tourism in Hubei Province (particularly in Wuhan) presents a unique context for understanding pandemic-related impacts on tourism. Firstly, Wuhan was an early COVID-19 epicenter, and Wuhan residents were initially confronted with more than sixty straight days of full lockdown measures from January 23 to April 7, 2020. After a series of governmental mitigation measures (e.g., travel vouchers, business stimuli packages, national campaigns, etc.), Hubei fully reopened in later March 2020 and witnessed surprisingly fast tourism recovery. Secondly, Hubei residents (especially in Wuhan) reportedly experienced significant ostracization and forms of xenophobia from their own Chinese countrymates when COVID-19 first emerged (Gan, 2020). It is likely that such views negatively influenced domestic travel to Wuhan early on. Thus, it is likely that traveler characteristics (e.g., gender, age, and proximity) impact risk perceptions associated with traveling back to a destination recovering from COVID.

Methods and results

This study utilized an ‘interpretation’ mixed methods design to analyze traveler behavior patterns shortly after the pandemic. According to Golicic and Davis (2012),

this approach involves two data collection processes occurring either sequentially or concurrently, with findings from a secondary process supporting interpretation of findings from a primary study. Here, the primary study analyzed the travel sales data to assess travelers' recovery patterns to Hubei and Hunan Provinces. Supporting interpretation of this primary study, a secondary process involved qualitative analysis of long interviews with respondents from a variety of households.

1. Travel sales data analysis and results

The travel sales data were provided by China's largest online travel agency (OTA) Ctrip, which has about 60% of the market share. The Ctrip dataset used in the primary study considered sales data (i.e., volume of tickets sold) across both websites and mobile apps, with all personal information removed / desensitized before analysis. Based on guidance from earlier studies, Ctrip sales data were analyzed by gender, age groups (18-24; 25-50; 51+) and buyers' province of residence. In this way, the proximity between the ticket buyer's residence and Hubei Province was estimated to gauge whether travel recovery also differs by distance to a COVID epicenter. The time period used for this study was between April and December 2020, with an emphasis on April to July 2020.

To help visualize travel recovery patterns, a series of graphs were created showing attraction ticket sales in Hubei (and in neighboring / benchmark Hunan Province for comparison) from April to July in 2020, with three data points provided in each month. Recovery was calculated as the percent to which ticket sales at each time period in 2020 returned (or not) to levels for the same periods in 2019. Different groups based on gender, age and proximity were marked by different lines. Figures 1 through 3 showed distinct travel recovery patterns based on these characteristics.

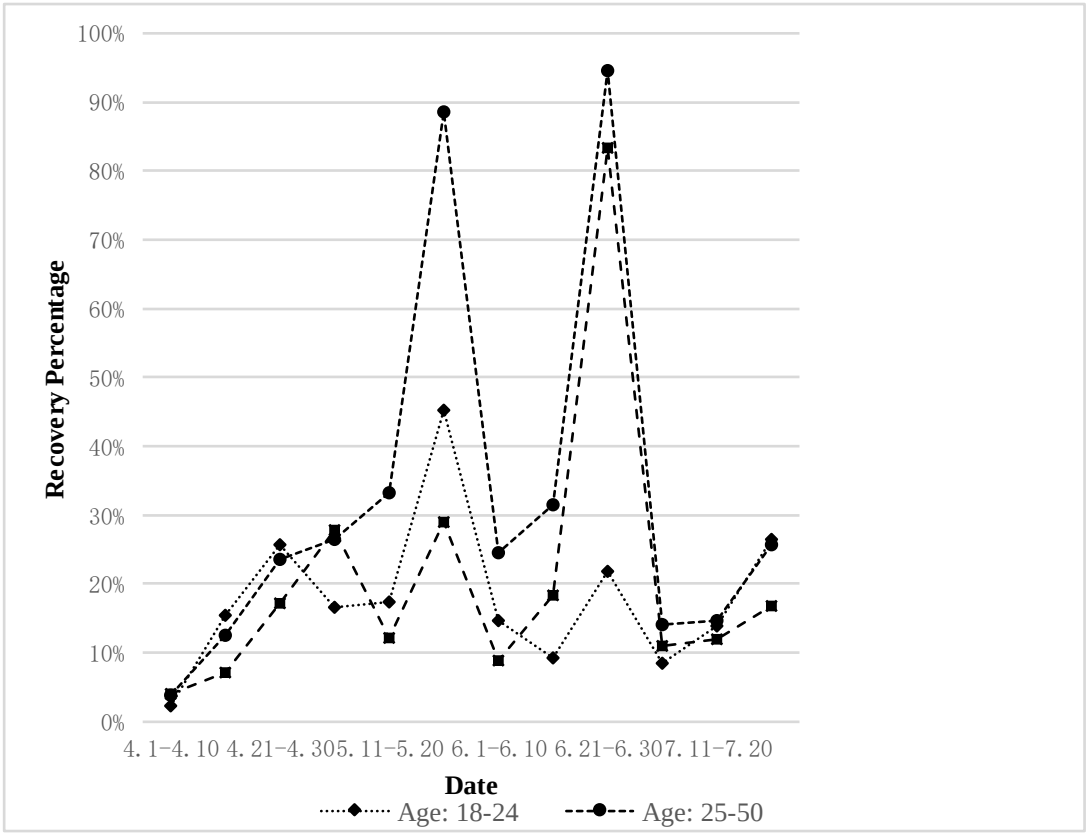

Figure 1. *Travel recovery in Hubei Province by gender.*

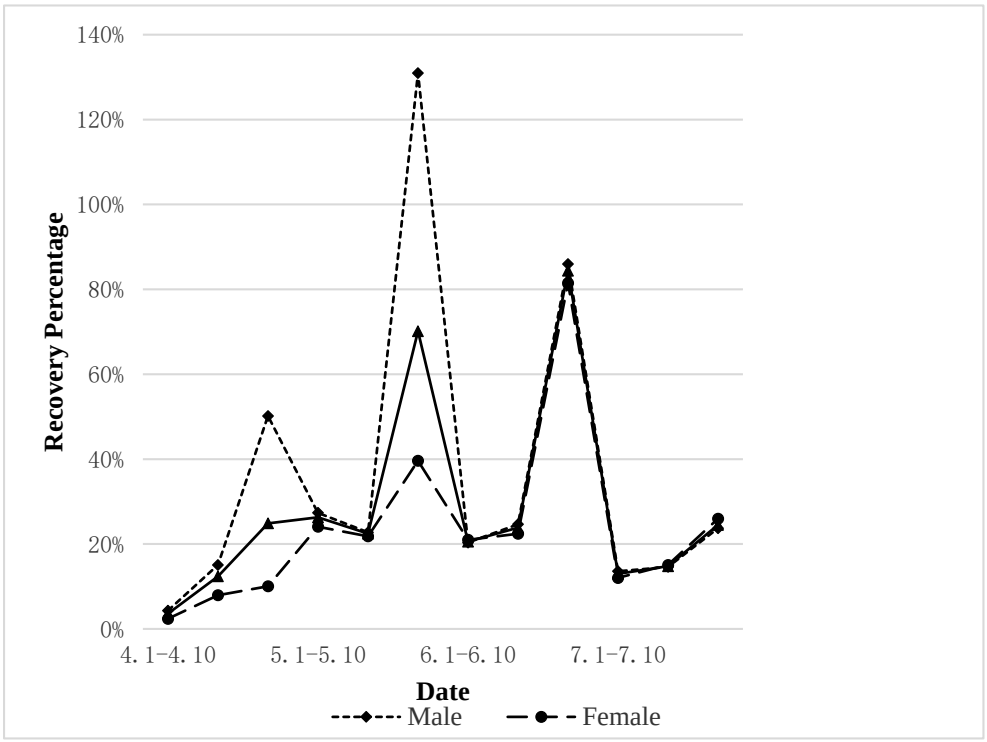

Figure 2. *Travel recovery pattern in Hubei Province by age.*

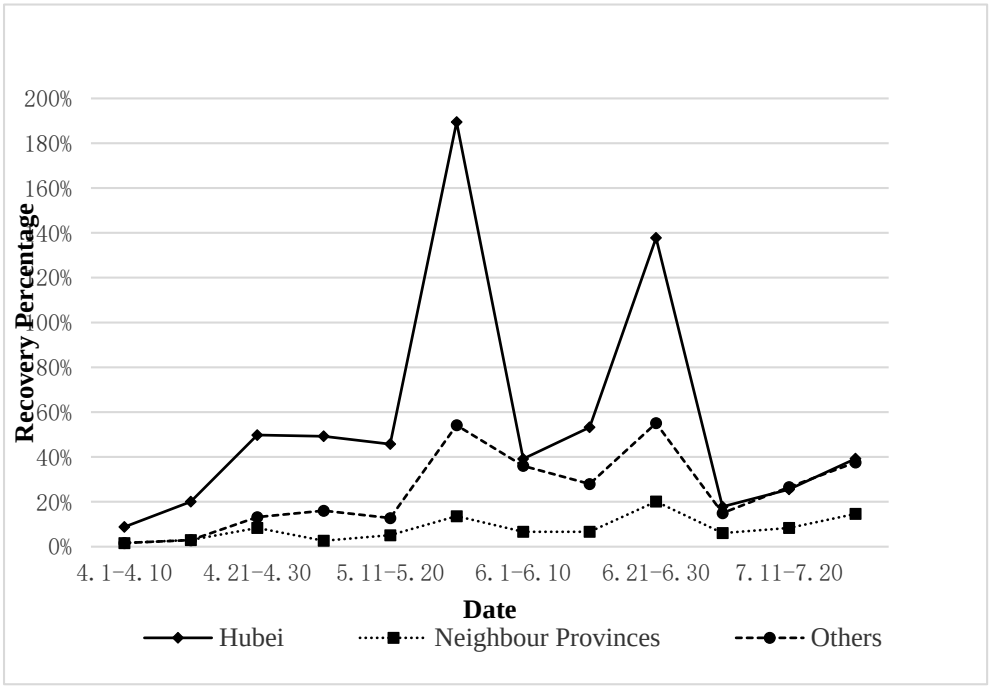

Figure 3. *Travel recovery pattern in Hubei Province by proximity to Hubei.*

As shown in the Figures, this study highlights several patterns in travel recovery behavior once the pandemic came under control in Hubei Province. The recovery extent and speed differed by gender. Ticket purchases by male travelers bounced back earlier and more quickly to the level of the previous year. Such gender differences were also observed in the neighboring (benchmark) Hunan Province, but to a lesser extent. Travel recovery also differed by age. The age group of 25 to 50 bounced back the fastest, followed by younger travelers (18-24), and older travelers (51+) in Hubei. However, travel recovery based on age was distinct in Hunan. For example, older travelers (51+) led travel recovery in many periods while young travelers (18-24) showed slowest travel recovery until end of June 2020. Further, the transaction data revealed that year-over-year recovery did not occur as expected among travelers booking trips to Hubei from neighboring provinces. While travel to benchmark Hunan Province recovered as expected (i.e., with travelers from closer by returning sooner), travel recovery to Hubei Province followed an unexpected pattern (i.e., with travelers from further away returning sooner).

2. Long Interview analysis and results

The authors followed McCracken's (1988) long interview guidelines to develop questions covering three primary topics: 1) perceptions of Wuhan and Hubei as a destination, 2) the impact of COVID-19 on travel intentions and mitigation measures, and 3) travel preferences. This method aids participants' reflexive thinking and offers more nuanced insights regarding their decision-making processes compared to traditional survey methods (Hall 2004; Martin and Woodside 2012). These questions were passed onto trained interviewers who are familiar with this type of research. Interview transcripts were then sent to the authors for independent analysis. Interviewees were carefully selected to include a variety of travelers who visited Wuhan between 2018 and 2020, with questions focusing on recent or planned trips in Hubei once COVID-19 emerged. These interview participants represented a variety of backgrounds in terms of residence, age, family structure, job, and household income. All of the interviews were conducted in the residence of interviewees so they were more comfortable in reflecting on the interview questions as well as telling their stories while self-interpreting their experiences. This way, interviewers were also more likely to observe non-verbal cues. Each interview lasted 1.5 to 2 hours. Interviewees signed a consent form before participating in the study, with assurance that compensation (cash payment or gifts) would not be affected by their responses. Overall, six of the interviewees were male and 11 were female. In terms of age, seven of them were 18-25, eight were from 26-50, and two were 51+. In terms of proximity between their residence and Hubei Province, nine were from Hubei Province, three were from neighboring provinces and five were from far provinces.

Several notable themes emerged from the analysis to highlight perceptions of Wuhan and Hubei among respondents from the groups under consideration (gender, age and proximity to Hubei). Broadly, a kind of xenophobia toward Hubei residents and the infectious disease decreased travelers' willingness to travel in Hubei when COVID-19

emerged. Taking gender and age into account, analysis revealed that, although both female and male travelers expressed caution about traveling again, males – especially unmarried young males – were more adventurous and started traveling as soon as the lockdown was lifted. In addition, analysis revealed differences in how males and females sought to mitigate travel risks. For example, males reported being more likely to drive long-distance in personal vehicles to avoid taking public transportation (e.g., trains, flights, etc.). Meanwhile, females more commonly reported extensive information searching and use of personal protective items (e.g., hand sanitizers, toiletries, etc.) to reduce risk of exposure. Social norms and family responsibilities also played a significant role in affecting post-COVID-19 travel intentions, with female travelers expressing greater constraints. Along the same line, young travelers (18-24) were influenced by their parents and school restrictions. As such, they reported being less likely to travel in uncertain times. Older travelers avoided traveling to Hubei mainly due to health concerns. Based on these real-world traveler recovery patterns along with in-depth interview findings, this study provides insightful directions for both researchers and practitioners when predicting travel recovery patterns.

An overview of the analysis results is presented in Table 1.

Table 1: *Long interview[1] summary of pre- and post-pandemic travel behavior (2018 to 2020).*

Analytical Focus	**Common Themes by Group**
Gender	Reported by men: • Willingness to resume travel immediately, especially for young bachelors • Frequent travel across a wider geographic range • Aggressive risk-avoidance tied to transportation and shelter (e.g., solo / long-distance trips in personal vehicles, sleeping in cars, etc.) Reported by women: • Stronger social constraints tied to family and friends • Defensive risk-avoidance tied to personal safety (e.g., use of protective equipment, sanitizers, carrying sleeping quilt/pillow, etc.)
Age	Reported by the 18-24 age group: • Structural constraints (e.g., from universities) – undergraduates not allowed to return to university in Hubei until Sep, 2020 • Social constraints (e.g., by parents) • Early travel interests Reported by the 25-50 age group: • Early travel interests • Social constraints (e.g., responsibility for children) • High risk perception Reported by the 51+ age group: • Awareness of / interest in travel promotions (e.g., vouchers) • Social constraints (e.g., children not allowing parents to travel) • High risk perception
Proximity to Hubei	Reported by Wuhan residents: • Fears of discrimination by others before June • Strong interest in local tourism after June (i.e., the start of extensive nucleic acid testing) • Fears of higher COVID-19 rates outside of Wuhan after October Reported by Wuhan students from other provinces: • Engaging in local (Wuhan) tourism with policy permission by mid-October • Restrictions on student travel outside Wuhan reinstated in December 2020 • Positive sentiments toward Wuhan

Reported by tourists from other provinces:

- Appreciation for early bird discounts after August, with free admission to all attractions
- Persisting concern for Wuhan (including travel hesitation) tied to perceived / ongoing, COVID-related risks in Hubei Province

1. Interviews conducted in person between Oct-Dec, 2020 (n = 17).

Discussion and Conclusion

With real sales data from a top OTA in China, this study shares observations of travel recovery patterns that may help other destinations to better predict their travel recovery. These observations suggest that, while destinations hit by crises like pandemics may strongly emphasize the safety of visitors, many visitors remain travel-averse to those destinations as their fear lingers.

These findings provide directions for helping destinations better prepare for travel recovery, especially ones that were deeply affected by the pandemic. When destinations seek to welcome back travelers, their marketing communication should differ across groups based on gender, age, proximity and family structure in order to meet travelers' fundamental motives. For instance, when the destination is deemed safe to travel to (e.g., low case counts, sufficient access to healthcare, strong mitigation measures), marketing communication towards young males can emphasize social connection and social status aspects of traveling, such as opportunities to meet new people and become trend setters. Female travelers are more likely to be enticed by high standards of sanitary facilities and meticulous trip planning and preparations. Older travelers are more likely to take advantage of travel incentives, although preventative measures (e.g., avoiding crowded areas, access to healthcare) remain crucial for ensuring travel safety. To encourage travelers from neighboring areas, it is further important to communicate the safety of the once disaster-linked destination. Announcements from the government that provide clear evidence of safety are recommended.

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