Solo Traveling in Europe

Do popular perceptions of major European tourist destinations correlate with the polarity of reviews?

Research Questions

Q1 Are there significant differences in the quality of nightlife across cities?

Q2 How does the polarity of consumer reviews correlate with the frequency of specific keywords such as ‘safe’?

Q3 Are there notable differences in ‘safety ratings’ between cities, and if so, what factors contributes to these variations?

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nightlife

/ˈnaɪtˌlaɪf/
noun

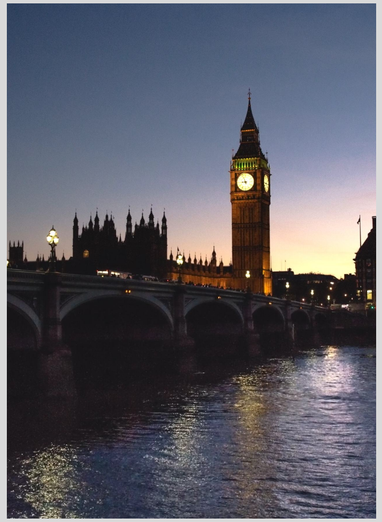
1. Entertainment and activities provided for pleasure-seekers during the night, often in venues like nightclubs.

2. The music, dancing, and other forms of entertainment that occur in a city or town during the evening hours.

Cities

London

- Every neighborhood has its own night culture
- Limitless options

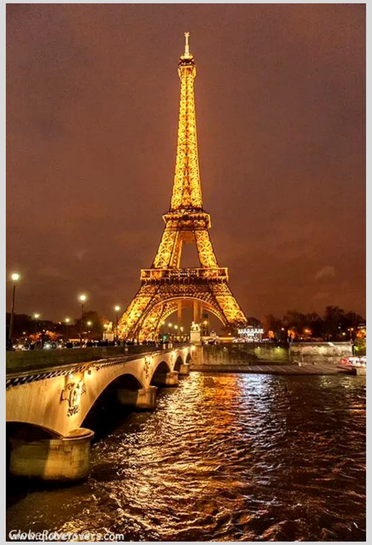


Berlin

- Good for techno and raves
- Many abandoned buildings were transformed into nightclubs

Paris

- Scattered all over the cities
- Night-buses to take you back late at night



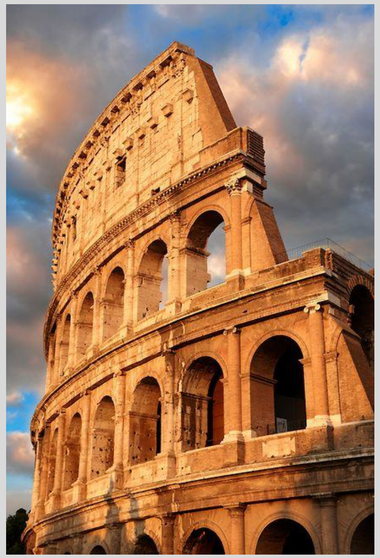
Amsterdam

- Four main nightlife districts, each with its own vibe
- Can be either expensive or cheap

Cities

Rome

- Very culturally Italian
- Perfect for immersion



Tuscany

- Very relaxed, casual, and chill
- Most cities are very walk-able

Barcelona

- Unique and casual culture
- Best with friends, not great for solo

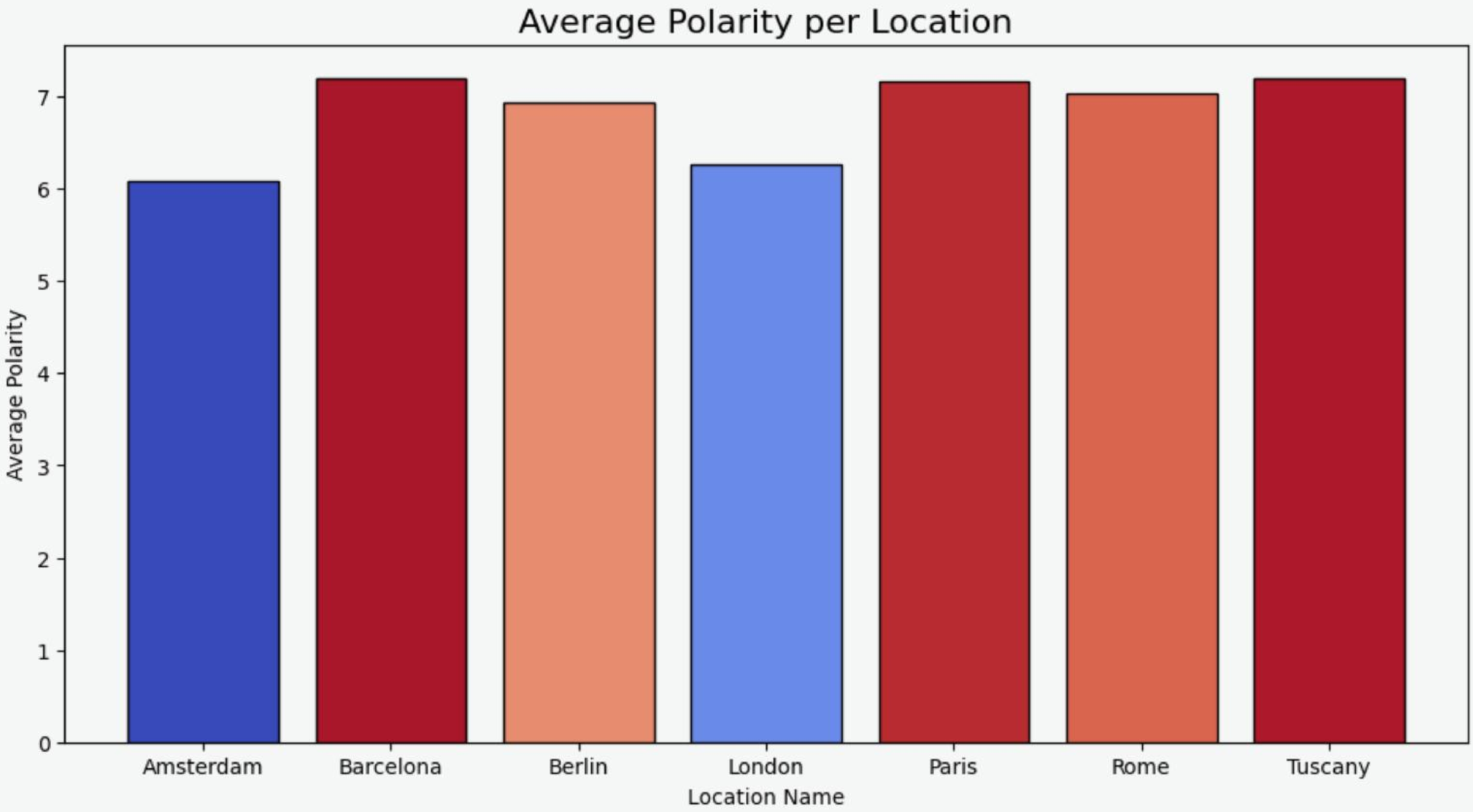
Are there significant differences in the quality of nightlife across cities?

Sentiment Analysis:

A way to computationally organize the opinions within writing: positive, negative, and neutral.

Polarity:

Assigning values of sentiment analysis so that data collected is quantified into processable data. In our case, 0 is highly negative sentiment and 10 is vice versa.


Average Polarity per Location
Average Polarity
0
1
2
3
4
5
6
7
Amsterdam
Barcelona
Berlin
London
Paris
Rome
Tuscany
Location Name

How does the polarity of consumer reviews correlate with the frequency of specific keywords such as ‘safe’?

Safe Words vs. Unsafe Words

Safe
Trustworthy
Reliable
Polite

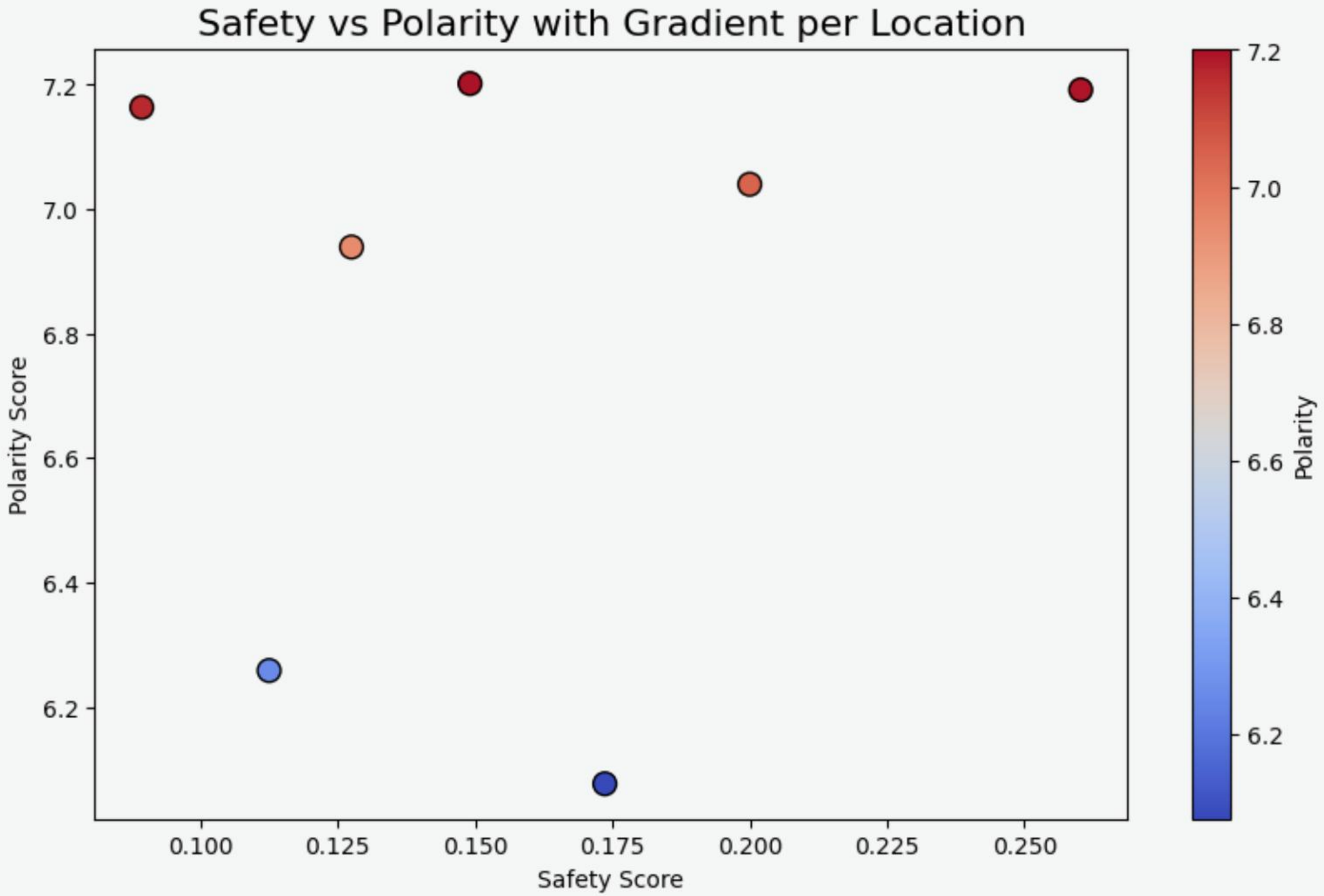
Dangerous
Creepy
Risky
Harassment

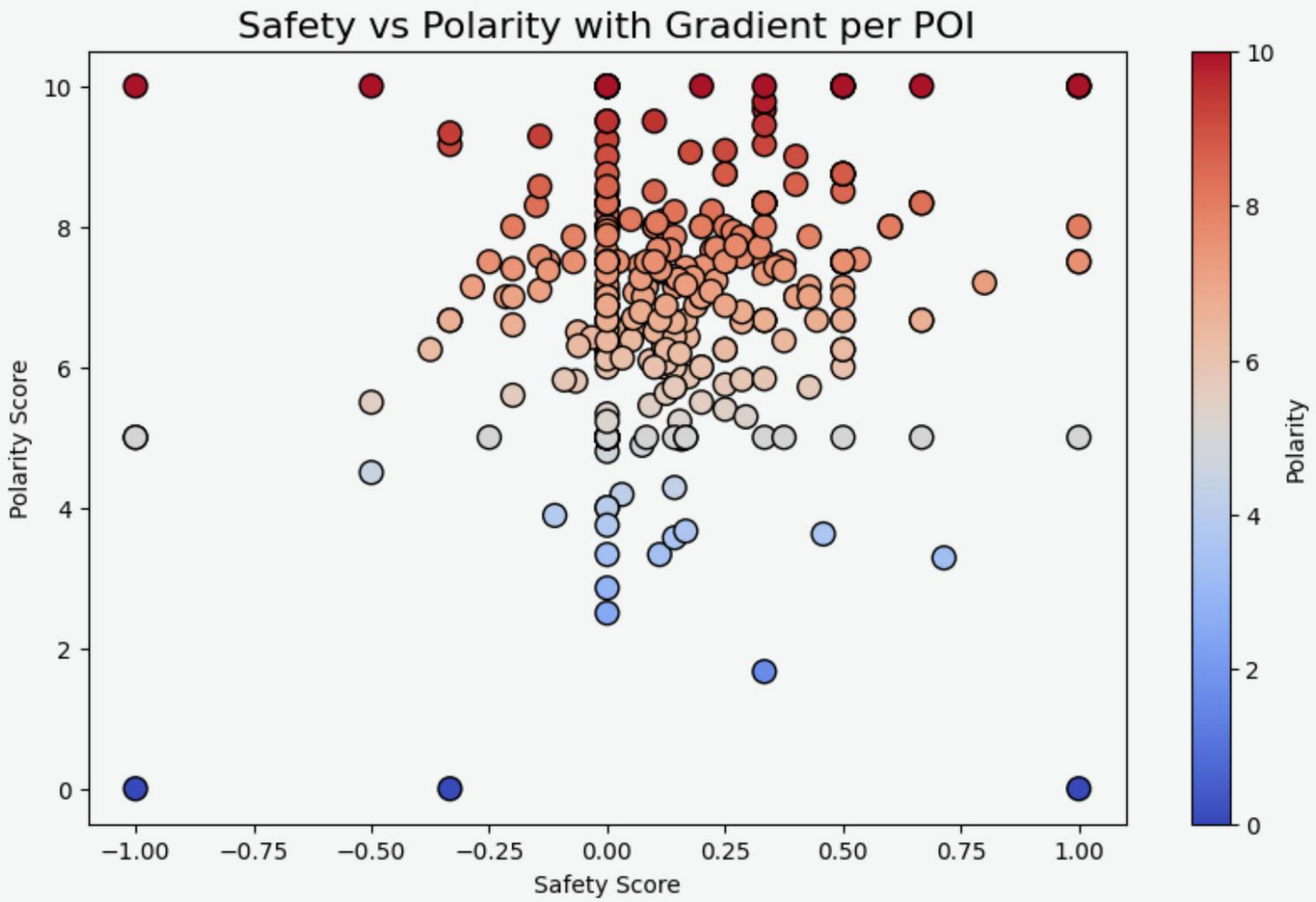
Using the Datamuse API and the synonyms parameter, we found as many synonyms for the safe and unsafe words to determine whether the review judged the place as safe/unsafe.

Specialized Safety Index (SSI)

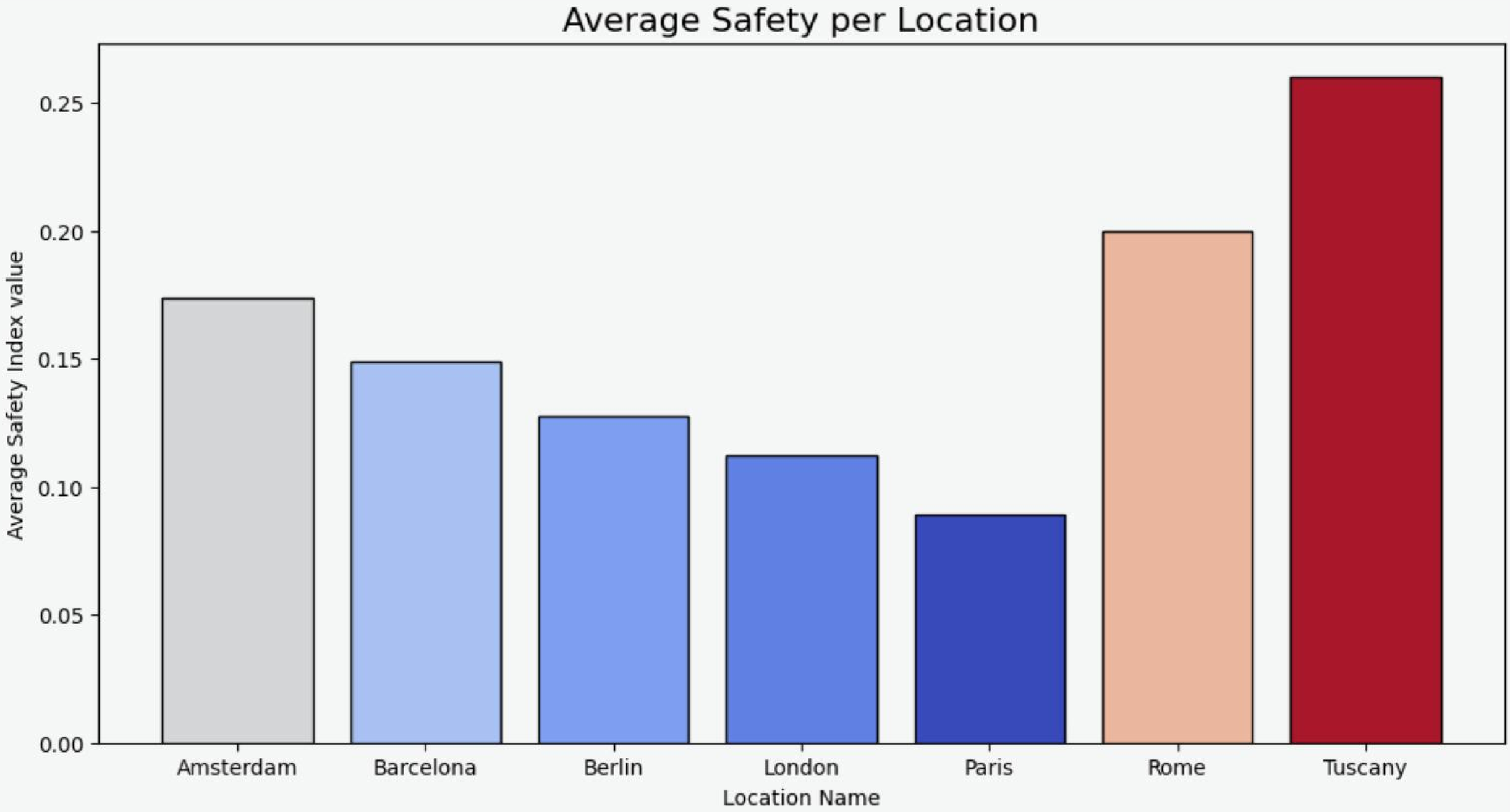
How and why we calculated it

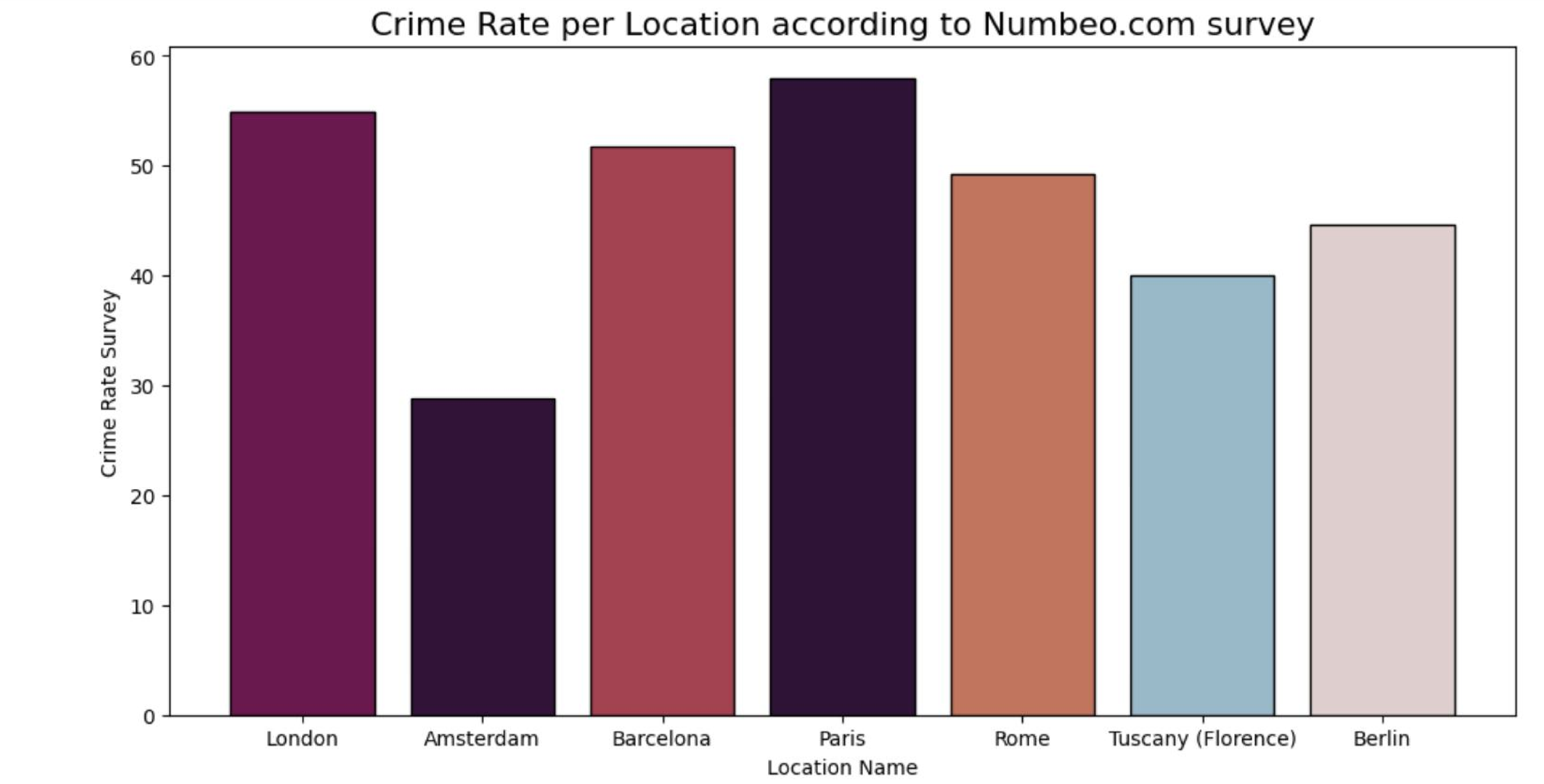
1. Assigned reviews “1” or “0” for whether or not they had safe or unsafe words
2. Took the average of the safe and unsafe results and averaged them for each metropolitan area
3. Found the difference between the safe and unsafe averages to get the final value


Safety vs Polarity with Gradient per Location
Polarity Score
Safety Score
7.2
7.0
6.8
6.6
6.4
6.2
0.100
0.125
0.150
0.175
0.200
0.225
0.250
Polarity


Safety vs Polarity with Gradient per POI
Polarity Score
Safety Score
Polarity
10
8
6
4
2
0
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00

Are there notable differences in ‘safety ratings’ between cities, and if so, what factors contribute to these variations?


Average Safety per Location
Average Safety Index value
0.25
0.20
0.15
0.10
0.05
0.00
Amsterdam
Barcelona
Berlin
London
Paris
Rome
Tuscany
Location Name


Crime Rate per Location according to Numbeo.com survey
Crime Rate Survey
0
10
20
30
40
50
60
London
Amsterdam
Barcelona
Paris
Rome
Tuscany (Florence)
Berlin
Location Name

Factors Applicable

- Big cities ⟶ higher rates of crimes
- Low population regions ⟶ calmer
- Particular cities are going through a lack of economic stability (ex: Paris)
- Crime historically differs due to local norms (organized violence encouraged, pickpockets freed easily)

Cities	Amsterdam	Tuscany (Florence)	Berlin	Rome	Barcelona	London	Paris
Crime Index	28.88	40.01	44.68	49.21	51.79	54.89	57.99

Data sourced from:

https://www.numbeo.com/crime/region_rankings_current.jsp?region=150&displayColumn=0

Key Takeaways

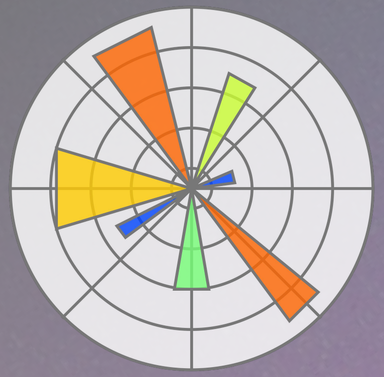
- There isn’t a significant difference between just quality of nightlife across cities
- Minor statistical significance leans towards Tuscany and Amsterdam being safer overall
- 0.2243 correlation between safety and polarity per point of interest
- 0.1853 correlation between safety and polarity per location
- Due to diversity of cultures, travelers need to do their research

Tools Used

jupyter

pandas

datamuse



ChatGPT

Questions?