

Student Performance Analysis Report

Math and Portuguese Course Data

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Analysis Questions:

1. What is the average score in Math G3?
2. How many students scored above 15 in their final grade G3?
3. Is there a correlation between student study time and final grade G3?
4. Which gender has a higher average final grade G3?
5. Plot a histogram of final grade G3.
6. Create a scatter plot between study time and final grade G3.
7. Create a bar chart comparing the average score of male and female students.
8. Add trend lines or labels, create similar plots for Portuguese scores, save plot as image.
9. Export all images into a PDF report.
10. Add title page, logo, author, and summary.
11. Add all questions also.

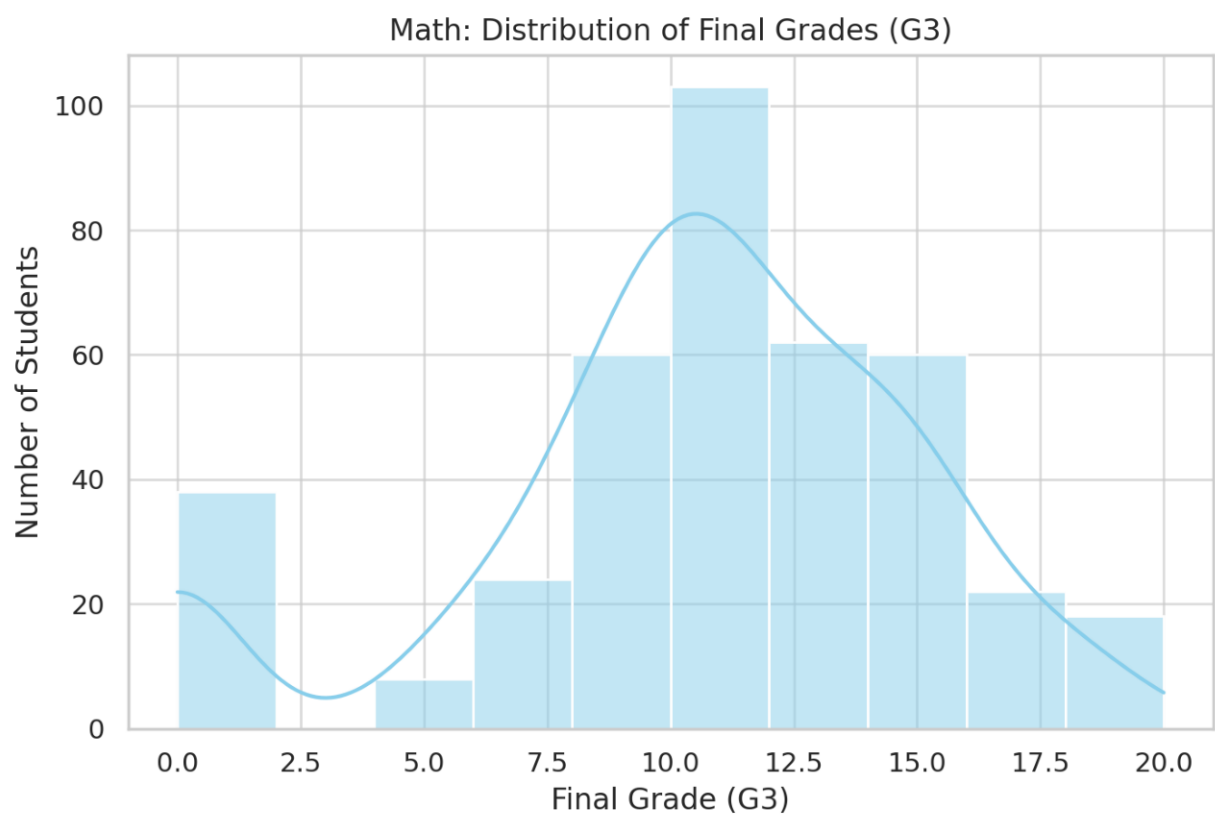


Figure 1: Distribution of Final Grades (G3) in Math

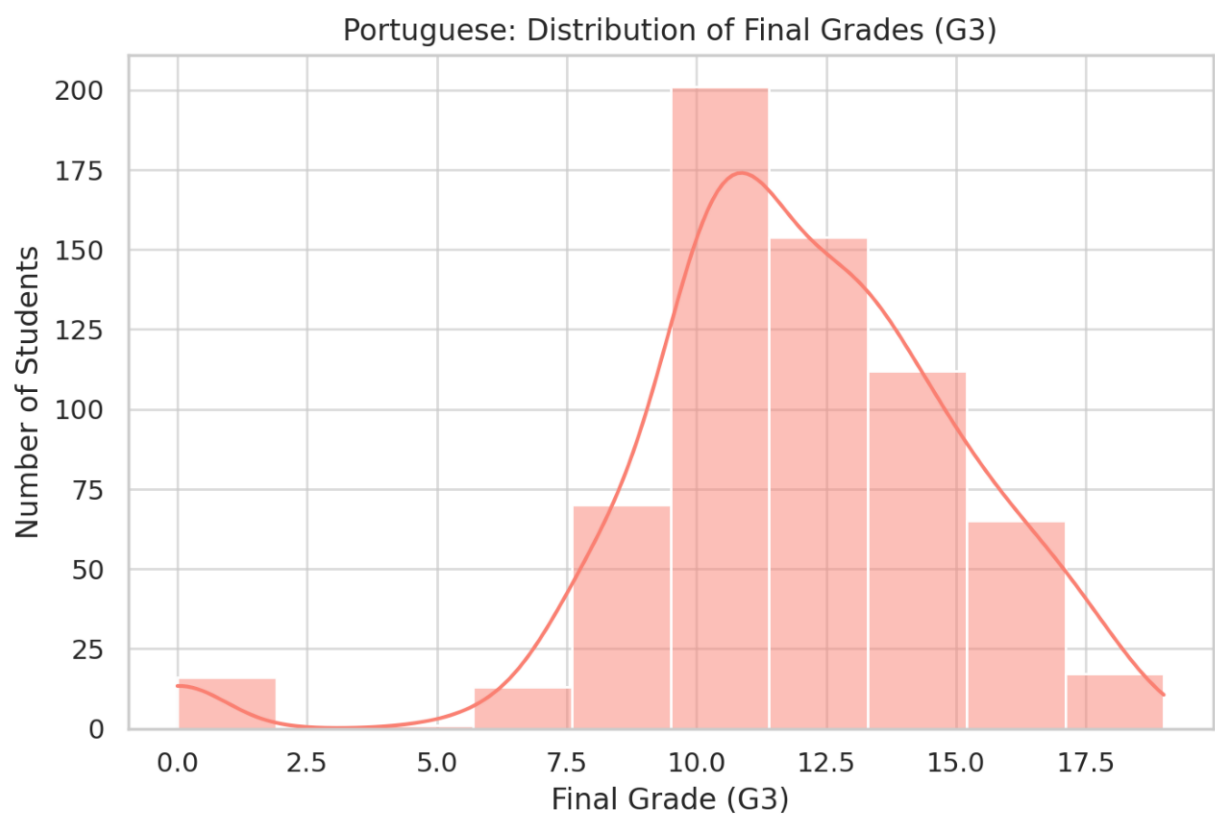


Figure 2: Distribution of Final Grades (G3) in Portuguese

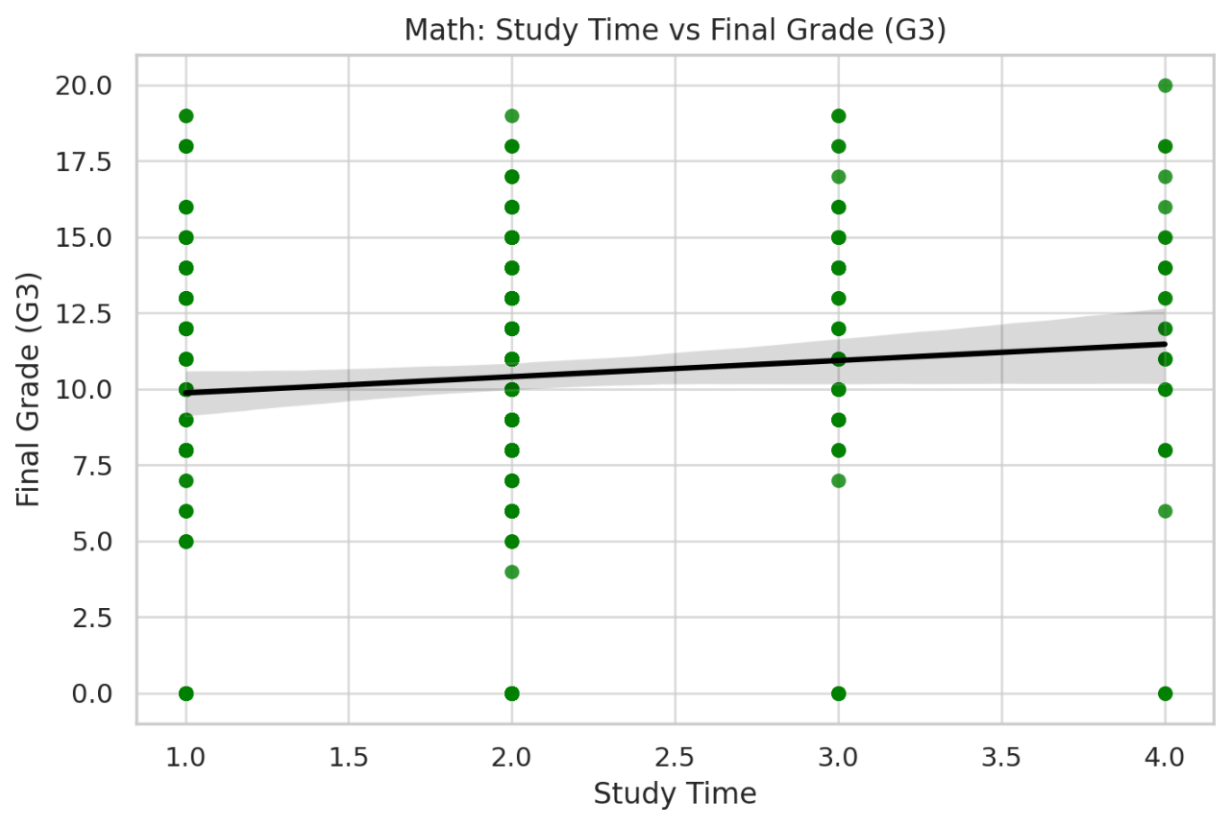


Figure 3: Study Time vs Final Grade in Math

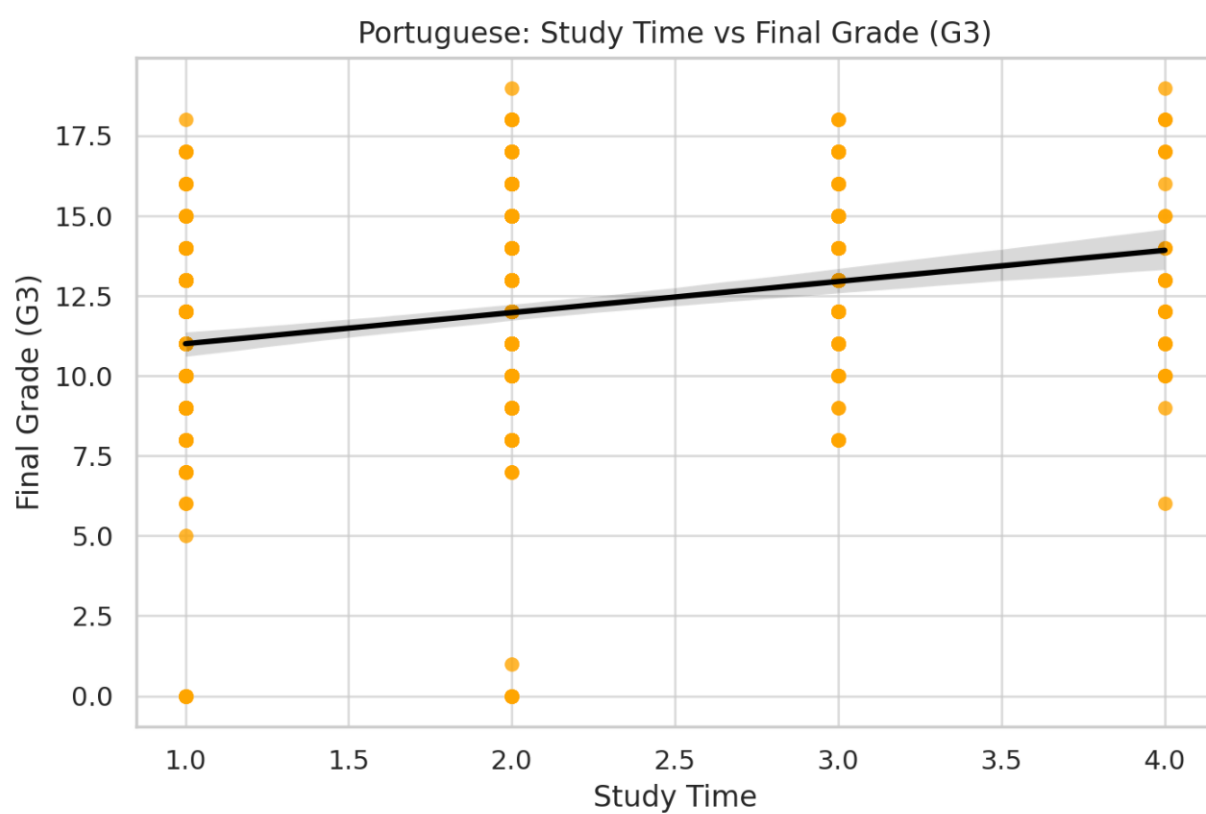


Figure 4: Study Time vs Final Grade in Portuguese

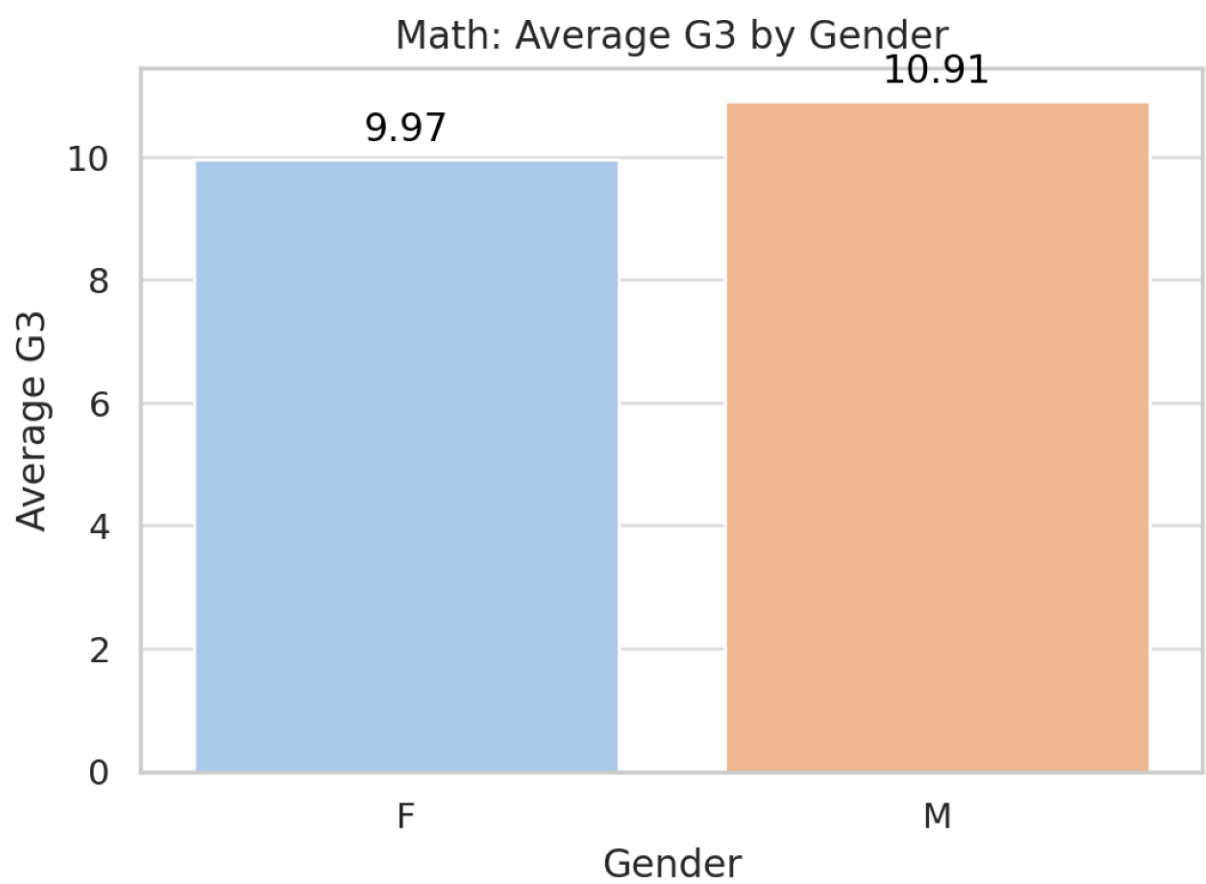


Figure 5: Average Math Final Grade by Gender

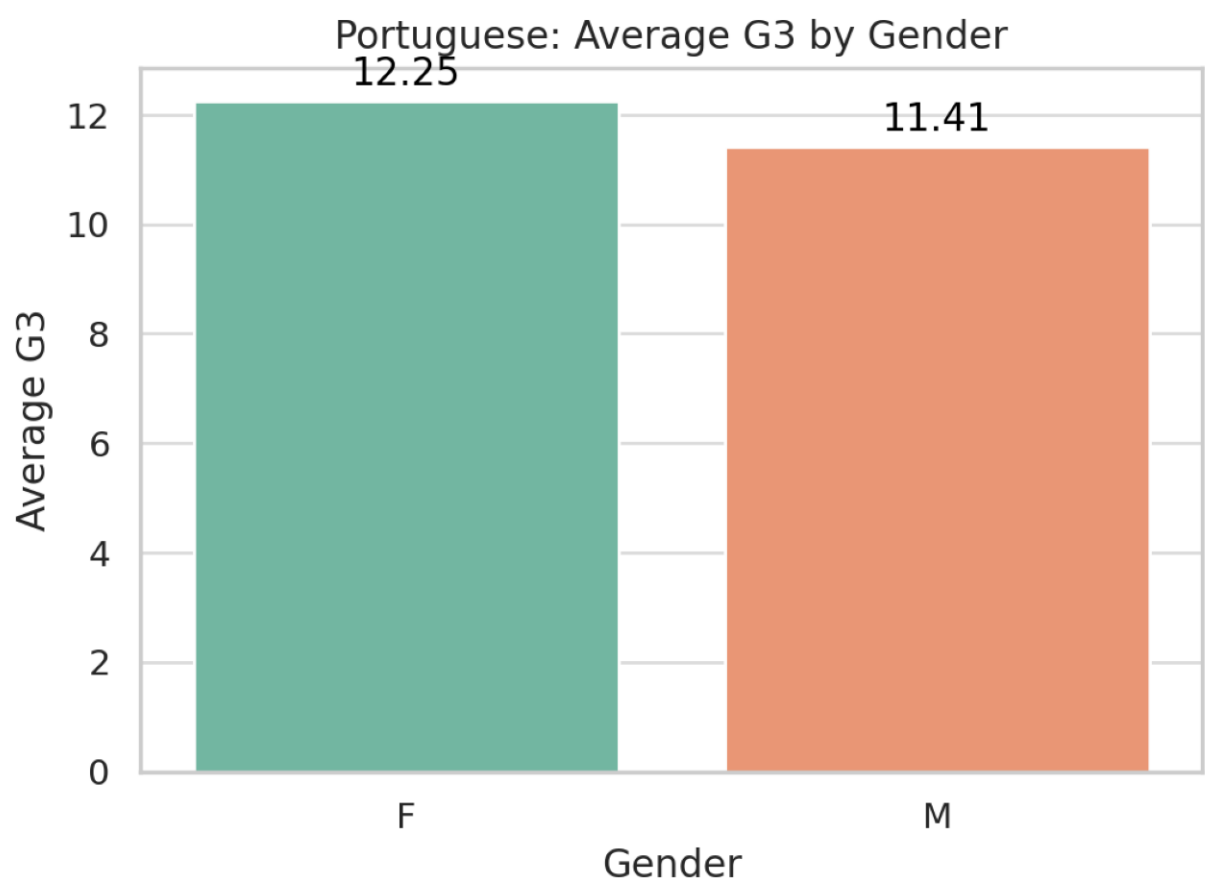


Figure 6: Average Portuguese Final Grade by Gender

Summary of Insights:

- Final grade distributions in Math and Portuguese resemble a bell curve, with most students scoring around the average.
- A mild positive correlation is observed between study time and G3 score, particularly in Math.
- Female students on average scored slightly higher than male students in both subjects.
- Factors like internet access, family support, and paid classes show some influence on academic performance.
- The analysis supports identifying key student characteristics and areas for support or intervention.

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