A presentation by Mark Palmer

Understanding Panic Attack Patterns

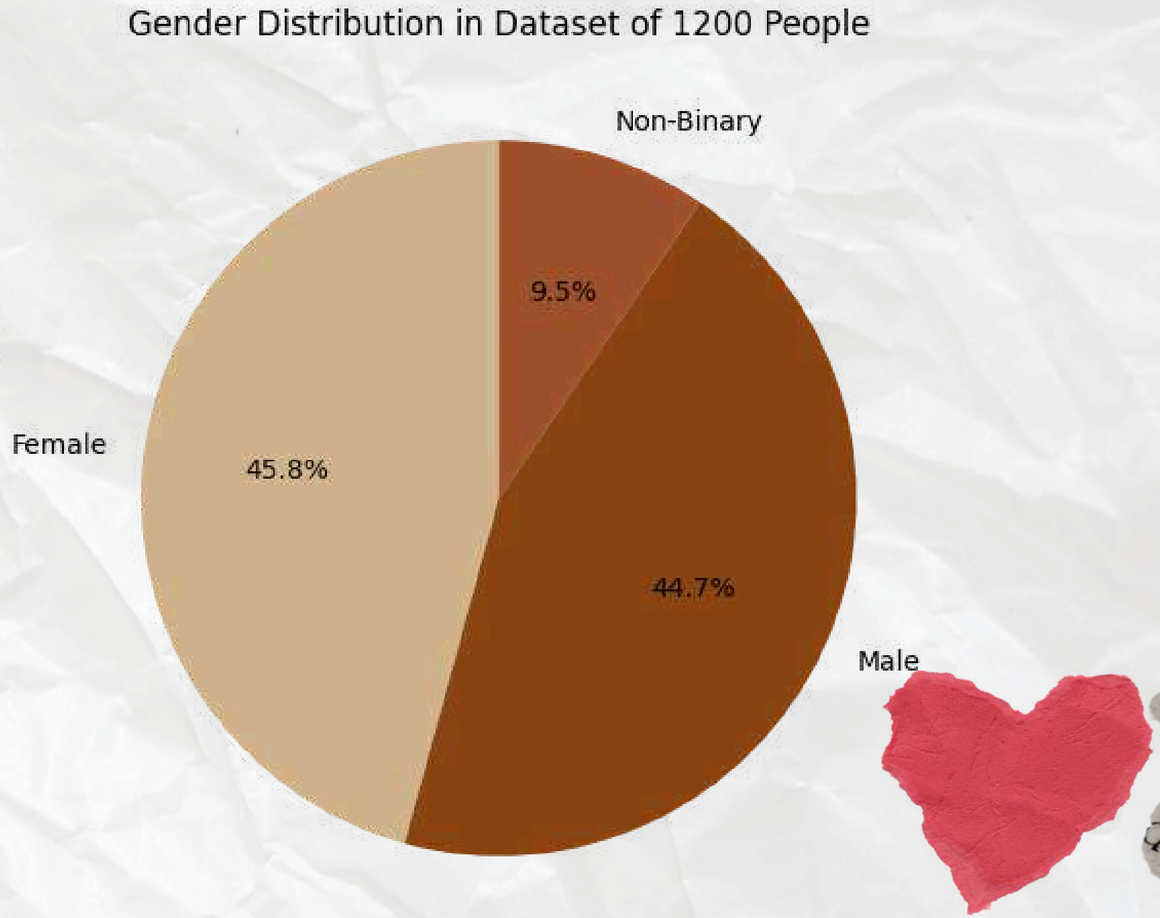
INSIGHTS AND CORRELATIONS USING PYTHON

Introduction

In this project, I analyse 2024 dataset on panic attacks using Python to explore triggers, symptoms, and lifestyle factors. Having personally experienced panic attacks, I aim to better understand these challenges and create visualisations that can help others manage their mental health during difficult moments.

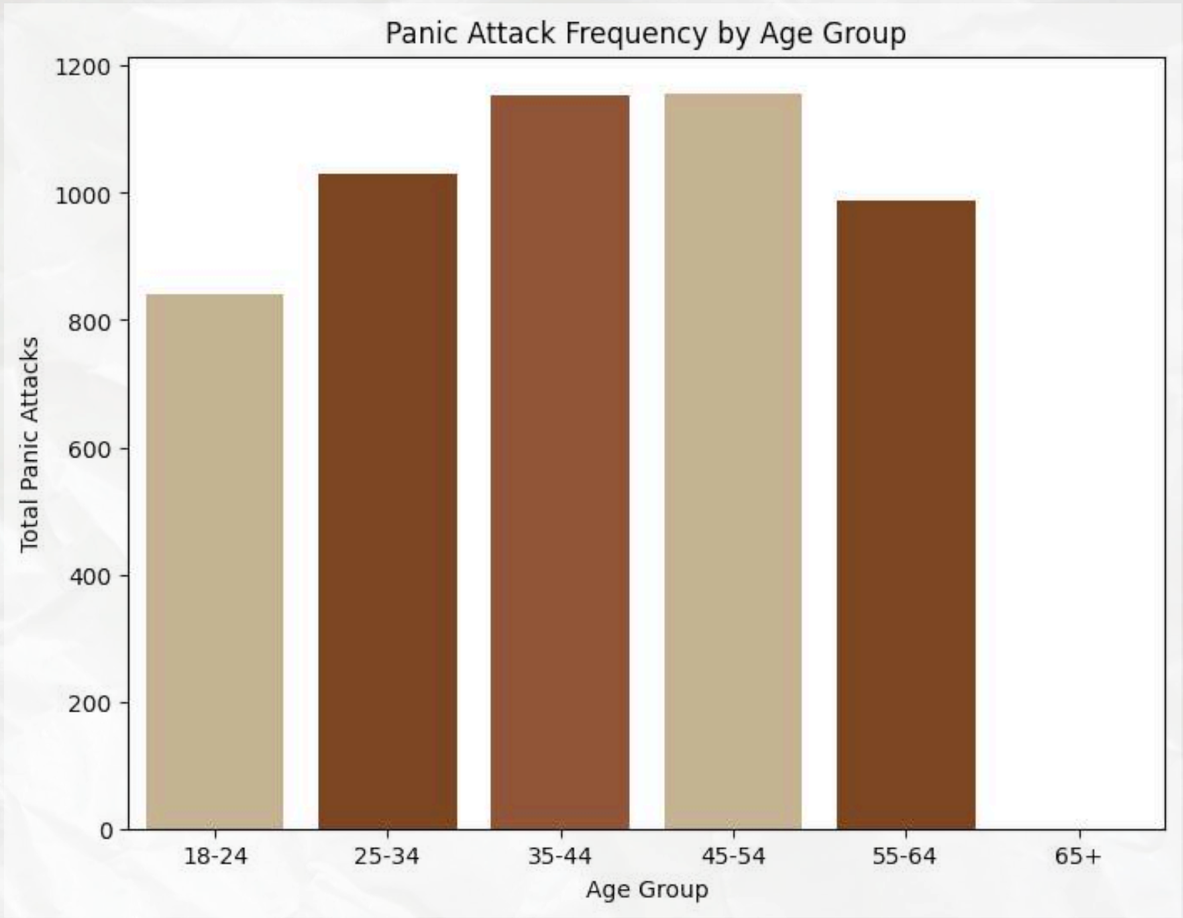
Panic Attack Patterns: A Gender Perspective

This section presents a simple breakdown of gender representation in the dataset. It shows the distribution of panic attack sufferers of Female , Male and Non Binary individuals . This Chart shows an even spread across all genders .



Panic Attack Frequency Across Different Age Group

These groups provide a breakdown of the participants by life stage, which can offer insights into patterns and trends, such as variations in panic attack frequency across different ages.

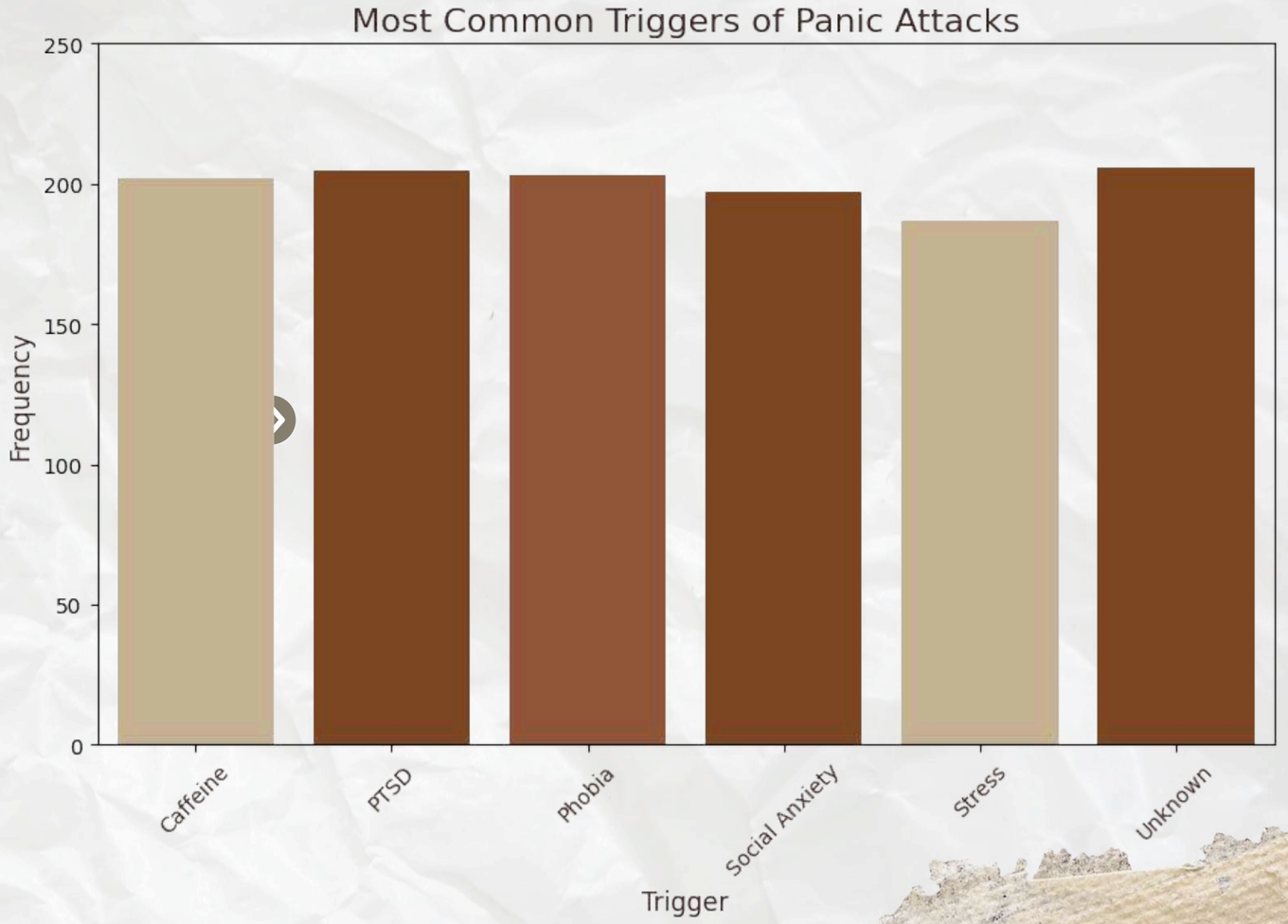


Panic attack and triggers

Panic attacks can be triggered by a variety of factors, including psychological, environmental, and physiological influences. Common triggers include stress from daily pressures, caffeine consumption, and underlying mental health conditions such as PTSD or anxiety. Certain situations or emotions, like feeling overwhelmed or encountering stressful life events, can also provoke these intense episodes. By identifying and understanding these triggers, individuals can better manage their symptoms and potentially reduce the frequency of panic attacks.

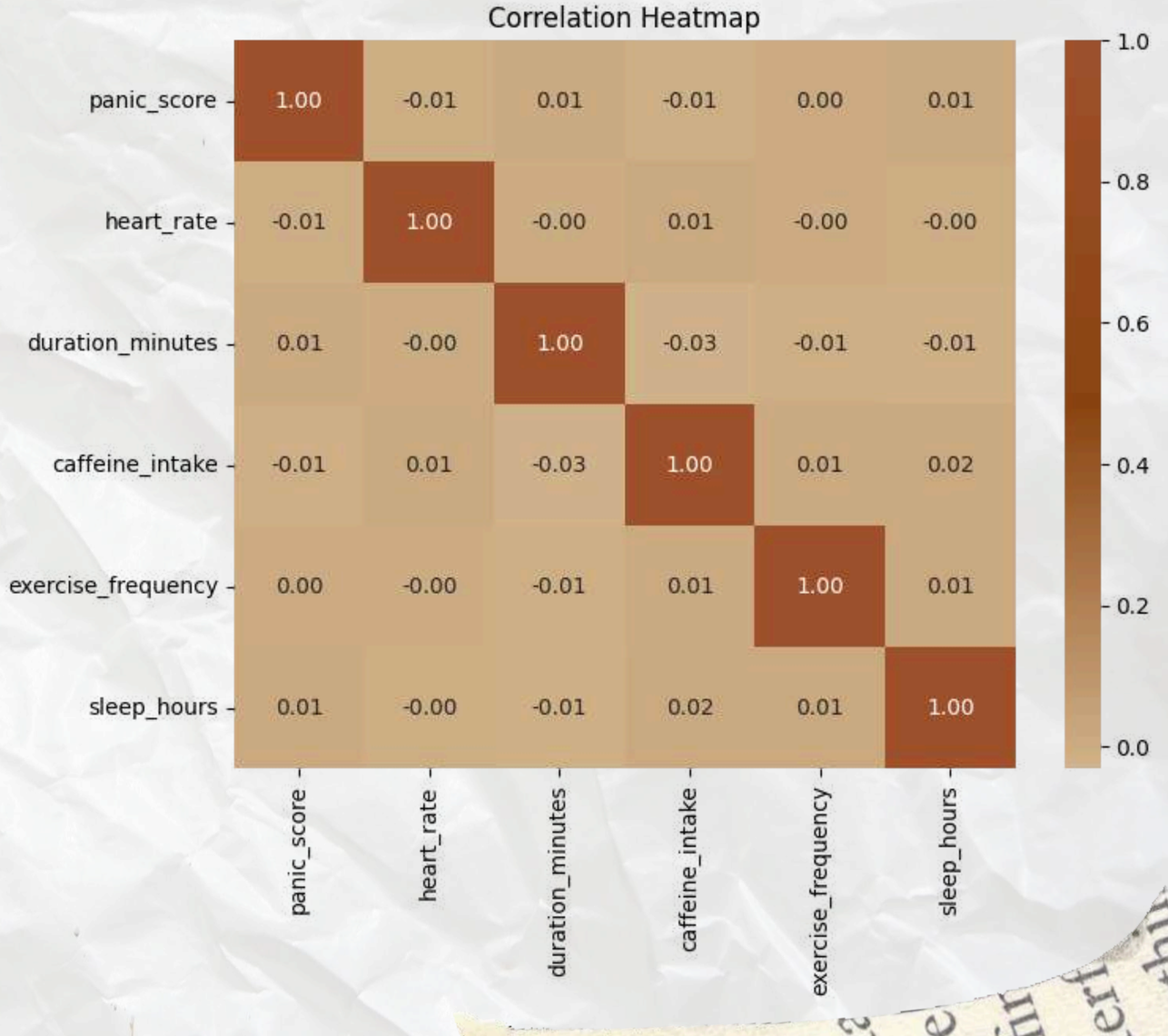
Type of Triggers

The triggers for panic attacks in the dataset show a fairly balanced distribution. Caffeine and PTSD are the most common, but other triggers like Phobia, Social Anxiety, and Stress also occur frequently, though slightly less so. The Unknown trigger appears less often, possibly due to unclear identification. Overall, the frequency scores are evenly spread, indicating that panic attacks can be triggered by various factors, each contributing similarly to the overall experience.



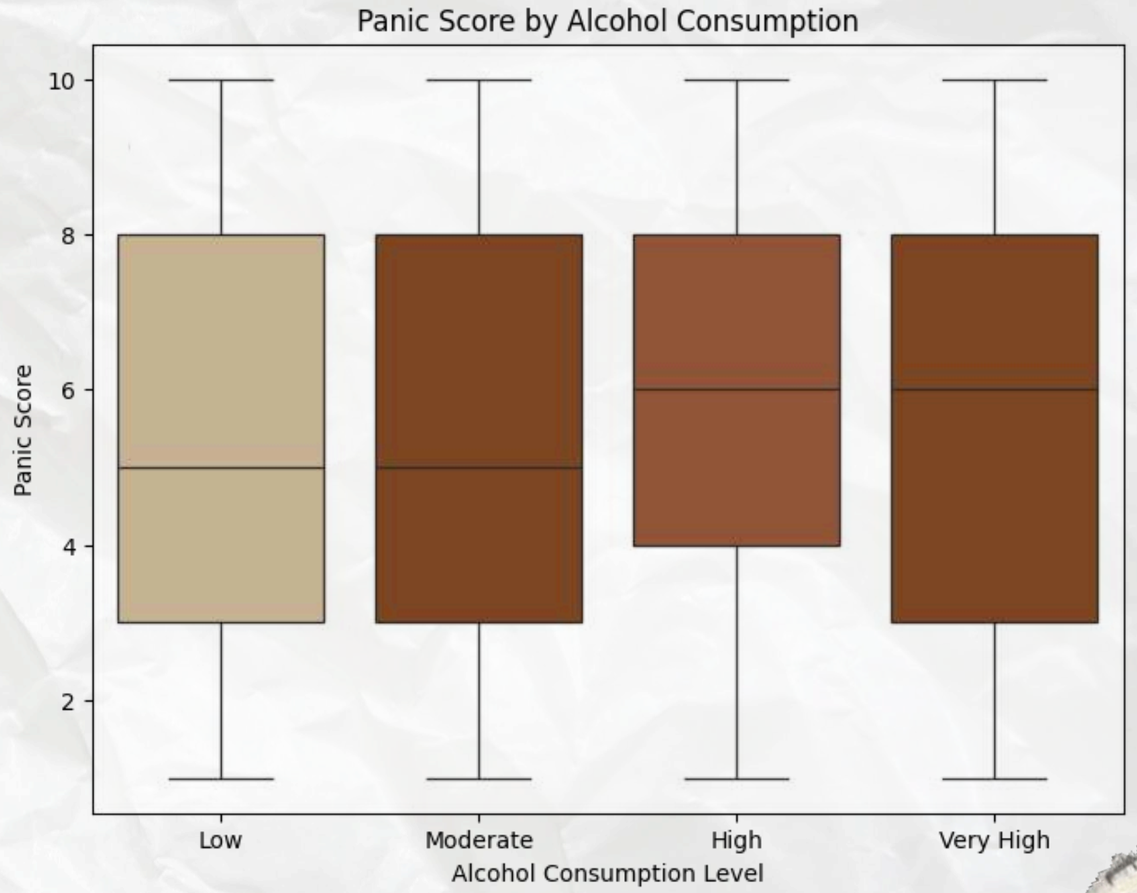
Correlation Analysis of Panic Attack Factors

The correlation heatmap visually represents the relationships between key variables, such as panic score, heart rate, duration of panic attacks, caffeine intake, exercise frequency, and sleep hours. It shows how these factors are related—positive correlations mean they increase together, while negative correlations suggest an inverse relationship. The colour gradient reflects the strength of these correlations, with darker shades indicating stronger relationships. This analysis helps uncover potential links between mental health factors and lifestyle habits, providing valuable insights for targeted interventions. This shows little correlation across differnt factors with no stand out indicator .



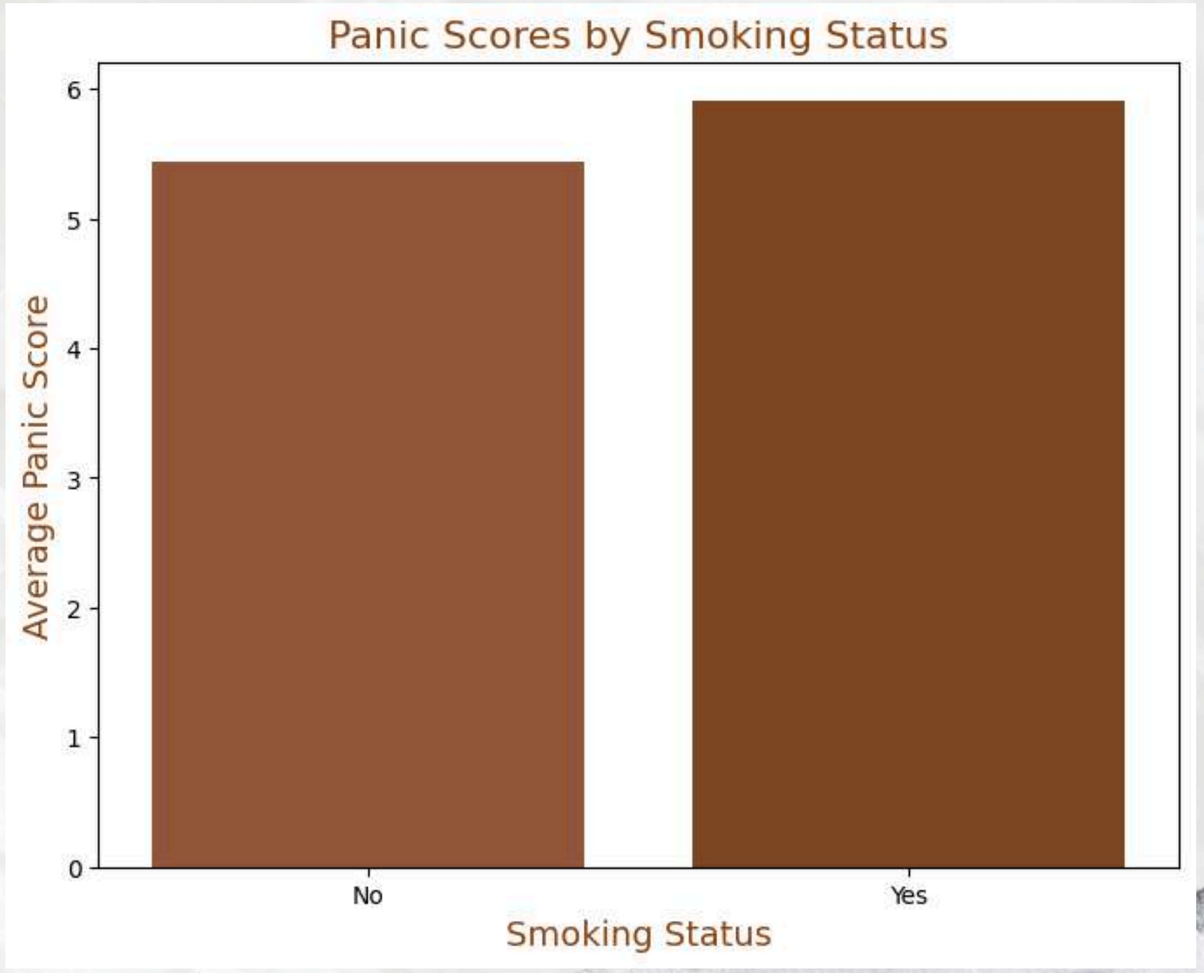
Alcohol and Panic Attacks

This boxplot shows the distribution of panic scores across four levels of alcohol consumption: Low, Moderate, High, and Very High. The boxes represent the middle 50% of scores, with the median panic score marked inside the box. The whiskers show the range, and outliers are displayed as individual points. The plot suggests a trend where higher alcohol consumption may be associated with higher panic scores, highlighting the potential impact of alcohol on mental health.



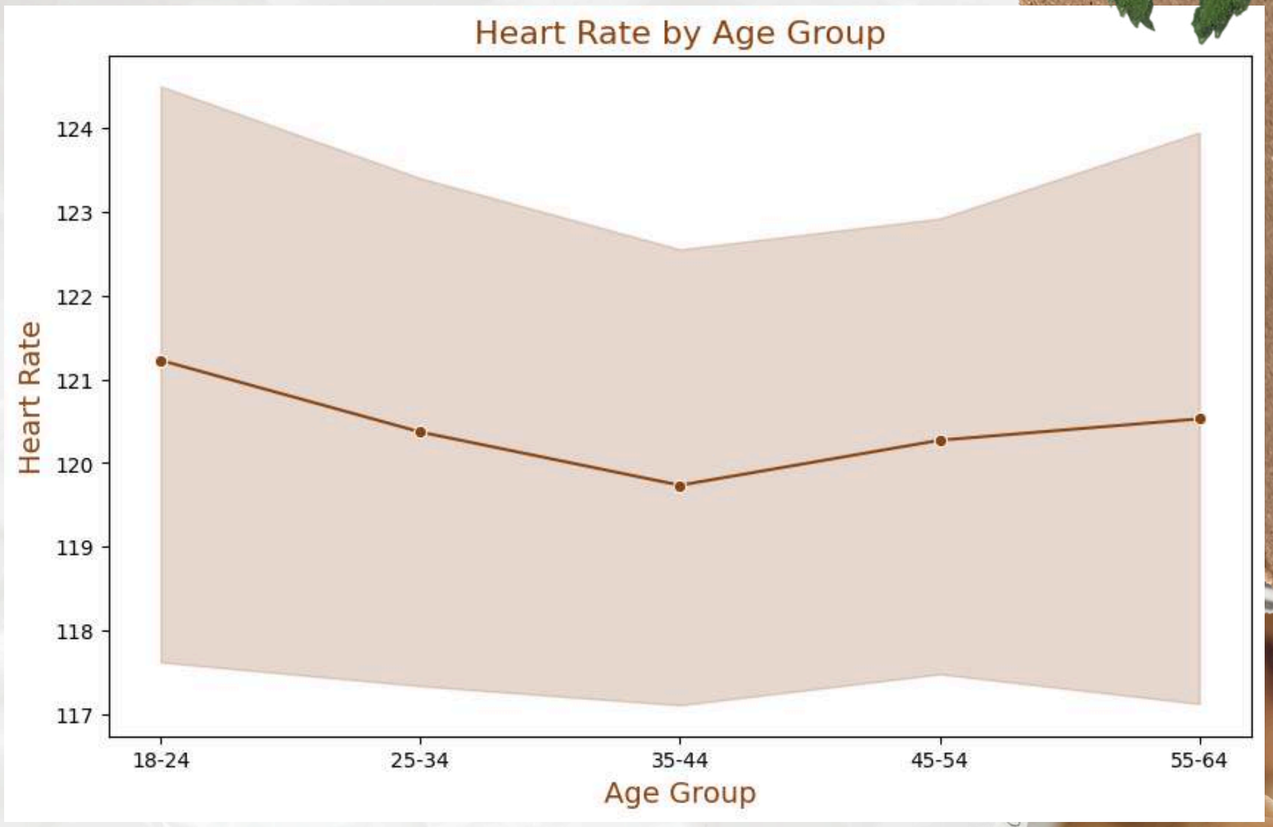
Smoking and Panic Score

The analysis shows a slight increase in panic scores among smokers compared to non-smokers. This suggests that smoking may contribute to higher levels of panic or anxiety, potentially due to the stimulating effects of nicotine, which can raise heart rate and mimic panic attack symptoms. While the difference is modest, it highlights how smoking could exacerbate stress and anxiety.



Heart Rate by Age Group

The line plot illustrating heart rate variations across different age groups offers valuable insights into how age influences heart rate during a panic attack. The plot provides an understanding of how heart rate as a physiological indicator of stress changes across different age groups during panic attacks. By analyzing this data, we can better understand how age-related factors influence how panic is experienced and how heart rate varies with age.



Conclusion

In conclusion, the visualisations and analyses presented offer useful insights into the relationships between panic scores and various factors such as age, smoking, caffeine intake, and panic attack triggers. While some patterns, like a slight increase in panic scores among smokers and higher heart rates in certain age groups, were observed, the results remain inconclusive. The data does not reveal many strong or standout indicators, with similar trends emerging across different factors. For instance, while smoking is associated with slightly higher panic scores, the difference is modest, and other lifestyle factors such as caffeine intake and age groups show subtle variations without significant distinctions. Interestingly, the data also indicates that panic attack sufferers were relatively balanced between sexes, with slightly more males reporting panic attacks.

Thank you for Reading

markpalmer1981@yahoo.co.uk
https://www.linkedin.com/in/mark-palmer-9315b0329/