



DATA ANALYTICS



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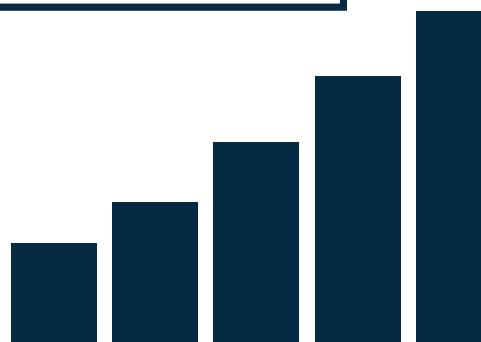
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Our Team



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About Data Analytics Project

The "Exploratory Data Analysis of Students' Daily Routine" project revolves around gaining valuable insights into the daily routines and habits of students in order to identify factors that may influence academic performance and overall well-being. This project was undertaken as part of our data analytics course, where we aimed to apply the concepts learned in class to a real-world scenario. To accomplish this, we designed and conducted a comprehensive survey using Google Forms to collect data directly from the participants over a period of 30 days. This approach allowed us to have ownership of the data and facilitated a better understanding of the variables involved, enabling us to perform in-depth analysis and draw meaningful conclusions.

DATA GENERATION SURVEY

This Data Generation Survey Activity is a mandatory ISE 2.1 component of the Analytics course. Students are required to fill out this survey **daily**. You can do it for the **same day** or **previous day**. For that you need to select the date and time.

I hope you have a fun time reflecting on your day by filling out the survey.

shrirajkhojage@gmail.com [Switch accounts](#)

* Indicates required question

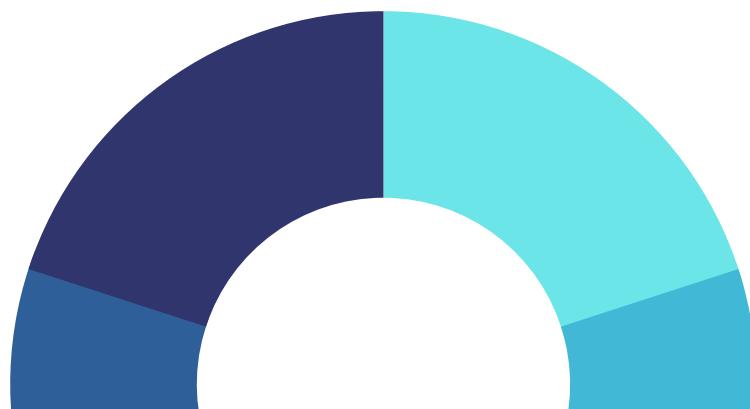




Objective

Objective

The primary objective of this project is to explore and analyze the various aspects of students' daily routines and uncover meaningful patterns and correlations within the collected dataset. By understanding how different factors, such as waking habits, exercise routines, study patterns, social interactions, and personal experiences, impact students' lives, we aim to provide insights that can contribute to academic excellence and overall well-being.





Methodology and Approach

Data Collection: We designed a comprehensive survey using Google Forms to capture a wide range of variables related to students' daily routines. The survey was administered to participants over a period of 30 days, ensuring a diverse representation of experiences and perspectives.

Data Cleaning and Preparation: The collected data underwent rigorous cleaning and preparation to ensure data integrity. This involved addressing missing values, removing duplicates, and ensuring consistency, enabling us to work with a reliable dataset.

Exploratory Analysis: We performed exploratory data analysis (EDA) techniques to gain a holistic understanding of the dataset. Descriptive statistics, visualizations, and data segmentation were employed to identify trends, patterns, and potential relationships between variables.

Hypothesis Testing: Based on the insights gained from the exploratory analysis, we formulated hypotheses to test specific relationships and associations between variables. Statistical techniques were applied to validate or reject these hypotheses and draw reliable conclusions.

Visualization and Insights: Utilizing powerful visualization tools such as Tableau and Power BI, we created interactive and informative visualizations to present our findings. These visualizations helped us gain deeper insights into the dataset and facilitated the communication of complex relationships and patterns.

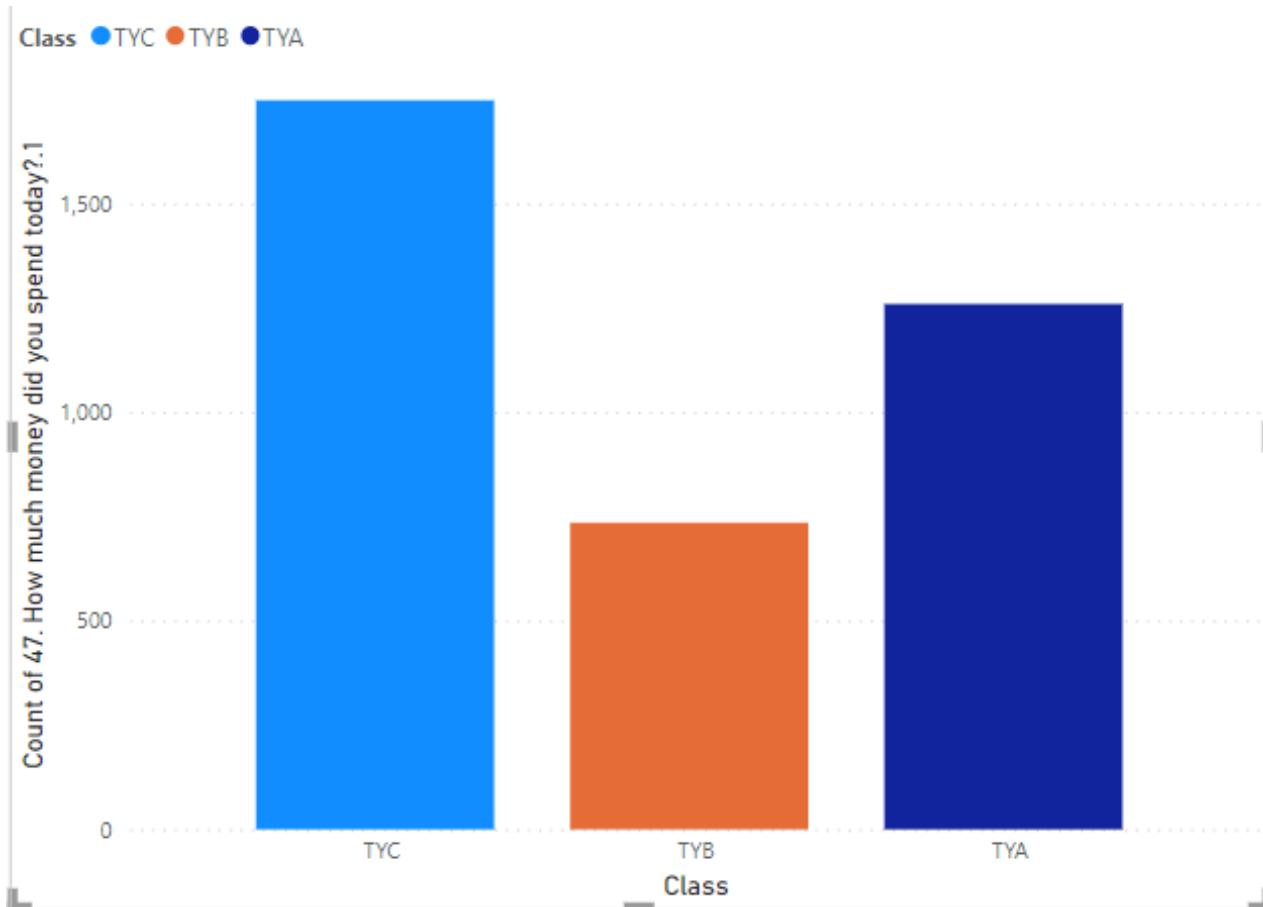
Dashboard



The above dashboard provides a holistic snapshot of students' time allocation across key activities such as studying, project group collaboration, coding, and productivity. The intuitive design and interactive features of the dashboard enable users to explore and analyze the data in a user-friendly manner. With this valuable information at their fingertips, educators and students can make informed decisions, optimize their schedules, and ultimately enhance productivity and achievement.

Hypothesis 1

The division-wise comparison of money spent by students will reveal variations in spending patterns.



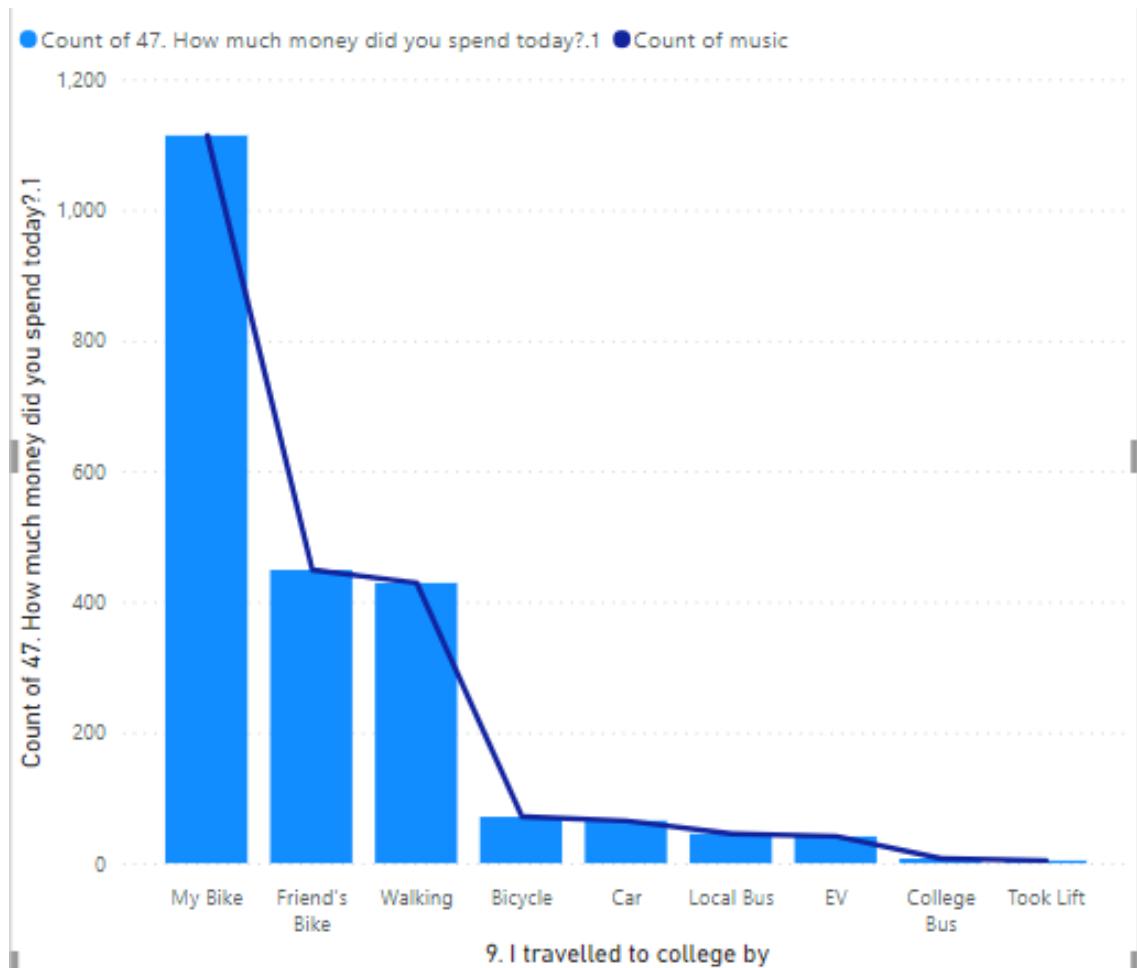
Visualization: Bar chart comparing the total money spent by students in each division.

Conclusion: The visualization demonstrates that Division C has the highest money spent, followed by Division A and Division B.



Hypothesis 2

The mode of travel chosen by students significantly impacts their money spent.

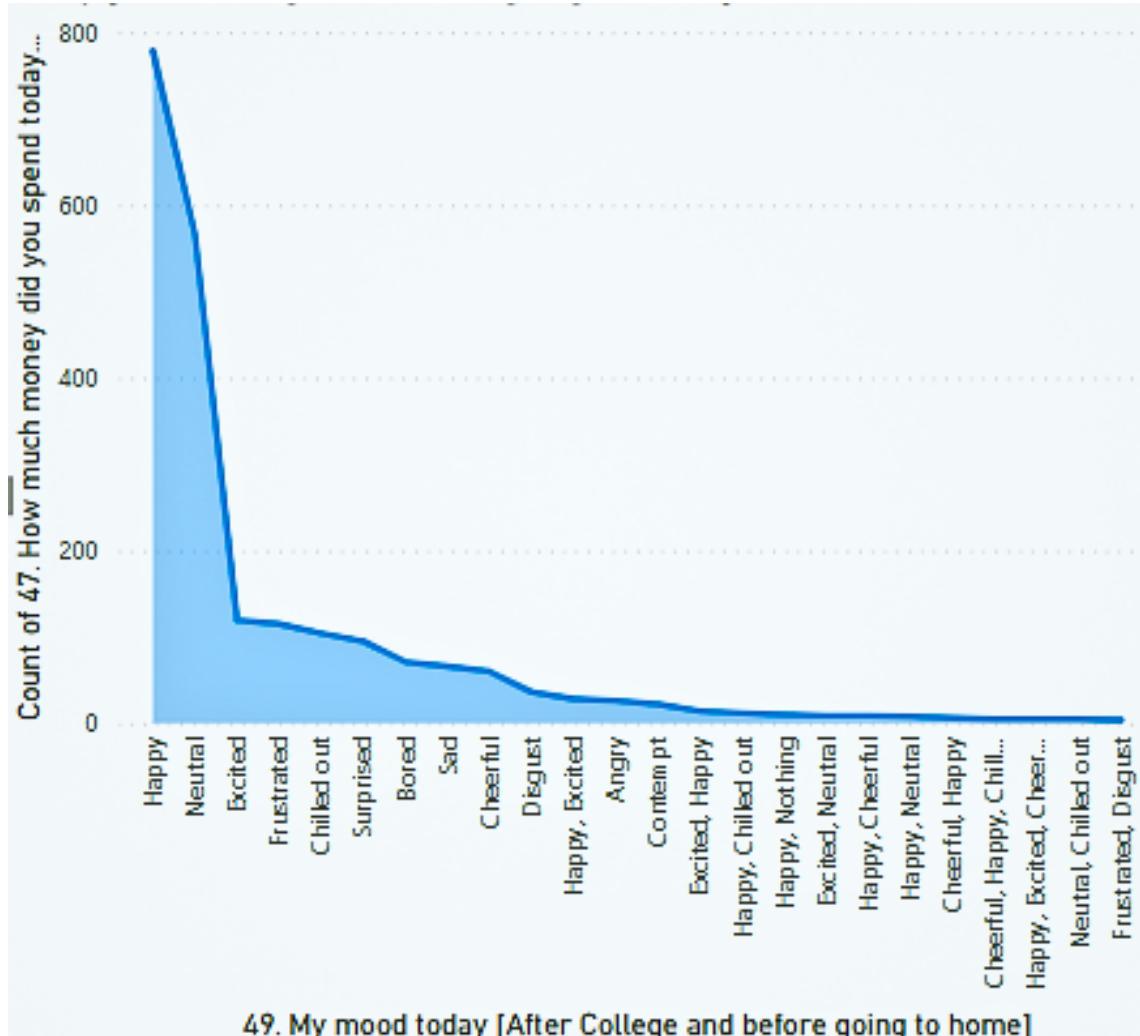


Visualization: Box plot comparing the distribution of money spent for different modes of travel (e.g., bus, car, bike, walking).

Conclusion: Founded results shows us that students who have their own bikes spent money a lot compares to others which is expected outcome also.

Hypothesis 3

There is a relationship between the overall mood of students and the amount of money spent.

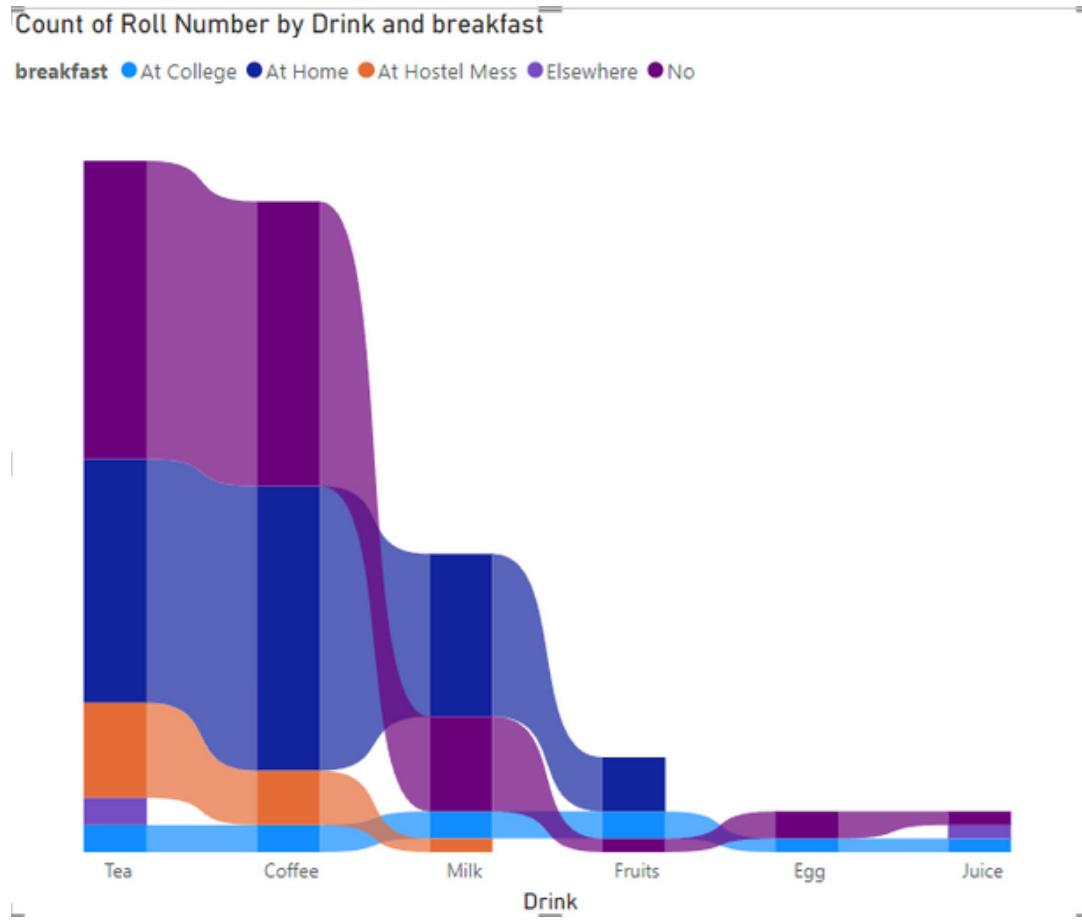


Visualization: Scatter plot depicting the correlation between money spent and overall mood ratings for each student.

Conclusion: The scatter plot demonstrates a positive correlation between money spent and higher overall mood ratings, indicating that students with higher spending tend to report more positive moods.

Hypothesis 4

There is a significant association between the students' breakfast habits and their drink preferences in the morning.

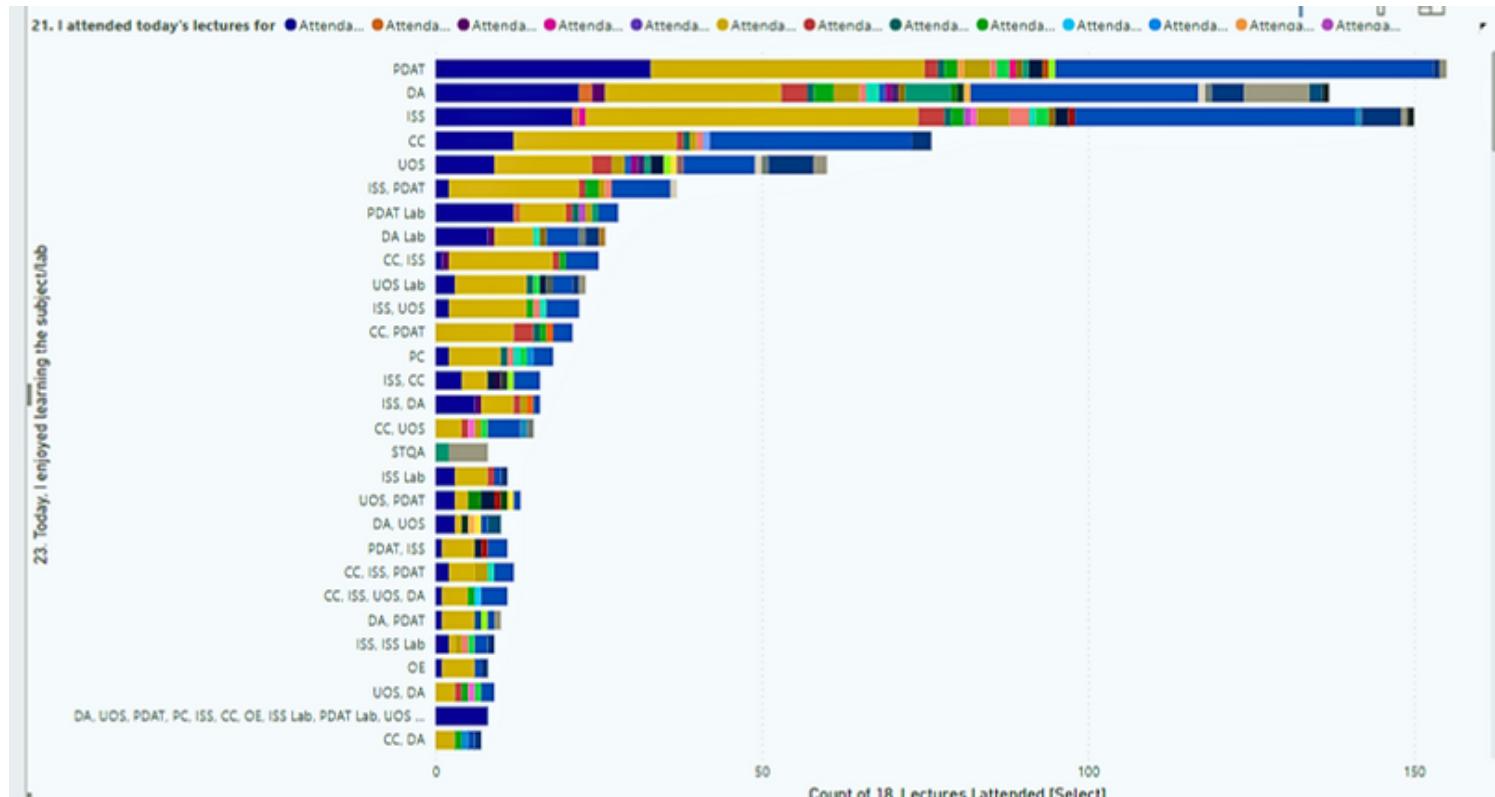


Visualization: Ribbon chart displaying the relationship between the drink taken in morning and place of breakfast with no. of students as Y-Axis.

Conclusion: The Ribbon chart demonstrates that as the number of students who do not eat anything in morning prefers Tea the most .

Hypothesis 5

The motive for attending lectures affects on, is the student enjoyed it or not.



Visualization: Bar chart comparing the count of attendees, their motives with that lecture is enjoyable or not.

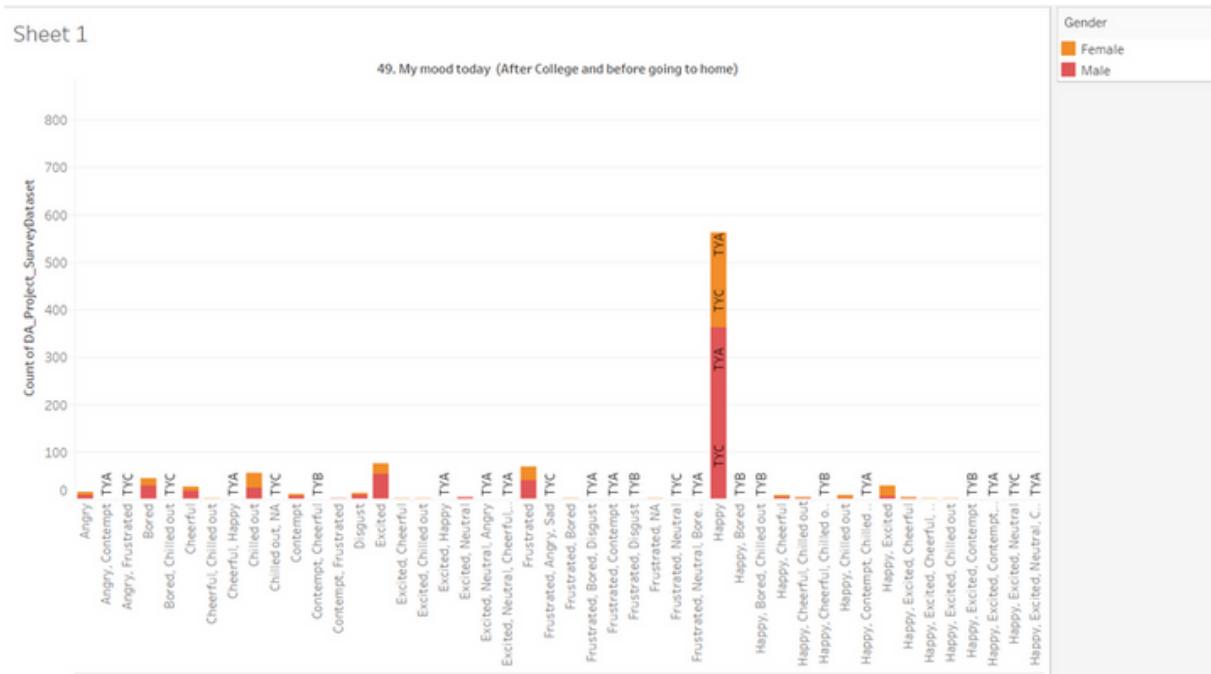
Conclusion: The visualization demonstrates that students tends to attend the lectures just for sake of attendance.

Hypothesis 6

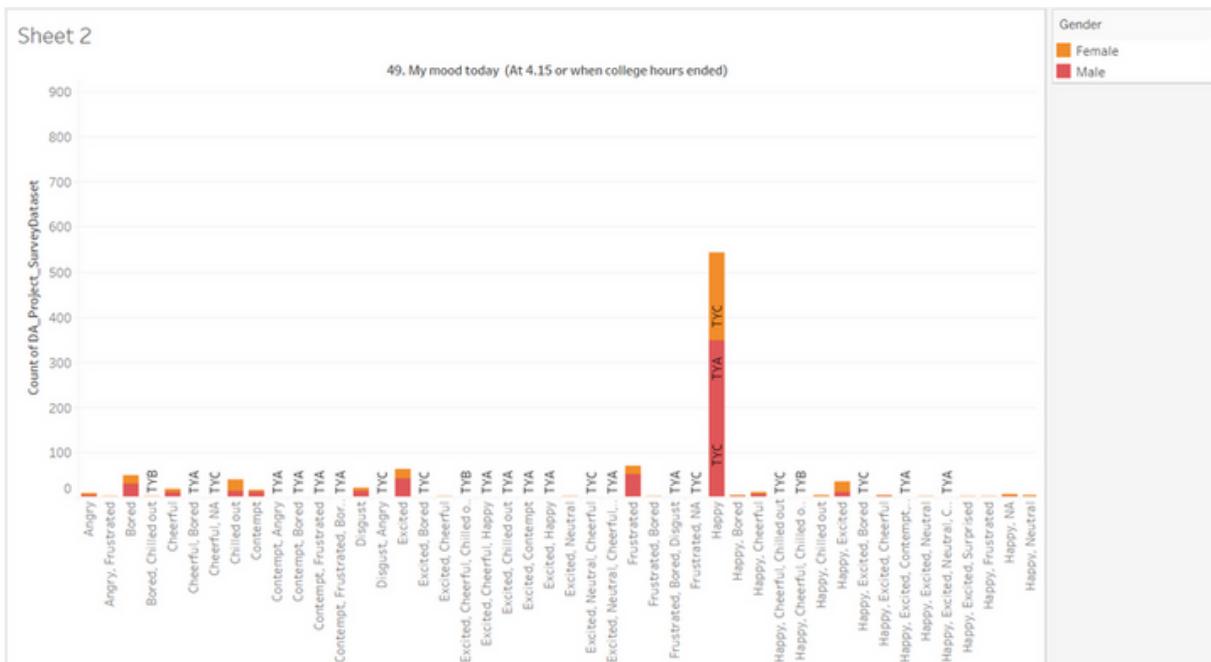


Mood analysis reveals variations across different time periods, such as before, during, and after college hours.

Sheet 1



Sheet 2

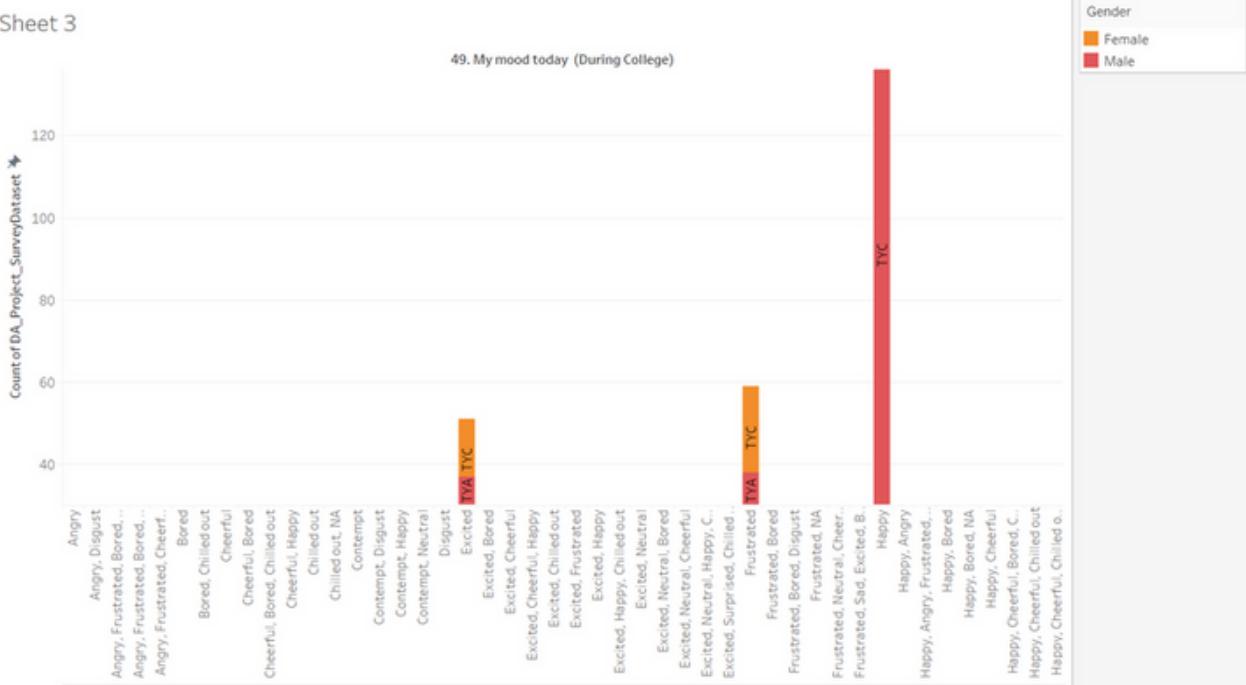


Hypothesis 6



Sheet 3

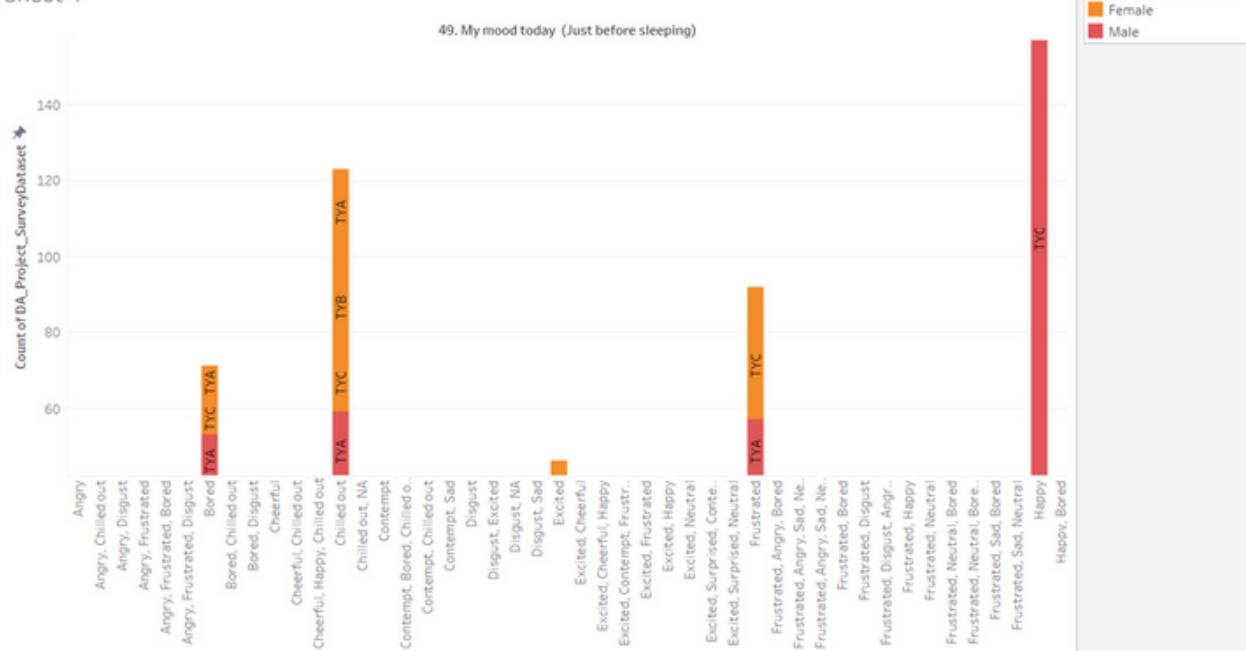
Sheet 3



Gender
Female
Male

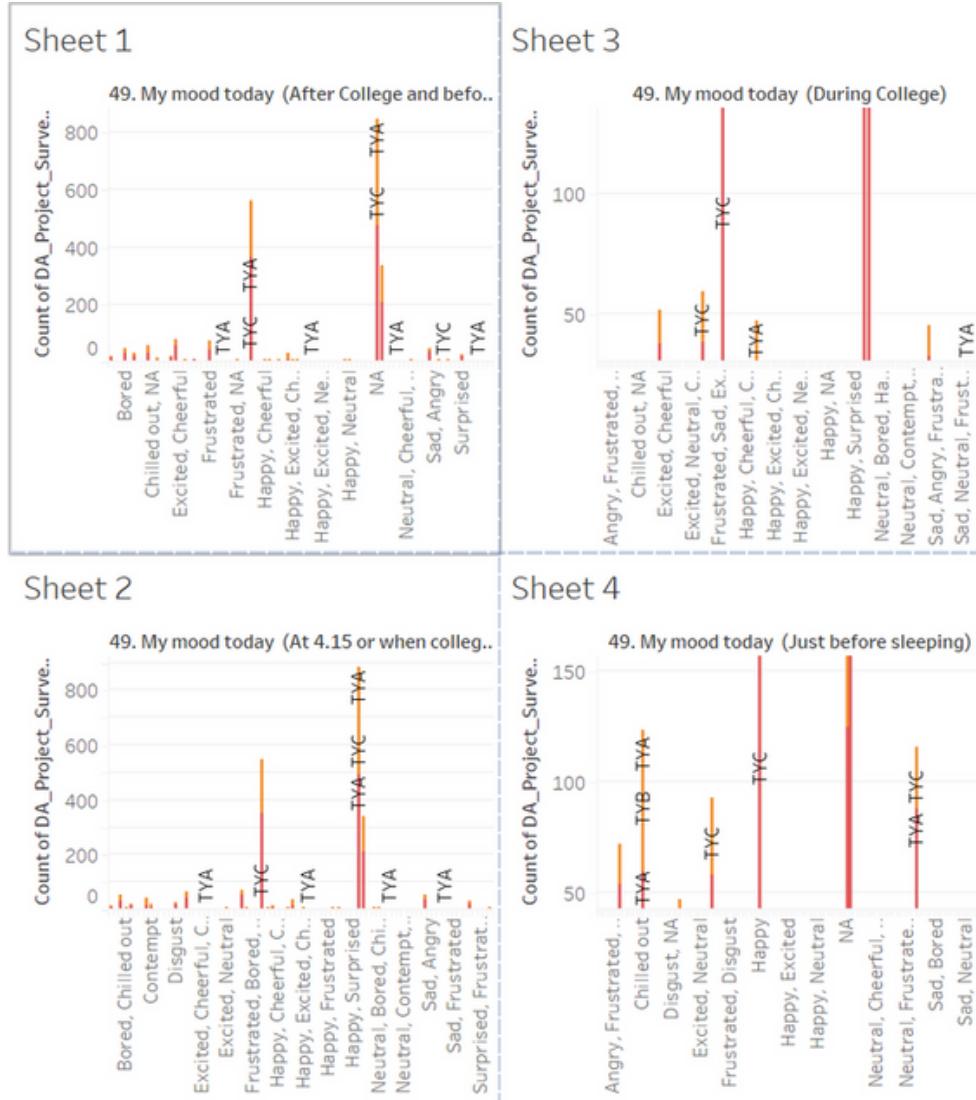
Sheet 4

Sheet 4



Gender
Female
Male

Hypothesis 6

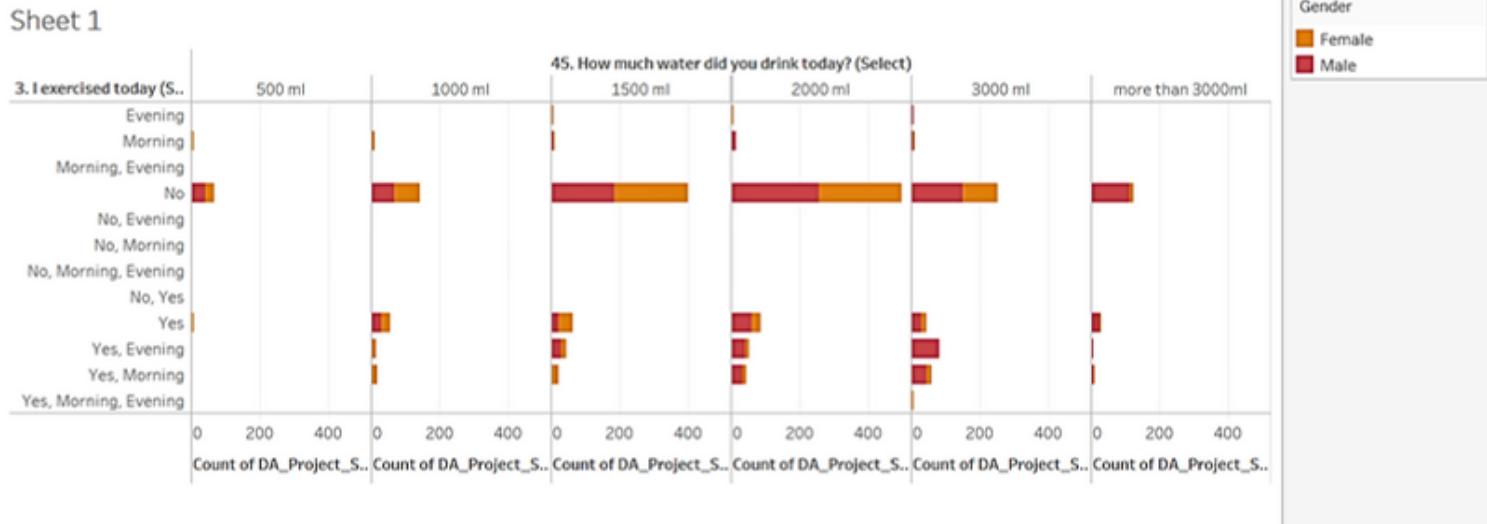


Visualization: Dashboard showing info. about the mood during various time periods of the day with division wise separation.

Conclusion: The analysis shows that mood level gradually decreases with time spent from morning to evening.

Hypothesis 7

Factors like exercise, will drink more water compared to others.

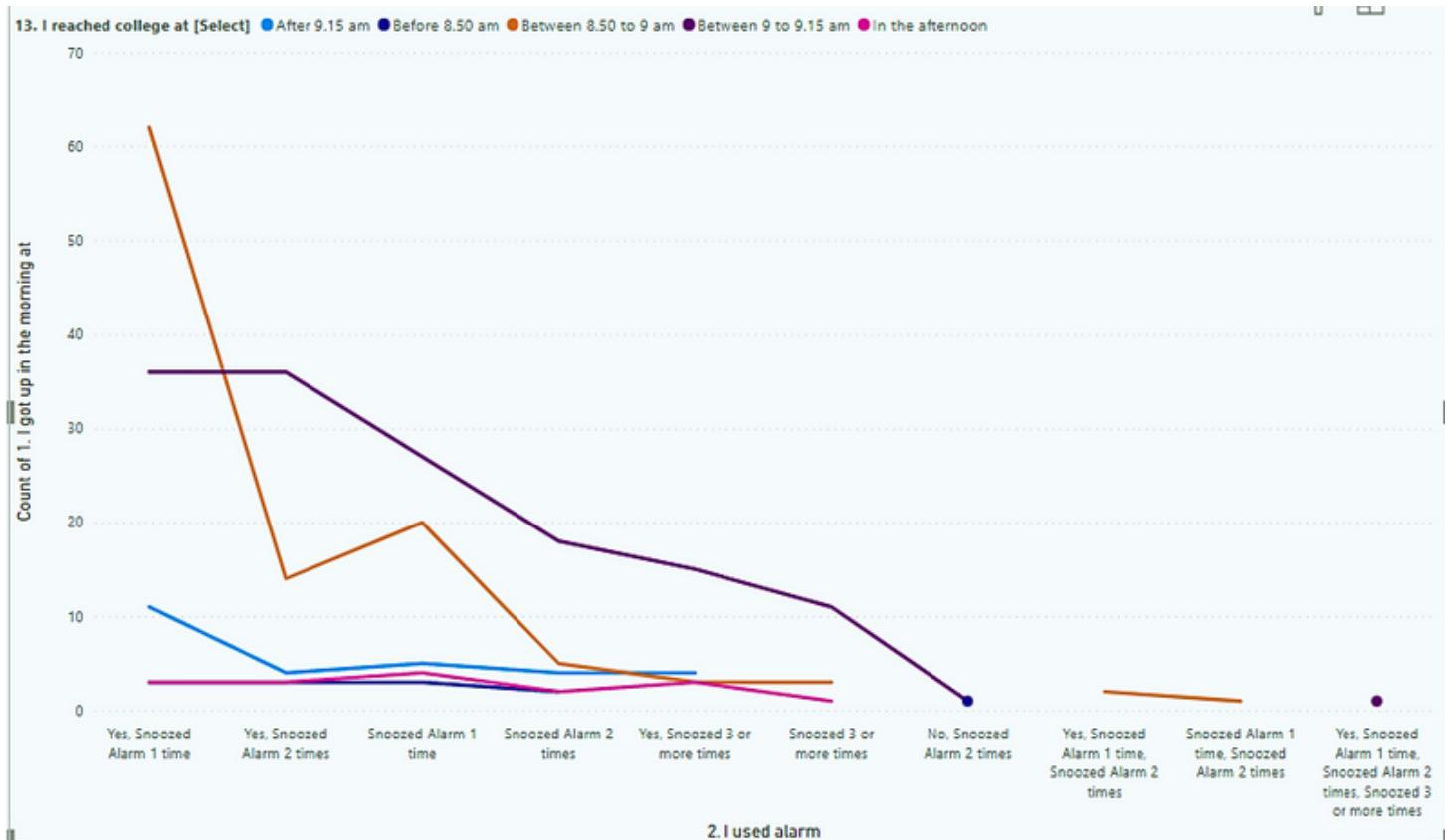


Visualization: Grouped bar chart illustrating the impact of exercise on intake of water.

Conclusion: The visualization provides evidence that regular exercise, provokes you to take more water which automatically increases your good health and you never get dehydrated.

Hypothesis 8

Your woke time how affects, your time at when you reached to college as well as how many times you snoozes your alarm.

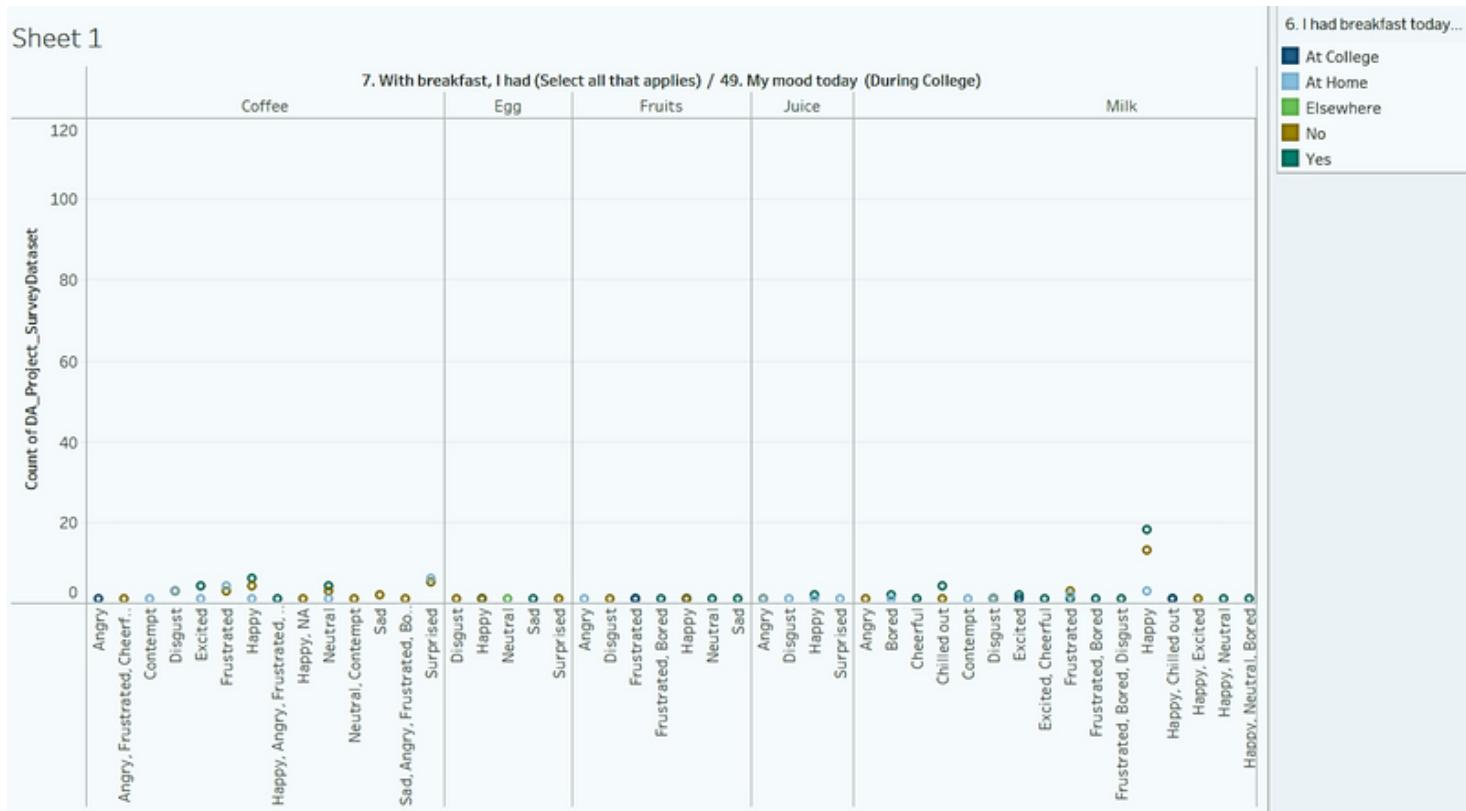


Visualization: Line graph showcasing the trend of average woke time of students compares with at what time they reached at college.

Conclusion: The visualization demonstrates that the students who woke up at 6 am to 8 am are consistently, reached college at average time of 9 am to 9.15 am. Late comers are more likely to woke up late in the morning.

Hypothesis 9

The availability of breakfast options positively influences students' mood during college hours.

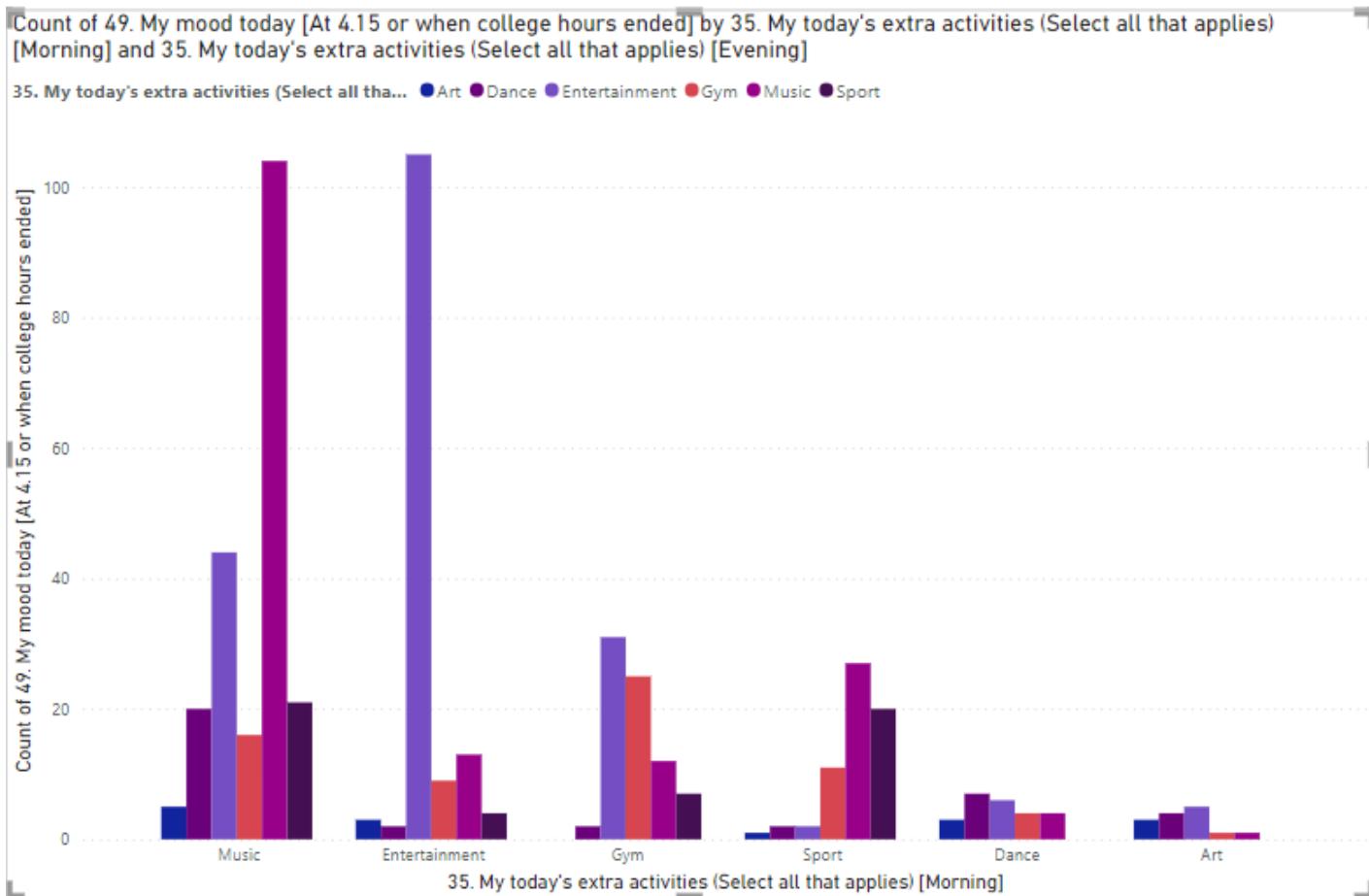


Visualization: Grouped ring chart comparing the mood ratings during college hours for students who had different breakfast options available versus those who did not.

Conclusion: The ring chart reveals that students who had access to different breakfast options report higher mood ratings during college hours compared to those without such options.

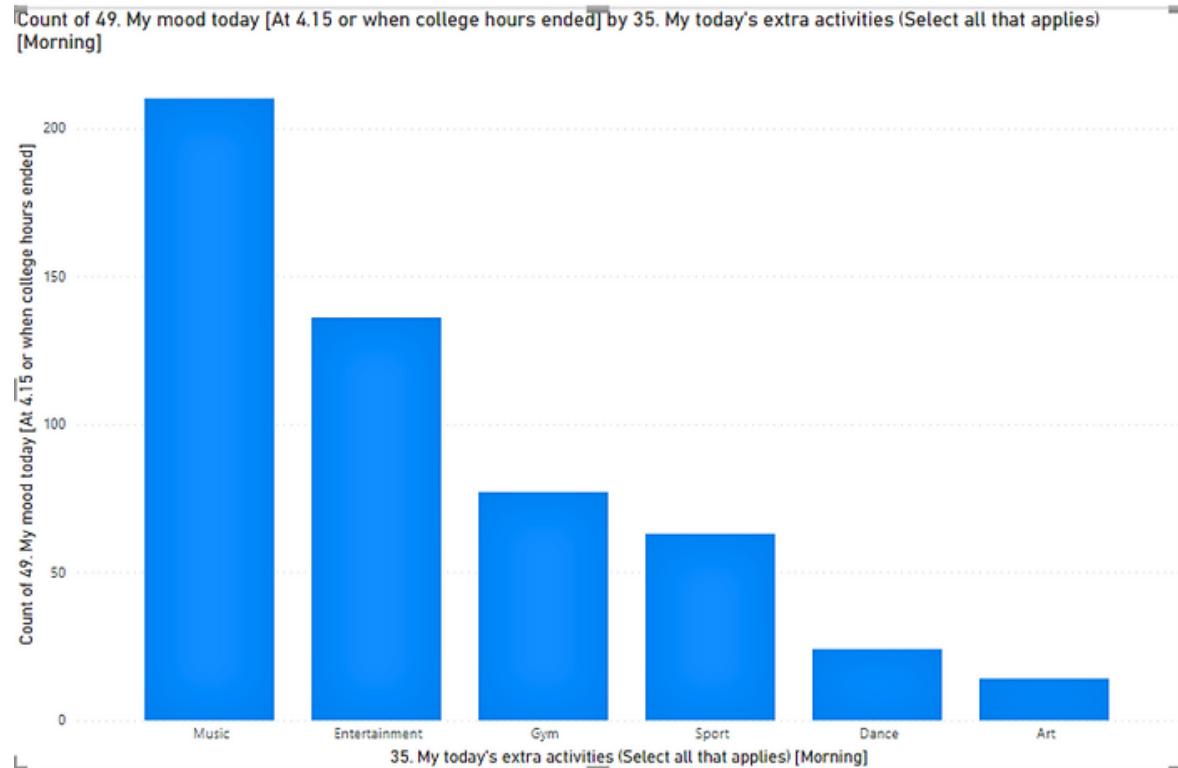
Hypothesis 10

Engaging in extra activities (morning/evening) influences students' mood after college hours.



Visualization: Grouped bar chart comparing the average mood ratings after college hours for students who engaged in different types of extra activities (e.g., morning activities, evening activities).

Hypothesis 10

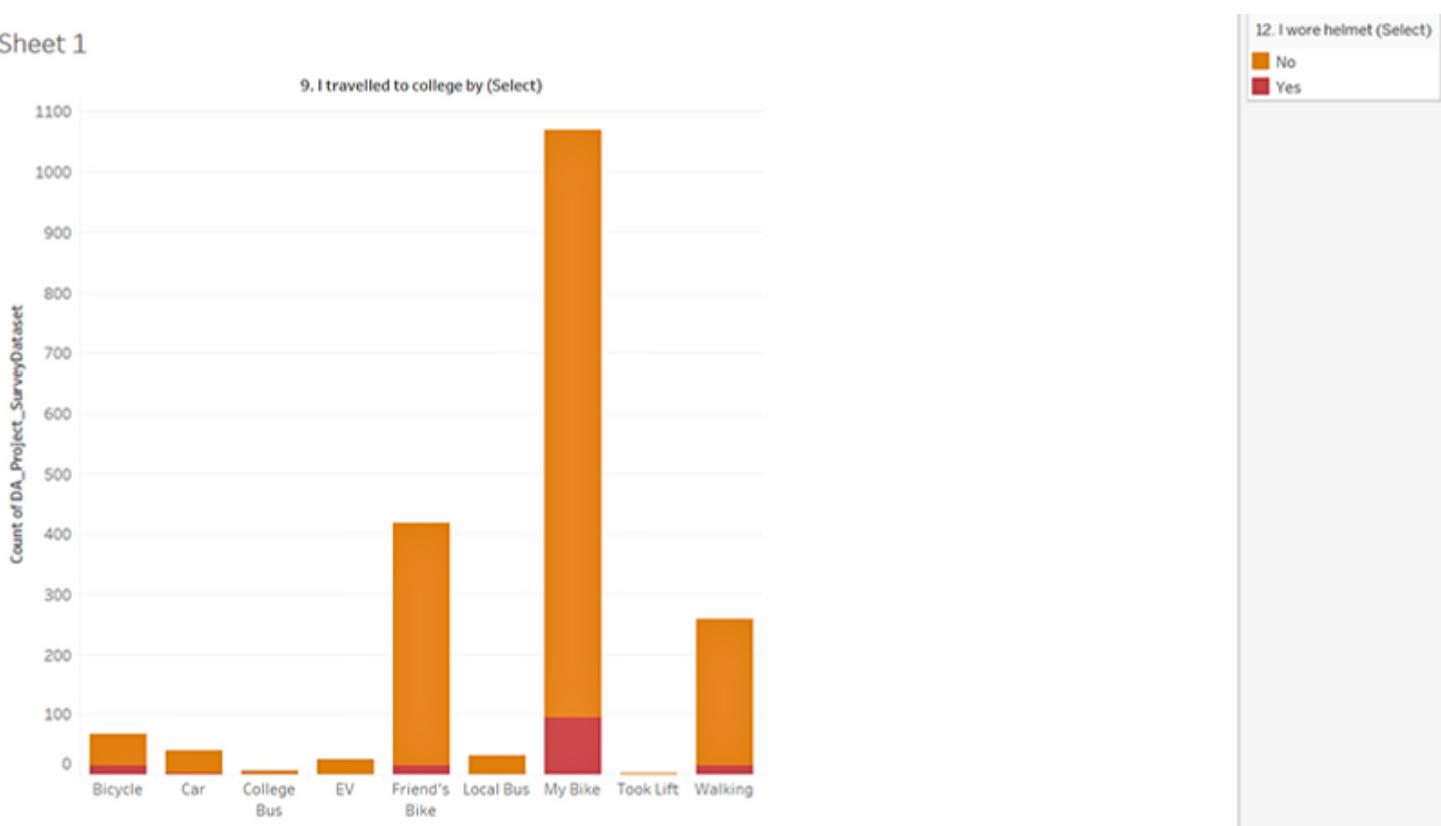


Conclusion: The bar chart demonstrates that students who participate in extra activities, especially in the morning, tend to have higher mood ratings after college hours compared to those who do not engage in such activities. This indicates a potential impact of extra activities on students' mood after college hours.

Hypothesis 11

Relation between mode of transportation shows current status of policy implemented by Kolhapur RTO.

Sheet 1

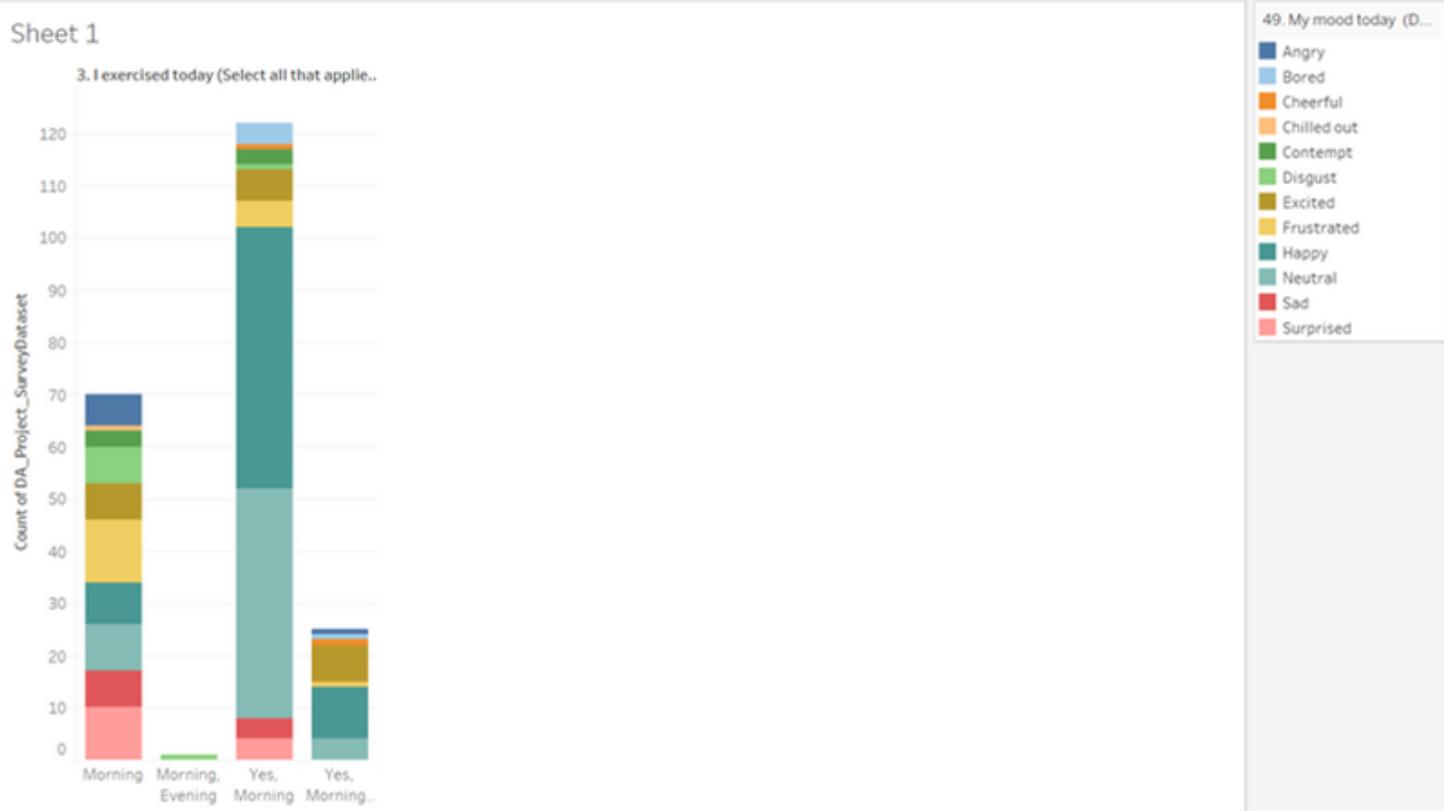


Visualization: Grouped bar chart comparing the frequency of students wear helmet or no while travelling through bike.

Conclusion: The grouped bar chart shows variations in the frequency of students being wearing helmet depending on the mode of transportation used, suggesting that student with bike option does not wear helmet while travelling through bike by evading current policy of RTO.

Hypothesis 12

The duration of exercise before college affects students' mood after college hours.



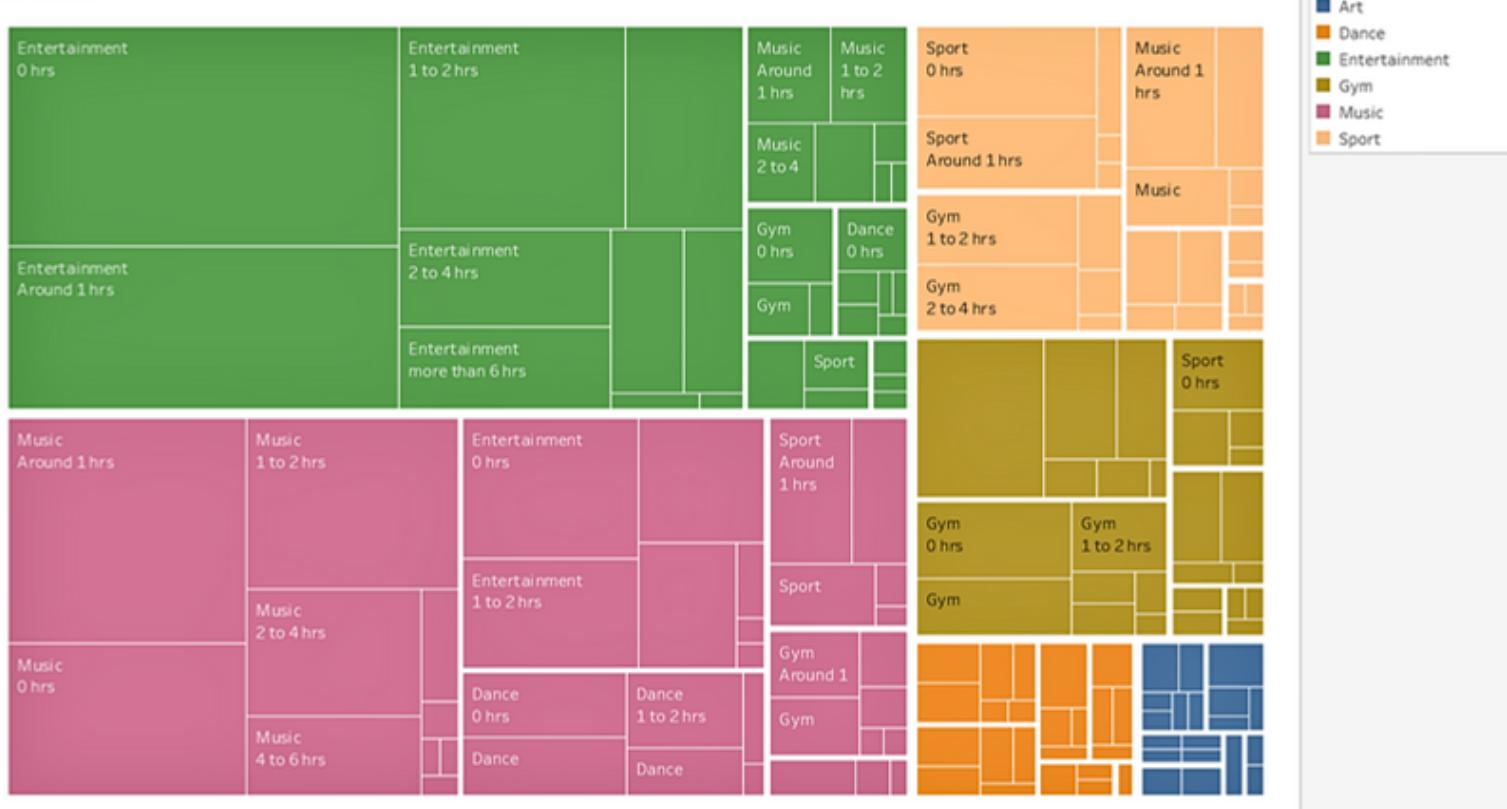
Visualization: Bar graph showing the relationship between the duration of exercise before college and the average mood ratings after college hours.

Conclusion: The bar graph demonstrates a positive correlation between the duration of exercise before college and higher mood ratings after college hours, indicating that longer exercise durations may contribute to improved mood even after college.

Hypothesis 13

On average, students spend more time on extra activities (morning/evening) compared to regular studies.

Sheet 1

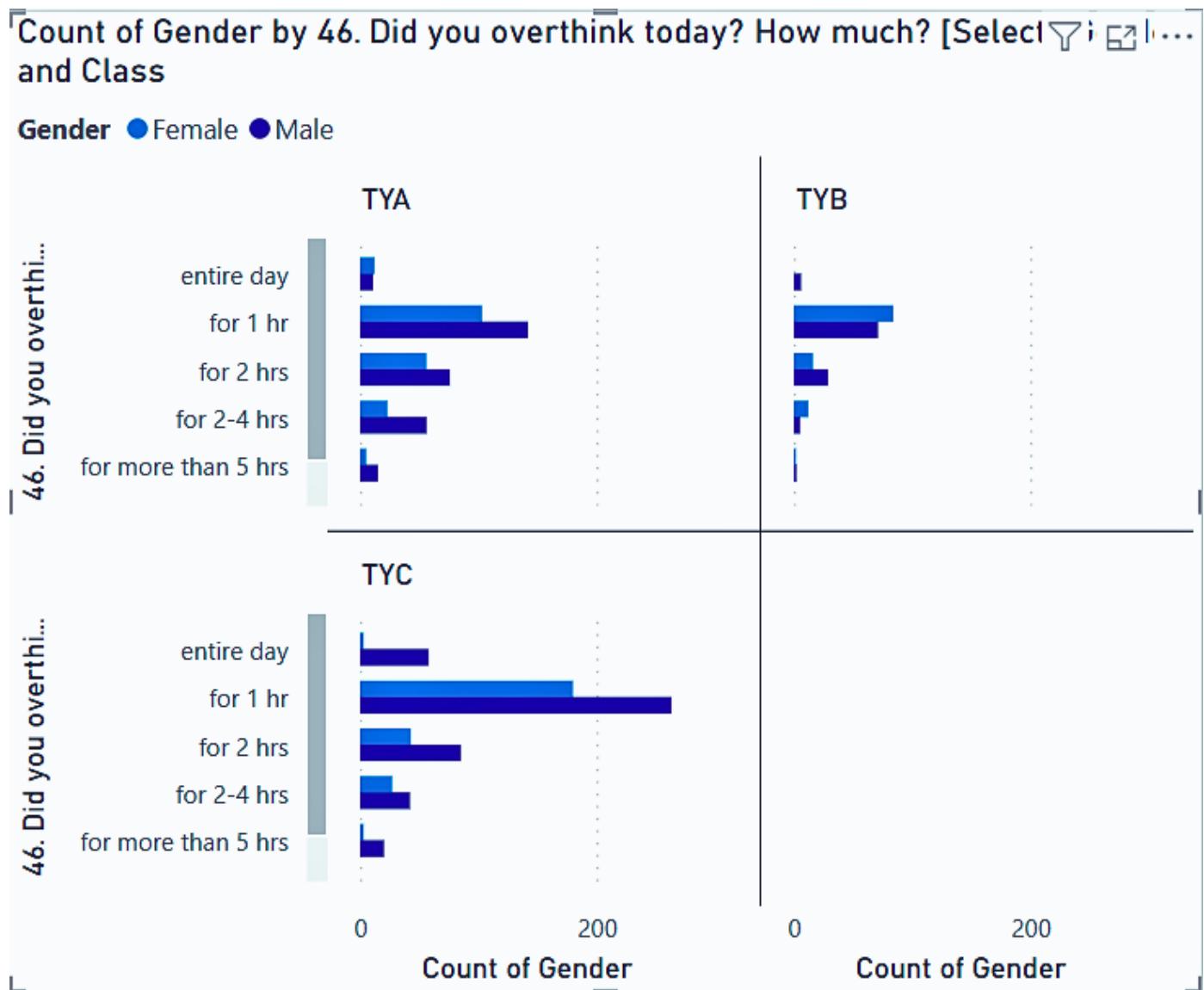


Visualization: Square chart comparing the average time spent on extra activities (morning/evening) and regular studies.

Conclusion: The Square chart demonstrates that, based on the data, students allocate a significant amount of time to extra activities (morning/evening) compared to regular studies. This suggests that these additional activities may have a greater time commitment for students compared to their regular academic studies.

Hypothesis 14

Analysis of Overthinking by Gender and Division wise data.

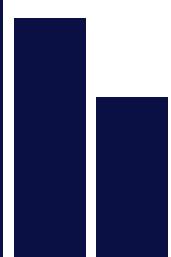


Hypothesis 14



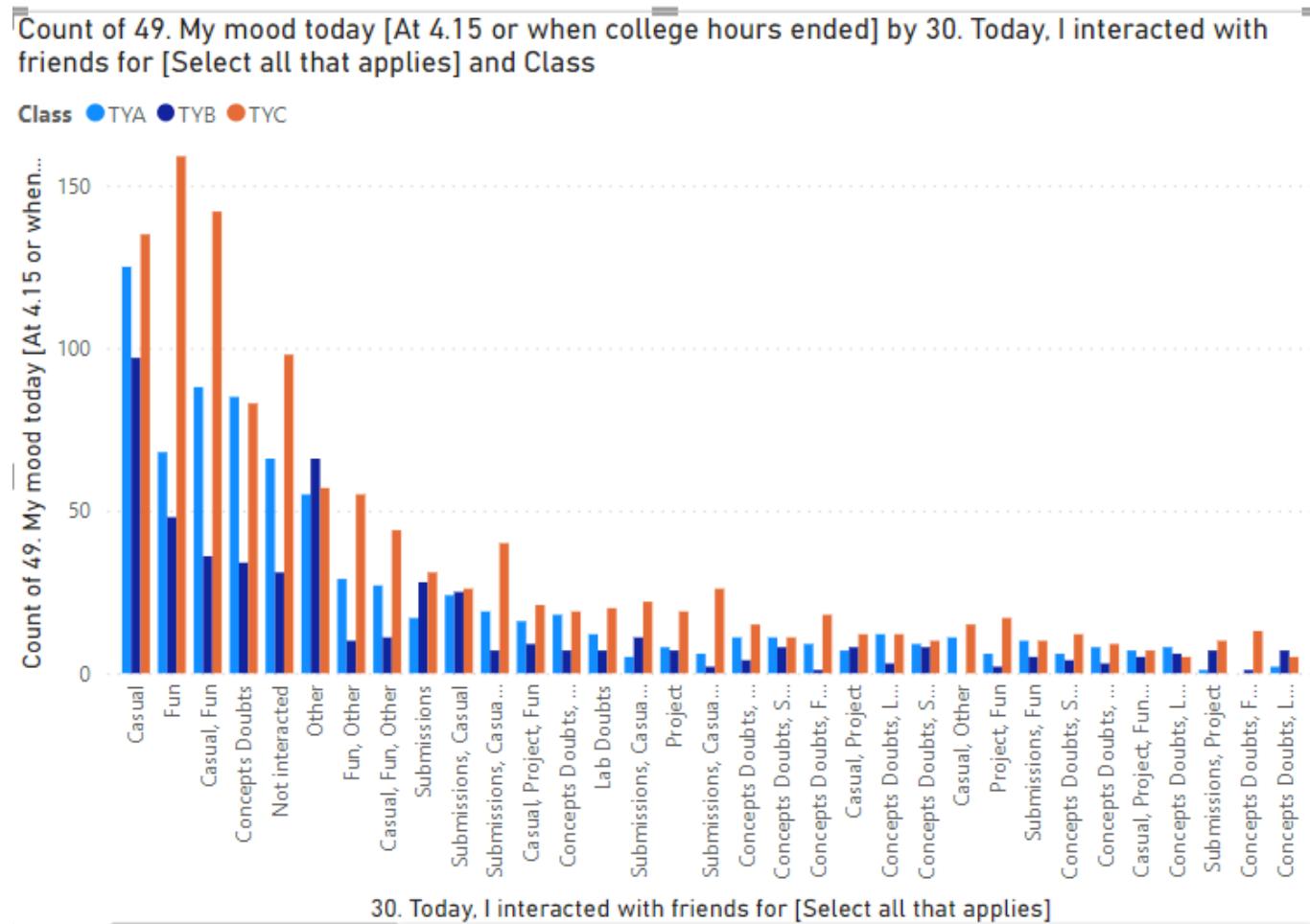
Visualization: Grouped bar chart comparing the frequency of overthinkers with legend as gender and Distribution by division.

Conclusion: The grouped bar chart reveals that male students overthink more, compared to girls with avg. time of around 1-2 hrs.



Hypothesis 15

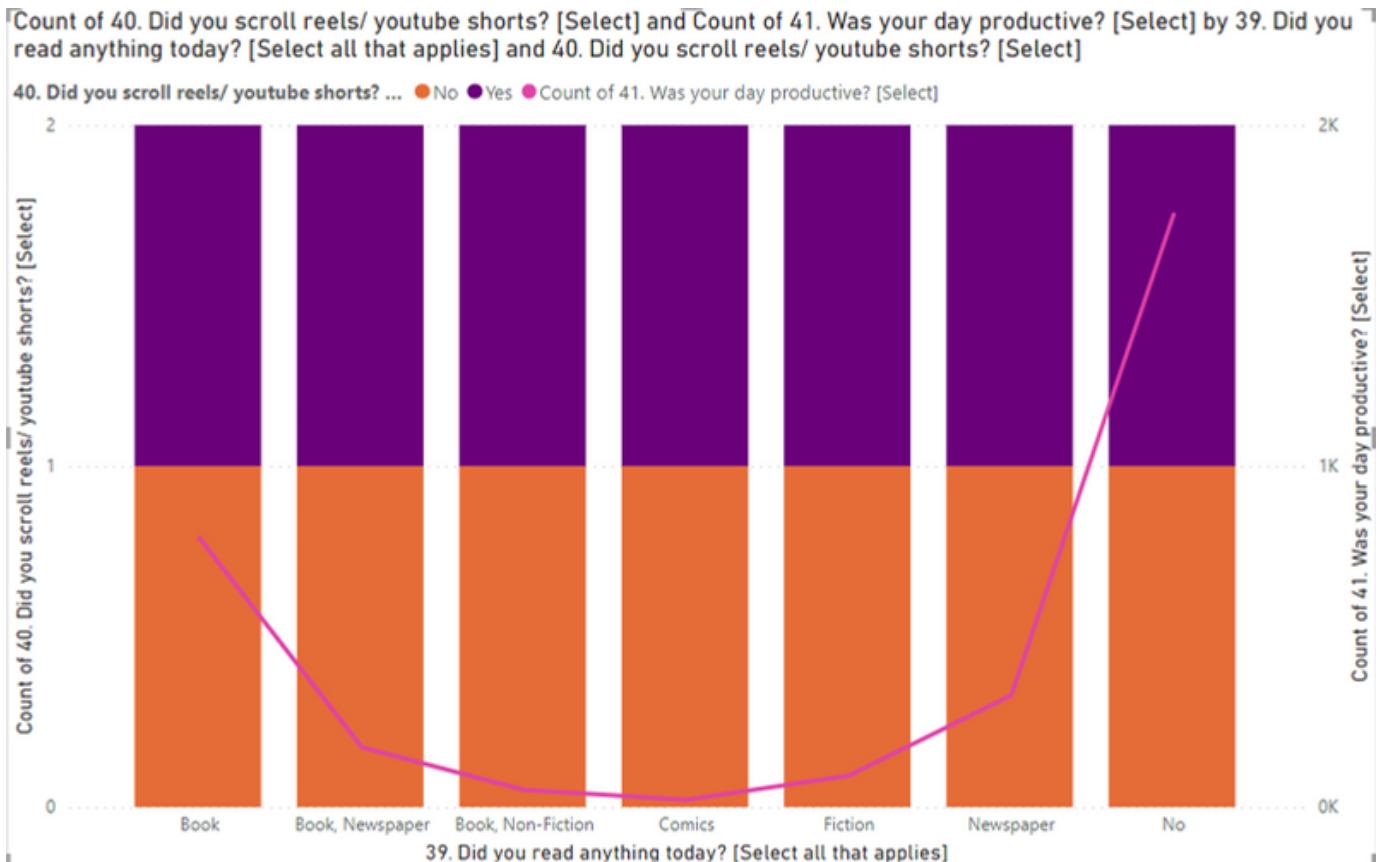
The level of interaction with friends during college hours affects students' mood after college.



Visualization: Sankey diagram illustrating the flow of mood ratings from different levels of interaction with friends during college hours to the corresponding mood ratings after college. The width of the flow lines represents the frequency or count of students.

Hypothesis 16

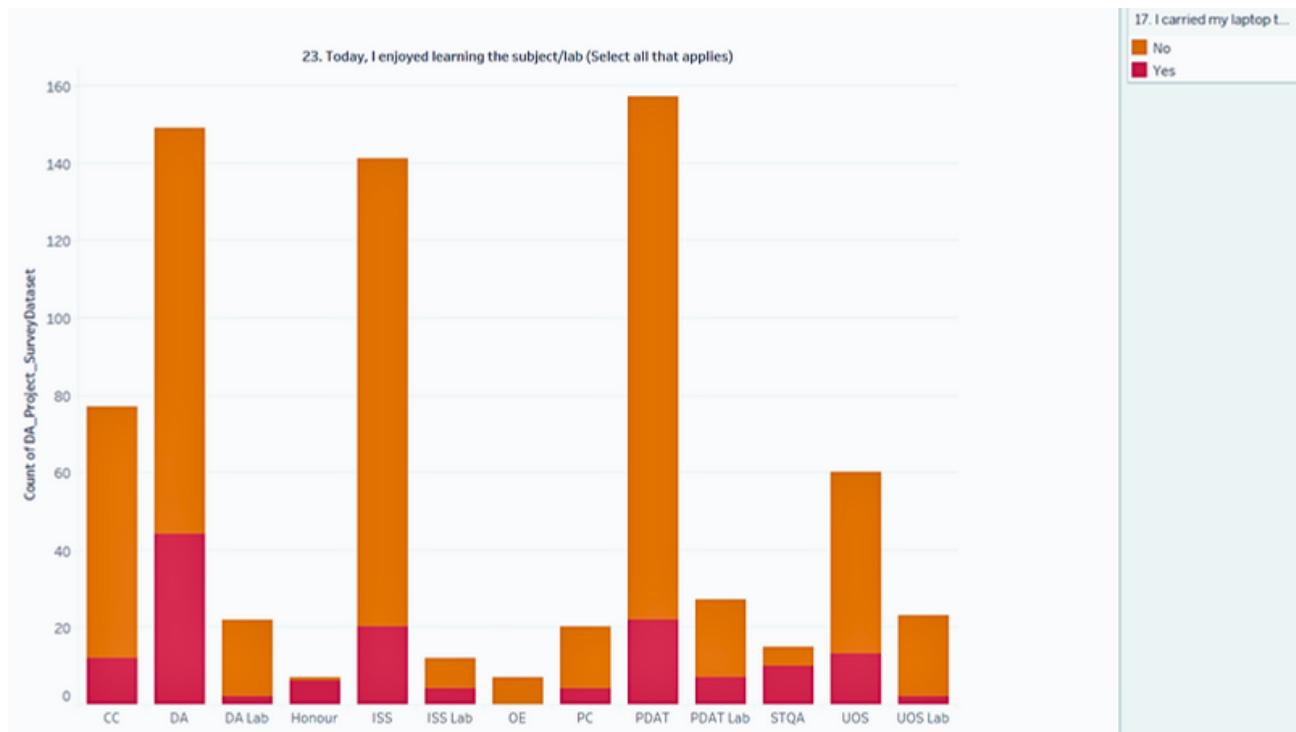
The time spent on entertainment activities is inversely related to the time spent studying.



Visualization: Dual-axis line chart showing the time spent on entertainment activities and studying over time. The lines illustrate the trend and balance between these two activities, with one axis representing the time spent on entertainment and the other axis representing the time spent studying.

Hypothesis 17

Students who carry their laptops to college attend more lectures and have higher engagement in lab activities.

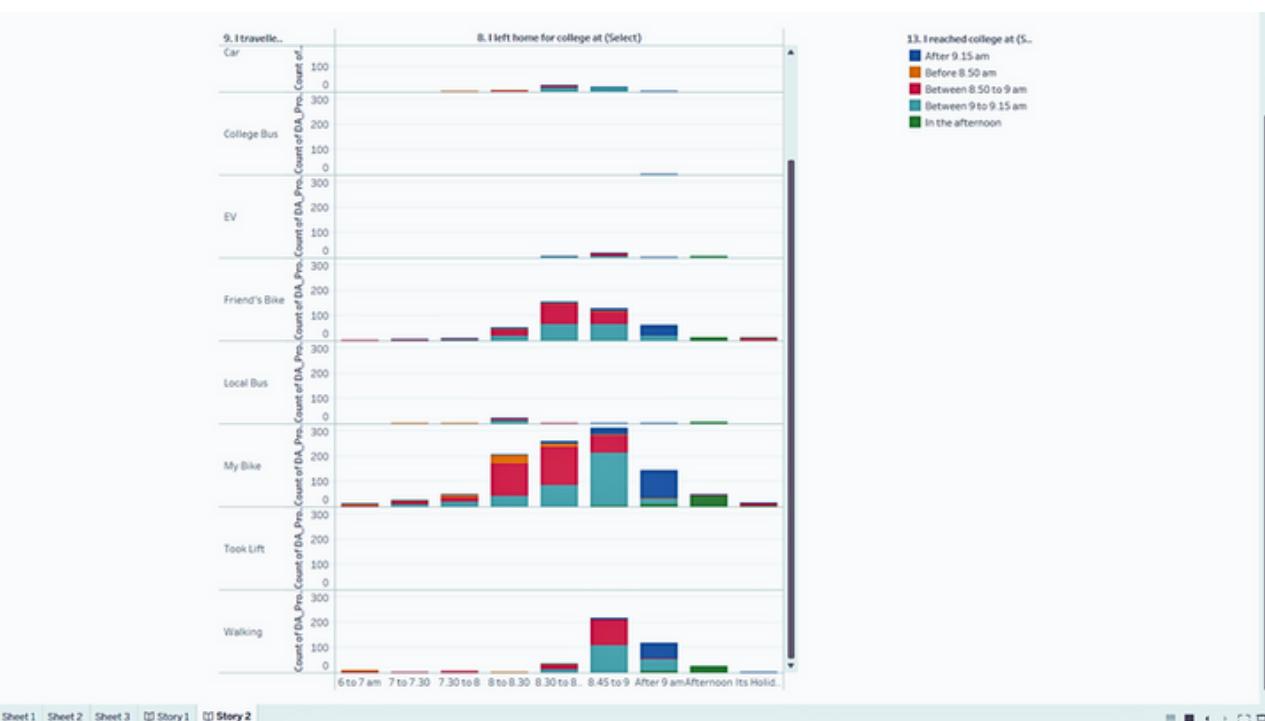
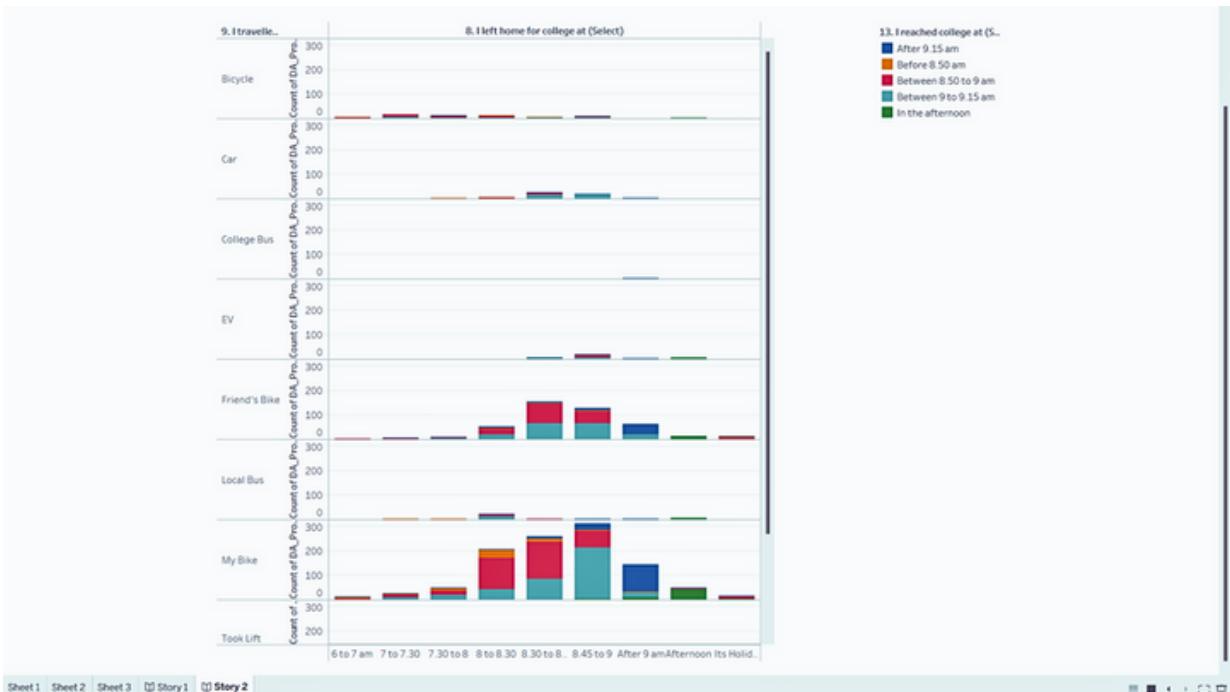


Visualization: Stacked column chart comparing the number of lectures attended and the engagement in lab activities for students who carry their laptops versus those who do not.

Conclusion: The stacked column chart reveals that students who bring their laptops to college attend a higher number of lectures and exhibit greater engagement in lab activities compared to those who do not carry their laptops. This suggests that the presence of laptops positively influences students' participation and involvement in academic activities.

Hypothesis 18

The factors such as mode of travelling and time of leaving the home affects the arrival time of students at college .

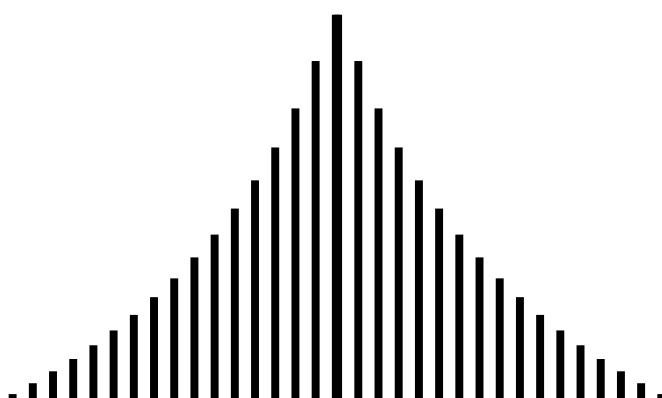


Hypothesis 18



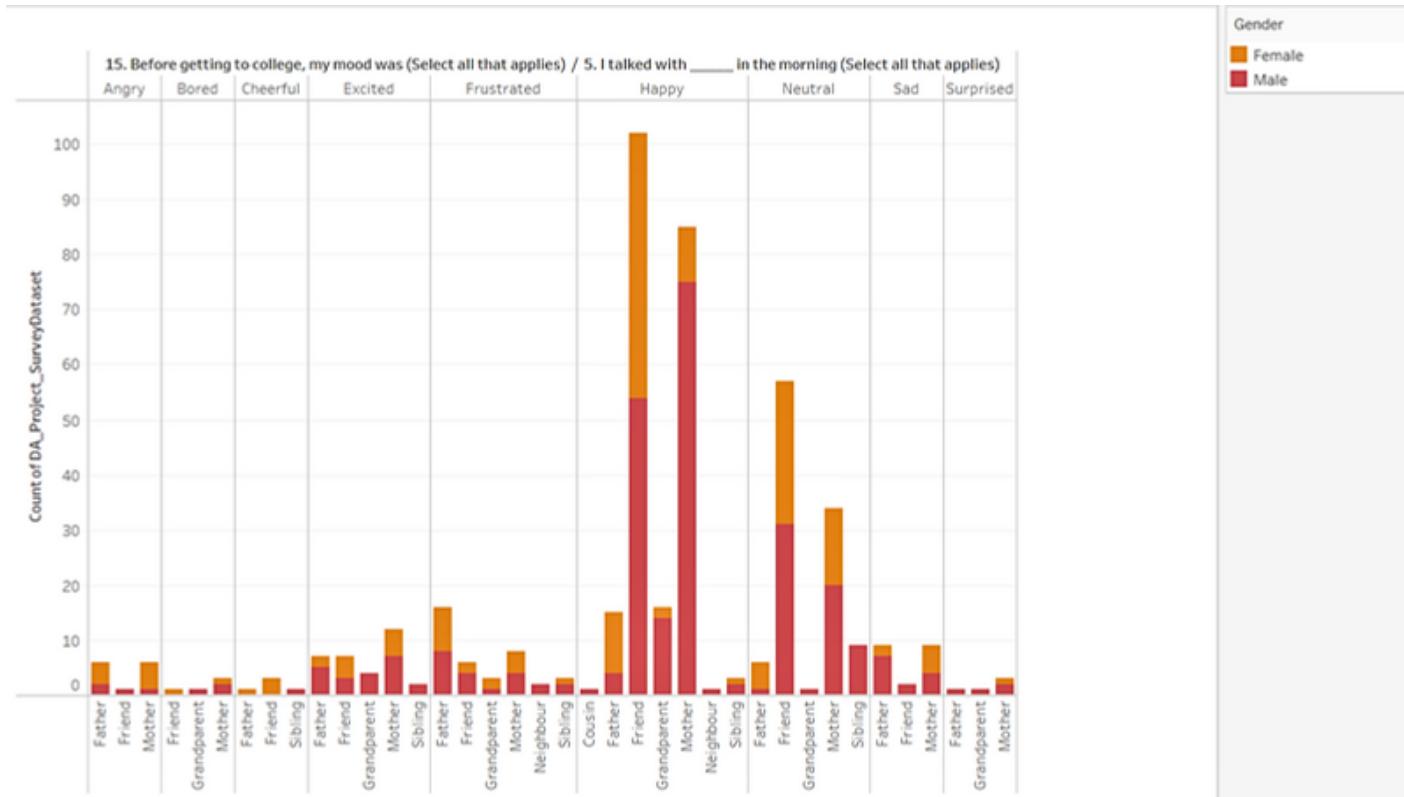
Visualization: Stacked bar chart comparing the mode of travelling versus time of reaching to college along with time of leaving home .

Conclusion: The stacked bar chart demonstrates that, based on the data, students who come by their own bike and leave home early , reach to college earlier than the others.



Hypothesis 19

The interaction with family , friends is associated with students' mood ratings during college hours

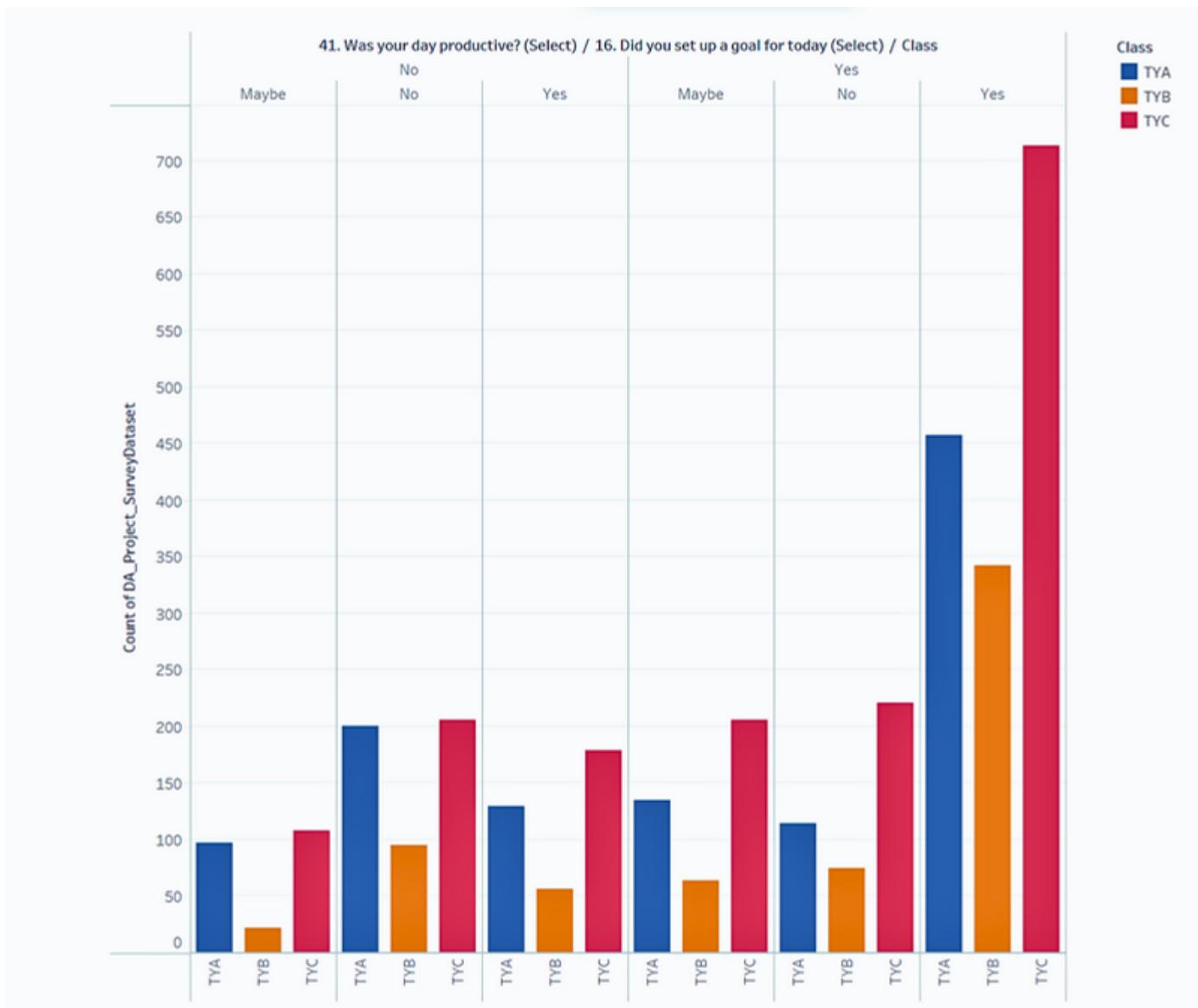


Visualization: Stacked bar chart displaying the distribution of mood ratings before college hours depending upon the interaction with family and friends

Conclusion: The stacked bar chart highlights that students who engage interact with friend & mother in the morning ,have the happy mood throughout the day.

Hypothesis 20

Students who set goals for the day have higher productivity levels. Additionally, there is a variation in productivity levels among different divisions of students.



Hypothesis 20



Visualization: Clustered column chart comparing the average productivity levels for students who set goals for the day across different divisions.

Conclusion : The clustered column chart reveals that students from certain divisions (e.g., Division A, Division C) who set goals for the day tend to have higher productivity levels compared to students from other divisions (e.g., Division B, Division D). This suggests that goal-setting practices contribute positively to students' productivity levels, and there may be division-specific factors influencing productivity as well.



Authenticity





Conclusion

Our student daily routine survey and data analysis project has yielded significant insights into the factors influencing students' academic performance and well-being. By examining variables such as waking habits, exercise routines, study patterns, social interactions, and personal experiences, we can provide valuable information for decision-making regarding student well-being, academic strategies, and lifestyle choices.

The findings of this project have implications for educators, policymakers, and students themselves, offering insights that can inform interventions, education policies, and the overall educational experience. This project underscores the value of utilizing data analytics techniques to gain a deeper understanding of student dynamics and contribute to evidence-based decision-making.

In conclusion, our project emphasizes the importance of data-driven approaches in improving student outcomes and highlights the potential for data analysis to inform and enhance educational practices.

References

- <https://www.tableau.com/>
- <https://powerbi.microsoft.com/en-in/>