



جامعة مصر للمعلوماتية
EGYPT UNIVERSITY
OF INFORMATICS

Egypt University of Informatics
Computer and Information Systems
Data Analysis Course

The Analysis of the Performance of Data Analysis Students

22-101151

Introduction

Are you among those who rely on a morning cup of coffee or an energy drink to kickstart your day? If so, you're not alone. Caffeine is a staple in the daily routines of millions worldwide, offering that much-needed boost of alertness and energy to face the day ahead.

But have you ever stopped to consider the potential impact of your caffeine consumption on your health? Beyond the initial jolt of energy, what effects might it have on your sleep, heart rate, digestion, or overall well-being?

In this report, i delve into the intriguing relationship between caffeine intake and health effects. Through a careful analysis of data collected from individuals like yourself, i aim to uncover patterns and correlations that shed light on this often overlooked aspect of daily life

Research Question

What is the relationship between daily caffeine consumption and the reported health effects experienced by individuals?"

Hypothesis

- There is a positive correlation between the number of caffeinated beverages consumed per day and the likelihood of experiencing health effects such as difficulty sleeping, increased heart rate or palpitations, anxiety or restlessness, and digestive issues

■ Individuals who consume a higher number of caffeinated beverages per day are more likely to report experiencing health effects related to caffeine consumption compared to those who consume fewer caffeinated beverages or none at all.

Population of Interest:

Egypt university of informatics students

Sampling Method:

Convenience sampling

Bias Identification:

Sampling Bias: Since the sampling method used was likely convenience sampling, there's a risk of sampling bias. Participants may not represent the entire population of EUI students, leading to results that are not generalizable to all students.

-Participants who choose to respond to the survey may have different characteristics or experiences compared to those who did not participate. This bias can affect the representativeness of the sample and introduce systematic differences between responders and non-responders

Survey Questions:

- On average, how many caffeinated beverages do you consume per day?
 - 1-2
 - 3-4
 - 5 or more

- None
- Which of the following caffeinated beverages do you regularly consume? (Select all that apply)
 - Coffee
 - Tea (black, green, herbal)
 - Energy drinks
 - Soft drinks (soda)
 - Other
- What are your primary reasons for consuming caffeinated beverages? (Select all that apply)
 - To increase energy and alertness
 - For the taste and enjoyment
 - To combat fatigue
 - To improve focus and concentration
 - Other
- Have you experienced any of the following health effects due to caffeine consumption? (Select all that apply)
 - Difficulty sleeping
 - Increased heart rate or palpitations
 - Anxiety or restlessness
 - Digestive issues (e.g., stomach upset, acid reflux)
 - None of the above
- Have you ever attempted to reduce your caffeine intake for health-related reasons?
 - Yes
 - No
- If yes, what were the reasons for reducing your caffeine intake? (Select all that apply)
 - To reduce anxiety or restlessness
 - To improve sleep quality
 - To decrease heart rate or palpitations
 - To alleviate digestive issues
 - Other

Online survey link:

https://docs.google.com/forms/d/e/1FAIpQLSeSSvyX2pVRB95VF7y9ReMDRnyJOJxwF1aZG4HGIFJLAMnCA/viewform?usp=sf_link

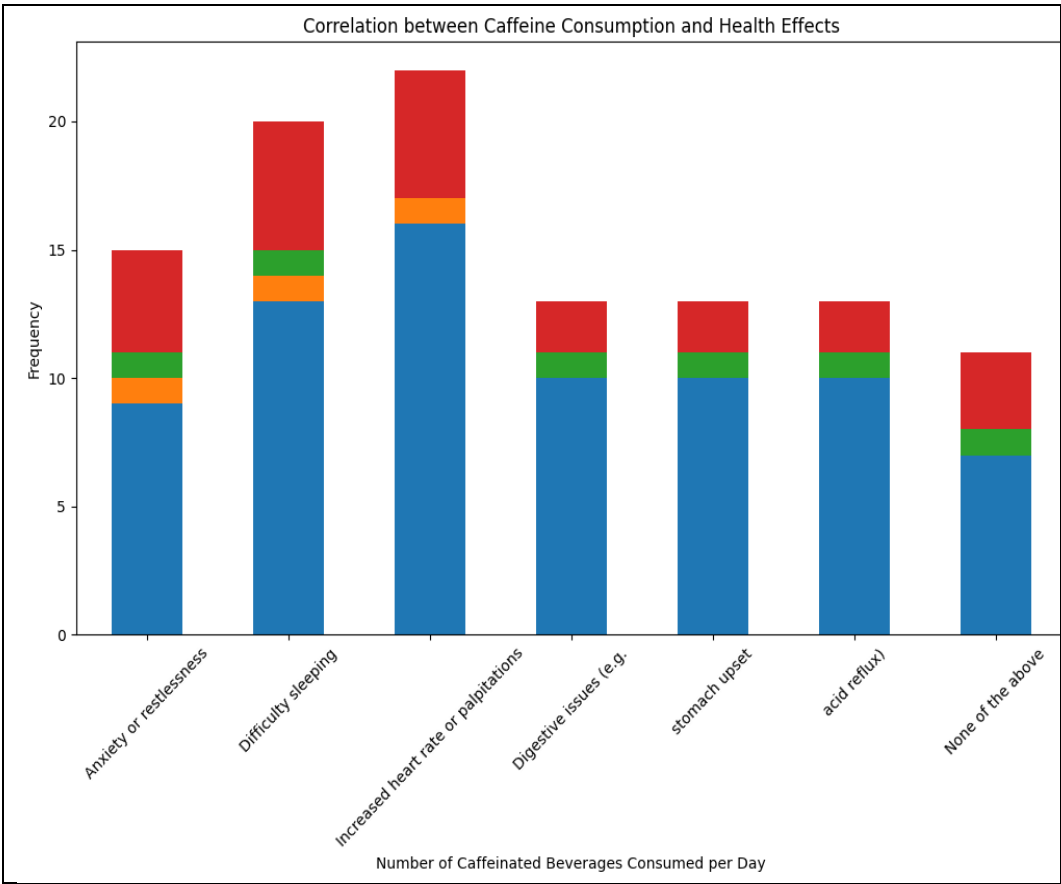
Number of samples collected: 42

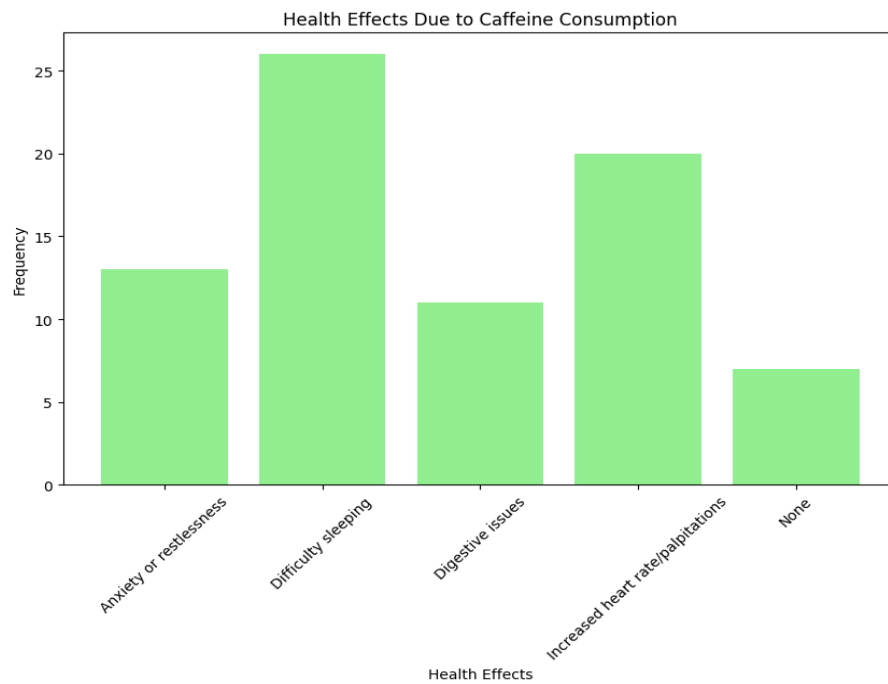
Analysis:

we can see a correlation between the number of caffeinated beverages consumed per day and certain health effects. Specifically, there seems to be a positive correlation between consuming more caffeinated beverages and experiencing health issues such as difficulty sleeping, increased heart rate or palpitations, and anxiety or restlessness.

This positive correlation suggests that as the number of caffeinated beverages consumed per day increases, individuals are more likely to experience these health

effects. This could be due to the stimulating effects of caffeine on the central nervous system, leading to disturbances in sleep patterns, increased heart rate, and feelings of anxiety or restlessness.





Conclusion

Based on the survey results, it's evident that there's a diverse range of caffeinated beverage consumption habits among respondents, with the majority consuming 1-2 caffeinated beverages per day. The most commonly reported health effects associated with caffeine consumption include difficulty sleeping, increased heart rate or palpitations, and anxiety or restlessness.

The correlation analysis revealed a positive relationship between the number of caffeinated beverages consumed per day and experiencing certain health effects. This suggests that higher consumption may increase the likelihood of encountering these issues. (However, it's important to interpret these findings with caution. While the correlation indicates a relationship between caffeinated beverage consumption and health effects, it does not prove causation. Other factors, such as individual differences in caffeine metabolism, overall health status, and lifestyle habits, could also influence these outcomes.)

Any potential issues

while this survey aimed to capture a diverse range of caffeine consumption habits and associated health effects, it's essential to acknowledge the inherent limitations of self-reported data. Participants may have provided inaccurate or incomplete responses due to recall bias, social desirability bias, or simply misunderstanding the questions. This potential for misreporting could affect the validity and reliability of our findings.

Additionally, incorporating objective measures, such as biomarker analysis or observational data, could enhance the accuracy of the results and minimize the influence of subjective biases.

The survey did not account for potential confounding variables such as individual differences in caffeine metabolism, underlying health conditions, or concurrent medication use. These factors could influence the relationship between caffeine consumption and health effects. The survey focused on a specific set of health effects commonly associated with caffeine consumption, potentially overlooking other less common or emerging health concerns. This narrow focus might not capture the full spectrum of health outcomes related to caffeine intake