



Investigating Grade Inflation and Non-Equivalence

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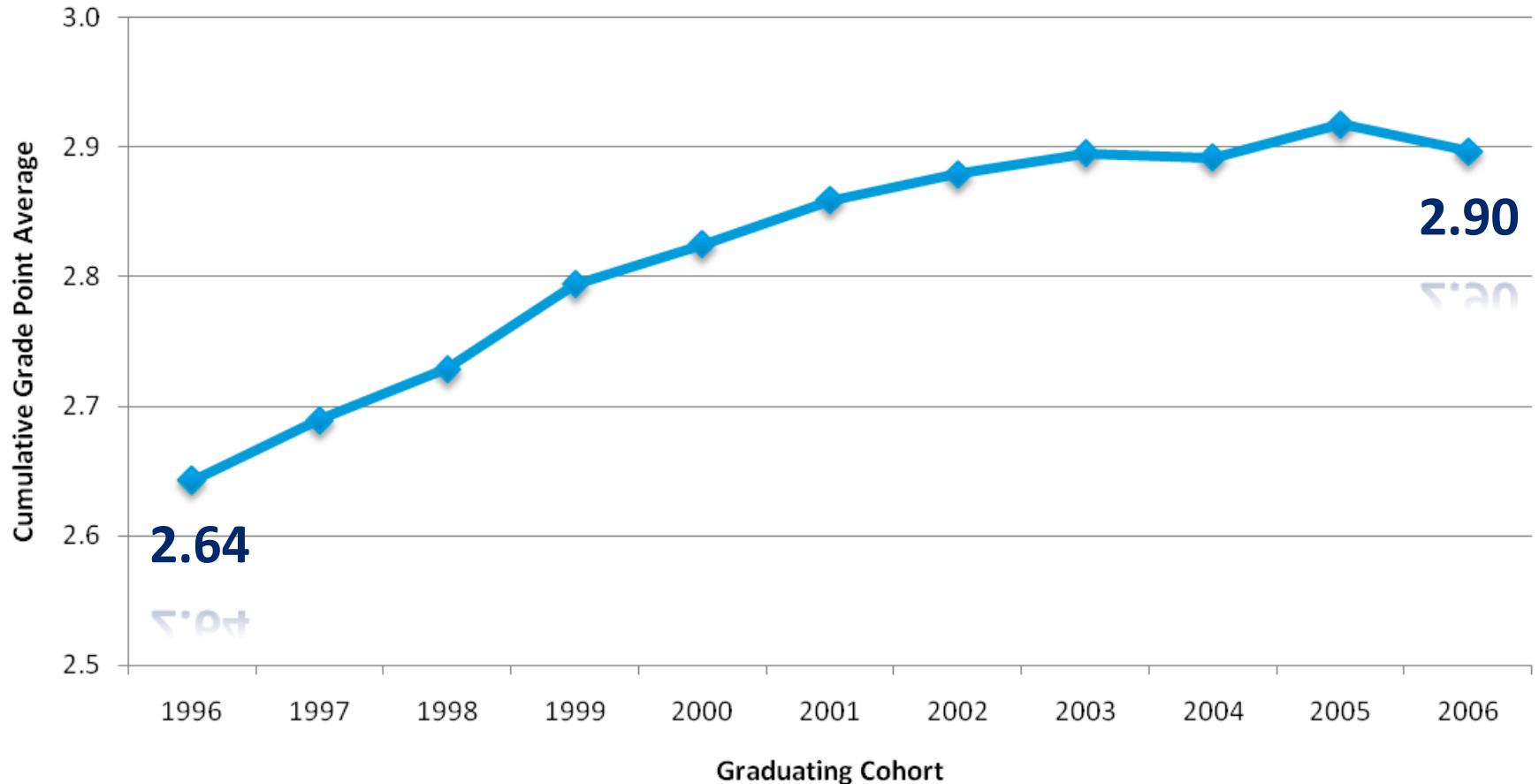
Research & Development

The College Board

Overview of Data

- Includes all students who graduated from public high schools in one large, diverse state between 1996 and 2006
- Final cumulative GPAs and course grades were reported by schools and districts
- Grades and GPAs were matched to SAT and AP exam scores

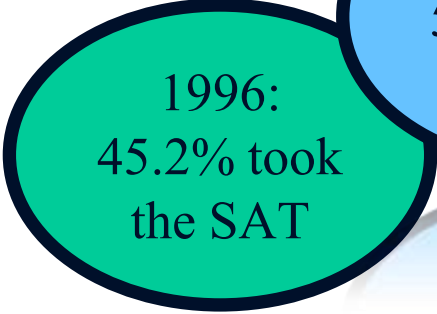
Average Cumulative GPA of High School Diploma Recipients



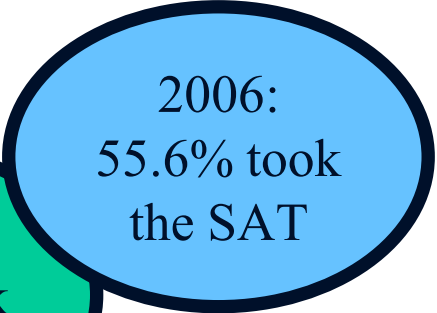
***Please note: These are preliminary results; analysis still in progress.**

SAT Scores

- A composite SAT score (Math + Verbal/RC) was not used because the two sections measure different constructs
- SAT-Writing was not used because it was not introduced until March of 2005
- A higher percentage of high school graduates took the SAT in 2006 than 2001 and 1996



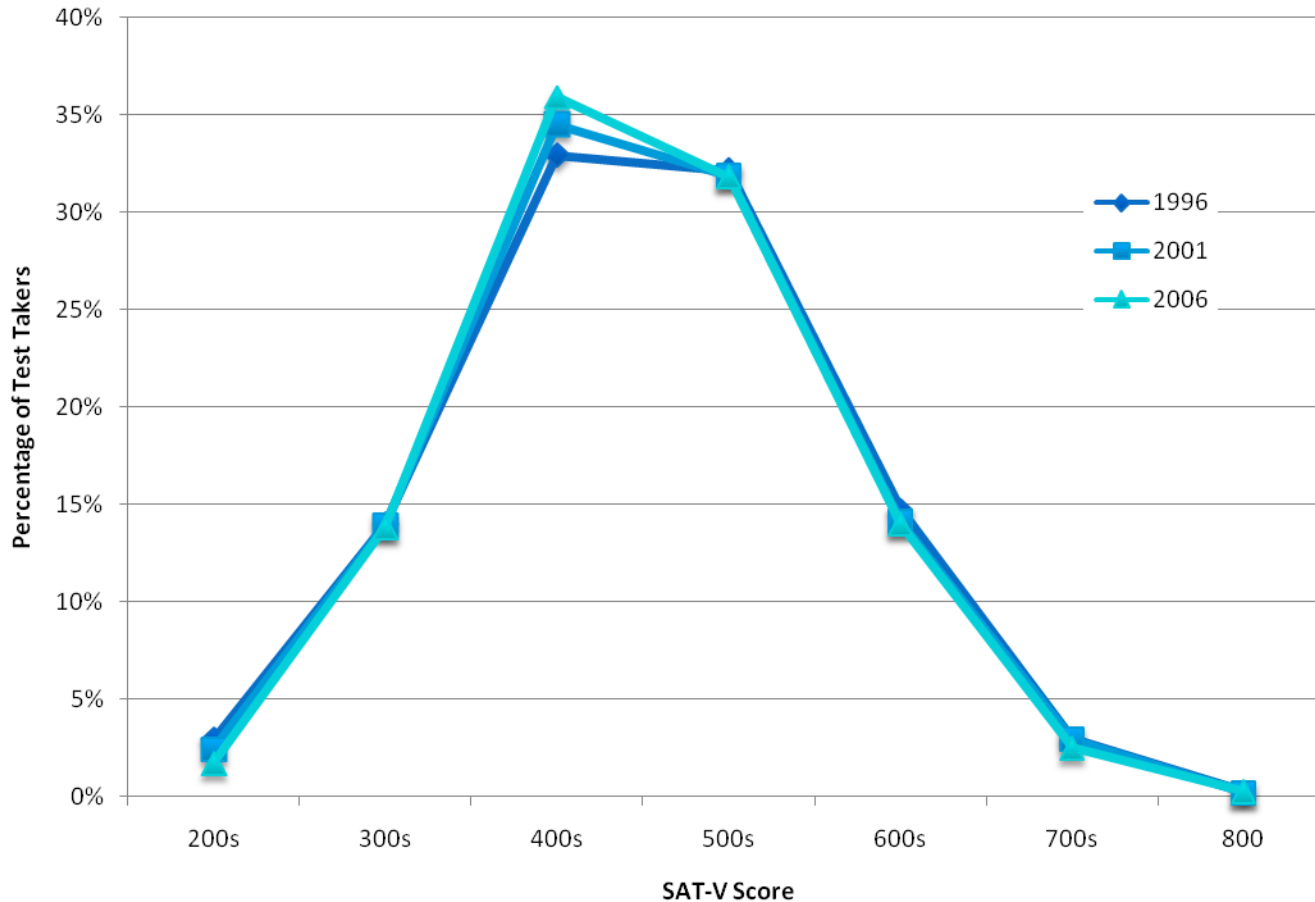
1996:
45.2% took
the SAT



2006:
55.6% took
the SAT

***Please note: These are preliminary results; analysis still in progress.**

SAT-Verbal Scores



Mean Scores

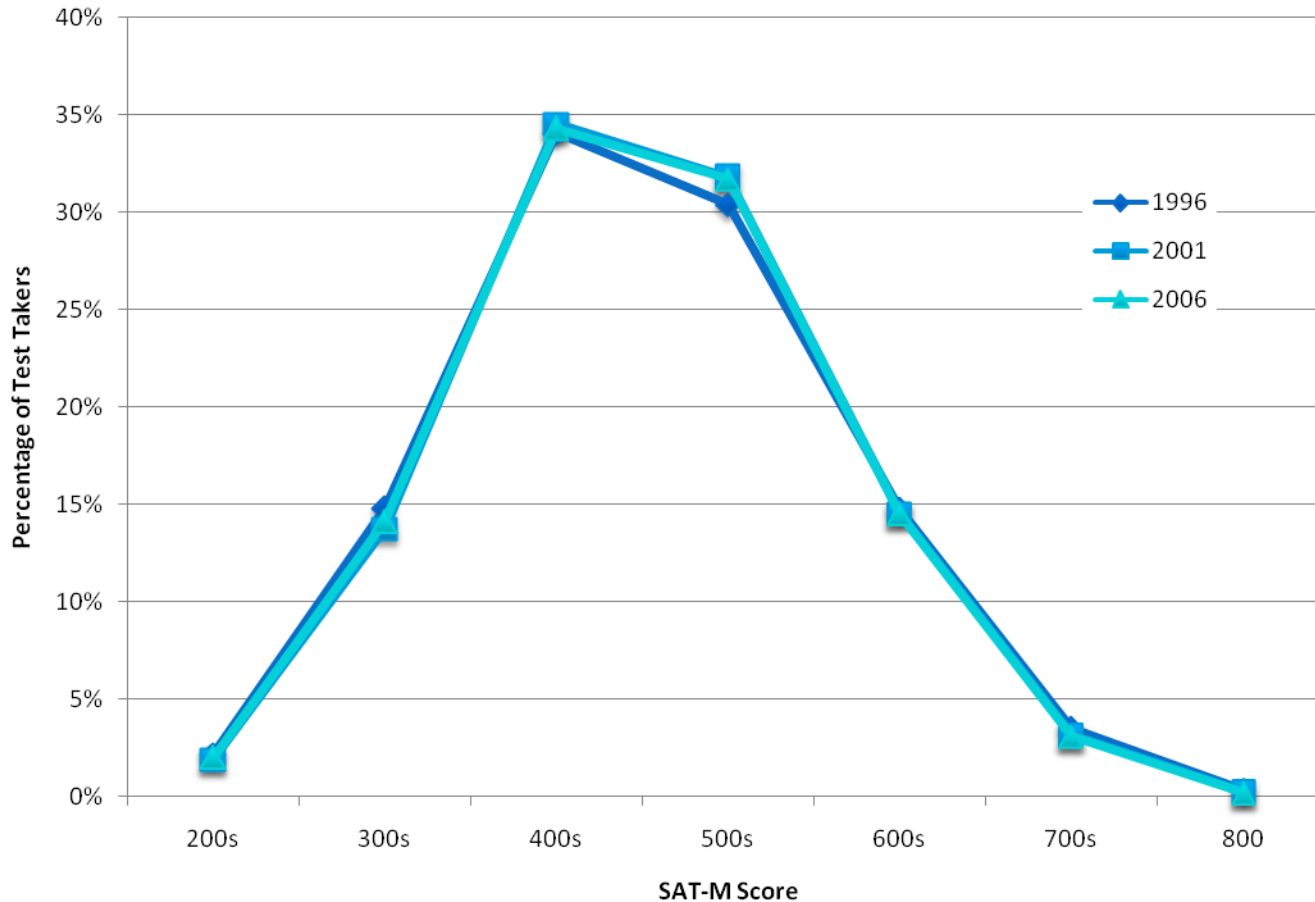
1996: 497.1

2001: 496.0

2006: 495.2

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SAT-Math Scores



Mean Scores

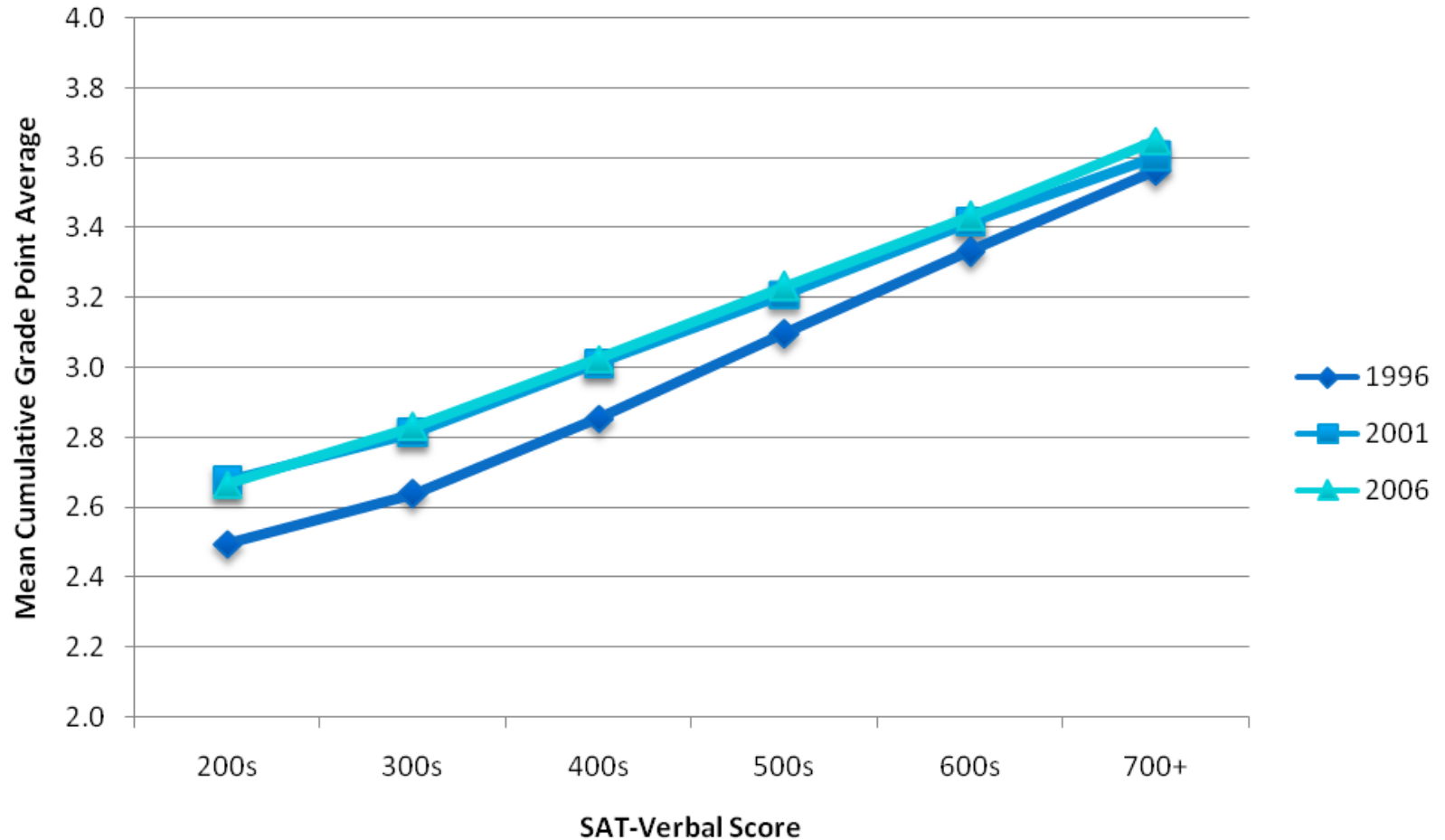
1996: 497.1

2001: 498.4

2006: 497.8

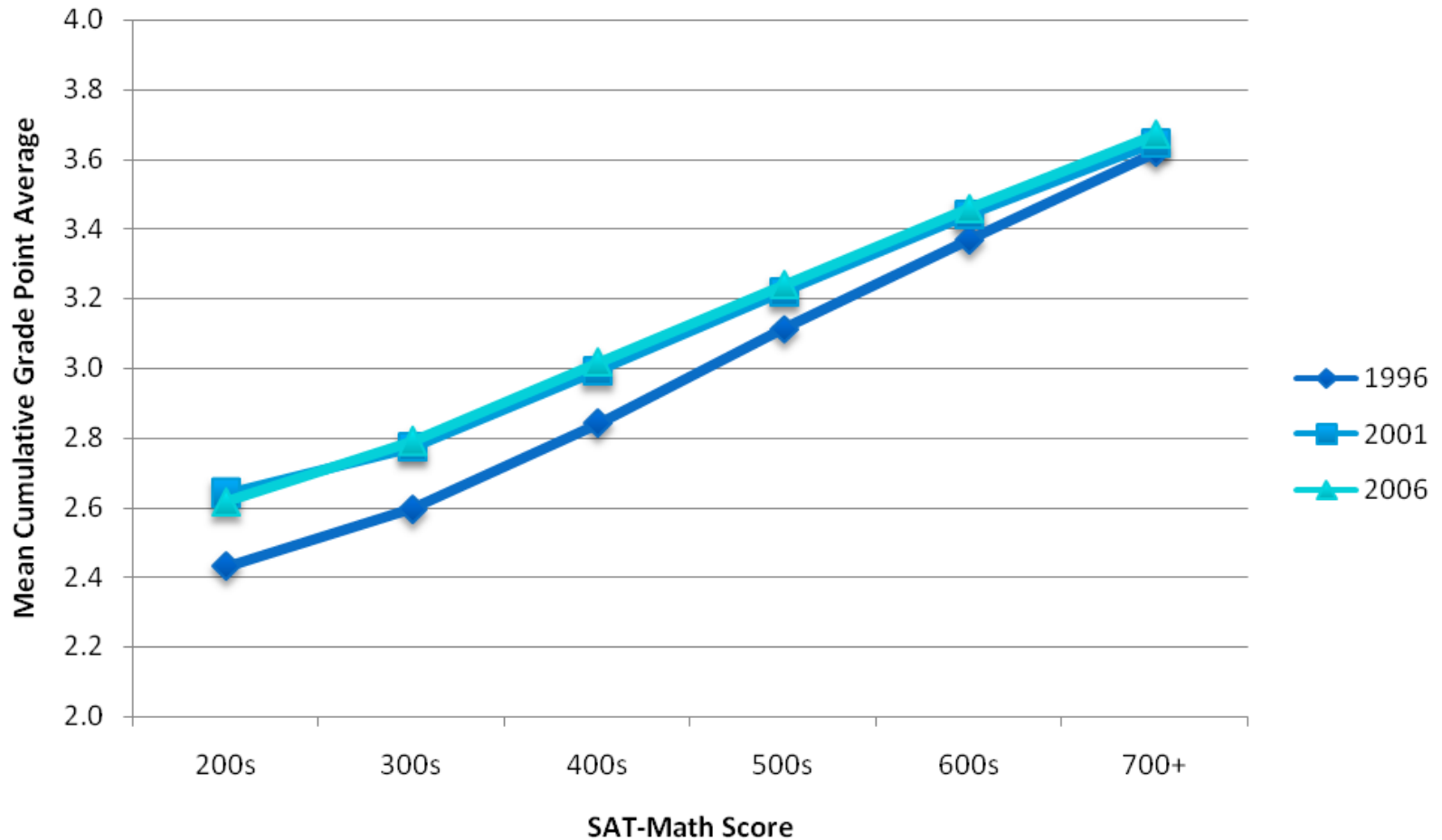
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GPA's Across SAT-V Scores



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GPA's Across SAT-M Scores



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Multiple Regression

	1996	2001	2006
Variance Explained	9.9%	10.3%	9.7%
Coefficients:			
Constant	2.636	2.864	2.884
Gender	0.225	0.192	0.221
Asian	0.235	0.159	0.175
Black	-0.392	-0.353	-0.361
Hispanic	-0.243	-0.237	-0.204
Other Ethnic	-0.052*	-0.052	-0.080

- Constant increases from 2.636 to 2.884
- Different ethnicities have different coefficients

***Please note: These are preliminary results; analysis still in progress.**

Grade Inflation

- Evidence supports notion of grade inflation
- Different ethnic/race groups continue to perform differentially
- Students with lower SAT scores are seeing greater increases in GPA

Grade Non-Equivalence

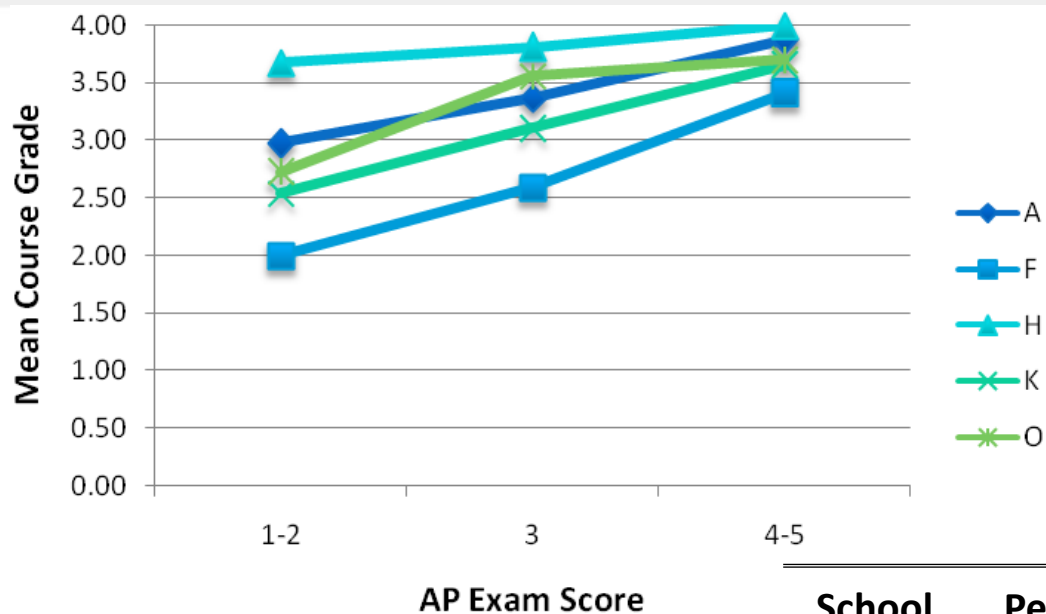
- Differences in grading standards between teachers and departments
 - Multiple regression
 - AP exam scores
 - Scale of 1 to 5
 - AP course grades
 - A+ (4.0) through F (0.0)
- are predicted by...



Grade Non-Equivalence

- 5 AP subjects were chosen
 - Biology
 - Calculus AB
 - English Literature
 - English Language
 - US History
- 5 largest high schools for each subject

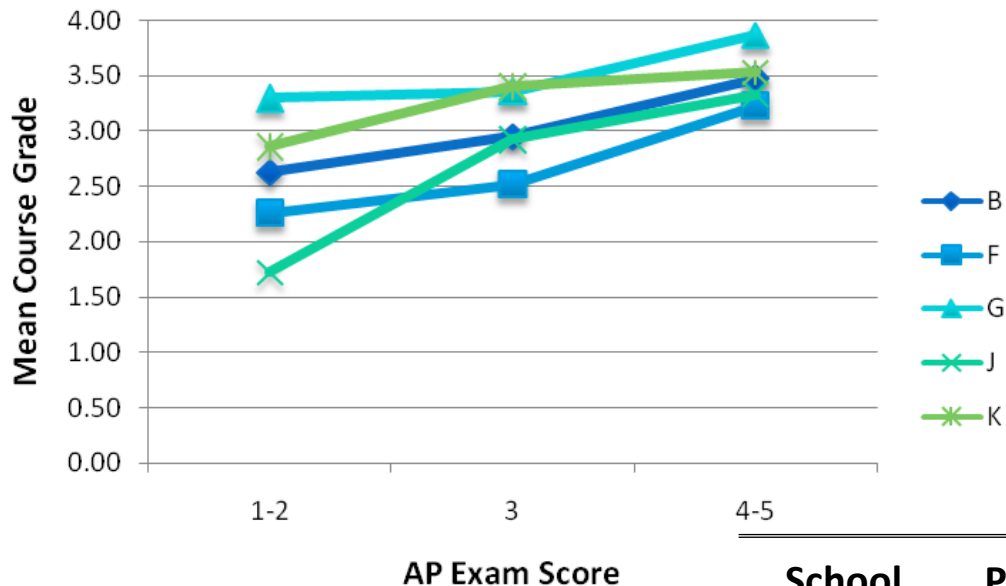
AP Biology Course Grades by Exam Score



School	Pearson r	Mean Score	Mean Grade	N
A	0.60	3.31	3.49	105
F	0.77	3.23	2.75	167
H	0.29	1.52	3.69	94
K	0.64	2.76	3.00	139
O	0.52	1.81	2.92	158

*Please note: These are preliminary results; analysis still in progress.

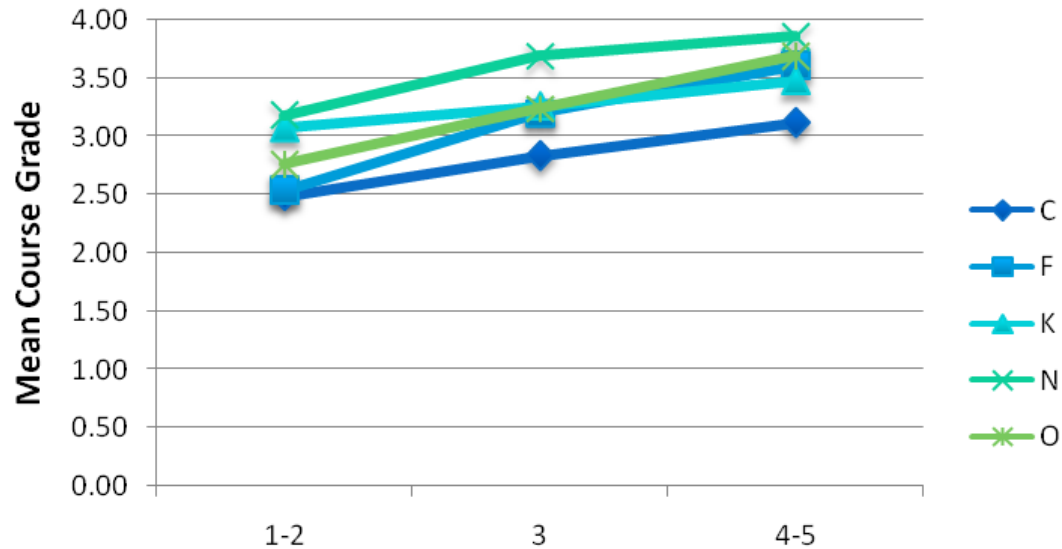
AP Calculus AB Course Grades by Exam Scores



School	Pearson r	Mean Score	Mean Grade	N
B	0.63	2.80	2.98	100
F	0.57	2.68	2.64	206
G	0.51	2.65	3.49	92
J	0.63	3.21	2.71	92
K	0.45	2.72	3.20	92

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AP English Literature Course Grades by Exam Scores

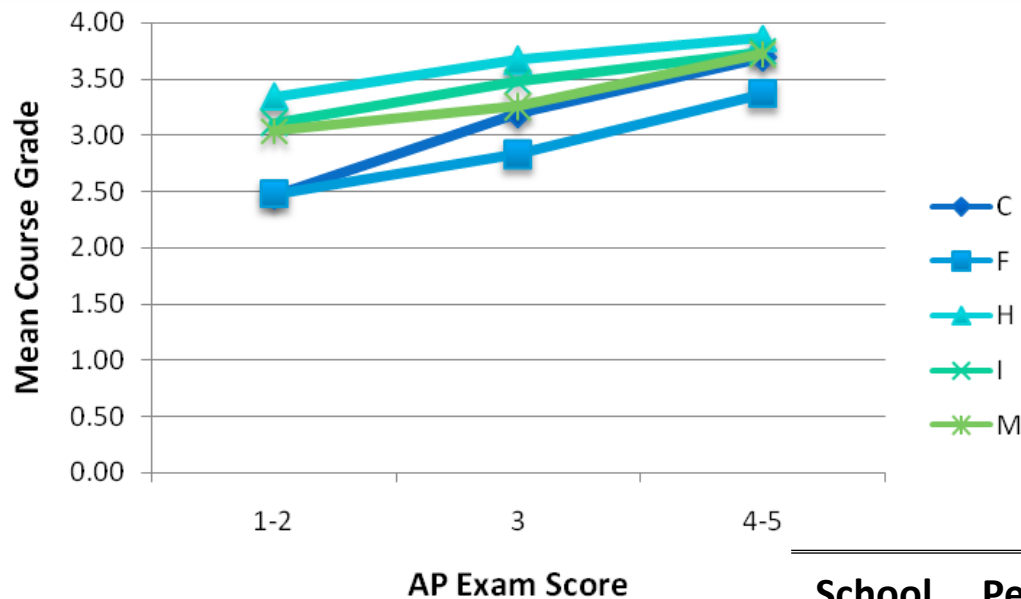


AP Exam Score

School	Pearson r	Mean Score	Mean Grade	N
C	0.41	2.85	2.77	205
F	0.56	3.07	3.13	303
K	0.23	2.95	3.26	213
N	0.39	2.50	3.41	195
O	0.55	2.49	3.04	297

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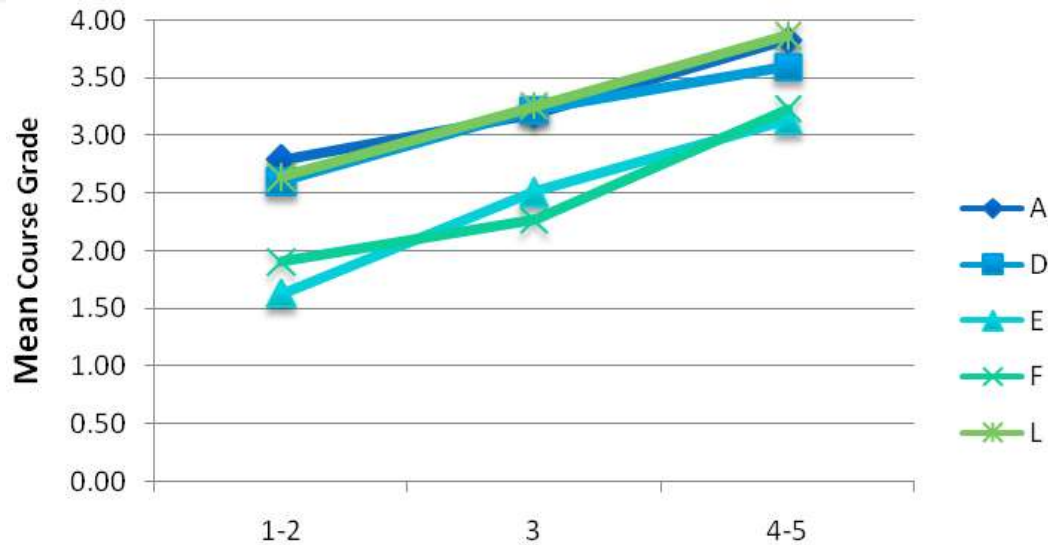
AP English Language Course Grades by Exam Scores



School	Pearson r	Mean Score	Mean Grade	N
C	0.60	2.34	2.78	209
F	0.56	3.44	3.01	232
H	0.35	2.76	3.58	193
I	0.36	2.63	3.34	196
M	0.44	2.89	3.29	187

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AP US History Exam Scores



AP Exam Score

School	Pearson r	Mean Score	Mean Grade	N
A	0.77	3.29	3.39	171
D	0.70	2.57	2.99	235
E	0.65	2.36	2.09	270
F	0.73	3.18	2.54	290
L	0.68	2.83	3.19	181

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The Data Tell Us...

- Cumulative High School GPAs have increased over the years, along with an increased numbers of graduates.
- Grades are subjective and differ between schools.
- Using uniform measures such as AP exam scores show different proficiency levels of students than do AP course grades.

Points for Discussion

- Grades and proficiency scores don't have a uniform relationship
 - Grades encompass more than academic achievement of the individual student?
 - Teachers are grading the wrong skills?
- Grades are increasing (on average) over time
 - Proficiency?
 - Effort?
 - Competition?

Questions and Comments

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