Student Hustle Data Preparation

Dprep Team 3

2022-03-21

Data Retrieval

We have downloaded our data from Inside Airbnb. The aim of our research is to investigate which European student city is the best city to rent out your student room on Airbnb. We have focused on the top 10 European student cities. To further investigate our topic we retrieved the following data sets:

1. Detailed Listings data for Barcelona
2. Detailed Listings data for Berlin
3. Detailed Listings data for Copenhagen
4. Detailed Listings data for Dublin
5. Detailed Listings data for Edinburgh
6. Detailed Listings data for London
7. Detailed Listings data for Manchester
8. Detailed Listings data for Munich
9. Detailed Listings data for Paris
10. Detailed Listings data for Vienna

This data has been merged into one large dataset, which resulted in a dataset of 191.755 observations and 75 variables.

Data Selection

To dig deeper into our research topic, we have chosen variables that could help answer our research question: **In which European city is renting out a private room on Airbnb most attractive in terms of income, ratings, and coverage?** The following variables are selected:

Name

This variable shows the name of the listing. This variable gives clarity of the listings.

Host listings count

The focus is on students that are renting out their student room. A student (normally) has 1 student room. Therefore, we filter on hosts that have 1 listing.

Neighbourhood group cleansed

Despite the fact that we will not go deeper into the neighborhoods now due to time constraints, other stakeholders can explore the data set further by looking in which neighborhood it is best to rent out your student room.

City

We focus on the 10 most popular student cities in Europe based on a research of QS Top Universities. The top 10 cities are: 1. London
2. Munich
3. Berlin
4. Paris
5. Zurich
6. Vienna
7. Edinburgh 8. Barcelona 9. Dublin
10. Manchester

Property type

We first investigated what types of rooms there were by creating a table including all types of properties. After that, we filtered on student rooms, which are all the different types of private rooms.

In the table below, you can find the different private rooms where we finally filtered on.

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     Private room in bungalow             Private room in cabin
                           14                                 1
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Private room in casa particular Private room in castle 3 1 Private room in cottage Private room in floor 10 1 Private room in guest suite Private room in guesthouse 73 25 Private room in hostel Private room in houseboat 1 1 Private room in loft Private room in rental unit 65 2401 Private room in residential home Private room in serviced apartment 700 6 Private room in tiny house Private room in townhouse 3 177 Private room in treehouse Private room in villa 1 11

Price

The next variable is price, we would like to know what the mean prices are in each city to compare and know what a student can ask for their student room. First, there is investigated what the class of price is. The class was a character because of the dollar sign. Then we removed the dollar sign and the class changed to numeric. The next step was to check if there are any observations without a price. There were only 9 NA values, therefore we chose to delete them. After that, we calculated the mean prices per city, which can be found below.

city	mean_price
barcelona	46.27527
berlin	45.00683
copenhagen	439.88406
dublin	68.55245
edinburgh	49.34498
london	51.76726
manchester	38.91818
munich	56.30851
paris	65.46387
vienna	41.15306

We encountered that the amount for Copenhagen was extremely high compared to the other cities. We assumed that this was because of the difference currency. Therefore, we changed all not europe currencies to

euro currencies. At the moment of writing, 1 Danish Krone is 0.10 euros and 1 pound is 1.19 euros. Therefore we multiplied the mean price of Copenhagen by 0.10 and divided Edinburgh, London and Manchester by 1.19. The final mean prices per city are shown in the table below.

city	mean_price
barcelona	46.27527
berlin	45.00683
copenhagen	43.98841
dublin	68.55245
edinburgh	41.46637
london	43.50190
manchester	32.70435
munich	56.30851
paris	65.46387
vienna	41.15306

Availability 365

The availability is how many day a hosting is available to rent on Airbnb. We filtered on available above 0 as we only want to see listings that were available. As a student, you are only available in the weekends which is approximately 2 nights per week. Which is 104 days a year. We would like to investigate if this would cause any problems when renting out your student room. Also, we wanted to know what the mean available days are on Airbnb, which can be found in the table below.

city	mean_availability
barcelona	174.5462
berlin	150.6105
copenhagen	175.9565
dublin	129.0000
edinburgh	151.5371
london	173.9254
manchester	160.0000
munich	171.8457
paris	168.8858
vienna	181.6837

Maximum nights

To further elaborate on the previous variable. The maximum nights are 2 nights. Therefore, we included this variable as a dummy. Short stay (maximum of 2 nights) = 0 Long stay = 1

Number of reviews

We want to check the number of reviews, because if someone only has 1 review which is a 5, this cannot be seen as reliable. Therefore, we checked the maximum, minimum and mean number of reviews. Based on that, we filter above the mean number of reviews.

[1] 1809 [1] 0 [1] 23.33432

Review scores rating

Lastly, review scores rating is our dependent variable. This variable becomes our determinant to find out which city is the best to rent out your student room.