

# ANALYSIS ON IMPACT OF COVID-19 ON INTERNATIONAL TOURISM

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**ABSTRACT:** Phases of testing will be conducted to determine whether the mechanism for formulating recovery strategies for the travel and leisure industry works as intended. The current pandemic of COVID-19 has resulted in global challenges, economic and healthcare crises, and spillover effects on global industries, including tourism and travel. The COVID-19 impacts have taken a heavy toll on this industry, making it one of the worst-hit industries worldwide. 2.86 trillion U.S. dollars, or a revenue loss of more than 50 percent, were seen in leisure and domestic tourism. Many new and innovative ideas can be used to help the tourism industry recover from the COVID-19 pandemic. The study's goal is to show how travellers reacted to text mining-discovered pandemic trends. About 75,000 comments from TripAdvisor forums will be examined between December 30, 2019, and March 15, 2020, with a total of 23,515 cases from US, European, and Asian forums contributing to the analysis. The study will be completed on March 15, 2020. Global crises could have a significant impact on the tourism industry, according to the findings. Because of this, people are likely to delay or cancel their travel plans in the near future.

## 1. INTRODUCTION

The travel and tourism industry has been particularly hard hit in terms of economic impact. By that year, the UNWTO predicts a 60 to 80 percent drop in the number of visitors from other countries (UNWTO, 2020a). Economic growth and job creation are heavily dependent on this industry in the Caribbean and other parts of Latin America. There are many unknowns about the pandemic's duration, as well as how the contingency and subsequent relaxation measures will affect tourists' short-term, medium-term, and long-term travel plans in the region.

Even if your journey is plagued by illness, crime, and natural disasters, you'll still have a great time meeting new people and learning about new places. Most of the time, however, risks can be minimised or mitigated with the proper knowledge, resulting in a trip filled with unforgettable memories. Travelers and planners alike are frightened by epidemics and pandemics. In these situations, avoiding the disease may be impossible or nearly impossible. People they come into contact with are just as much at risk as passengers themselves. Passengers are a major factor in the spread of epidemics and pandemics. The emergence of a new coronavirus has shifted attention to epidemics over the past few months.

Global health and financial crises have been triggered by the emergence of the deadly disease COVID-19. Travel and tourism, which are major contributors to the service sector, are adversely affected by concerns about seasonal influenza outbreaks, pandemics, and other catastrophic events. An outbreak of a pandemic has a negative impact on the behaviour and mental well-being of visitors. As a result, they cancel their planned vacations because they are afraid of contracting the disease while on the road. In

addition, air travel by tourists increases the risk of infection for other passengers who do not have effective vaccines. There are many ways that disease can spread beyond the borders of a single community, including travel. The media is currently engaged in crisis communication around the globe. Due to its negative impact on tourism, COVID-19 resulted in a new virus disease. Viruses that are highly contagious, rapidly evolving, and capable of resulting in death are known as infectious viruses.

It is possible to map the distribution of COVID-19 cases in India using geospatial technology and to identify emerging trends in people's health, as well as the spread of infectious diseases. Detecting and responding to infectious disease outbreaks and pandemics necessitates geographic accuracy [3]. It is critical to understand, analyse, and visualise the spatial distribution of any phenomenon that occurs in different countries through geospatial data science. As a result of these advancements in geospatial technology, current tourism applications based on digital maps can be improved [4].

Research is concentrated in the early stages of the pandemic. Four days after WHO declared the pandemic, a final round of commentary was recorded. It began when the first case of COVID-19 was discovered (in Wuhan). With this preliminary dataset, we were able to examine the initial approach of travellers before their mobility came to a halt (captured between December 30, 2019 and March 15, 2020). TripAdvisor.com was used to solicit feedback from those who made travel plans during the study period. Text mining techniques were used to analyse 23,515 comments in this study, and their impact on the tourism industry was assessed. It was because of these specifications that many new discoveries were made and

the pandemic had a negative impact on the tourism industry immediately.

## 2. LITERATURE REVIEW

The global economy relies heavily on tourism, which contributes significantly to GDP (Gamage et al., 2017). An economic, cultural, and societal phenomenon, travelling for pleasure or business is becoming increasingly common (UNWTO, 2020; Lin et al., 2017). With its labor-intensive nature, tourism is an important source of employment for people all over the world. In addition to hotels and transportation, food and beverage manufacturing (including retail), as well as the arts and recreation industries, all contribute to tourism (WTTC, 2017). There are many advantages and chances for people in a country's tourism sector. The tourism industry is a part of the economy's service sector and has its own distinctive features (Haq et al., 2014; Gamage et al., 2017).

An estimated 5.3 million to 24.7 million people will lose their jobs due to the COVID-19 pandemic, according to the International Labor Organization (ILO) (ILO, 2020). As a result, there is a decrease in economic activity and job losses. People in every field in every country are being affected by the COVID19 outbreak in countries that have experienced more significant economic shocks because it affects so many different sectors of the economy. Fear and uncertainty about the pandemic have prompted authorities to issue travel bans and event cancellations, as well as a ban on large-scale gatherings (Horowitz, 2020; Elliot, 2020). The COVID-19 outbreak has a ripple effect throughout the economy, affecting nearly every industry (El-Erian, 2020).

The travel and tourism industry is most vulnerable to the COVID-19 pandemic (Shretta, 2020). The tourism industry generates more than 10% of global GDP and 30% of global export services (World Bank, 2017). A number of governments have imposed travel bans, travel restrictions, airport closures, and mass cancellation of passenger flights.

Coronaviruses have a significant impact on the Chinese tourism industry, according to Ahikul et al. The Chinese tourism and hospitality industry generally makes enormous profits, but the COVID-19 pandemic has delayed the arrival of the majority of visitors, severely impacting China's tourism industry in the long term (Aljazeera, 2020). On the other hand it has been shown that the positive impact on online travelling agencies as well as online hotels bar restaurants restaurants has been revealed.

Shretta, year 2020, While COVID-19 may have a greater impact than previous pandemics, it is still a relatively new disease. As the COVID-19 epidemic spreads, there will be a loss of US\$450 billion in global tourism revenue as the number of visitors drops by up to 30%. (UNWTO, 2020a). Ten times more money has been spent on this than on SARS. COVID-19 is therefore expected to have a much greater impact on international tourism than previous pandemics and outbreak around the world.

Internal processes have also had a negative effect on tourism-related activities. Even without state quarantine, the virus's recent spread has led to a noticeable drop in what is known as "social consumption.". restaurants, cultural events, and trade fairs are all prohibited from taking place in the country (Hoque, Shikha, Hasanat, Arif, & Hamid, 2020). As a result of the bad weather, numerous high-profile events have already been pushed back or cancelled entirely. The airline industry has almost halved its flight schedule due to the high number of cancellations.

## 3. METHODOLOGY

### 3.1. Survey design and sample

We created the survey in Google forms. Between May 9th, 2020 and May 31st, 2020, it was distributed via email and social media channels like Facebook, LinkedIn, Reddit, and ResearchGate. Responses were gathered through the use of the snowball sampling methodology. Over one thousand two hundred and three (1203) responses came in from all corners of the globe. The test's questions were created in accordance with the standards established by the University of Management and Technology, Pakistan. There were three parts to the survey:

- (1) socio-demographic characteristics
- (2) Characteristics of primary travel before and during the COVID19 pandemic
- (3) Factors influencing primary travel mode choice before and during the COVID19 pandemic.

Gender, age, and marital status were all included in the social demographic data, as were country of residence, marital status, monthly household income (in US dollars), ownership of a car or motorcycle, household size, educational level, and employment status. Most people use travel as a means of escaping their daily routines and recharging. Pandemics can reduce the number of non-critical trips people take, but they may still have to travel for specific reasons. This means that the frequency, distance, and mode of transportation used are all determined by the primary purpose of the trip. Sections in

the questionnaire were devoted to the purpose of travel prior to and during the pandemic. The total number of miles driven, the frequency of trips, and the primary mode of transportation were all elicited during the course of the research.

### 3.2. Analysis methods

The collected data was subjected to descriptive and quantitative comparative analysis. Unless otherwise noted, nonparametric tests were primarily used for inferential statistical analyses in this study. It is easier to understand and use non-parametric tests because they do not require the same number of assumptions as parametric tests do (Colquhoun, 1971). If the data are normally distributed and all other assumptions are true, then non-parametric tests have a small power loss, but this loss is not negligible (Kitchen, 2009). Instead of using a parametric test when one is available, Colquhoun (1971) recommended using a non-parametric test unless experimental evidence exists to show how error distributions are distributed. Travel behaviour prior to and during COVID19 is the focus of this study. As a result, careful consideration was given to the statistical analyses of the data, which are detailed below.

#### 3.2.1. Statistical analyses for paired observations

Data combinations like the primary reason for travel and the mode chosen for the primary reason for travel were examined using McNemar-Bowker tests before and during COVID-19, respectively. No parametric test can summarise  $k \times k$  contingency tables for multiple nominal variables, but McNemar-Bowker is one that does just that for paired nominal data. In order to identify which nominal variables differed significantly from one another, post-hoc tests

were required. Nonparametric McNemar tests were used to create  $2 \times 2$  contingency tables to summarise nominal pairs of data with two categories. For this reason, the McNemar Chi-Square test is a more accurate name for the test. False positives, i.e., type I errors, had to be eliminated through the correction of multiple hypothesis testing. There are certain situations in which the Bonferroni correction is applied, and this can be calculated using the following formula:  $n/\alpha/\alpha$ . Non-parametric Wilcoxon signed-rank tests were used to compare ordinal paired observations, such as the number of trips made for this purpose, prior to COVID19.

#### 3.2.2. Statistical analyses for independent observations

The Mann Whitney U test was used to examine the effects of vehicle ownership on primary travel distance. In the Mann Whitney U test, non-homogeneous variances can be taken into account. Spearman An additional application of correlation was in figuring out the relationship between ordinal/continuous variables like monthly income and actual travel distance. An age-to-outdoors trip ratio was calculated using Spearman correlation.

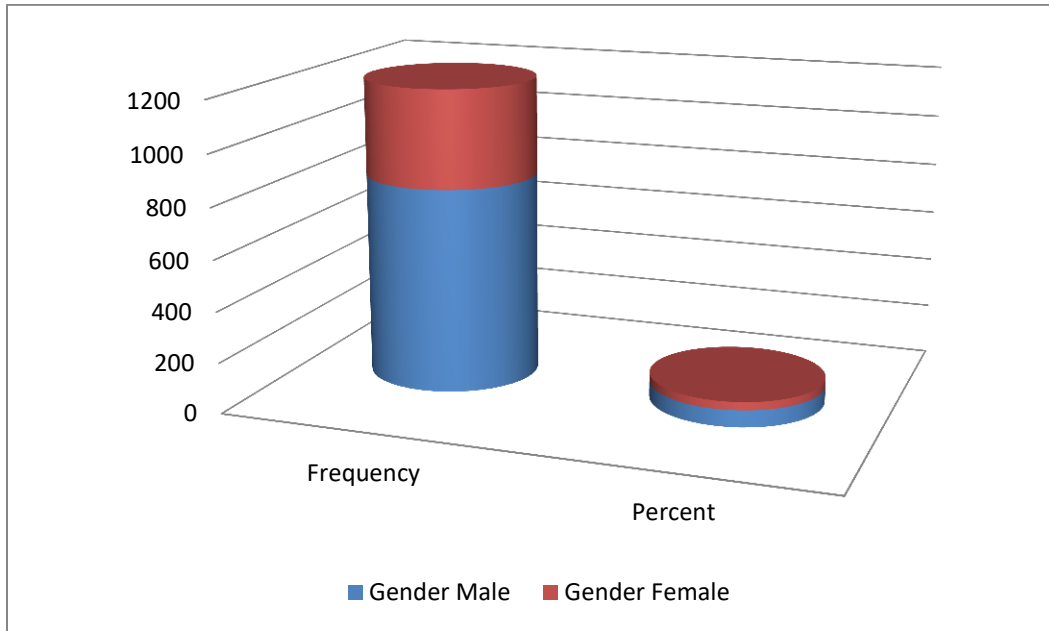
#### 3.2.3. Multinomial logistic regression

Prior to and during COVID19, a multinomial logistic regression was used to predict travellers' primary trip purpose and their preferred mode of transportation. Two EFA-derived factors and four demographic factors were each used to help predict the mode in these models.

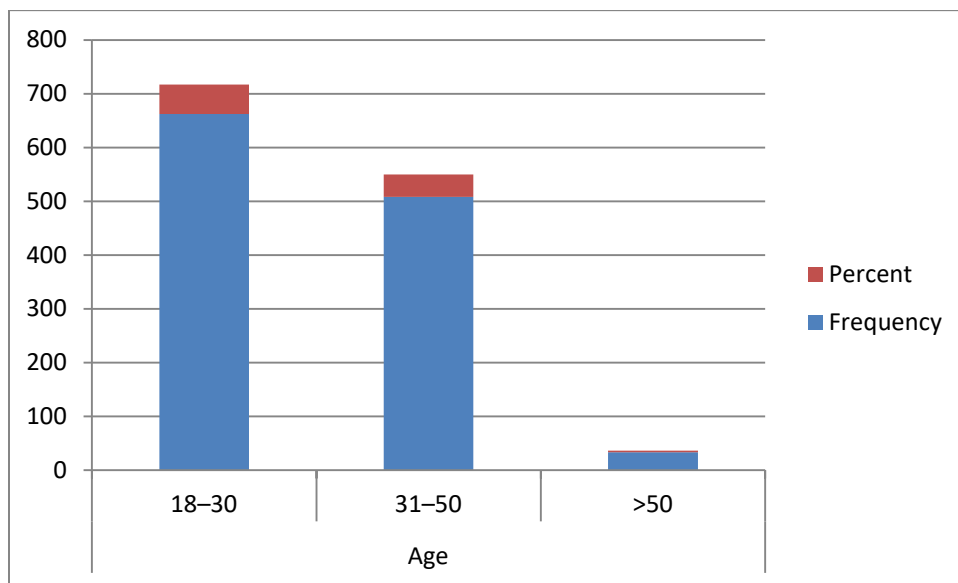
## 4. RESULTS AND DISCUSSION

Table 1 Demographic Information of the Sample

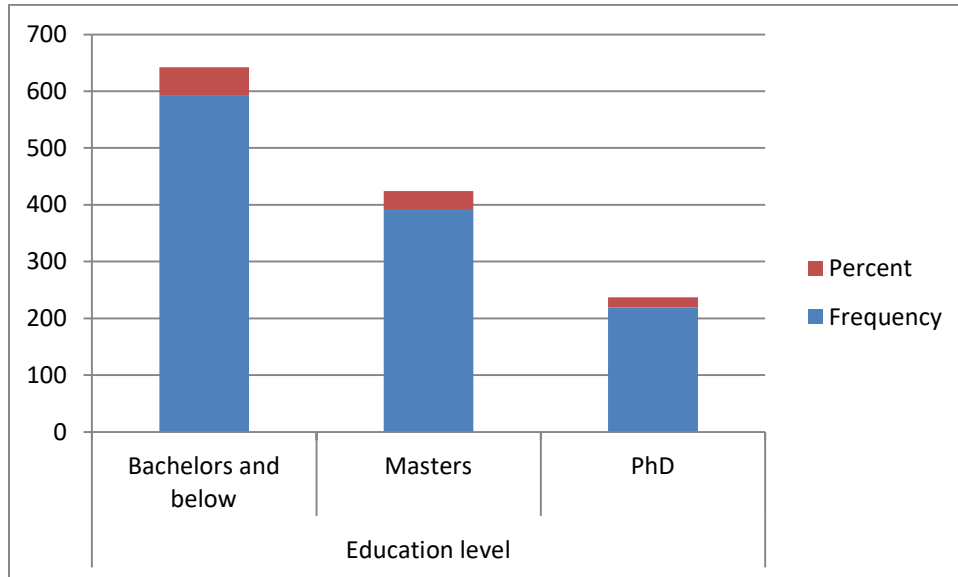
Items	Category	Frequency	Percent
Gender	Male	<b>809</b>	<b>67</b>
	<b>Female</b>	<b>387</b>	<b>32</b>



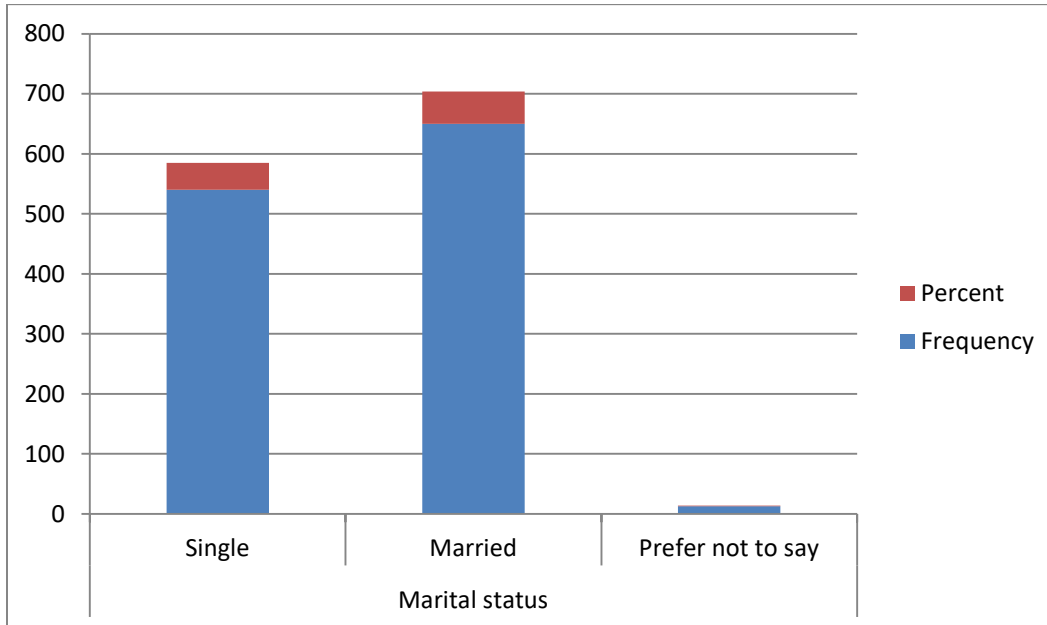
Items	Category	Frequency	Percent
Age	18-30	662	55
	31-50	508	42
	>50	33	3



Items	Category	Frequency	Percent
Education level	Bachelors and below	593	49
	Masters	391	33
	PhD	219	18



Items	Category	Frequency	Percent
Marital status	Single	540	45
	Married	650	54
	Prefer not to say	13	1



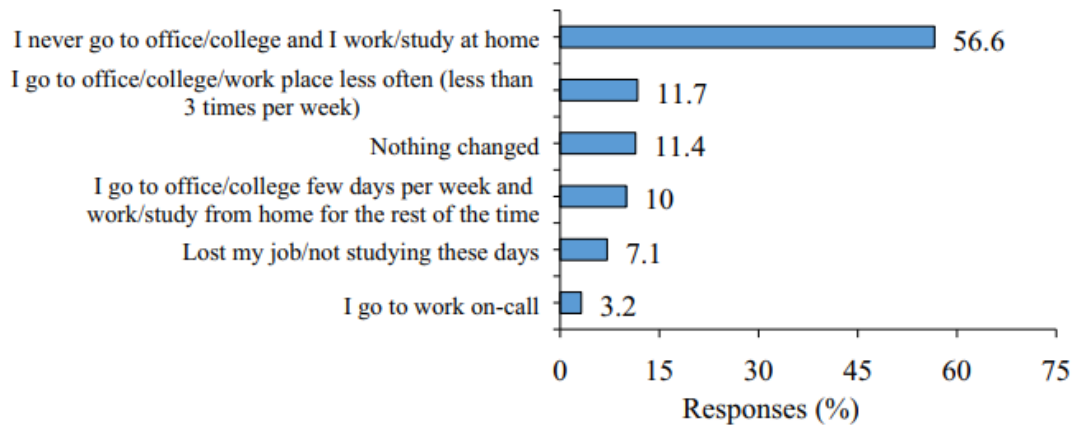


Fig. 4.1. Change in commuting behaviors due to COVID-19.

According to Fig. 4.1, the pandemic had an overall effect on respondents' commuting habits. According to 56.6 percent of respondents, they work or study at home rather than going to work or school. The COVID19 pandemic had a negligible effect on 11.4 percent of respondents.

**Impact of COVID-19 pandemic on primary outdoor trips**

People travel for a variety of reasons on a daily basis, but the most common reason for doing so is for recreational

purposes. There are a variety of reasons why some people go to work, while others go to school, and still others go to the movies. Due to the fact that these trips are often made out of necessity, they are the primary focus of this research. A pandemic may cause people to postpone their travel plans, but they may not be able to avoid making trips for the reasons they deem most important, which are not within their control and therefore out of their control. When there is a pandemic, for example, the primary reason for travelling, the distance travelled, and the mode of transportation used may all change.

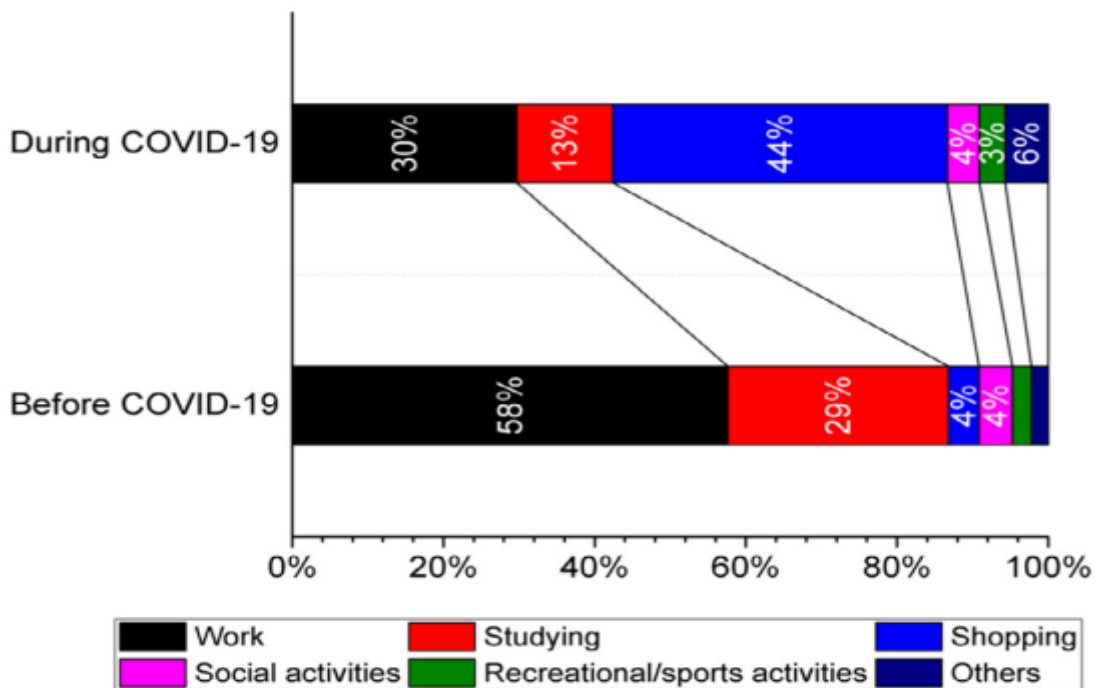


Fig. 4.2. Primary purpose of traveling before and during COVID-19 pandemic.

Before COVID19, 58 percent of respondents stated that their primary reason for travelling was for work. On the other hand, it was only 30% during COVID19 (see Fig. 4.2).

During COVID19, 44 percent of respondents stated that shopping was their primary reason for travelling, compared to just 4 percent prior to COVID19.

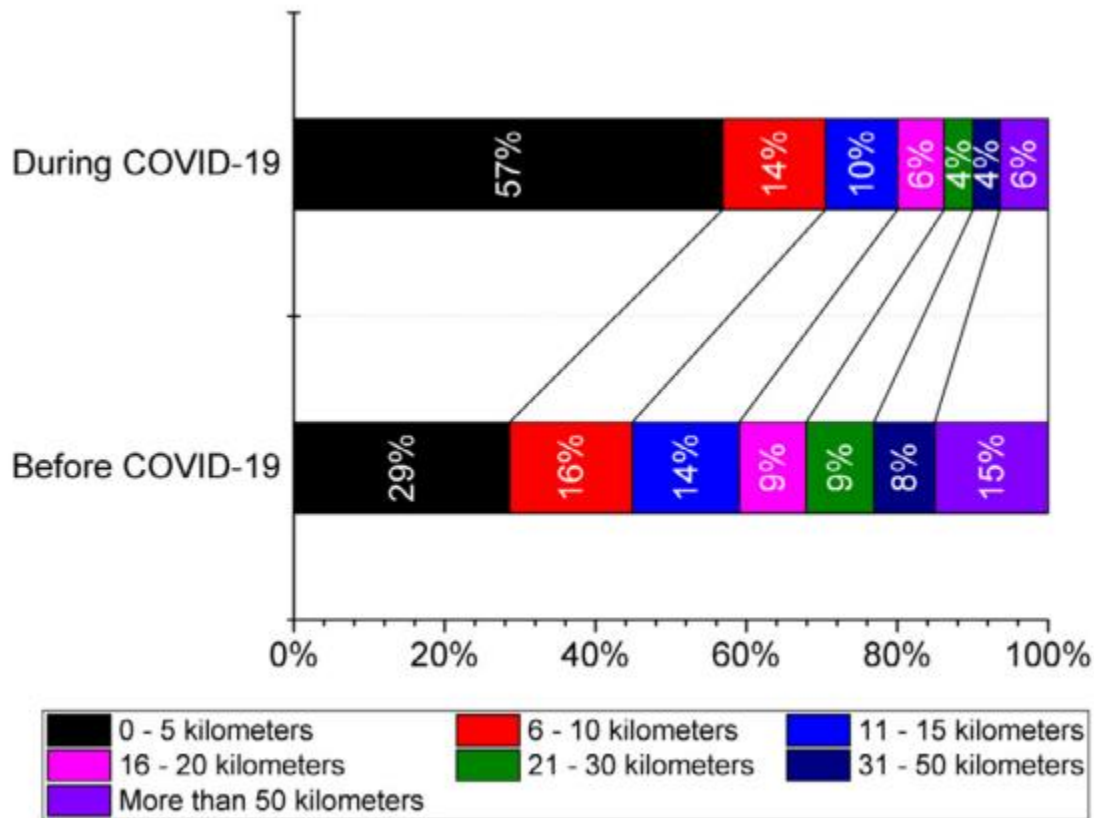


Fig. 4.3. Distance traveled for primary outdoor trips before and during COVID19 pandemic.

About 71% of respondents travelled between 0 and 10 kilometres during COVID19, while only 45% did so before COVID19, as shown in Fig. 4.3. As previously stated, a study in Switzerland found that the median daily travel distance ranged from 0 km to 10 km when travel restrictions were implemented. This was between March 15th and April 30th, 2020.

**CONCLUSION**

The COVID-19 pandemic is the most serious threat any country has ever faced, with international and domestic travel expected to drop by 45 percent in 2020, or about four months' worth of travel time. The employment implications of tourism as measured by the COVID-19 have increased the demand for tourism education. Worldwide job creation opportunities have been severely affected. As a result, students in the tourism industry must deal with

training disruptions, recruitment issues, and a lack of stability in their employment prospects. New student enrollment, government support, and research funding at academic institutions all need to be reduced. This study's findings add to the growing body of evidence showing that during pandemics, distances travelled are shorter and trips are less frequent. People will have to maintain their social distance for quite some time after the pandemic, as most of the survey participants were travelling primarily for shopping. In the post-COVID or new normal era, the findings of this study could have implications for transportation planning. In addition, it is possible to identify the needs, requirements, and concerns of users, and this is important for meeting the transportation requirements of the general public, particularly in the event of future pandemic situations.

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