



STUDENT PERFORMANCE

Data Analysis performed
By Adnan Hussain

**“We are surrounded
by data but are
starved for insights.”**

—Jay Bear

Agenda

Introduction

Conclusion



**General Statistics
and Hypotheses**

**Next Steps and
Recommendations**



Introduction

Introduction

1. The data consists of 6,607 students
2. Each student has their demographics shown and their Final Exam Score.
3. This project aims to investigate which factors actually affect a student's exam score and what should parents and teachers do to maximise grades.
4. Analysis was done in SQL utilising both basic and complex practices.
5. Visualisations are created using Tableau.



General Statistics and Hypotheses



01

80%

Average attendance of
all students

02

67%

Average Final Exam
score for a given
student

03

20 Hours

Average and modal
hours studied

Hypotheses



Parental Involvement

Should parents be more laid back or more proactive?



Access to Resources

Does more access to resources necessarily mean better exam score?



Hard work vs Smart work

Does spending more time working always result in higher grades?

Hypotheses Continued



Prior Exam Records

Are prior exam records telling of a student's final grade?



Public Or Private School?

Does a private school have more of an advantage over a state/ public school?

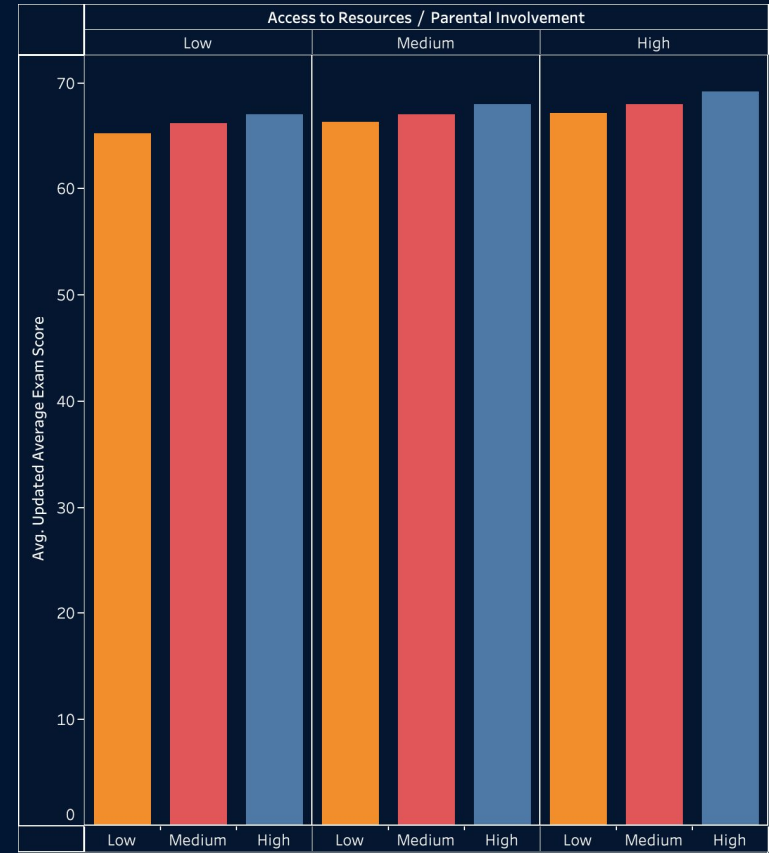


Physical Activities

Does physical activities influence Exam Scores?

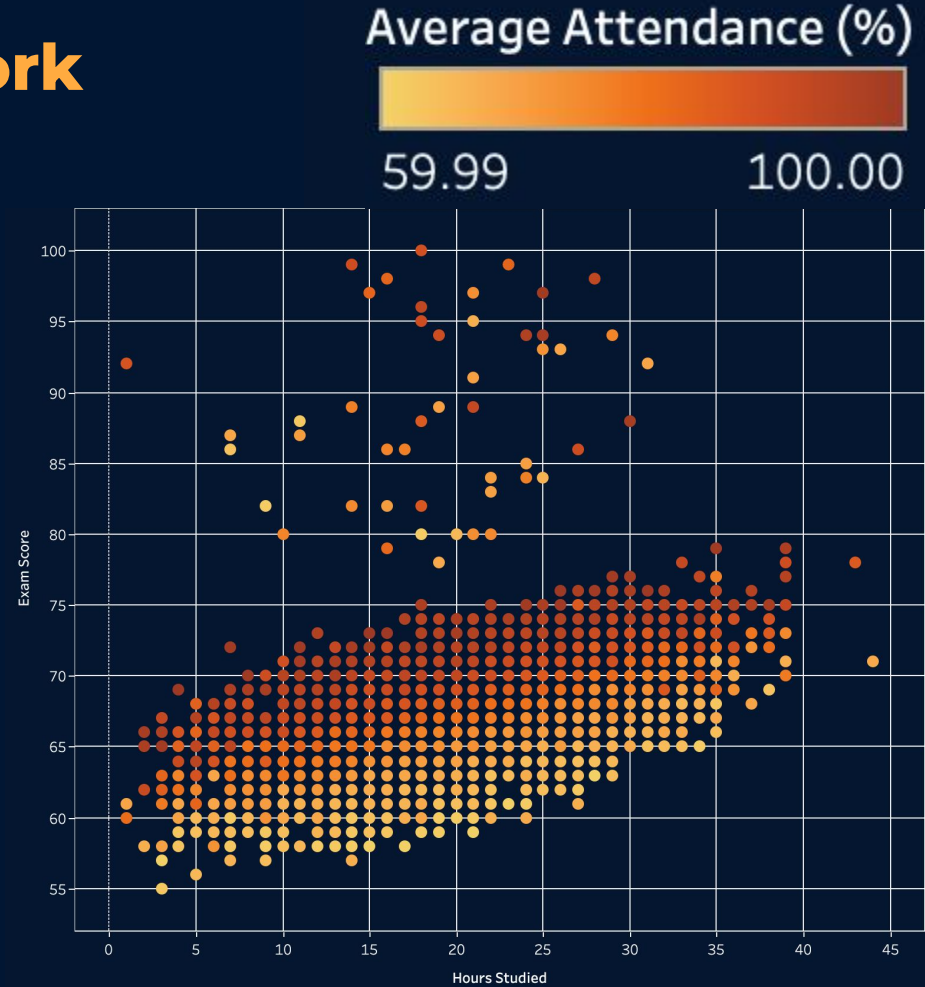
What approach should parents adopt?

- The data seems to follow a similar pattern no matter how many access to resources students have.
- Students with higher resources tend to perform better with students who do not.
- Regardless of the resources, students with more parental involvement do much better than students without.
- Generally, both more access to resources and more parental involvement leads to better exam scores.
- Clearly parents should adopt a more hands-on approach for their kids.



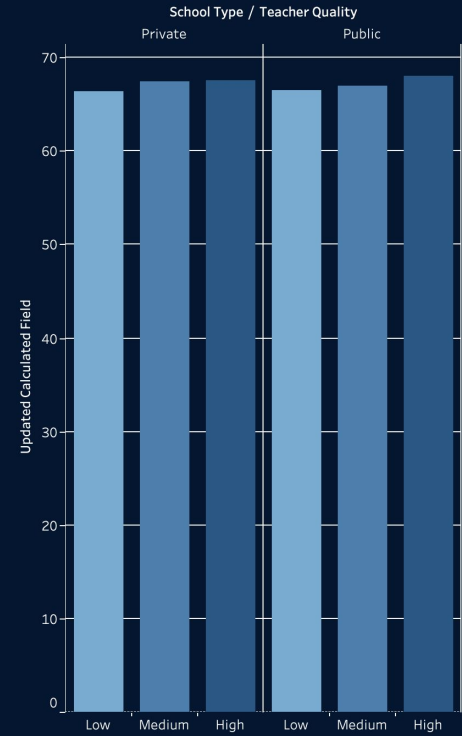
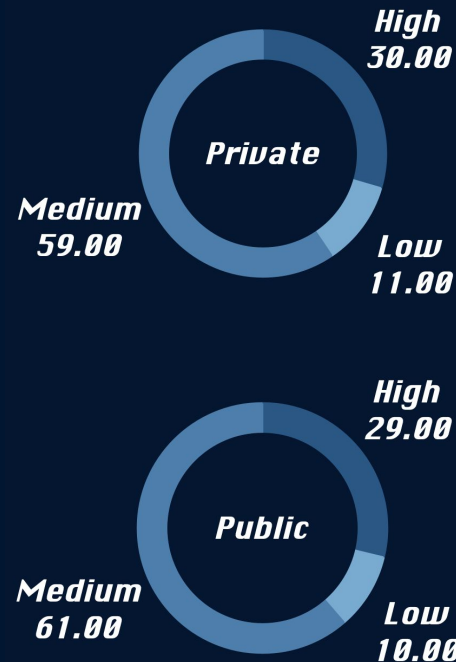
Hard work vs smart work

- Two clusters “upper level” and “lower level”.
- Both clusters suggest that greater average attendance means higher overall exam scores regardless of hours studied.
- The more hours studied the better the exam score.

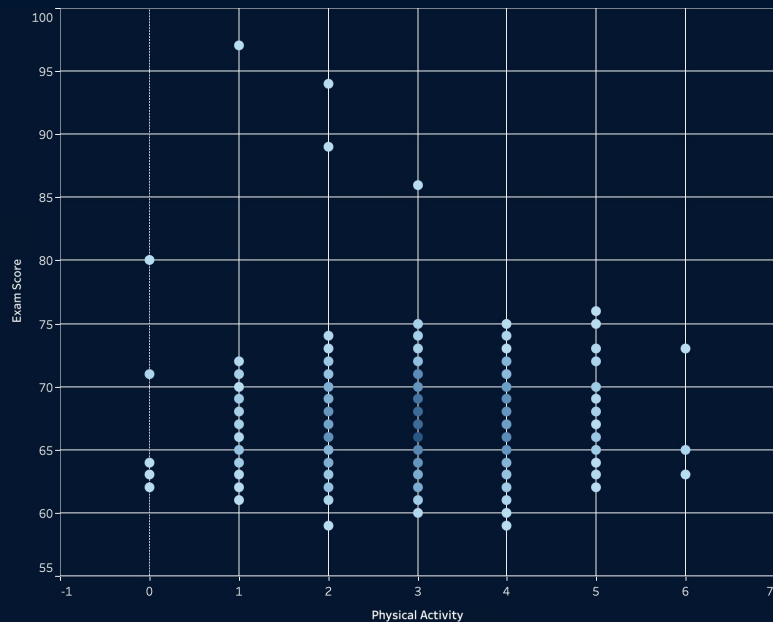


Public or Private School?

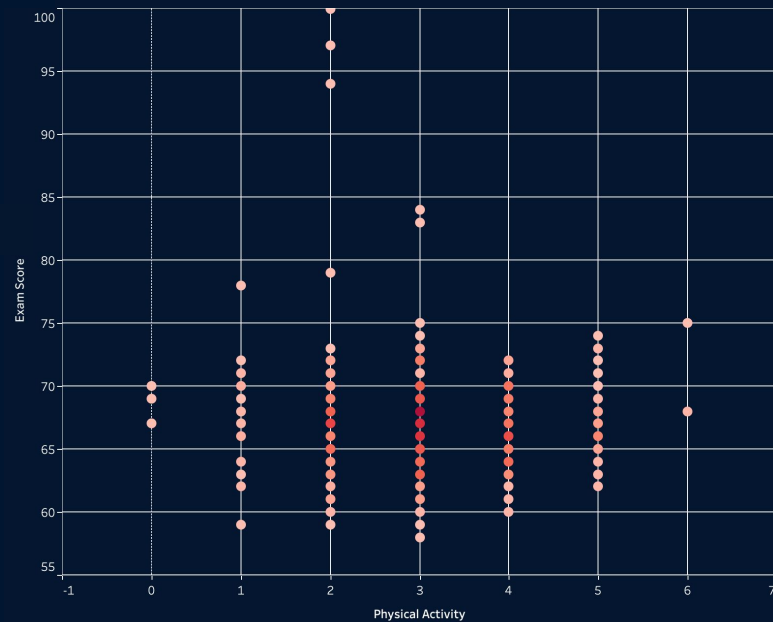
- Teaching quality remains the same throughout both types of schools.
- Average Exam Scores do not vary by much.
- Students in public schools with high teacher quality are doing the best with average scores of 68.
- This is probably due to public schools having a bigger sample size of students than private schools.



Physical Activities



Male Frequency



Female Frequency



Prior Exam Percentages

75%

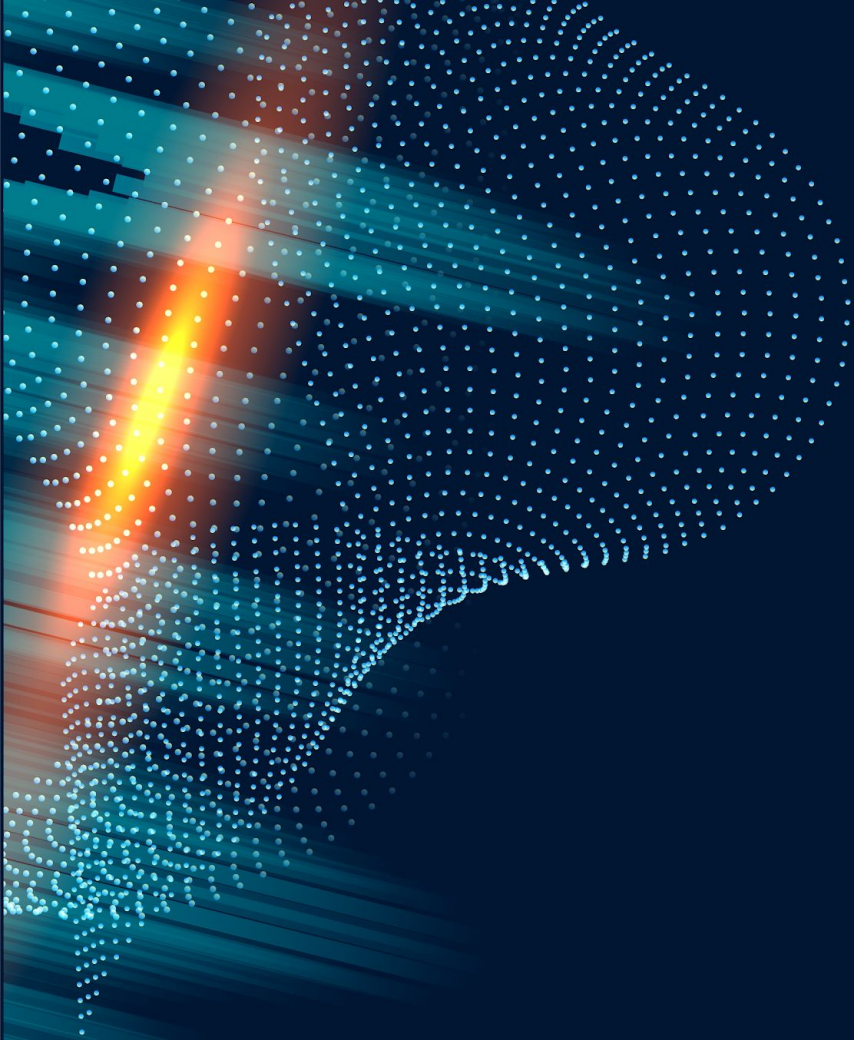
Average Previous
Scores

-8%

Average decrease
from Previous
Scores to Exam
Score

67%

Average final
Exam Score



Conclusion

Summarisation of results

MORE PARENTAL SUPPORT

Although the impact is small, students whose parents are more involved tend to perform better.

BETTER ACCESS TO RESOURCES

There is a significant difference between students who do and do not have a lot of resources.

MORE HOURS = BETTER GRADES

Students who put in more hours studying regardless of skill/attendance perform better.

GREATER ATTENDANCE = BETTER GRADES

School attendance has a clear impact on high performers and underperformers.

CONSISTENT SCHOOL RESULTS

The type of school has little to no effect on the final exam score.

UNREALISTIC PREVIOUS EXAMS

The previous exams were a lot easier than the final exams not a clear indication of the final score of a student.



Next Steps and Recommendation s

Next Steps and Recommendations

More informative parents evenings

This would allow parents to better understand what they can do to help their child.

Curriculum books given under a deposit

This would mean students can attain at least a medium level of resource abundance.

Optional after school sessions

Teaching assistants opt in to teach students who may find it hard to study at home or need extra hours.

Community partnerships

This would provide after-school programs, tutoring, or mentorship to keep students engaged in school.

More realistic exams

This would give students a confidence boost or tell them what they need to work on.



THANKS!

Questions?

Slidesgo, Flaticon & Freepik

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