

The Pipe Operators |>  
Present()

# Determining Key Influencers of Student Math Performance

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# Introduction

In early 2000s, Portugal's education was falling behind the rest of Europe.



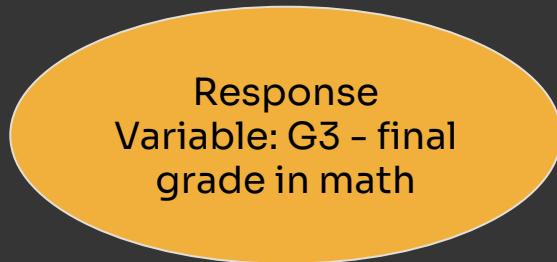
Image from Immigrant Invest

April 2008, Paulo Cortez and Alice Silva studied student achievement in secondary education

- Gabriel Pereira and Mousinho da Silveira
- questionnaires and school reports
- Parent education, study time, health status

# Data Introduction

Factors that are **most predictive of student success** in the Gabriel Pereira and Mousinho da Silveira schools (ages 15-22)



# Exploratory Data Analysis

13 Visualizations Created:

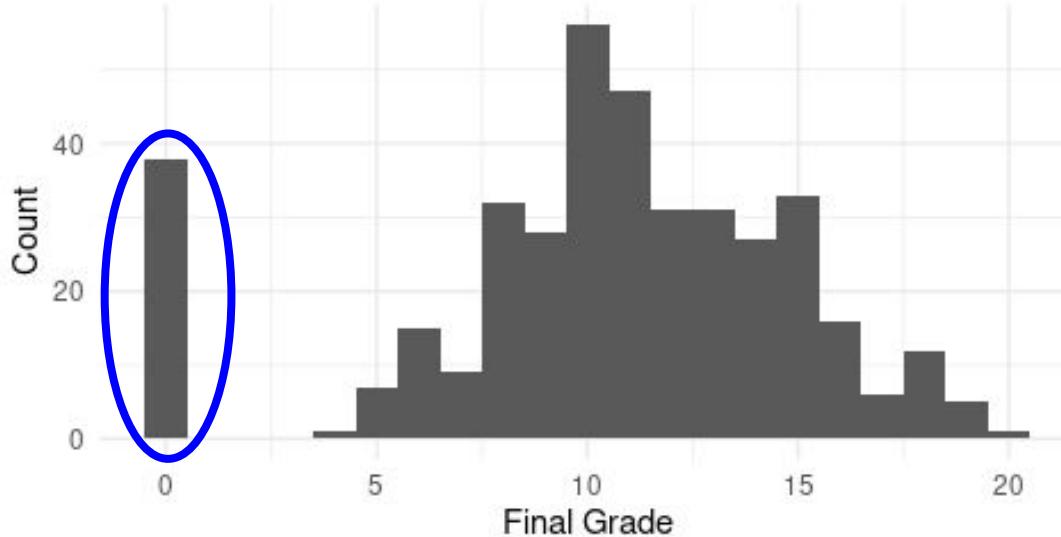
1 Final Grade Distribution Graph & All of the Following Variables Analyzed Against Final Grade Performance

Past Class Failures	Weekday Alcohol Consumption	Weekend Alcohol Consumption	Study Time
Mother's Educational Level	Father's Educational Level	Internet Access	Health Status
Family Relationship Quality	Free Time	Paid Classes	Want to pursue Higher Education

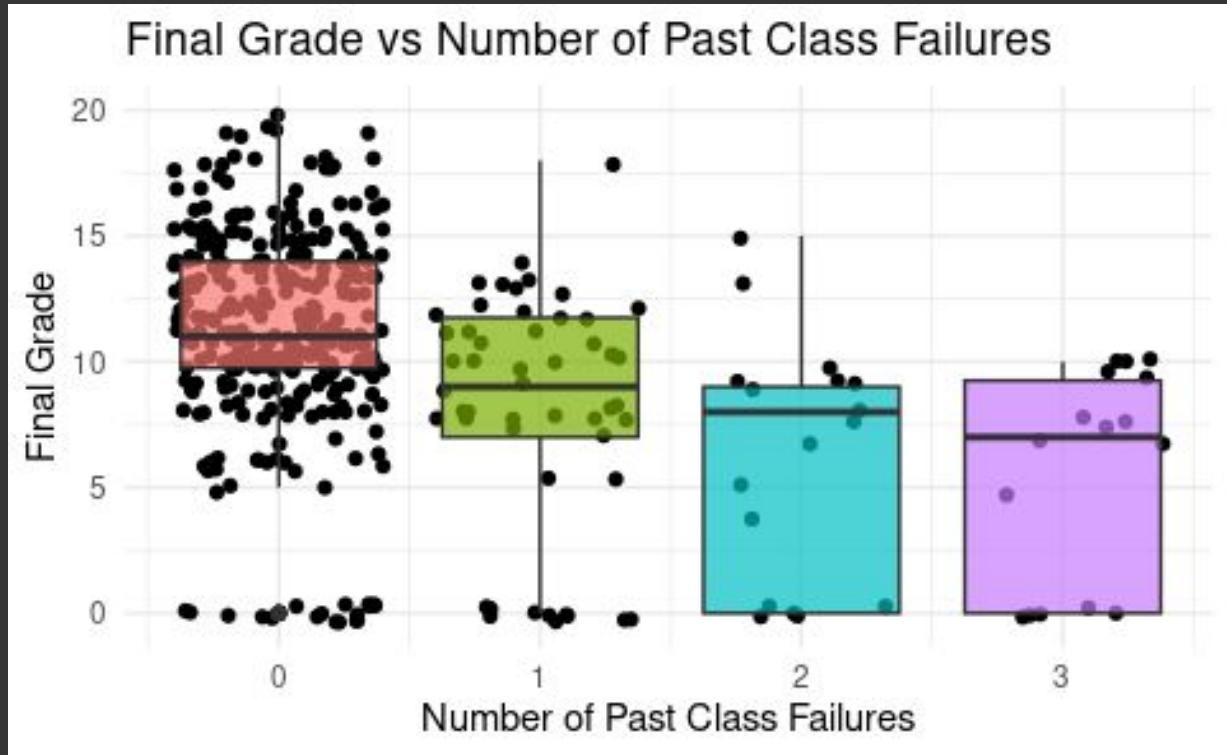
# General Distribution of Final Grades

Distribution of Final Grades

Portuguese Schools Gabriel Pereira and Mousinho da Silveira

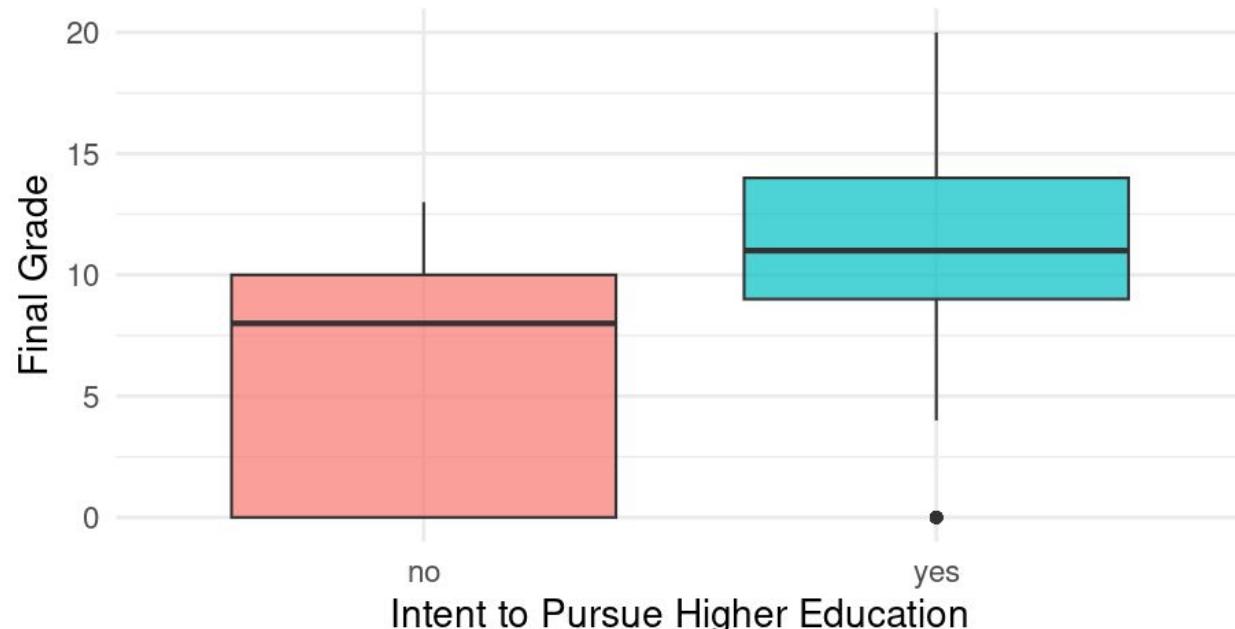


# Strong Factor #1



# Strong Factor #2

Relationship Between Higher Education Interest and Final Grade



# Conclusions

## Discussion

- Largest indicators of success (based on final grade) were interest in higher education and low class failures
- Surprisingly, variables such as extra paid classes in the subject and amount of free time seemed to have little correlation to final grade

## Applications

- Areas of focus for highest return
- Delegate more resources to strongest influences

## Critiques

- Data was only polled from two schools
- Questionnaires might not reflect full truth
- Final grade (G3) does not entirely explain student success
- Out of scope: explanation behind variable influence