

Academic Profile Dashboard

Total Students

1000

MathAvg

66.09

WritingAvg

68.05

ReadingAvg

69.17



Correlation Tab

Grade Tab

Box Plot Tab

Information Labels

Social Media

All

Sleep Time

All

Food

All

Test Prep

All

Gender

F

M

Grade

A Very Good

B Good

C Average

D Sufficient

E Passable

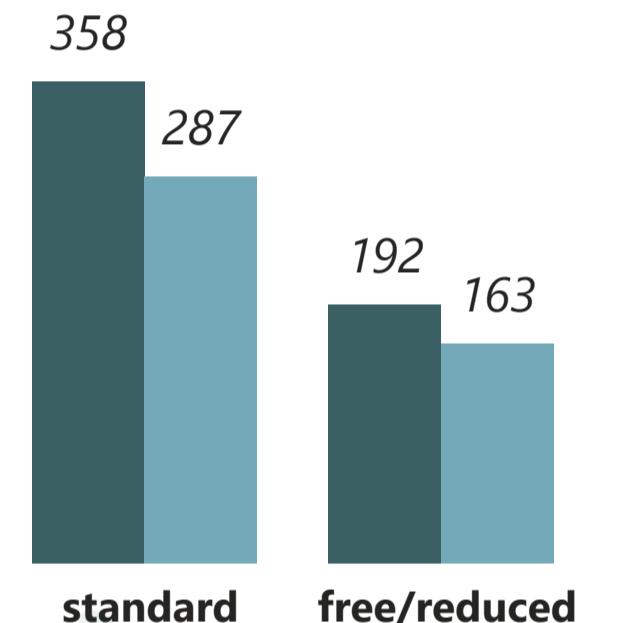
Fail

O Outstanding

Rank	Name	Gender
1	Homer	M
1	Joyce	F
1	Nadine	F
2	Jerome	M
3	Bobbie	F
3	Melinda	F
4	Arlene	F
4	Monica	F
5	Brent	M
5	Dilbert	F

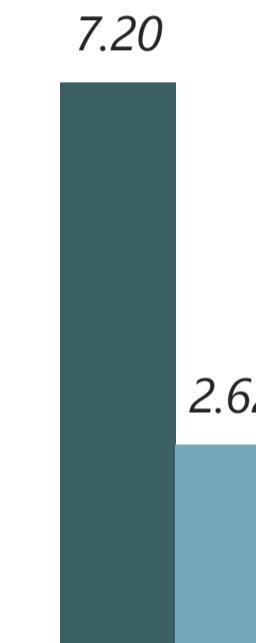
Count of Test Prep by Food & Gender

● F ● M

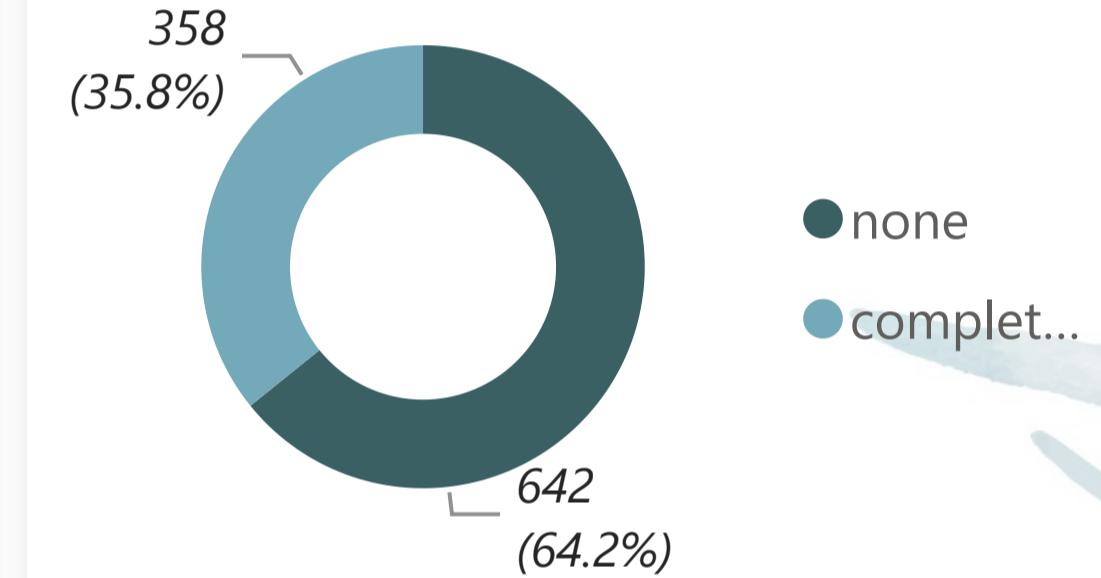


Avg of Sleep Time & Social Media

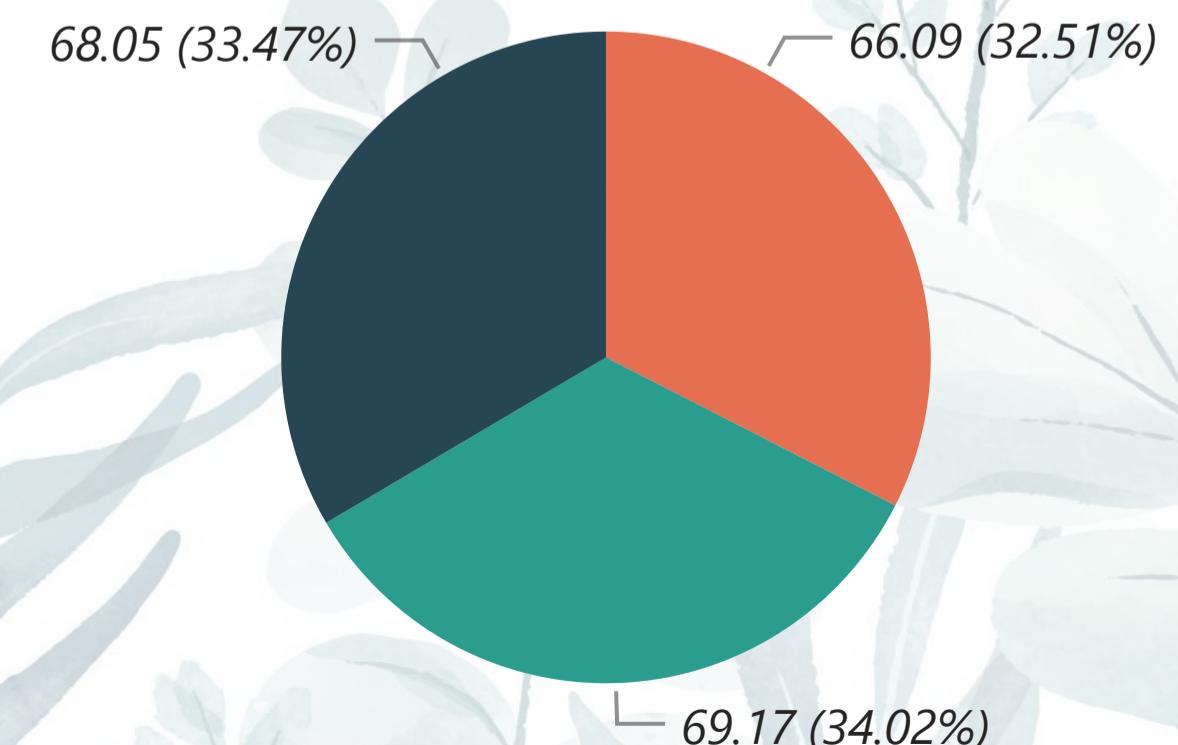
● Avg Sleep Time ● Avg Social Media



Count of Test Prep by Test Prep

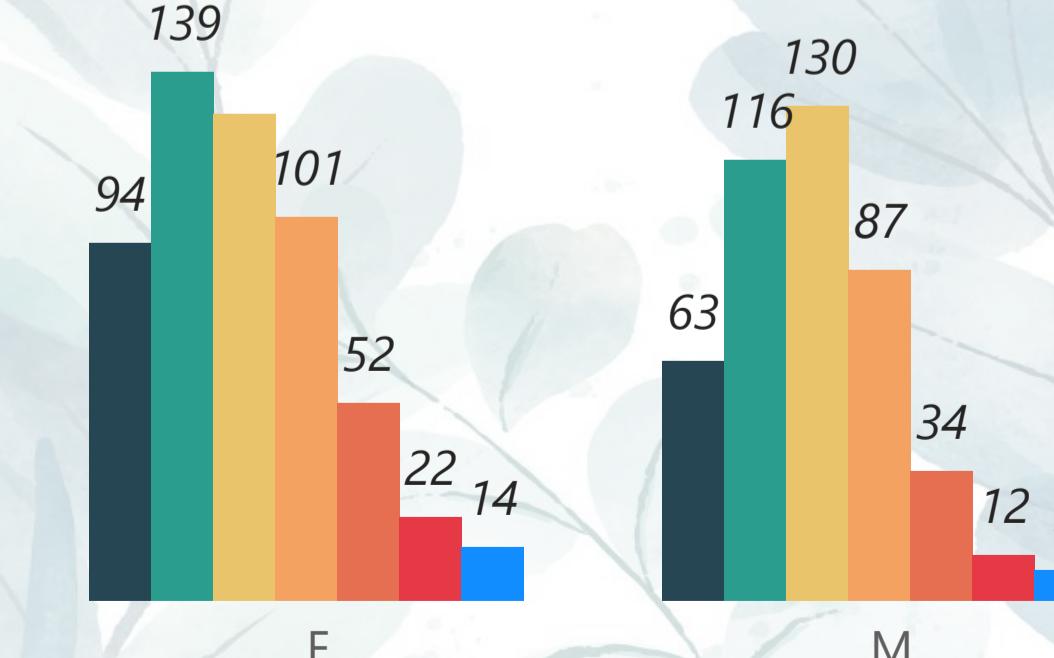


Avg of Maths, Reading & Writing Marks



Count of Grade v Gender & Grade

Grade ● A Very G... ● B Good ● C Average ● D Sufficient ● E Passable ● Fail ● O Outsta...





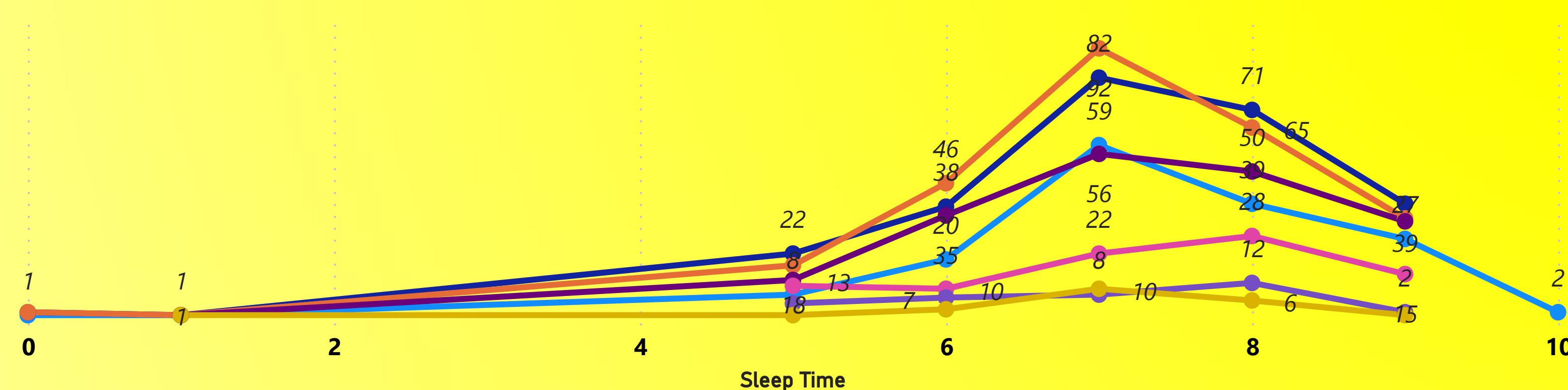
"Discover Patterns with Correlation Matrices"

Gender	
F	M



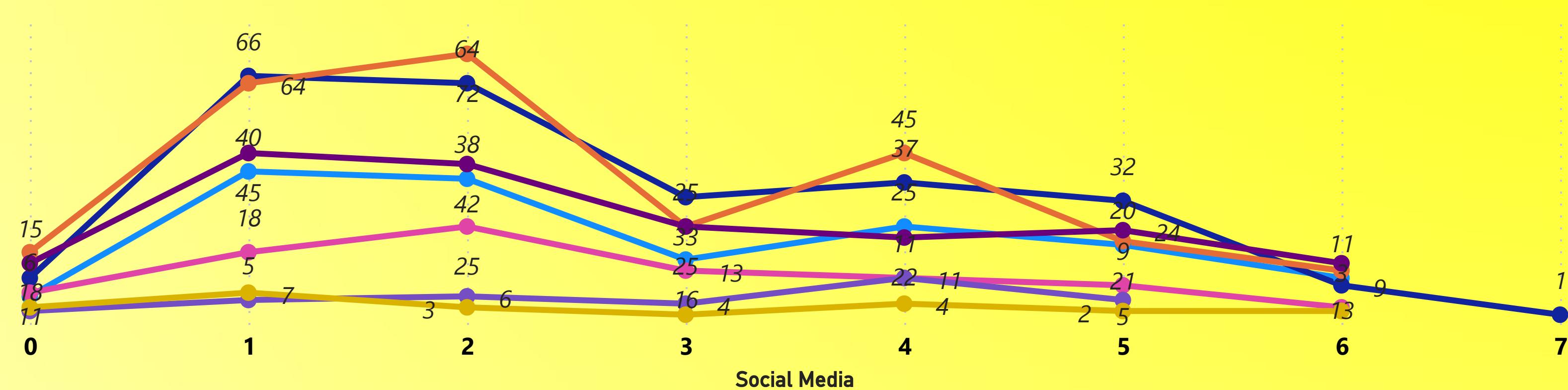
Count of Grade by Sleep Time and Grade

● A Very Good ● B Good ● C Average ● D Sufficient ● E Passable ● Fail ● O Outstanding



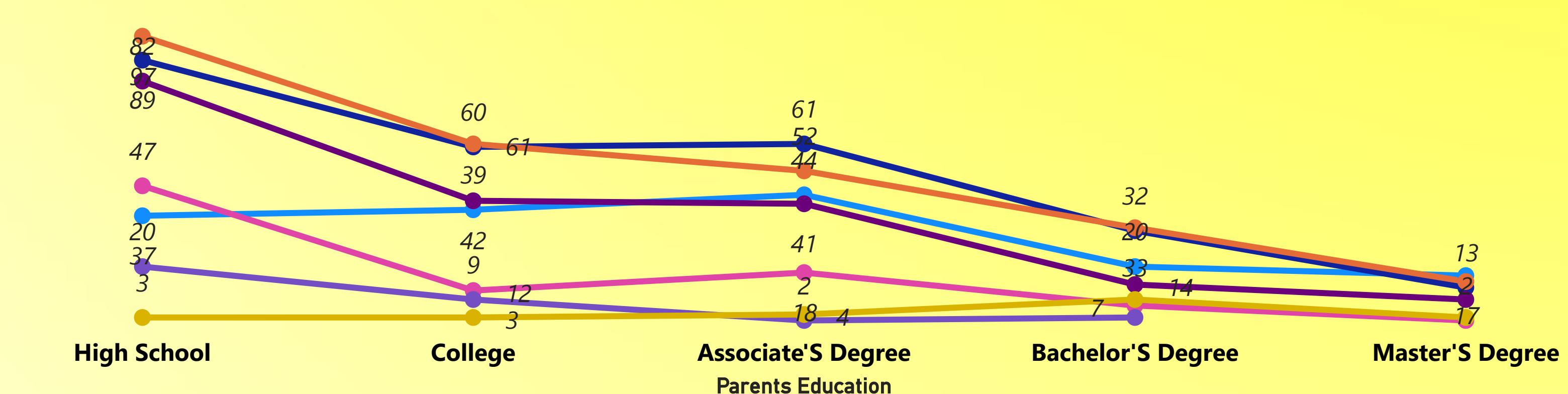
Count of Grade v Social Media & Grade

● A Very Good ● B Good ● C Average ● D Sufficient ● E Passable ● Fail ● O Outstanding

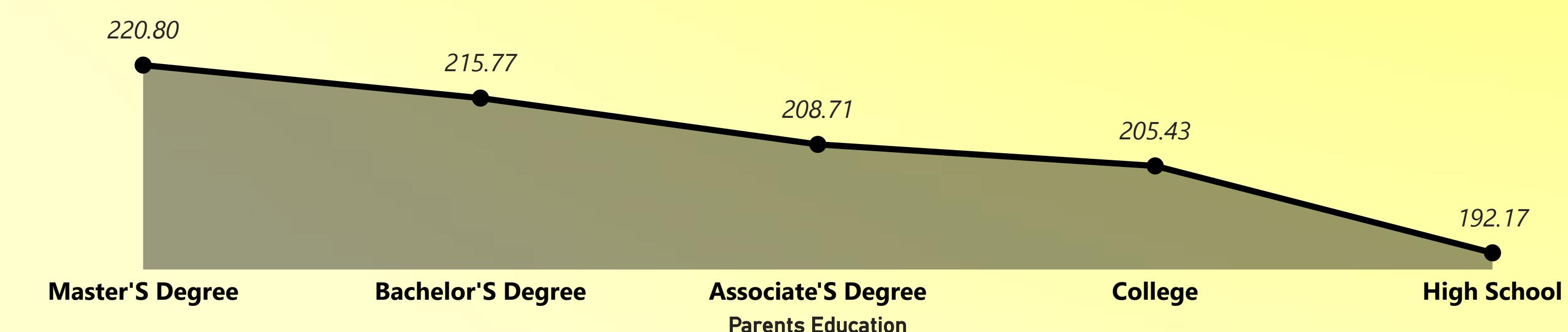


Count of Grade v Parents Education & Grade

● A Very Good ● B Good ● C Average ● D Sufficient ● E Passable ● Fail ● O Outstanding



Average of Total Mark by Parents Education





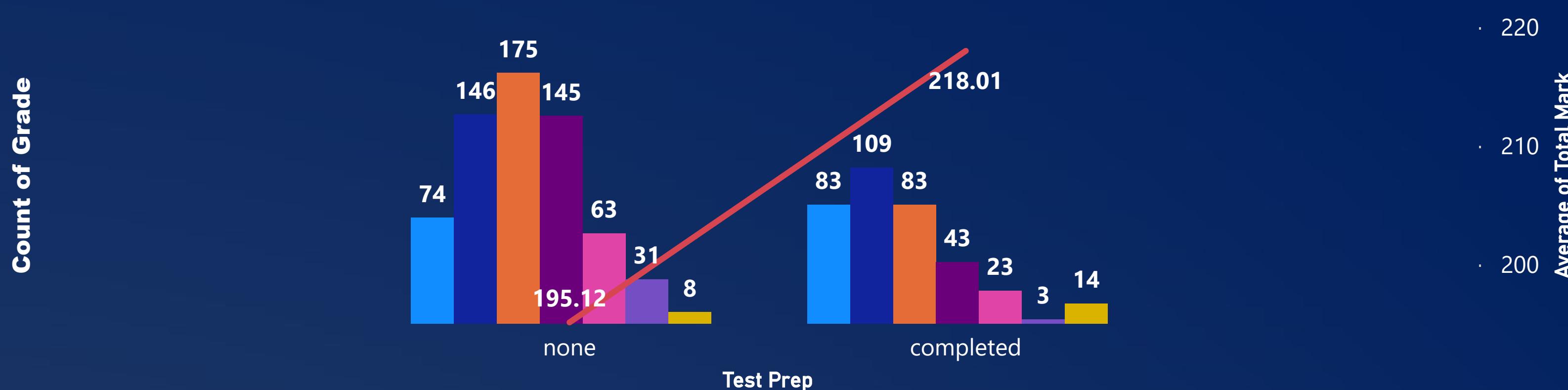
Grade Analysis

Gender	F	M
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Count of Grade and Average of Total Mark by Test Prep and Grade

Grade ● A Very Good ● B Good ● C Average ● D Sufficient ● E Passable ● Fail ● O Outstanding ● Average of Total Mark



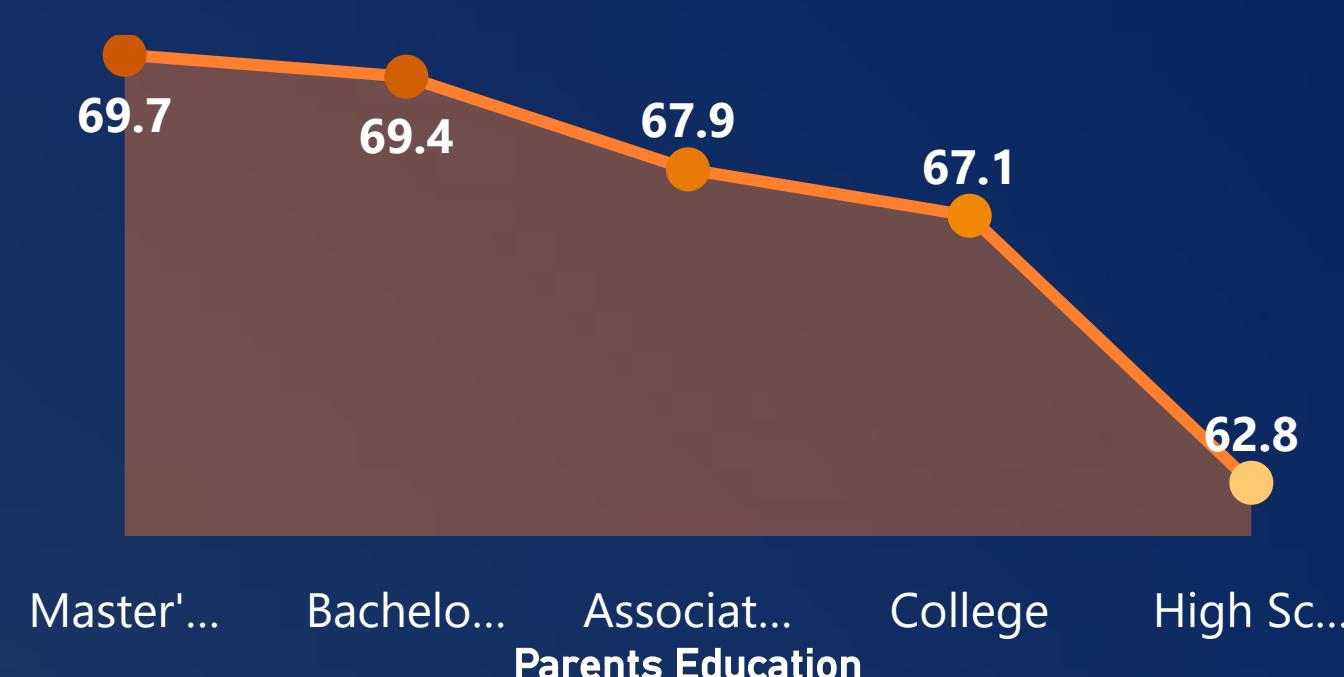
Average of Total Mark by Food

Count of Food 355 645



Student's Cognitive Skill by Parents Education

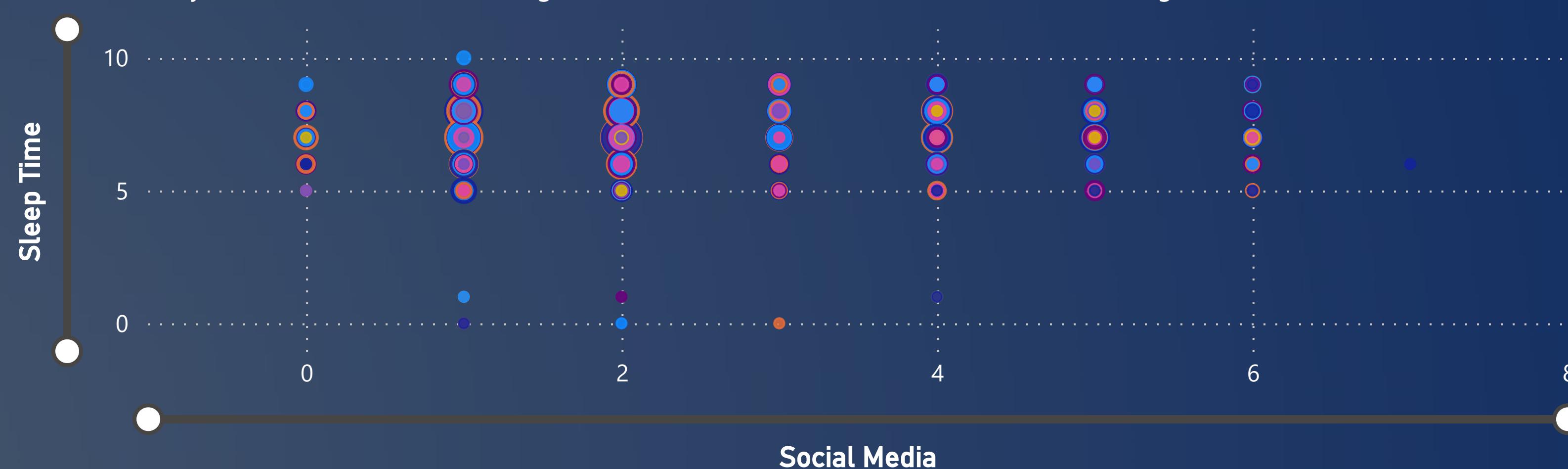
MathAvg



Student Name	Gender	Parents Name	Grade	Percentage	Test Prep	Food	Sleep Time	Social Media
Alexis	F	Dorine Zeitler	B Good	74.0	completed	standard	0	1
Brody	M	Florene Chartrand	A Very Good	89.0	completed	standard	0	1
Heidi	F	Phoebe Plotner	C Average	66.0	completed	standard	0	1
Joe	M	Sybil Rahman	B Good	71.3	none	standard	0	1
Mackenzie	F	Duane Mojorro	C Average	61.7	none	free/reduced	0	1
Ariel	F	Otelia Montoya	A Very Good	85.3	none	standard	1	1
Brent	M	Cherri Jasinski	O Outstanding	97.7	completed	free/reduced	1	1
Howard	M	Melonie Villacorta	D Sufficient	59.7	none	standard	1	1

Count of Grade by Grade, Social Media and Sleep Time

Grade ● A Very Good ● B Good ● C Average ● D Sufficient ● E Passable ● Fail ● O Outstanding

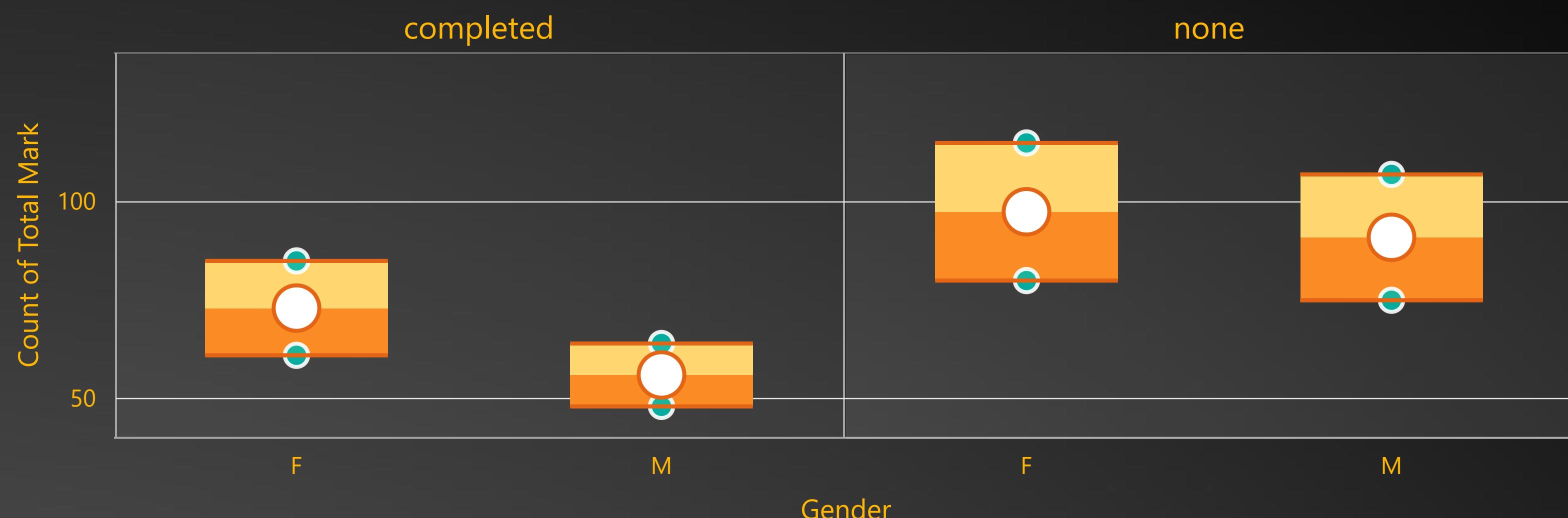




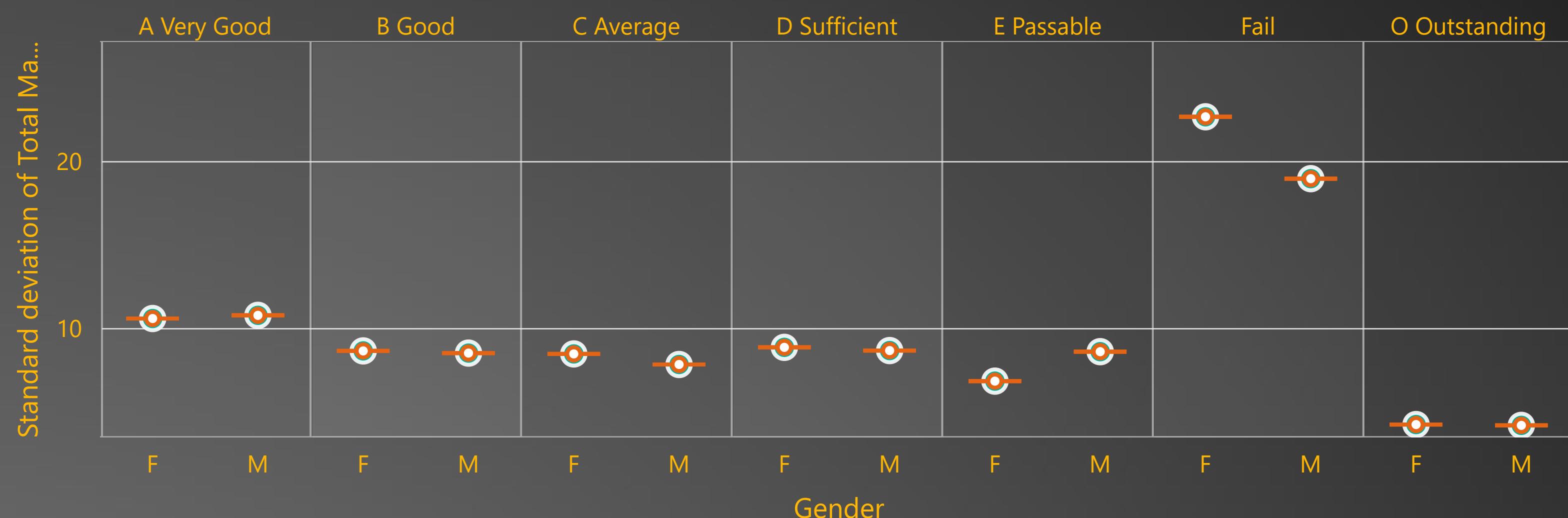
"Visualizing Data Distributions: Insights from Box Plots"



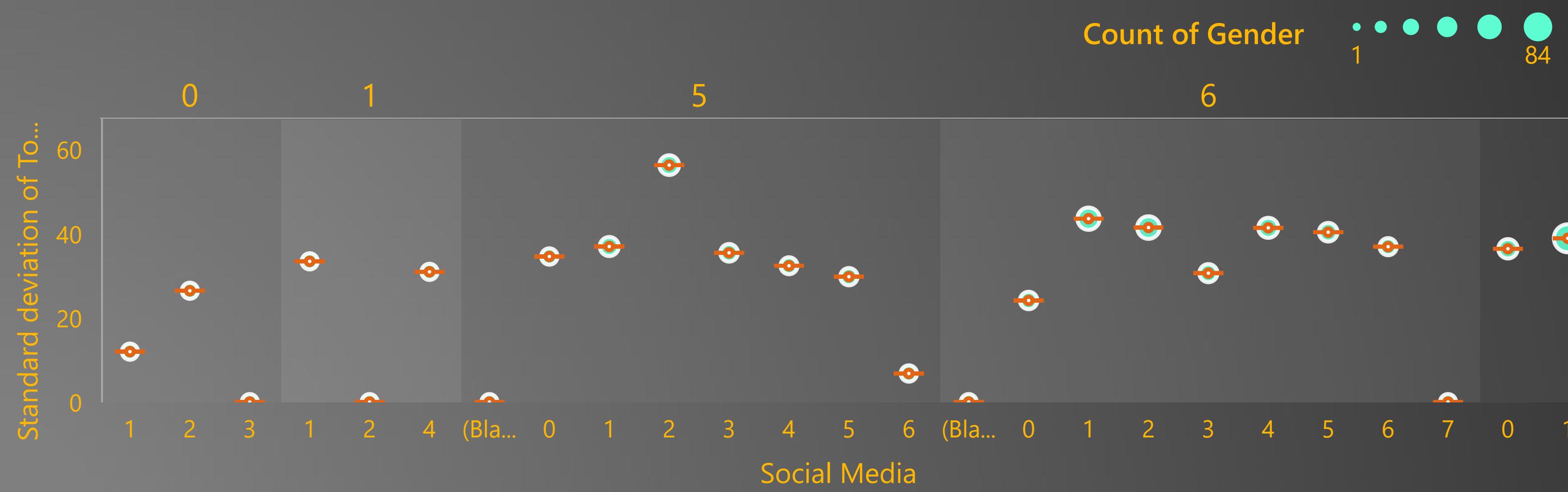
Count of Total Mark by Food, Gender and Test Prep



Standard deviation of Total Mark by Gender and Grade



Standard deviation of Total Mark and Count of Gender by Social Media and Sleep Time



"If the Z-score lies between the lower and upper bounds, the null hypothesis is accepted. Otherwise, it is rejected."

Higher Bound of TMarks

287.10

Test Prep

All

Gender

All

Food

All

Hypothesis4EachZ...

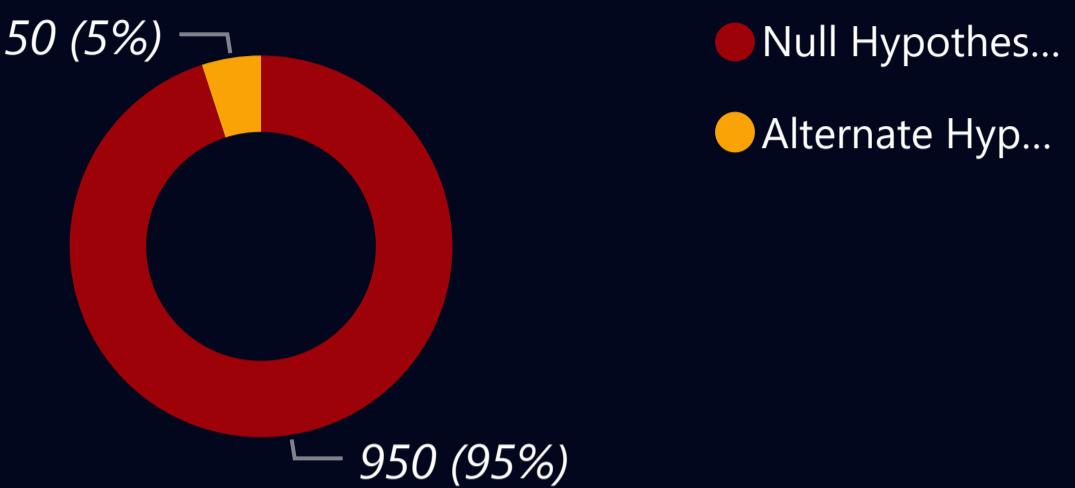
All

Lower Bound TMarks

119.52

Assuming Confidence Interval(CI) = 95%,
Significance Level = 1 - CI = 0.05

Total Count of Null & Alternate Hypothesis



Rank Name Gender Total Mark Z Score TMark Hypothesis4EachZscoreTM

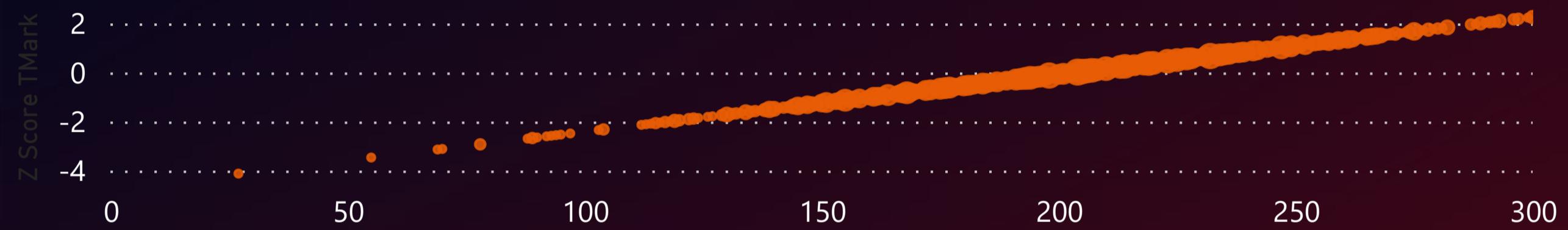
Rank	Name	Gender	Total Mark	Z Score TMark	Hypothesis4EachZscoreTM
1	Homer	M	300	2.26	Alternate Hypothesis
1	Joyce	F	300	2.26	Alternate Hypothesis
1	Nadine	F	300	2.26	Alternate Hypothesis
2	Jerome	M	299	2.24	Alternate Hypothesis
3	Bobbie	F	297	2.19	Alternate Hypothesis
3	Melinda	F	297	2.19	Alternate Hypothesis
4	Arlene	F	296	2.17	Alternate Hypothesis

Total

Avg of TMark, Lower & Higher Bound of TMarks



Count of Total Mark by Total Mark and Z Score TMark



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Null hypothesis could be that there is no significant difference in the mean sleep time between students who completed test preparation and those who did not.

Accept Null Hypothesis

Decision

T Score Calculated

0.31

Count of Mean Sleep for Test-takers.

17

Count of Mean Sleep for Non-test-takers.

43

Gender

All

Food

All

Social Media

All

DOF

58

Avg of Mean Sleep for Test-takers.

7.24

Avg of Mean Sleep for Non-test-takers.

6.79

T - Critical

2.00

Std of Mean Sleep for Test-takers.

1.20

Std of Mean Sleep for Non-test-takers.

1.64

Assuming Confidence Interval(CI) = 95%,
Significance Level = 1 - CI = 0.05



Python visuals are not supported with this operation. [Learn more](#)

- **Correlation Matrix:** A tabular representation displaying correlation coefficients between variables in a dataset.
- **Numerical Data Range:** Typically used when working with numerical data within the range of 0 to 1.
- **Strength and Direction:** Helps to determine the strength and direction of relationships between variables, with 0 indicating no correlation and 1 representing a perfect positive correlation.
- **Data Exploration:** Aids in understanding patterns, dependencies, and redundancies within the data.



Python visuals are not supported with this operation. [Learn more](#)

- **Correlation Matrix for Categorical Data:** Provides an overview of the relationships between categorical variables, aiding in understanding the associations and dependencies within the dataset.
- **Label Encoder in sklearn:** Facilitates the transformation of categorical data into numerical form, enabling the calculation of correlations between categorical variables and supporting the creation of the correlation matrix.
- **Data Exploration with Categorical Data:** Allows for the identification of patterns and connections within the categorical data, empowering the discovery of meaningful insights and associations for effective decision-making.