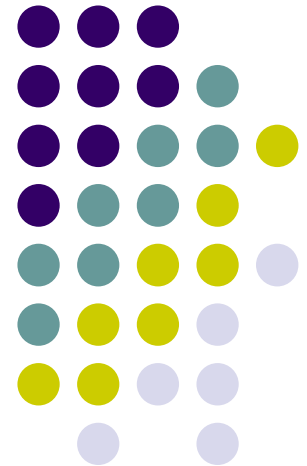


SAT Scores, High Schools, and Collegiate Performance Predictions

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What is the SAT for?

- It serves no one's interest to admit a student who is not prepared to succeed.
- Graduates of “St. Grottlesex” are certainly prepared. But what about others?
- Need some tool to identify those who can succeed.
- GPAs are problematic.
- SAT is meant to fill that role.

College Board web site:

The SAT helps college admissions officers make fair and informed admissions decisions. Combined with a student's academic record, it is a proven, reliable indicator of college success.



Predictive validity models

- Assume: A “prepared” student earns a higher GPA in college than an unprepared student.
- Fit statistical models to predict college GPA.
- Variables that are strong predictors are useful for identifying prepared students, and are therefore useful in admissions.
- Standard model: Just use high school GPA and SAT.

College Board, again: *“Combined with a student's academic record, [the SAT] is a proven, reliable indicator of college success.”*

- But there’s no real reason for this.

The St. Grottlesex problem & validity analysis



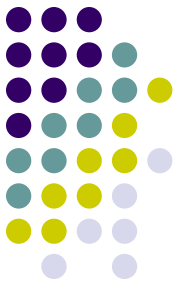
- We already know that high-income applicants from elite private schools will do well.
 - An “elite private school” variable would be a strong predictor.
 - We don’t (necessarily) want to use this variable in admissions.
 - Neither do we want to use measures that act as proxies for family background (e.g., extensive foreign travel).
- The SAT’s purpose is to identify *other* applicants who are prepared despite less advantaged backgrounds.
 - The SAT needs to predict GPAs even controlling for the student’s easily-observed background. Does it?



This paper

- Add school-level variables to prediction models.
 - How well does SAT do at distinguishing prepared students *within* high schools?
 - How about *across* high schools? Are students from high-scoring schools better prepared than those from worse-scoring schools? And what does that tell us?

Data



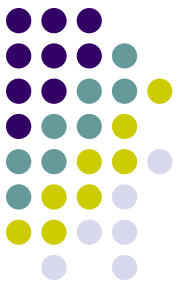
- From University of California
- Applicants for freshman admission in 1993/4.
- Focus on:
 - Prediction of freshman grades
 - Regularly eligible applicants (exclude athletic recruits, etc.)
 - 7 campuses (exclude Santa Cruz)
- 17,504 students

Result #1: Within and between school predictions



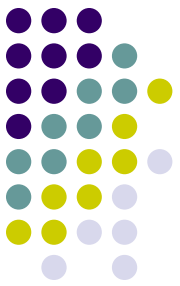
- Predicted effect of 100 SAT points:
 - Overall: FGPA up by 0.094
 - Within school: FGPA up by 0.050
 - Between school: FGPA up by 0.177
- Compare to effect of 0.1 HSGPA points:
 - Overall: FGPA up by 0.057
 - Within school: FGPA up by 0.073
 - Between school: FGPA up by 0.009

Result #2: Correlates of school average SATs



	Coefficient in regression for school avg. SAT (controlling for test-taking rate)
Fr. Black	-224.7
Fr. Hispanic	-1.8
Fr. other race	45.4
Avg. parental education	130.1

Result #3: Predictive power of school characteristics for FGPA



Own SAT (100s)	0.058	0.058
Own HSGPA	0.63	0.64
Avg. SAT at school	0.117	0.088
Fr. Black at school		-0.21
Fr. Hispanic at school		-0.13
Fr. other race at school		0.16
Avg. parental education at school		<i>-0.0124</i>

Implications & Conclusions



- SAT is much more informative across high schools than within.
- And more informative when comparing schools of differing racial composition than for comparisons of demographically similar schools.
- Should we use it in admissions?
 - How important is it to identify the most likely to succeed?
 - How do we want to resolve the conflict with diversity?
 - If we don't want to give preferences to kids from wealthy white schools, need to think about how we are using the SAT.