I decided to analyze the student performance dataset from Kaggle

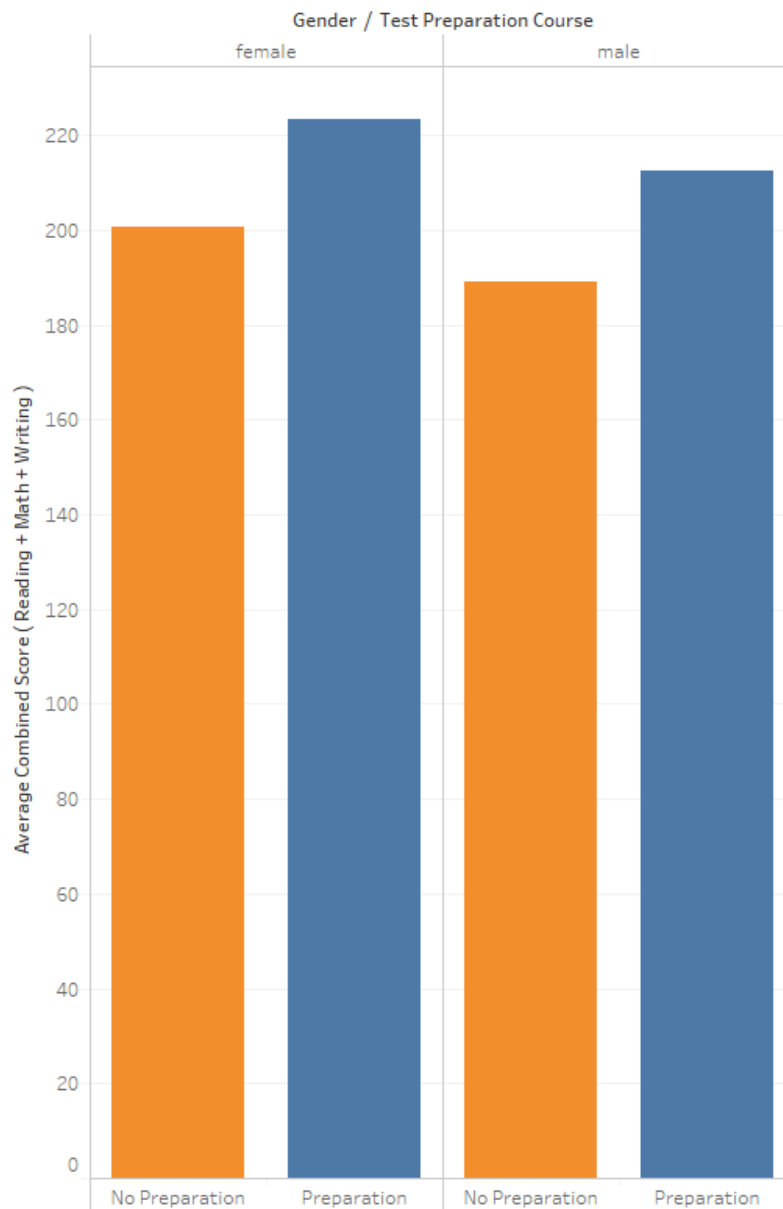https://www.kaggle.com/spscientist/students-performance-in-exams

Male and Female Test Scores
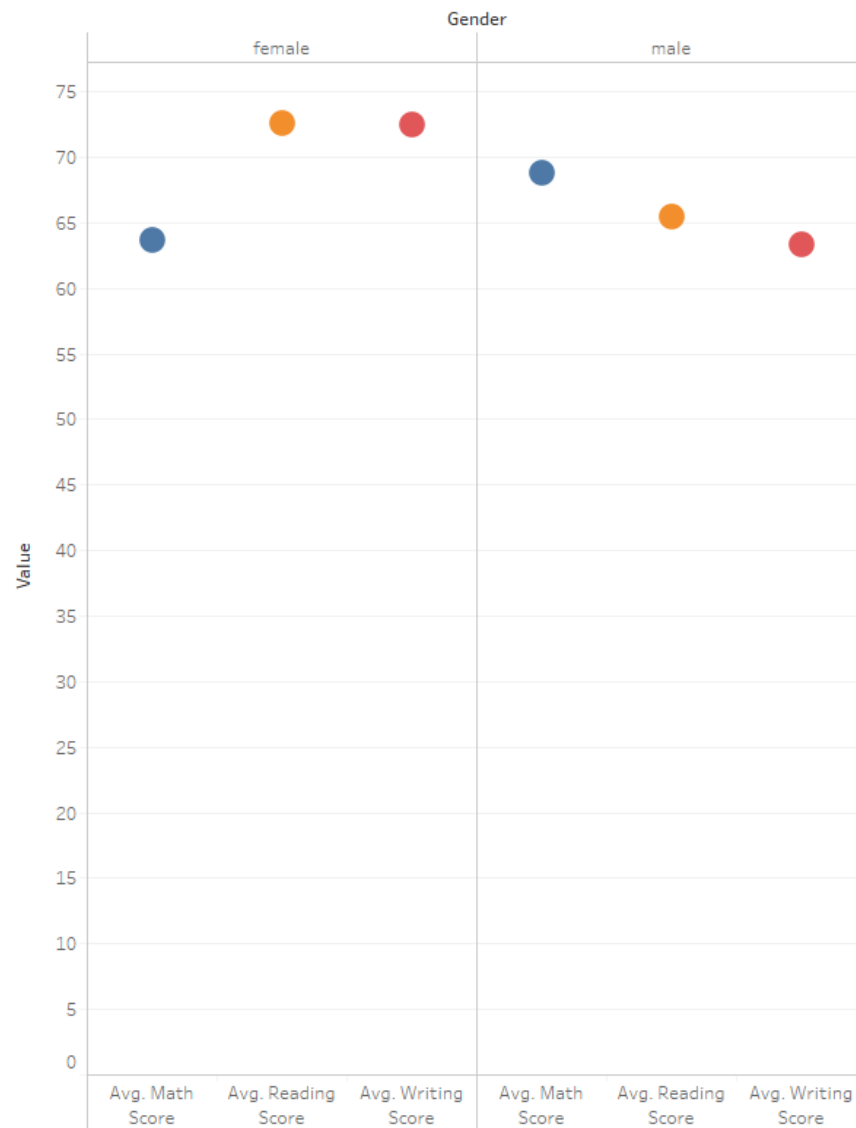
First, I looked at how male and female do on tests. Males do better with math compared to females but do worse with reading and writing.

Male and Female Test Scores

Next, I looked at whether or not preparation has a significant impact on test scores. It looks like preparation for both males and females increases their average scores by 20 points.

Parental Education Levels Versus Test Scores
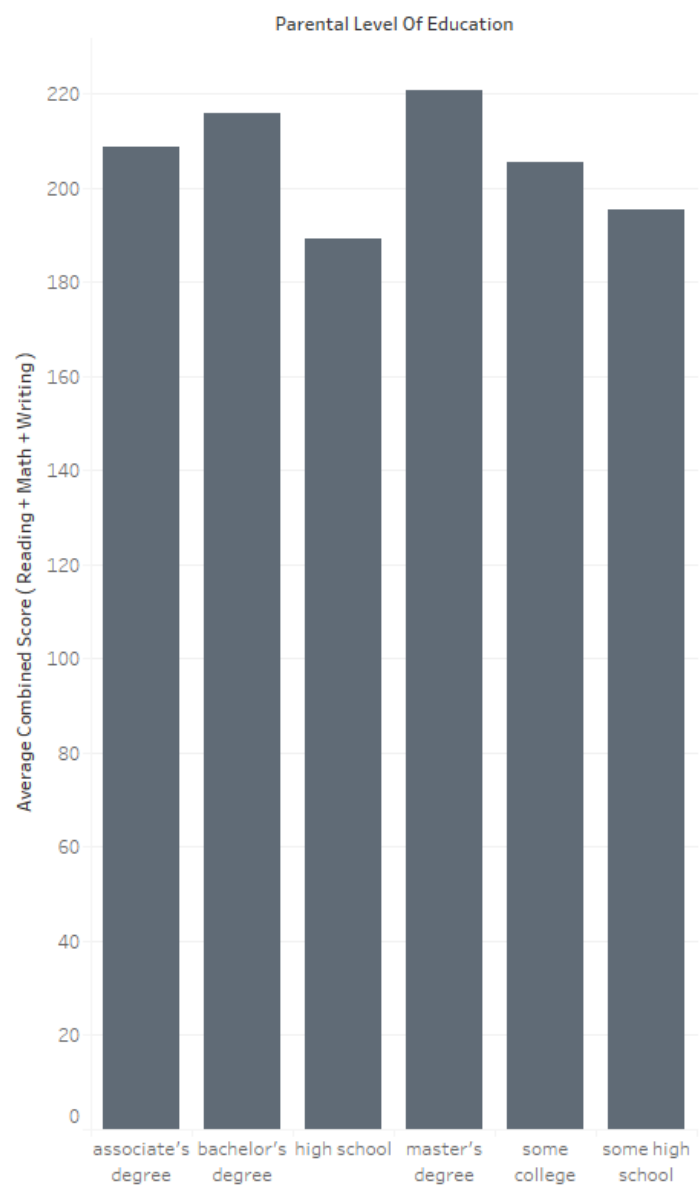
Parental Level Of Education

Parental Education Levels Versus Test Scores

Parental Level Of E..	
associate's degree	208.71
bachelor's degree	215.77
high school	189.29
master's degree	220.80
some college	205.43
some high school	195.32

These two graphics compare a student's average test score and their parents' education level. We can see students whose parents have a master's degree have the highest test scores and students whose parents completed only high school have the worst test scores. This graphic is interesting because it shows that students whose parents only completed some high school do better than students whose parents actually completed high school.

Lunch Status and Preparation Versus Scores
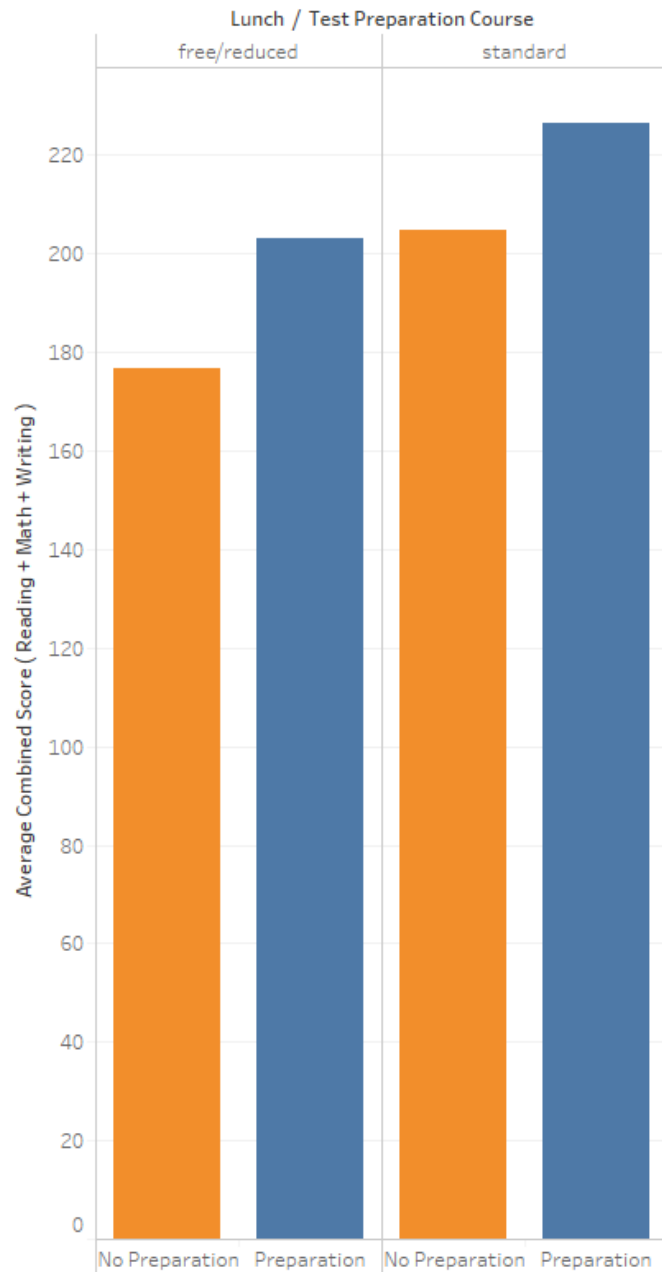
Since there was no income data in the dataset, I compared income levels using test preparation and whether a student received free lunch or standard lunch. Students who received free lunch and received test preparation scored almost as high as students who received a regular lunch and received no test preparation.

Male Math Scores

Female Math Scores

Male Reading Scores

Female Reading Scores

Male Writing Scores

Female Writing Scores
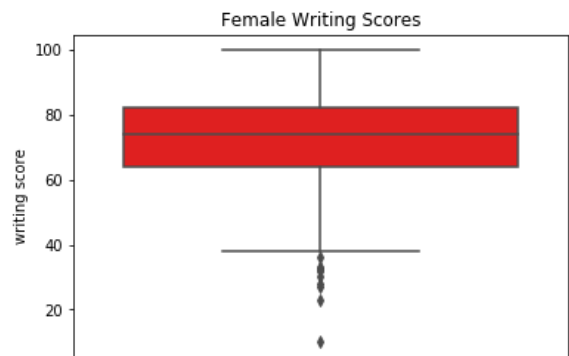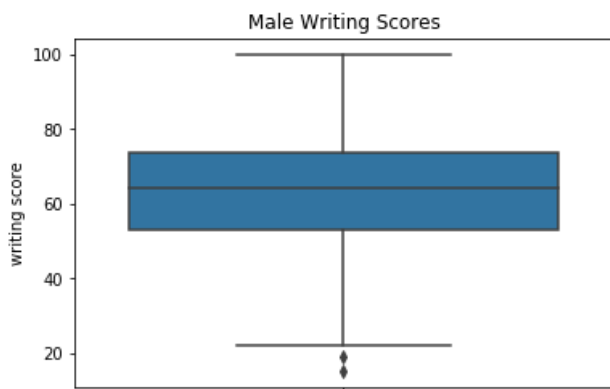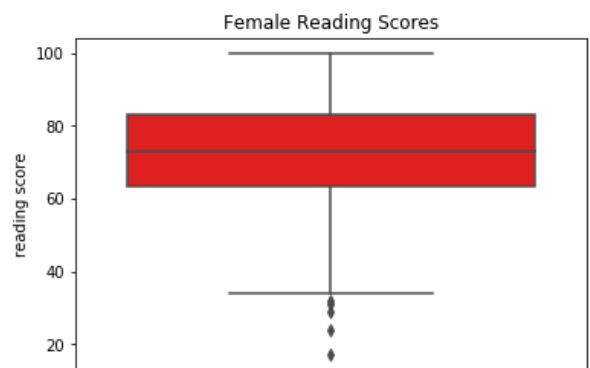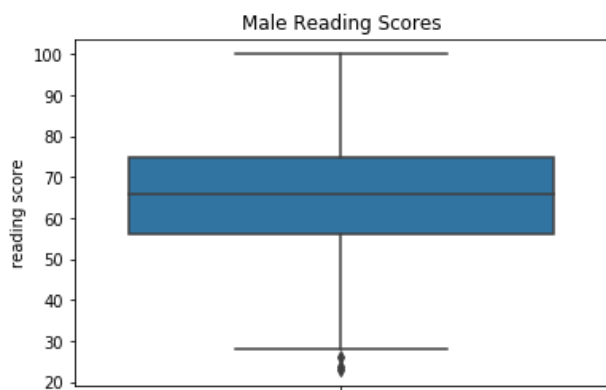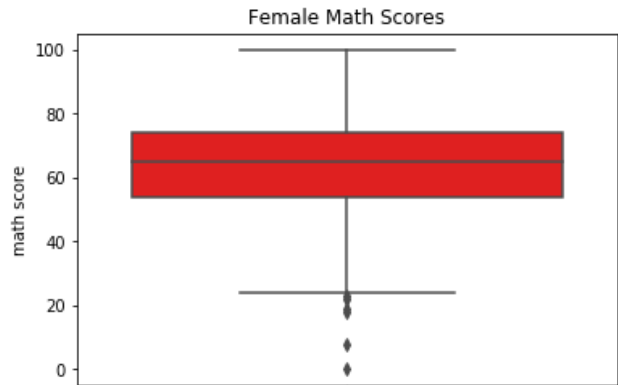
When we look at the boxplots, we can see that there are more female outliers that are under that first quartile values than for males. We can also see that males have a lower average writing and reading score; however, they have a greater average math score than females.

Tableau Workbook Screenshots

Male and Female Test Scores

Columns: Gender | Measure Names
Rows: Measure Values

Filters: Measure Names

Marks: Shape
- Color
- Size
- Label
- Detail
- Tooltip
- Shape
- Measure Nam..

Measure Values:
- AVG(Math Score)
- AVG(Reading Score)
- AVG(Writing Score)

Measure Names
- ■ Avg. Math Score
- ■ Avg. Reading Score
- ■ Avg. Writing Score

Gender

female — Avg. Math Score, Avg. Reading Score, Avg. Writing Score
male — Avg. Math Score, Avg. Reading Score, Avg. Writing Score

Value (axis 0 to 75)

Male and Female Test Scores

Columns: Gender | Test Preparation Cou..
Rows: AGG(AVG([Math Sco..

Marks: Automatic
- Color
- Size
- Label
- Detail
- Tooltip
- Test Preparati..

Test Preparation Course
- ■ No Preparation
- ■ Preparation

Gender / Test Preparation Course

female — No Preparation, Preparation
male — No Preparation, Preparation

Average Combined Score (Reading + Math + Writing)

Pages

Columns | Parental Level Of Edu..

Rows | AGG(AVG([Math Sco..

Filters

Parental Level Of Ed..

Marks

Automatic ▾

Color | Size | Label

Detail | Tooltip

Parental Education Levels Versus Test Scores

Parental Level Of Education

Average Combined Score (Reading + Math + Writing)

220

200

180

160

140

120

100

80

60

40

20

0

associate's degree | bachelor's degree | high school | master's degree | some college | some high school

Parental Education Levels Versus Test Scores

Parental Level Of E..	
associate's degree	208.71
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some college	205.43
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AGG(AVG([Math Score..
189.29 ———— 220.8

Lunch Status and Preparation Versus Scores

Lunch / Test Preparation Course

Test Preparation Cours
- No Preparation
- Preparation