

Student Performance Analysis

Exploring factors affecting students' academic outcomes



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Data Analyst Portfolio Project



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PROBLEM STATEMENT & OBJECTIVE

Problem Statement:

Why do some students perform poorly in core academic subjects?

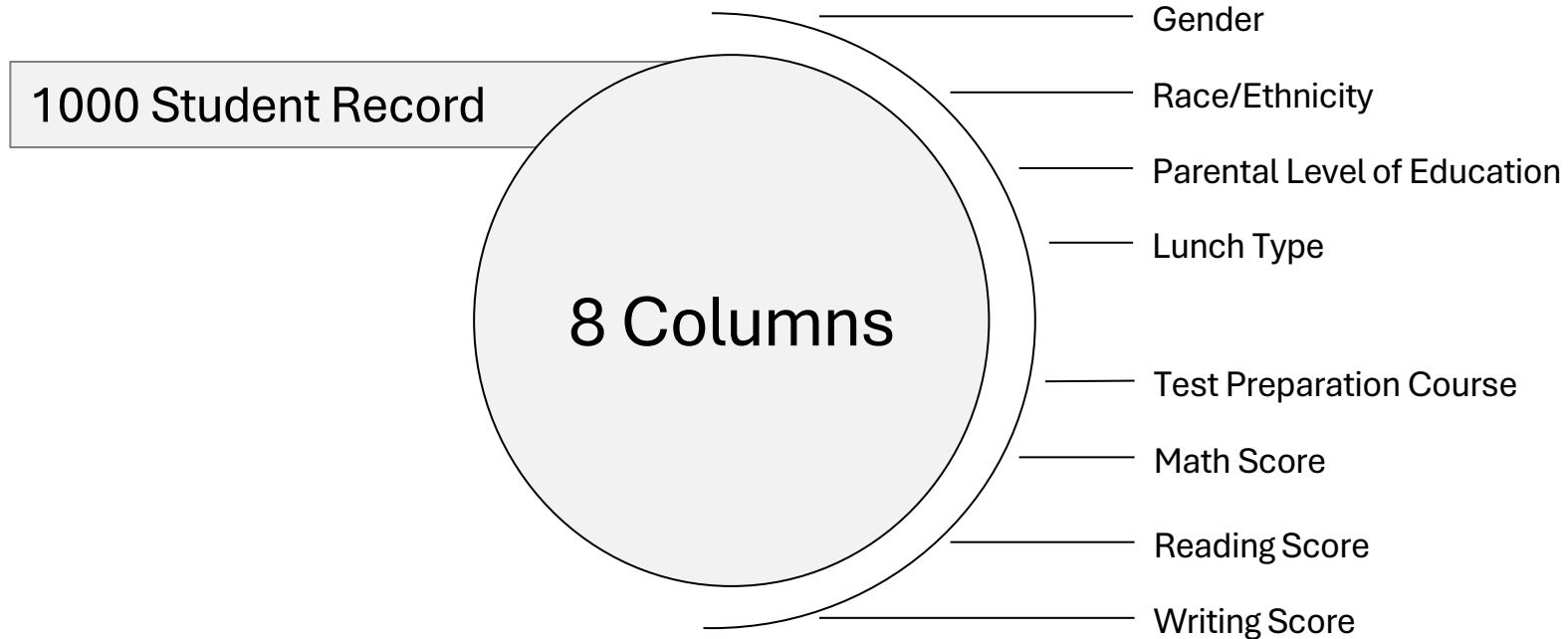
Objective:

To identify key factors that influence students' academic performance using data analysis.

Approach Used:

- ✓ 5 Whys Technique
- ✓ Data Analysis Lifecycle: Ask, Prepare, Process, Analyze, Share, Act

DATASET SUMMARY



Preview Table →

Gender	Ethnicity	Parent_Edu	Lunch	Prep_Course	Math	Reading	Writing
female	group B	bachelor's degree	standard	none	72	72	74

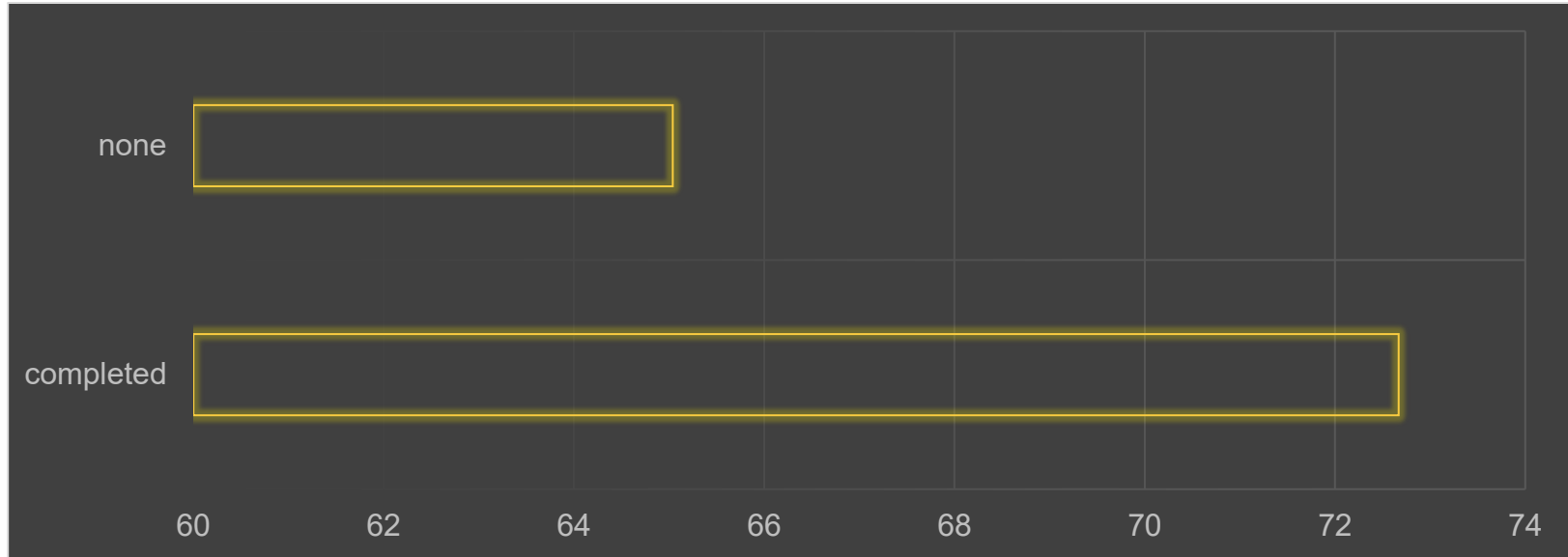
DATA PREPARATION

Steps Taken:

- ✓ Checked for missing values (None Found)
- ✓ Create new columns:
 1. Average Score: Mean of math, reading, writing scores
 2. Performance Category: Classified as “Good”, “Passed”, “Bad”
 - Excellent ≥ 80
 - Average ≥ 60
 - Poor < 60

Tools Used: Excel 365

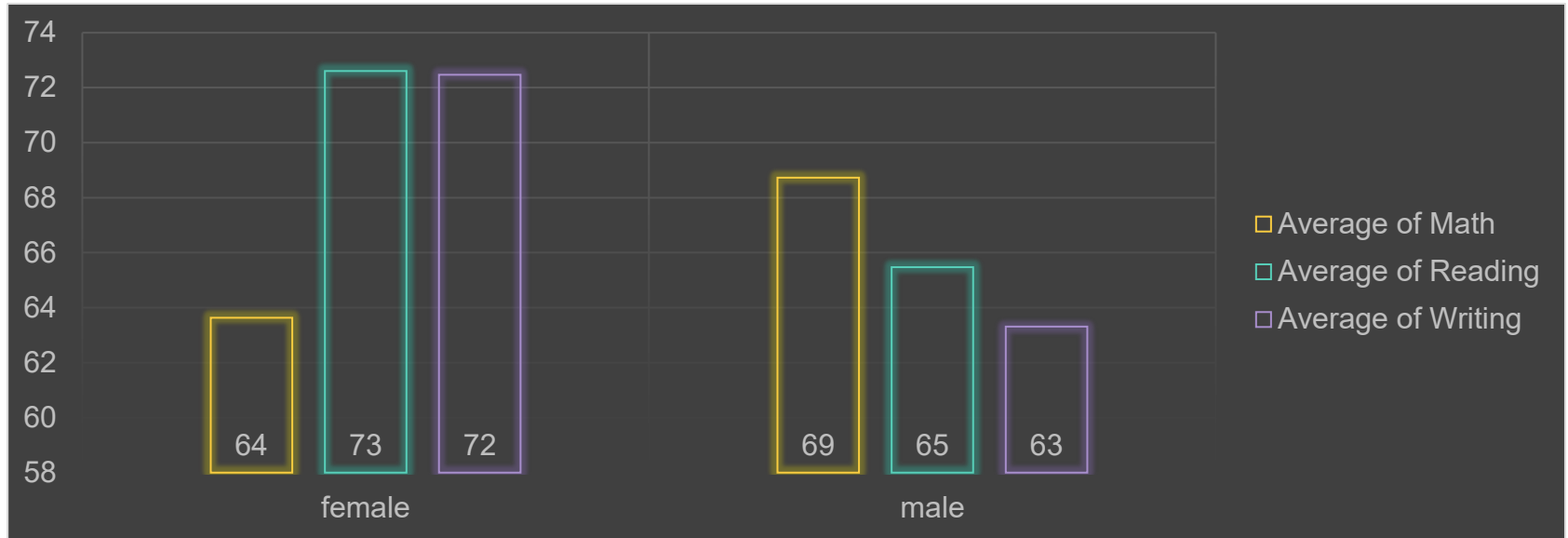
Key Finding #1 – Test Preparation Matters



Insight

Students who completed the test preparation course scored on average 8 points higher than those who did not.

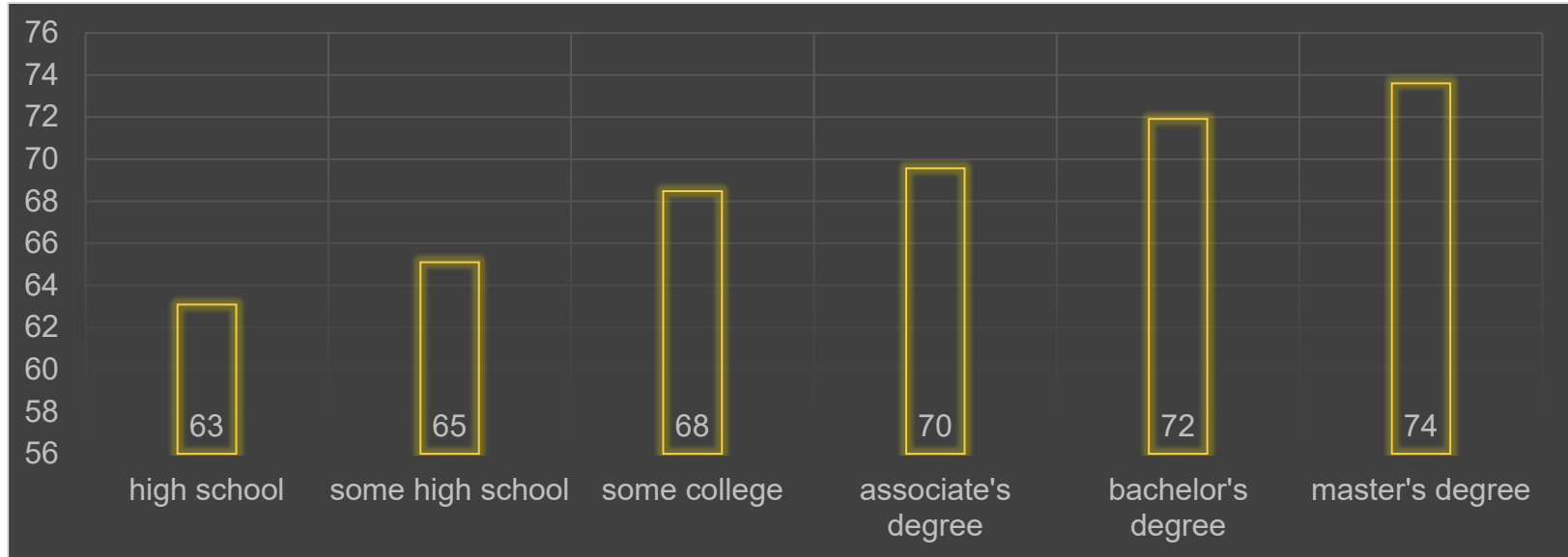
Key Finding #2 – Gender Differences



Insight

Male students perform better in **Math**, while female students excel in **Reading and Writing**

Key Finding #3 – Parental Education Impact



Insight

Students whose parents have higher education levels tend to perform better, showing a **positive correlation**.

CONCLUSION & RECOMMENDATIONS

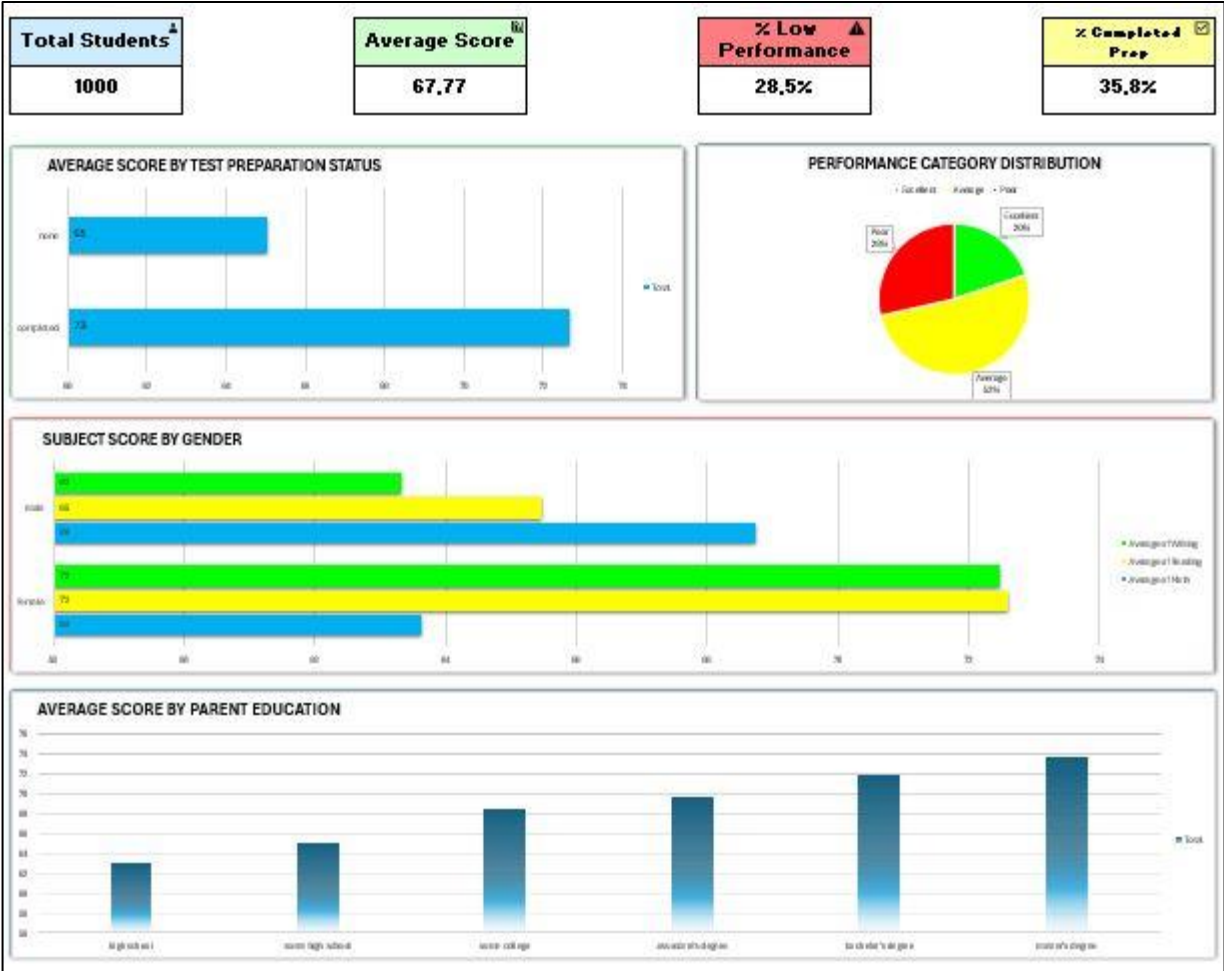
Conclusion Summary:

- Test preparation improves academic scores
- Gender performance gaps exist by subject
- Parental education level influences student performance

Actionable Recommendations:

- Encourage test preparation programs for all students
- Provide support for students at risk (especially males with no prep & standard lunch)
- Personalize learning strategies based on student background

VISUAL DASHBOARD OVERVIEW



About the Analyst



Paskah Sitohang



[My Github Portfolio](#)



Excel 365, Power Pivot, Pivot Table