

Influential Factors on Academic Performance for Florida Elementary School Students

The Data Story

School districts spend ample amounts of time and resources implementing various new frequent initiatives with the objective of increasing student performance (education's version of the "the bottom line"). The only metric of their success is observation of an increase, or decrease in formal assessment data during, and at the conclusion of some particular academic year. There is no analysis around influential variables at a school or district level of student success. This exercise focuses on finding predictor/influential variables that share a relationship with student success, in order to gain insight into optimizing the use of resources towards the most effective initiatives.

Glossary of Educational Terms

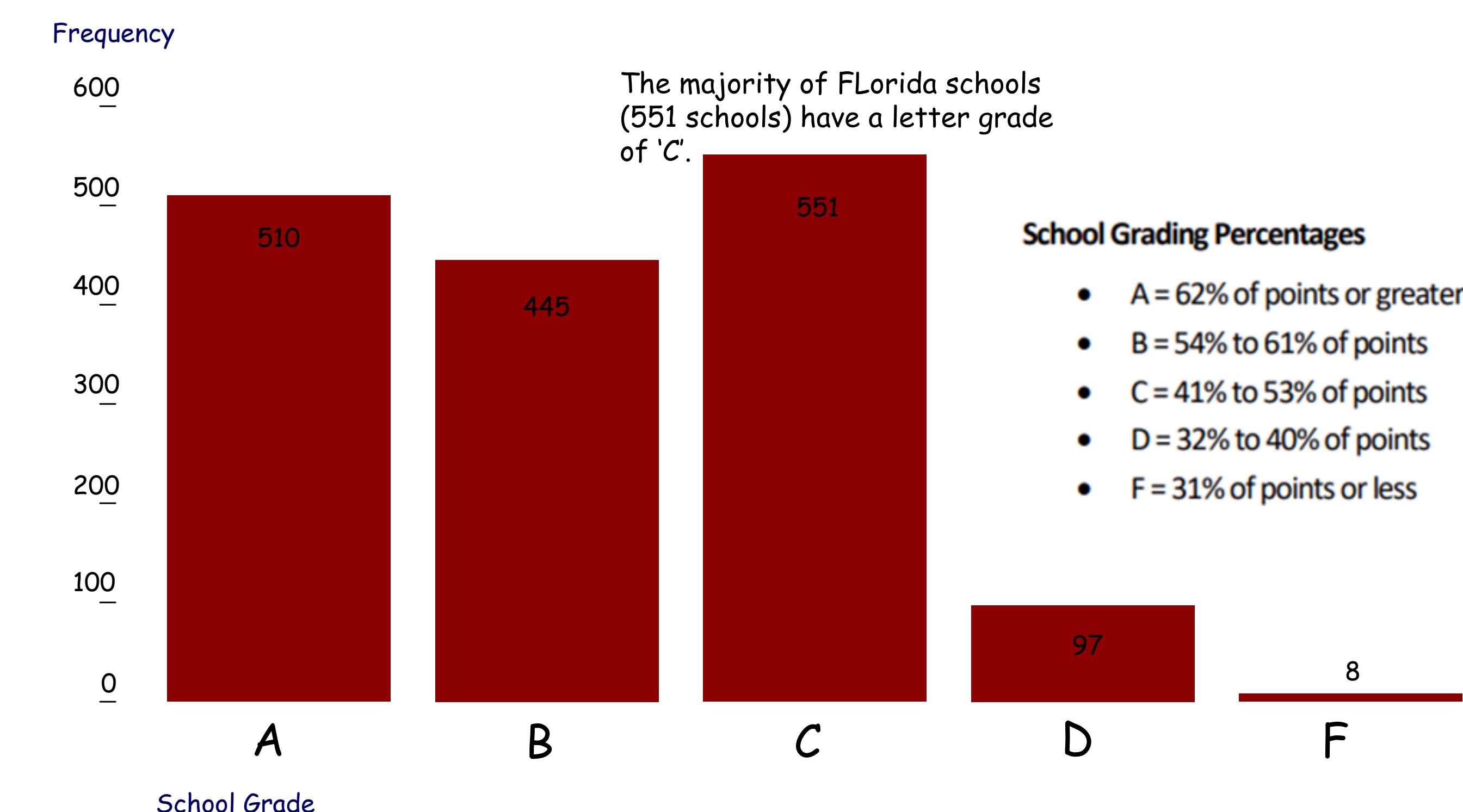
School Grade - A performance measure of student proficiency and growth used for Florida as a means of accountability for educators, data-tracking, and information for the community
Student Proficiency - A percentage of students who have mastered grade-level skills/concepts
Student Gains/Growth - Percentage of students who have met/exceeded a pre-determined amount of growth over the course of one academic school year, as measured by state testing
Title 1 Schools - At least 75% of the student population in these schools are eligible for free or reduced-price school lunches.

Audience

The analyses and information included in the end-product poster would obviously benefit all educators. In addition, any person with children/grandchildren/family members/friends in the Florida public school system may benefit from these analyses as well. They may at least find the information interesting.

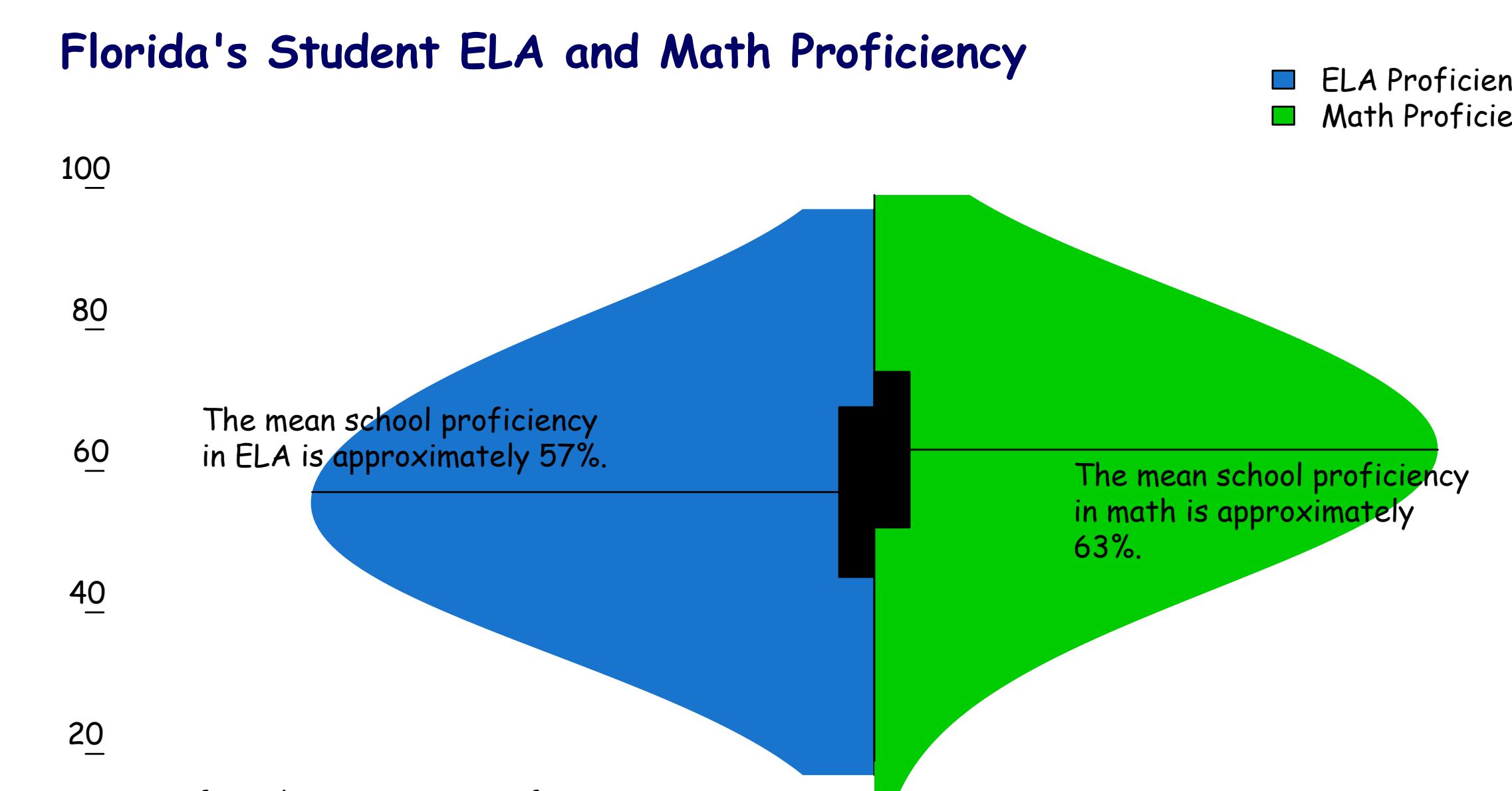
What does the overall "Report Card" look like for Florida Elementary Schools?

School Grade Frequency



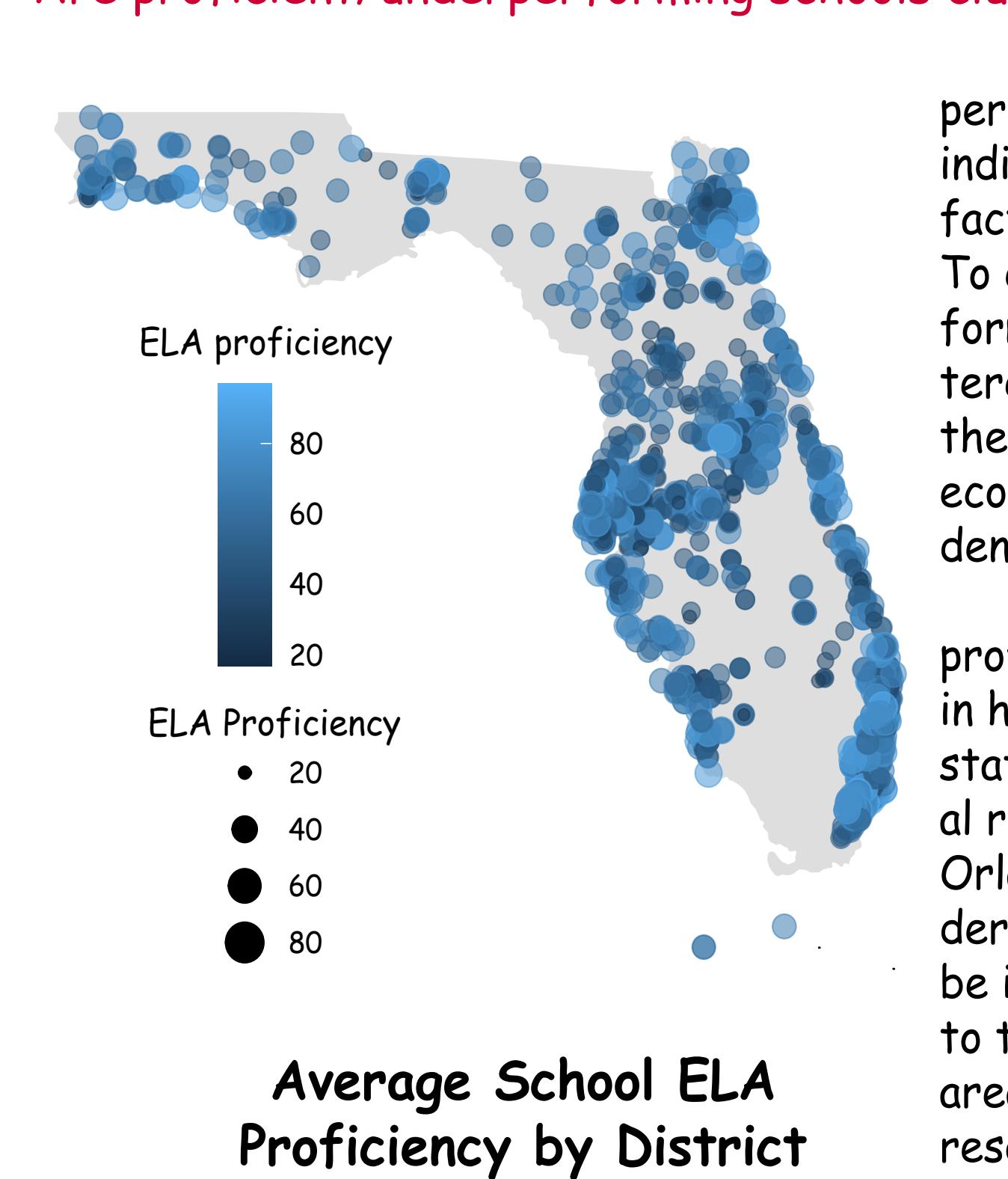
Typically, a grade of at least a 'B' indicates a student's proficiency of grade-level-concepts. If this 'rule of thumb' is extrapolated to the grading of Florida's elementary schools, then close to 41% of these schools require additional support to meet student proficiency requirements! While over 59% of these schools are meeting academic performance standards, what factors are influencing the 41% experiencing limited academic success? Are there factors that are consistent among these under-performing schools?

Do Florida's students enjoy higher proficiency in math or ELA?



It is essential to know where students' academic weaknesses lie in order to address any gaps in learning. With an approximate 6% difference in means between math and ELA proficiency, it seems Florida elementary students require more support with ELA. This may seem intuitive because of Florida's large population of students whose first language is not English.

Does district location appear to coincide with proficient/underperforming schools? Are proficient/underperforming schools clustered together, or distributed evenly throughout the state?



Notice from these maps that despite the 6% difference in means seen between math and ELA proficiency, this difference is not sufficient enough to be visually significant. Therefore, the remainder of the analyses have been performed on overall student proficiency

The Data Description

With seventeen usable columns and 1,611 rows, this data describes the student proficiency and growth in Florida's public school system, across grade levels third through fifth grade (3-5), as measured by state standardized testing for math and English Language Arts (ELA). Included in the data are various explanatory variables that the state likely deems potential influencers of student performance, considering that they are included in the same data set with performance and growth metrics.

Exploratory Analysis Around Possible Influencing Factors on Student Performance

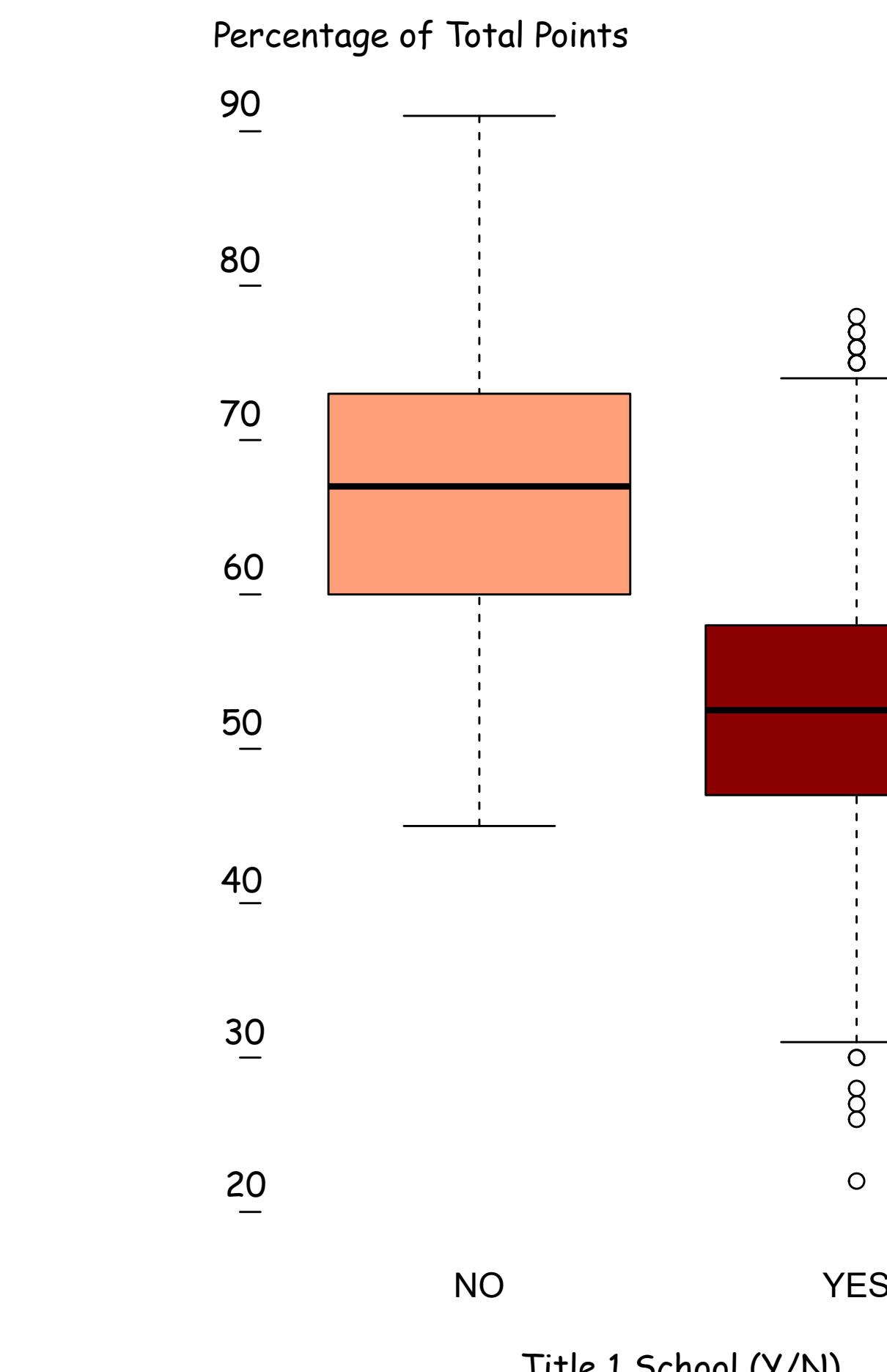
Possible Influencing Factors:

- *Whether or not a school is Title 1
- *Whether or not a school is a charter school

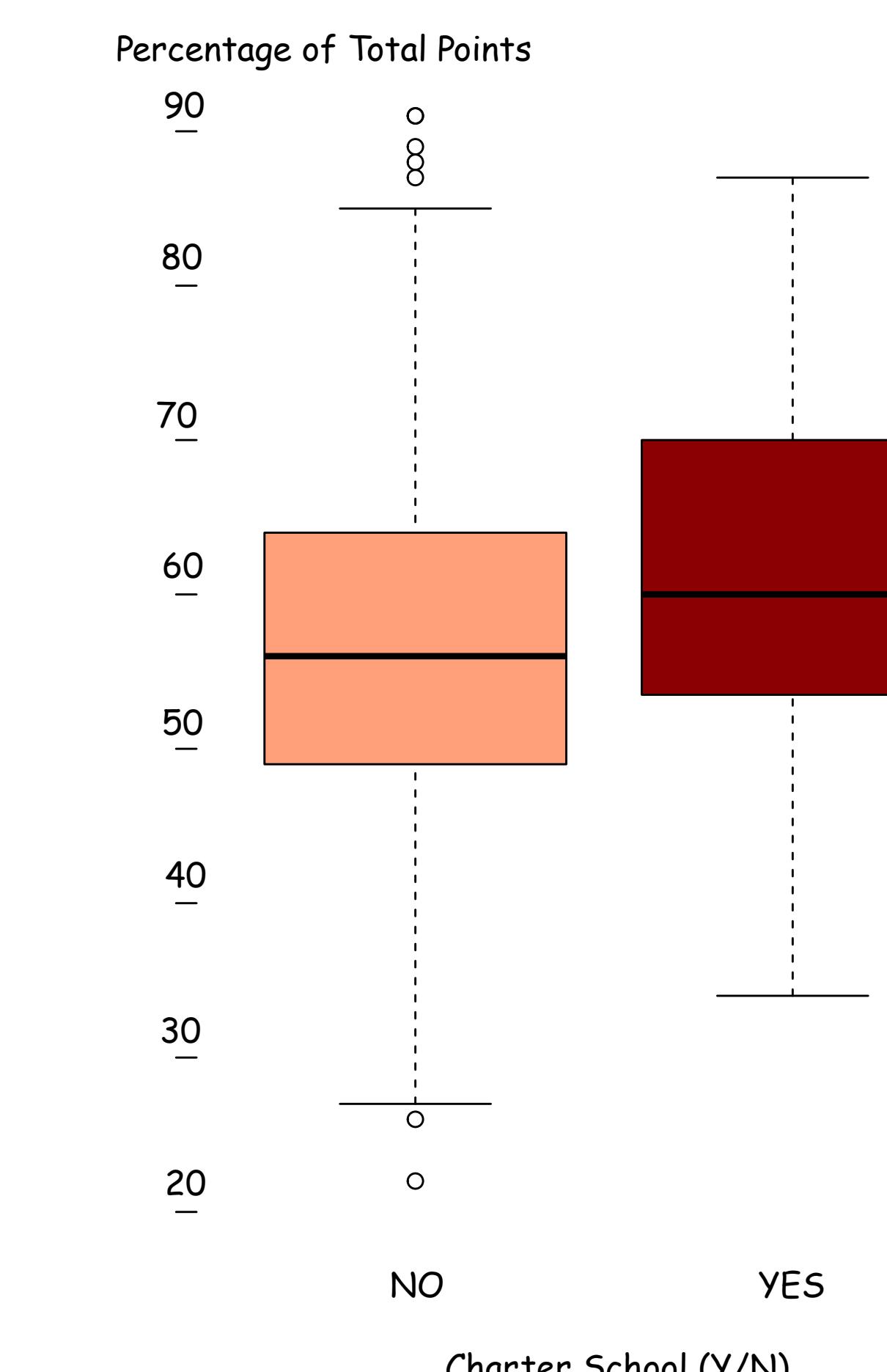
*Percent of Minority Students

*Percent of Economically Disadvantaged Students

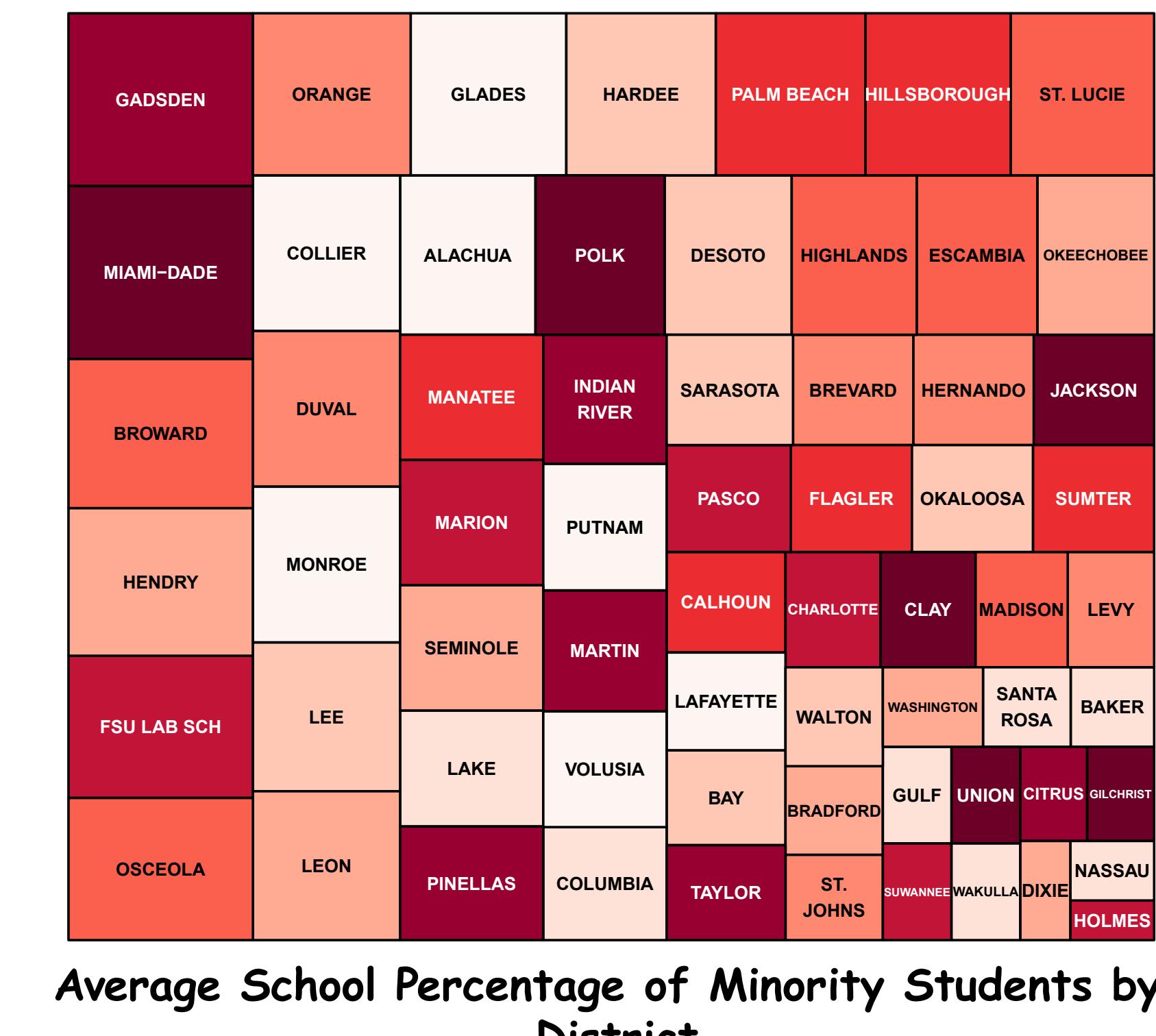
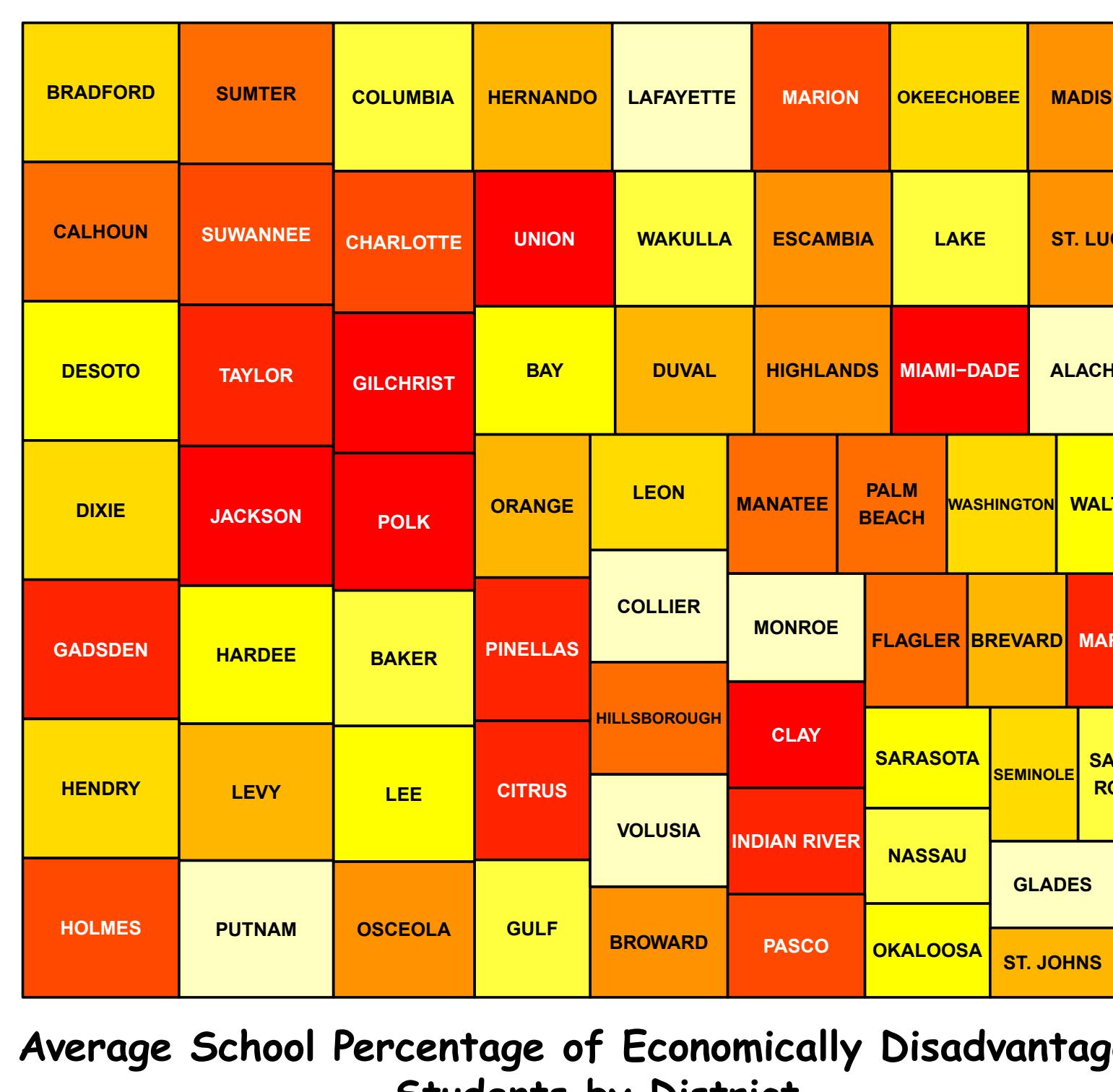
Student Proficiency for Title 1 vs. Non-Title 1 Schools



Student Proficiency for Charter vs. Public Schools



There seems to be a significant difference in means between Title 1 and Non-Title 1 schools, but only a slight difference in means of student proficiency between Charter and Public schools. This suggests that there may be a relationship between Economically Disadvantaged students and student performance.



Do any of these factors have a relationship with student performance?

The only statically significant relationship between the above potential influential variables and student performance is held by Economically Disadvantaged students. A hint of this existing relationship was made by the distribution of the student proficiencies by school for Title 1 schools vs. Non-Title 1 schools. The boxplots displayed above alluded to this relationship. The scatterplot below perfectly shows the relationship between these two variables.

Student Proficiency vs Economically Disadvantaged

Percent of Students Meeting Proficiency

