
+ . Is test success really in our
◦ hands? A Data-Driven
Analysis

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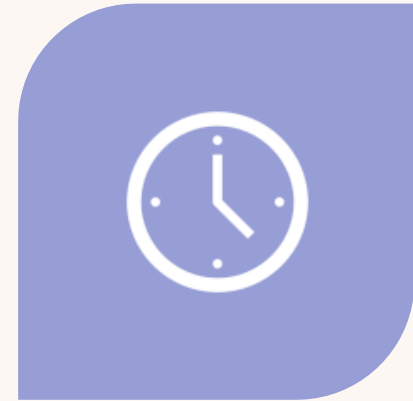
The Scenario



WE CHOSE THIS TOPIC BECAUSE IT
RESONATES WITH OUR EXPERIENCES AND IS
HIGHLY RELEVANT TO US.



WE AIM TO GAIN A COMPREHENSIVE
UNDERSTANDING OF HOW EXTERNAL
FACTORS ALSO PLAY A SIGNIFICANT
ROLE.



STUDENTS MUST NAVIGATE THE
CHALLENGES OF TIME MANAGEMENT
AND BALANCE OTHER LIFE
RESPONSIBILITIES.

Is test success really in our hands?

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Data Description and Key Elements

- **Data Source:** Kaggle
- This comprehensive dataset contains exam scores for students at a (fictional) public school.
- Includes three test scores and a variety of personal and socio-economic factors.
- **Question:** Is test success really in our hands?

1. Key Features of the Dataset:

- Contains over 30,000 data points

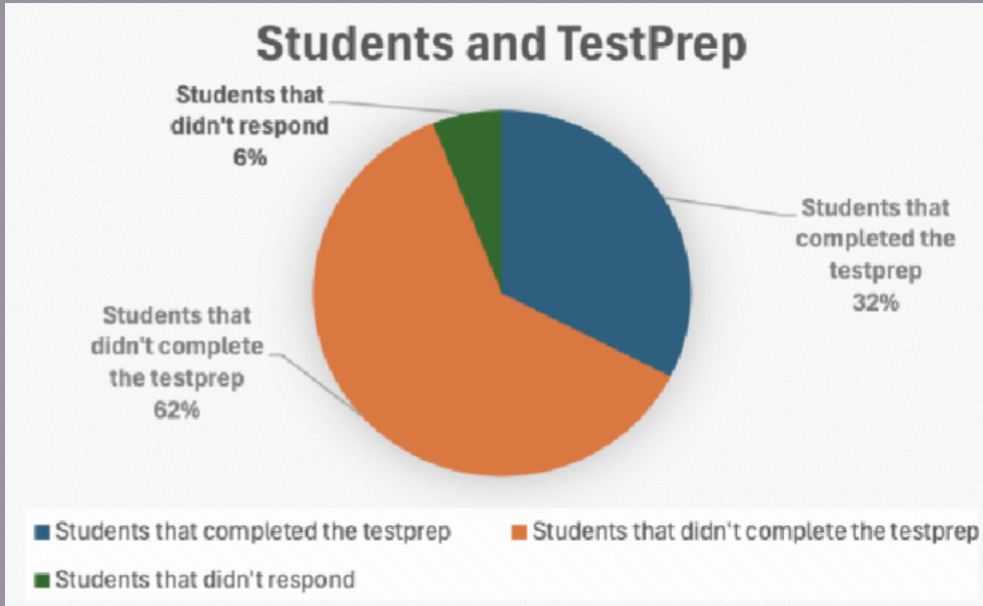
2. Extended Features:

- Includes 15 variables

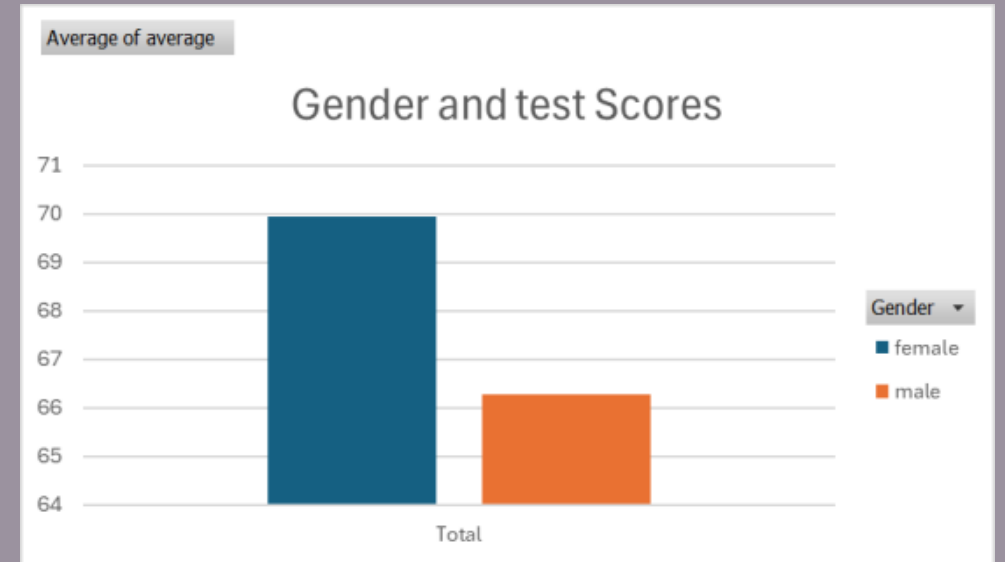
3. Challenges for Learning:

- Includes no-response values

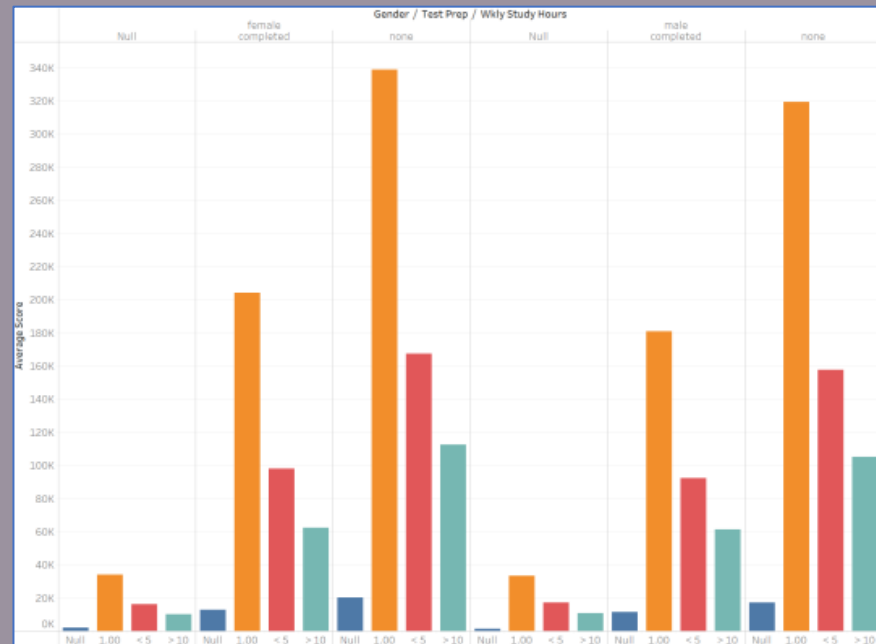
Analysis & Results



Pie chart showing the distribution of students based on their completion of the test prep.

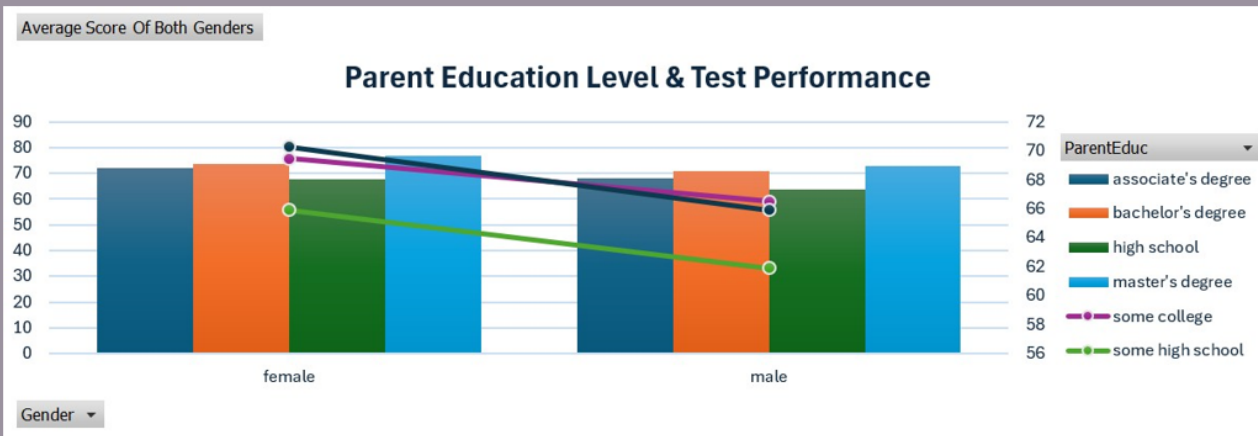
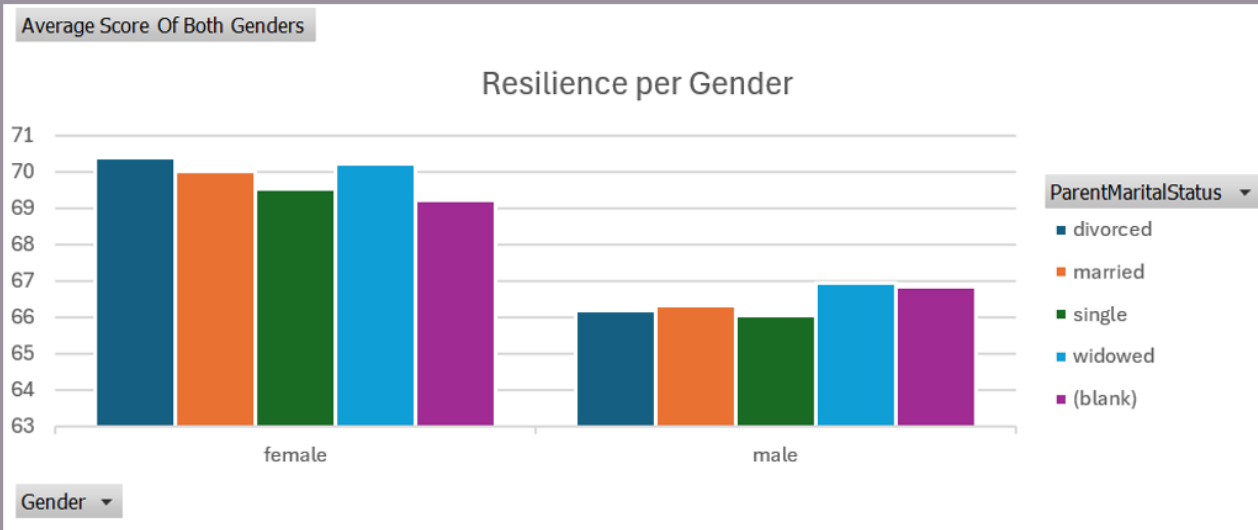


Females average score 70 vs. Males average score 66

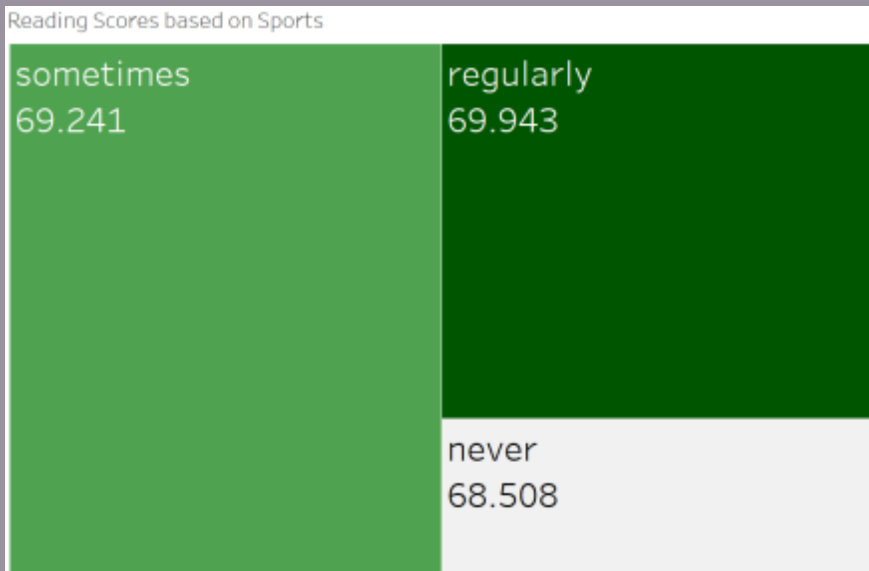
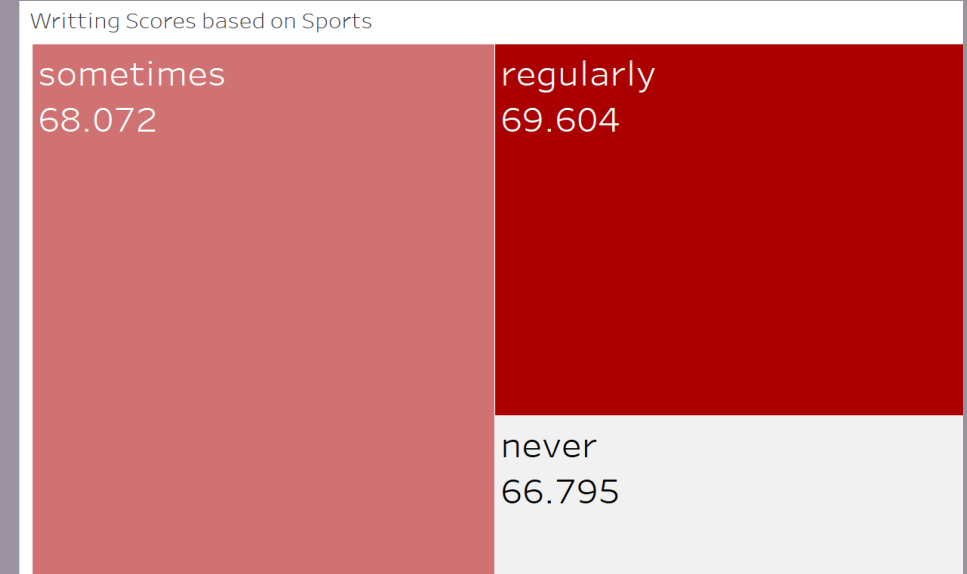
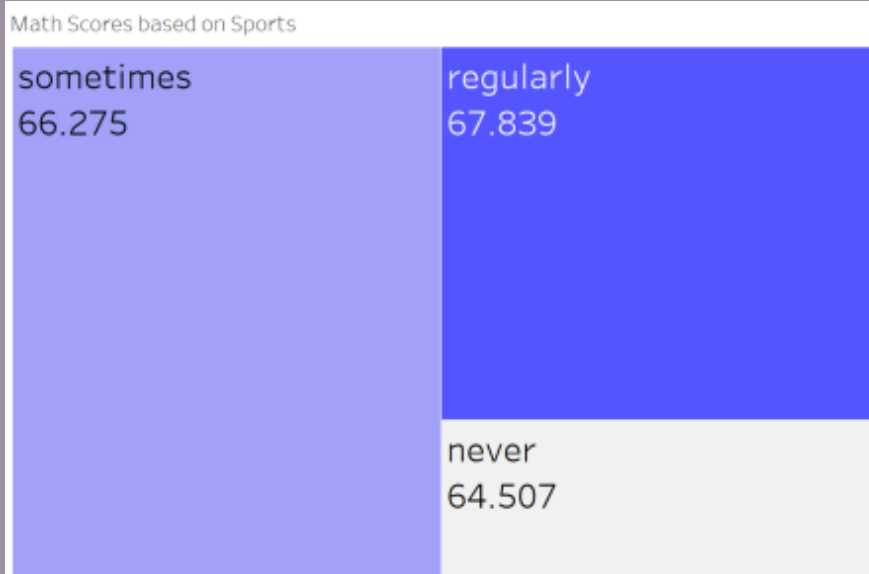


Girls studied and scored more than their male counterparts

Analysis & Results



Analysis & Results



Practicing sports can **increase** grades on average up to...

- 3.33% → Math
- 2.98% → Writing
- 1.435% → Reading

Results

- Test success is largely within student control through effort and preparation
- Girls outperformed boys through:
 - Greater work ethic
 - Higher resilience
 - Better time management
- Success factors combine controllable elements (study habits) and external conditions (family background)

Resources

- https://www.kaggle.com/datasets/desalegngeb/students-exam-scores?select=Expanded_data_with_more_features.csv
- We included an "Average Score" column to simplify our visualizations.
- We replaced "28-May" in the "Weekly Study Hours" to "1"