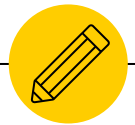
Atlanta Public Schools



Zachary Kay, Livia Kimche, Annabel Lynch, Caleb Neale, Omer Toker
Group 8

SYS 3034, Spring 2021

Executive Summary

Problem	Solution	Impact
65% of dropouts occur in 9th grade	Early reading intervention programs in elementary and middle school	4% reduction in overall dropout rates & improved education quality
Average attendance is only 138 days out of 180	After-school and community engagement programs	30% target increase in attendance, increase graduation rates from 65% to 85%
Clusters with lower average income have lower average graduation rates	Transportation, school lunch, and other barrier-reducing programs	Improve attendance for at-risk populations with immediately implementable programs

APS Graduates Worse than Peers, Focus on Graduation Rates for Improvement

- The APS graduation rate of **62.3%** is about **4% lower** than peer districts and **23% lower** than the national average.
- At least **10%** of 8th Graders have grades below the APS Standard and **nearly 50%** perform below the standard in science.

We consider test scores an indicator of other issues and not a goal themselves, so we focused on **graduation rates** as our primary goal/index of performance.

Comparison of APS vs. Other Districts

Demographic	Average Graduation Rate
Atlanta Public Schools	62.3%
Peer Districts	66%
National Average	85%

% of 8th Graders with grades below APS standard

Subject	2013	2014
English	9.9%	9.1%
ELA	11.3%	12.6%
Science	48.3%	52.2%
Math	38.9%	38.3%

1

Understanding and Addressing 9th Grade Dropout

65% of HS dropouts

Happen in 9th grade

Over 13,000

Students from 2007 to 2012

Why?

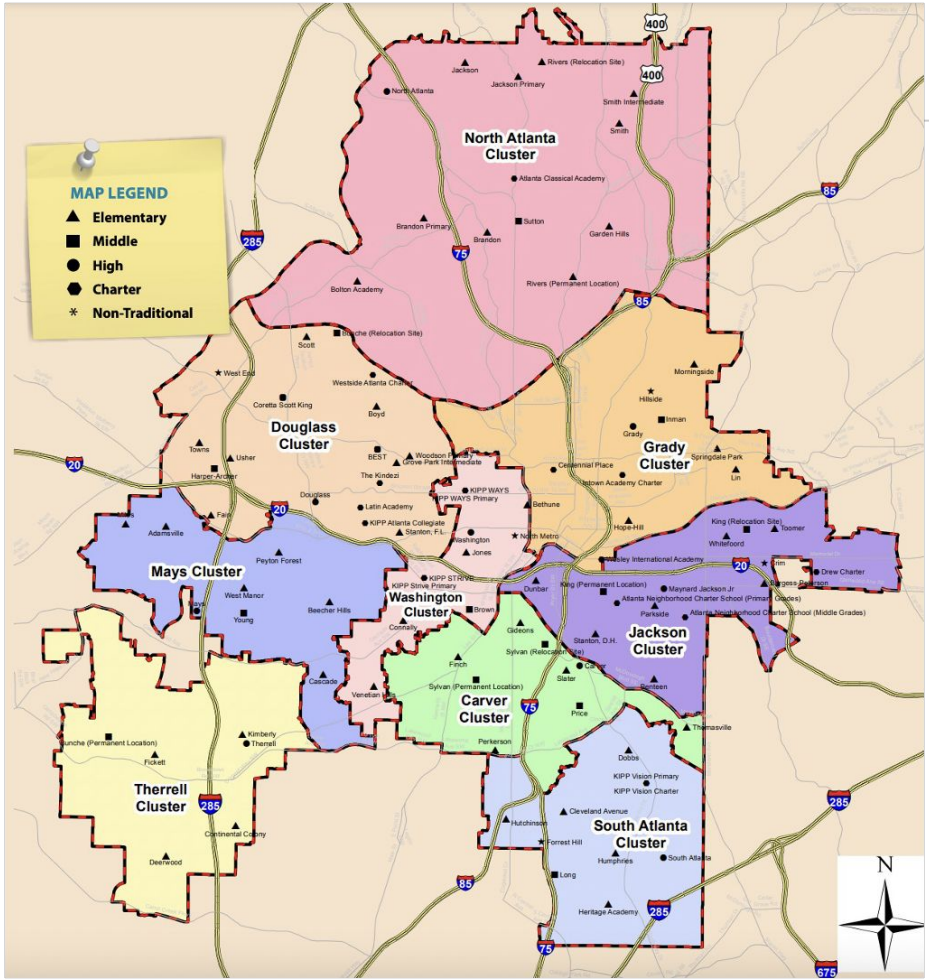
We need to look back at Middle and Elementary school

APS Cluster System

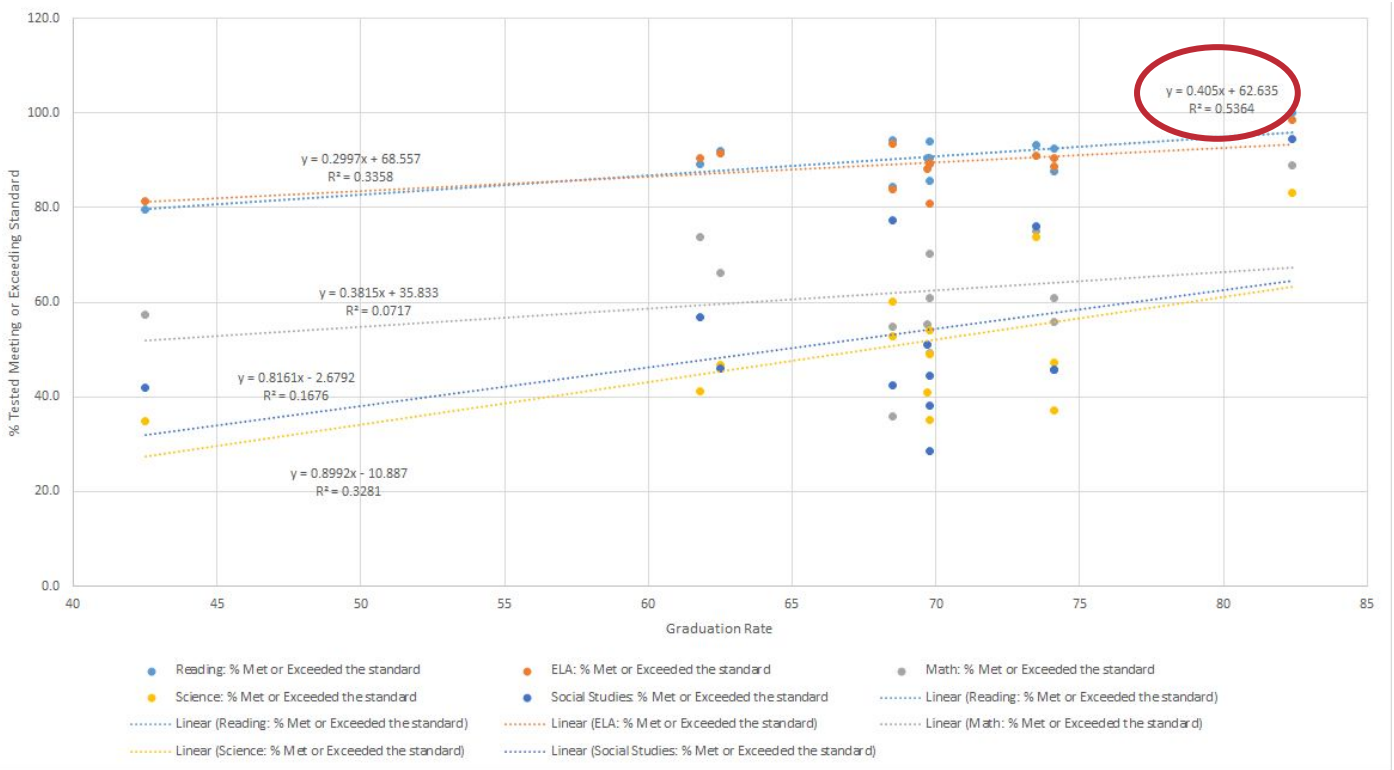
Elementary schools are assigned specific middle schools and middle schools are assigned specific high schools in geographic clusters.

Looking at the clusters allows us to track relationships between performance related elementary, middle, and high schools.

There's also an opportunity to compare cluster performance.

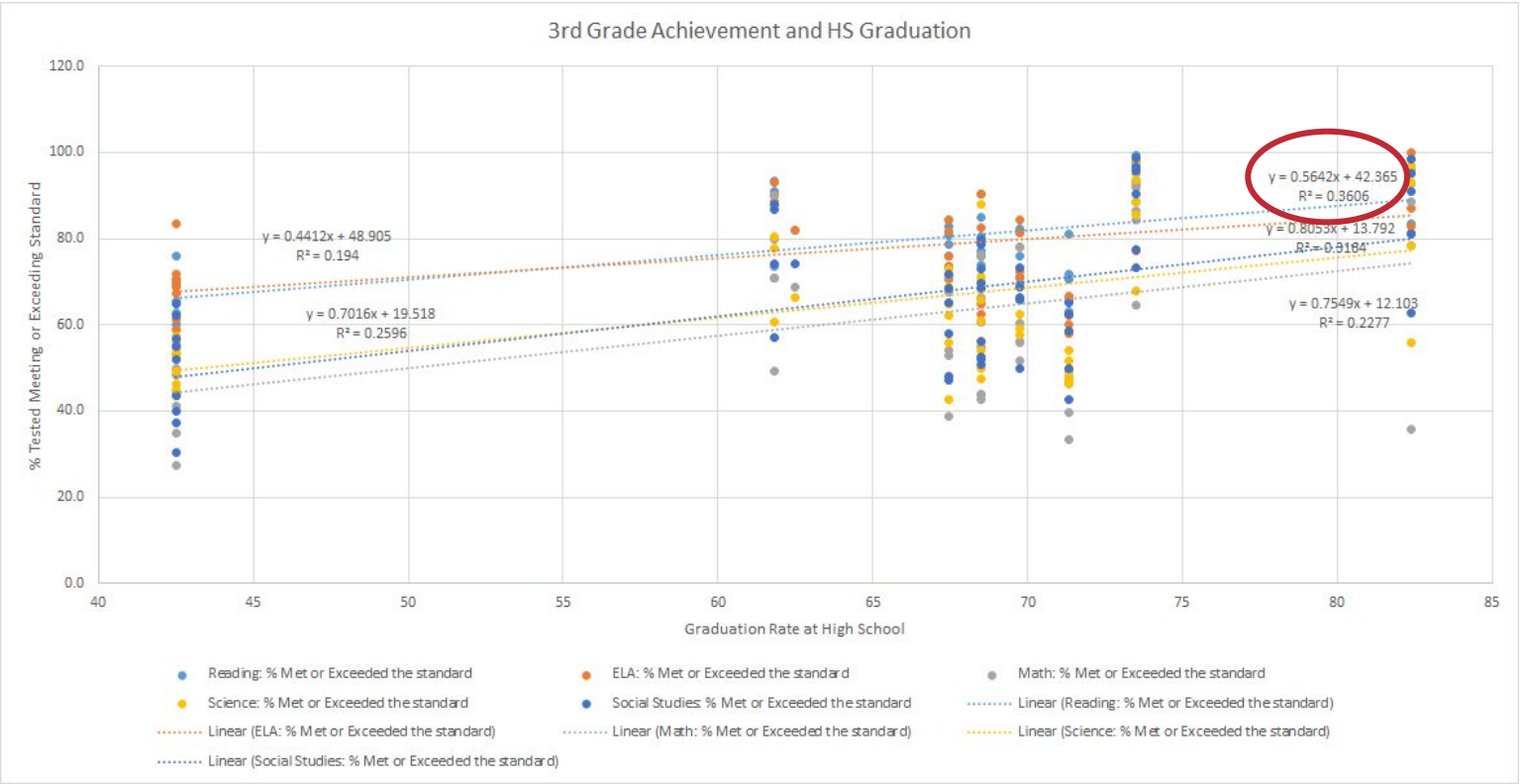


Middle School Performance Predicts HS Graduation



Though many subjects show significant relationships with HS graduation rate, **reading** has the strongest relationship

Elementary School Performance Predicts HS Graduation

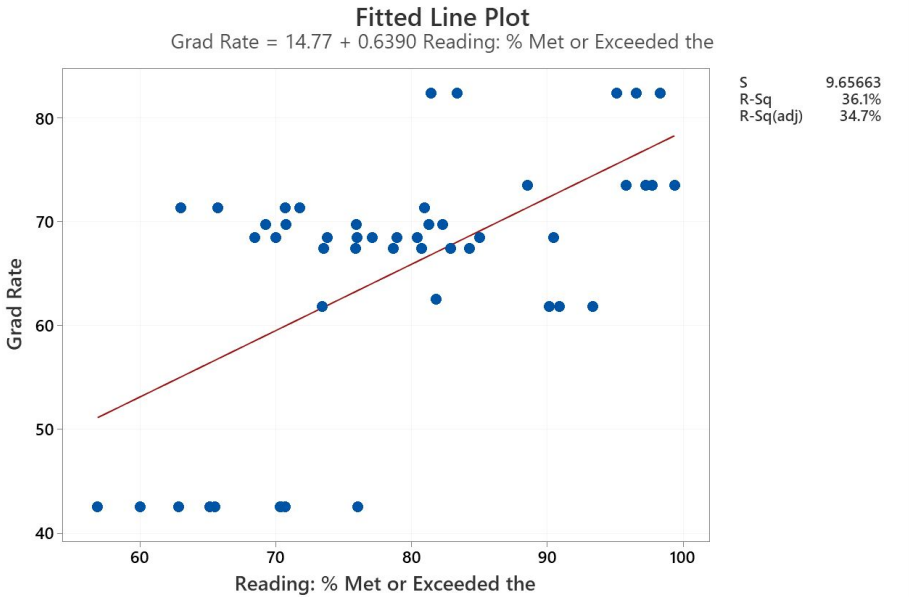


All the way back to 3rd grade, significant relationships between performance on standards and HS graduation exist.

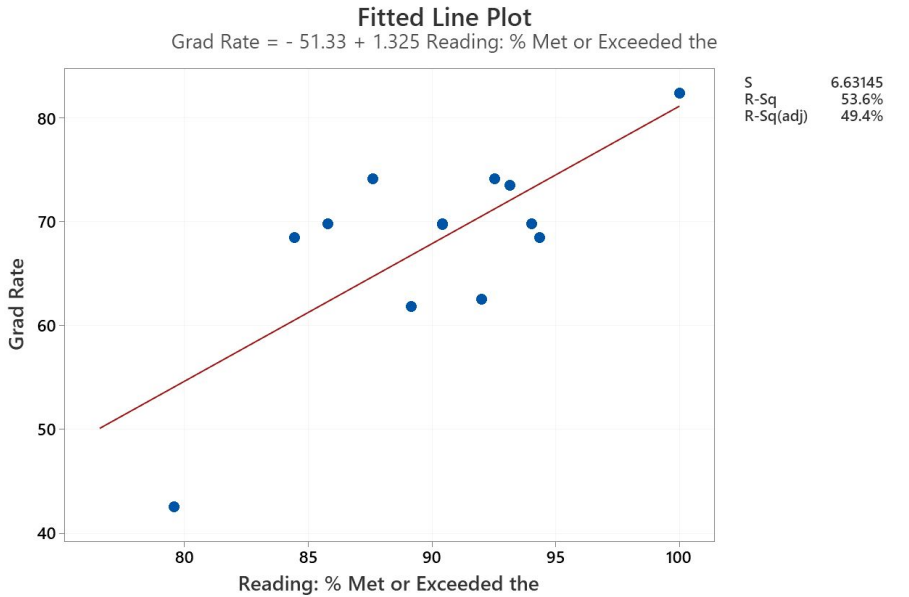
Again, **reading** is the strongest predictor.

Reading Performance is a Good Indicator of HS Graduation

3rd Grade



8th Grade



Ensuring Students Meet Reading Standards Early Contributes to Long Term Success

Reading **interventions as early as 3rd grade** could improve HS graduation rates

8th grade reading performance has a stronger relationship with HS graduation, but this ignores compounding effects which may come from intervening earlier

Based on our model, an **increase to 95%** of % of students meeting or exceeding 3rd grade standards to would produce an **increase in graduation rates of 4%** *without considering compounding effects*

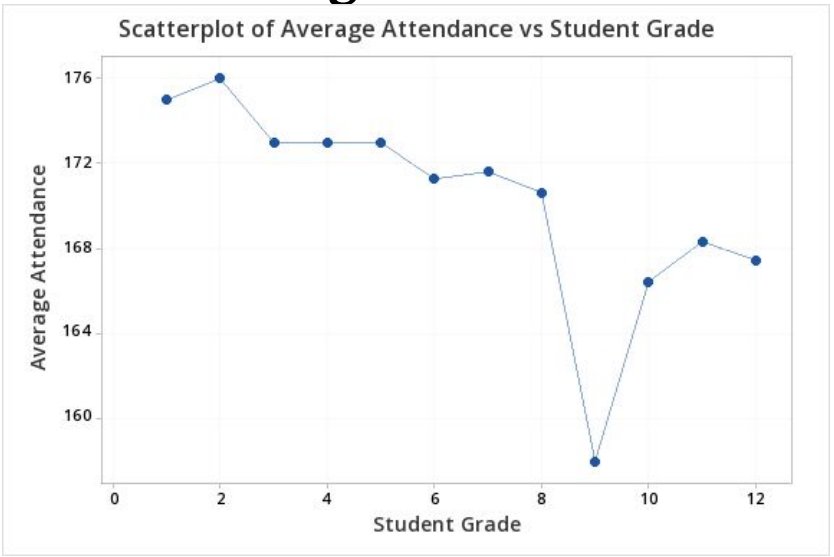
	% Increase in %Met or Exceed 3rd Grade Reading Standard							
	0%	5%	10%	15%	20%	25%	30%	35%
0.61	63.91	66.65	69.40	72.14	74.89	77.63	80.38	83.12
0.62	64.96	67.75	70.54	73.33	76.12	78.91	81.70	84.49
0.63	66.01	68.84	71.68	74.51	77.35	80.18	83.02	85.85
0.64	67.05	69.93	72.81	75.69	78.57	81.45	84.33	87.21
0.65	68.10	71.03	73.95	76.88	79.80	82.73	85.65	88.58
0.66	69.15	72.12	75.09	78.06	81.03	84.00	86.97	89.94
0.67	70.20	73.21	76.23	79.24	82.26	85.27	88.29	91.30

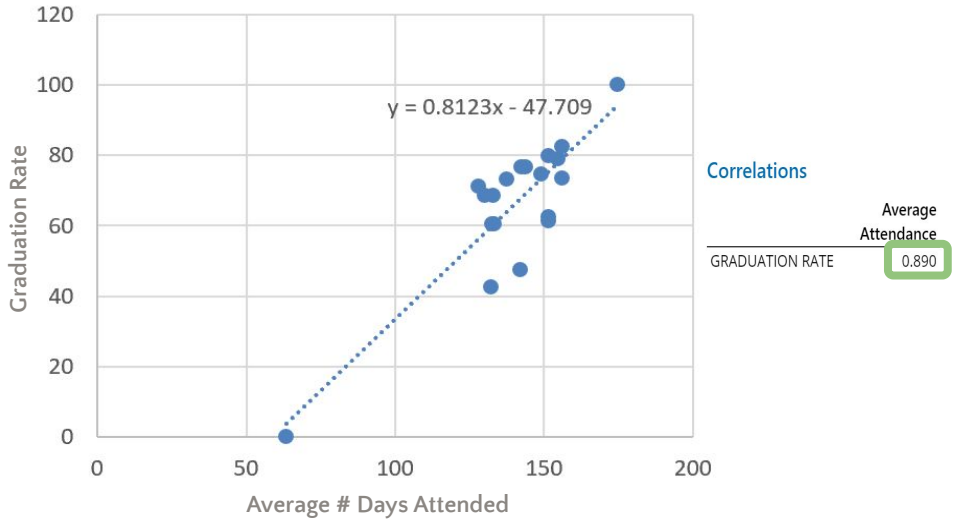
Sensitivity Analysis

2

Attendance and Student Success

Attendance is Highly Correlated with APS High School Graduation Rates

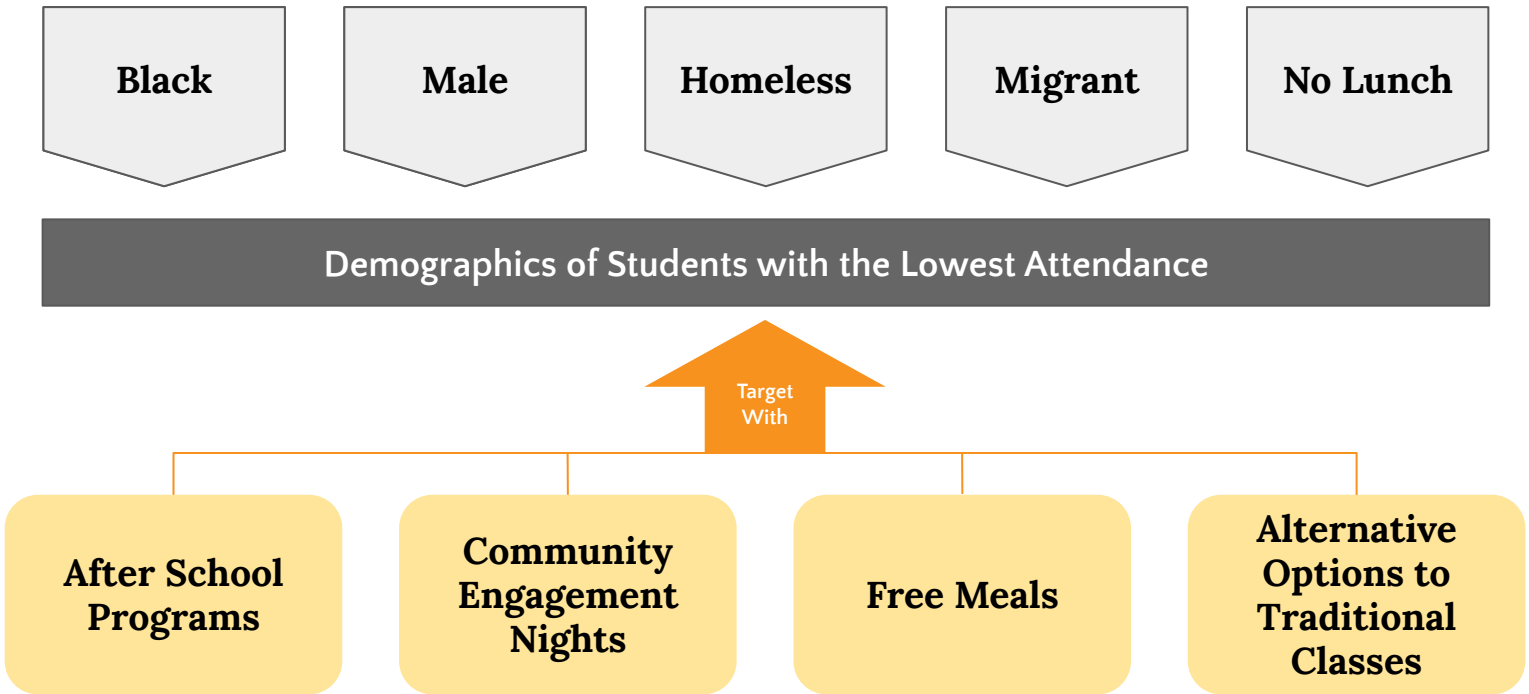




The median number days attended is **lowest** for students transitioning to high school (9th grade) at **158 days**

For every increase in one day of average attendance observed, graduation rate is expected to increase by **0.8123%**

Target Highly Absent Students



Implement Holistic Programs

After School Programs	Community Engagement Nights	Free Meals	Alternative Options to Traditional Classes
• Engages Students • Promotes School as a Safe Space • Creates Purpose	• Engages family members • Aids fundraising • Builds connections with community members	• Students who have a free lunch attend more, focus better, and engage more at school	• Online classes or alternative class times for students who cannot attend normal hours

20%

Increase in Attendance

Increased Attendance Leads to Increased Graduation Rates

- **Average graduation rate can be improved from 62% to 85% or HIGHER,** assuming that the correlation between attendance and graduation is at least 0.8 we would be able to increase the attendance of students by at least 20% (Appendix EE, FF).

Increase in Attendance

Correlation (CE)	% Increase in Average Attendance							
	0%	5%	10%	15%	20%	25%	30%	35%
0.7	48.91	53.74	58.57	63.40	68.23	73.06	77.89	82.72
0.75	55.81	60.98	66.16	71.33	76.51	81.69	86.86	92.04
0.8	62.71	68.23	73.75	79.27	84.79	90.31	95.83	101.35
0.85	69.61	75.47	81.34	87.21	93.07	98.94	104.80	110.67
0.9	76.51	82.72	88.93	95.14	101.35	107.56	113.78	119.99
0.95	83.41	89.97	96.52	103.08	109.63	116.19	122.75	129.30
1	90.31	97.21	104.11	111.01	117.92	124.82	131.72	138.62

Graduation Rates

$y = (CE)\ x - 47.709$

$x = y + 47.709 / (CE)$

Graduation Rates Above 100%

Graduation Rates Below the Current Average (65%)

3 Equity Across APS

Higher Earning HS Clusters are Better Performing

High Schools	Carver (73.5%)					Douglass (42.5%)								Grady (82.5%)				M. H. Jackson (68.5%)						
Middle Schools	Price		Sylvan			Harper-Archer								Inman				M. L. King						
Elementary Schools	Slater	Thomasville	Finch	Gideons	Perkerson	Boyd	Fain	Stanton	Grove Park	Scott	Towns	Usher	Woodson	Hope-Hill	Mary Lin	Morningside	Springdale	Burgess	Toomer	Whitefoord	Benteen	Stanton	Dunbar	Parkside
Avg Income (per year)	Less than $30,000					Less than $30,000								$60,000-$80,000				$40,000-$60,000						

High Schools	Mays (62.5%)						North Atlanta (73.5%)						South Atlanta (69.7%)					Therrell (61.8%)				Washington (67.4%)			
Middle Schools	Young						Sutton						Long					Bunche				Brown			
Elementary Schools	Adamsville	Beecher	Cascade	Miles	Peyton Forest	West Manor	Bolton	Brandon	Garden Hills	Jackson	Rivers	Smith	Cleveland Ave	Dobbs	Heritage	Humphries	Hutchinson	Cont. Colony	Deerwood	Fickett	Kimberly	Bethune	Connally	Jones	Venetian Hills
Avg Income (per year)	$30,000-$40,000						$80,000 or more						Less than $30,000					$40,000-$60,000				Less than $30,000			

Elementary Schools

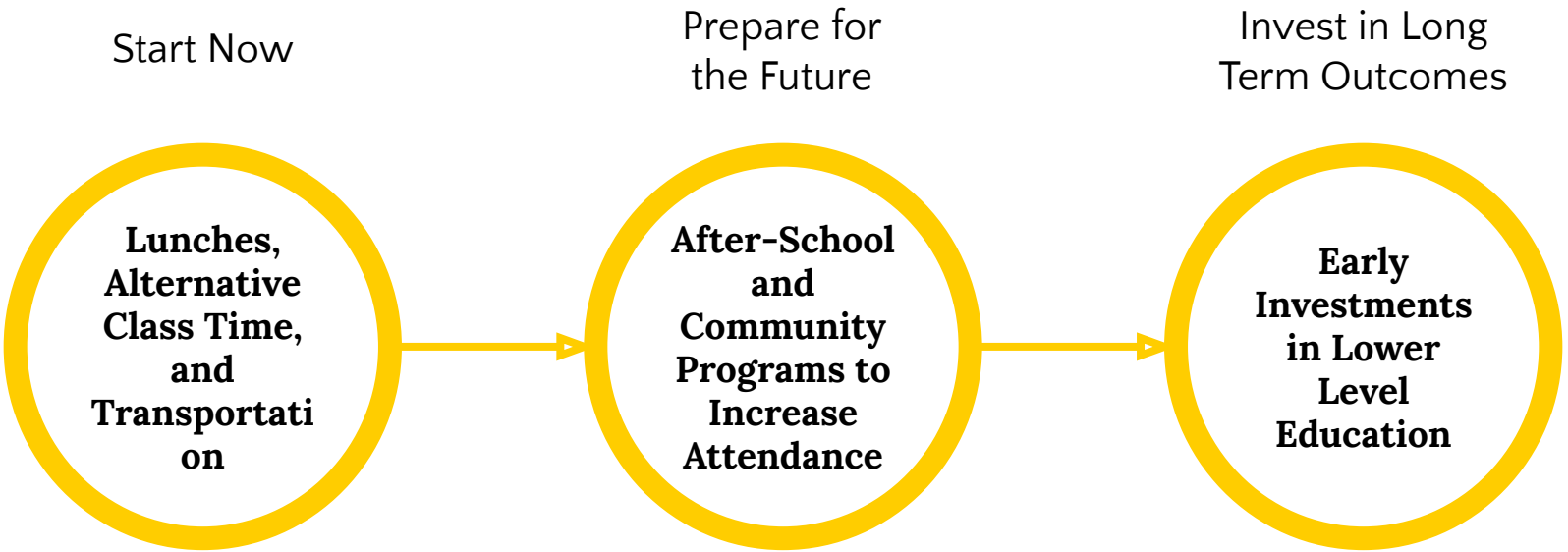
Top 5	Bottom 5
1. Morningside	1. Dunbar
2. Jackson	2. Scott
3. Springdale	3. Fain
4. Brandon	4. Stanton
5. Smith	5. Woodson

Middle Schools

Top 2	Bottom 2
1. Inman	1. Harper Archer
2. Sutton	2. Price

*Rankings based on average test scores across 5 school subjects (reading, ELA, math, science, and social studies)

Improve APS Now and in the Future



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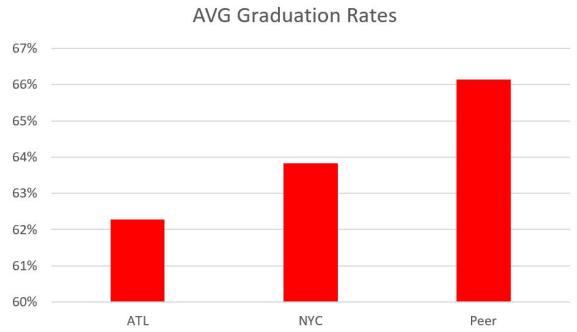
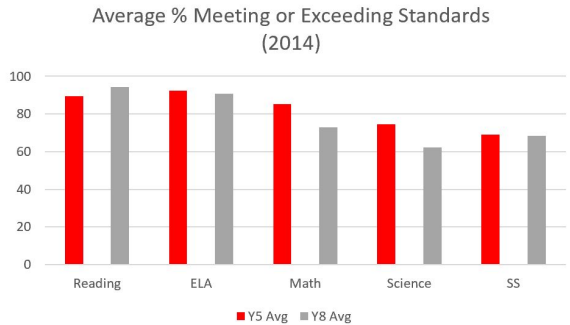
Clusters with lower average income have lower average graduation rates	Transportation, school lunch, and other barrier-reducing programs	Improve attendance for at-risk populations with immediately implementable programs

4 Appendix

Appendix A: Metrics of Success for Students

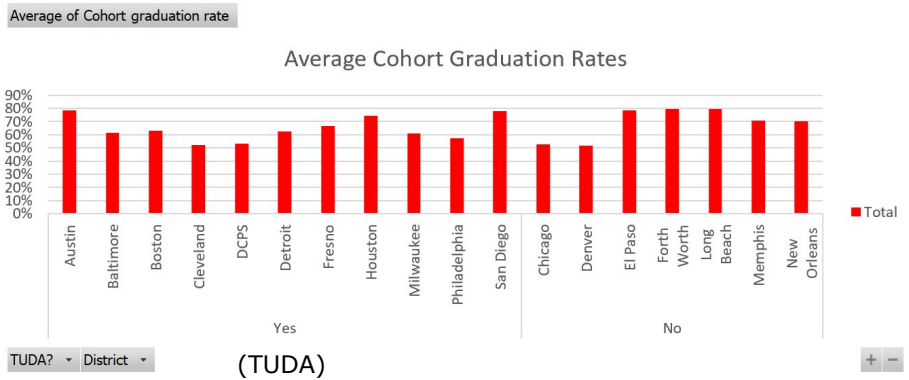
- Graduation Rate Compared of APS (2014) Compared to:
  - NYC (Avg % of Cohort 2001-2010)
  - Peer Districts (Avg Cohort Graduation Rate)
- Test Scores in Individual Classes (2014)
  - Preparation for Middle School and High School represented by changes in % Meeting the Standard from year 5 (leaving elementary school) and years 8 (leaving high school.)



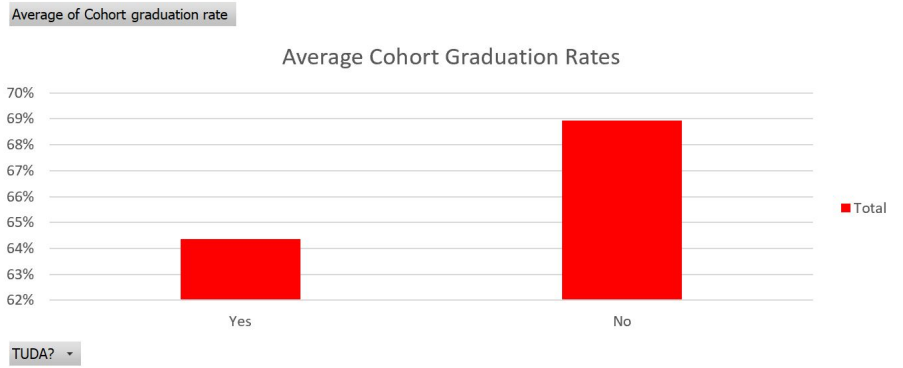


Appendix B: Peer Graduation Rate Break Down

- The Cohort Graduation Rates of Peer districts data does not seem to indicate that TUDA districts generate higher graduation rates (on average).



(TUDA)



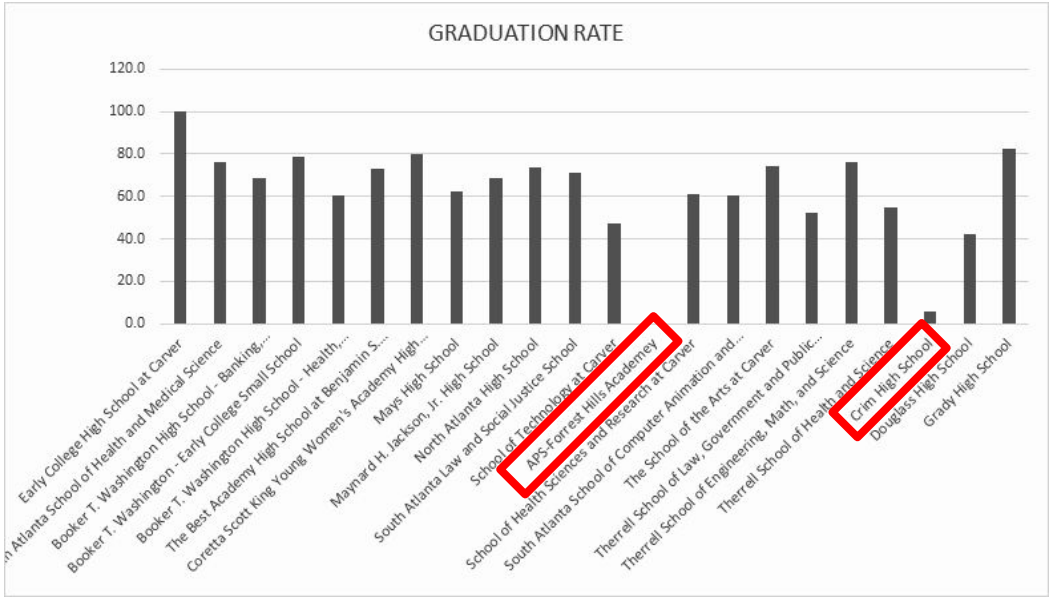
Appendix C: APS District - Internal Graduation Rates

Highest Graduation Rates:

1. Early College High School at Carver (100%)
2. Grady High School (82.4%)
3. Coretta Scott King Young Women's Academy High School (79.7%)

Lowest Graduation Rate:

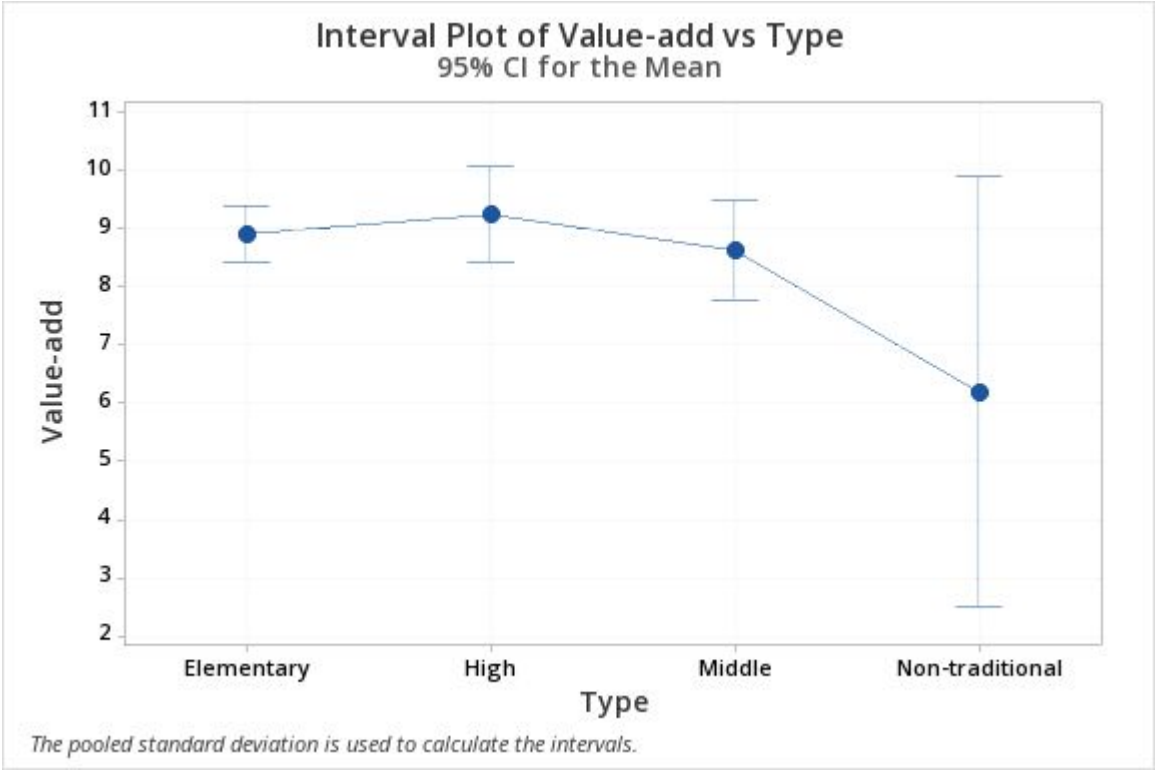
1. APS-Forrest Hills Academy (0%)
2. Crim High School (6%)
3. Douglass High School (42.5%)



- We may want to consider APS-Forrest Hills Academy and Crim High School statistical outliers in this dataset.

Appendix D: Value Add Between School Types

- Average value-add doesn't differ for school types Elementary, High and Middle School.



Appendix E: Attendance Rate by Age Group

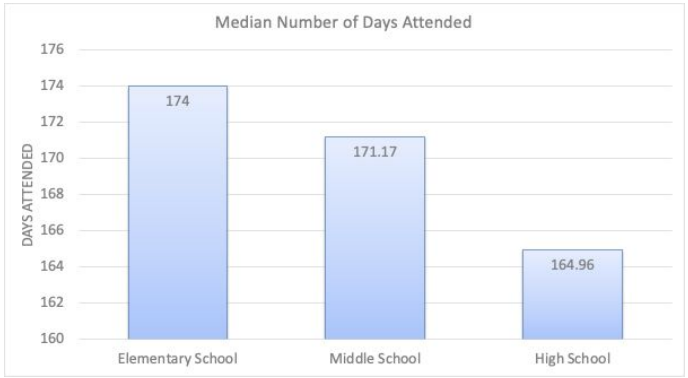
Rows: Recoded student.grade Columns: Recoded es.giftedEligibility

	Eligible	Not Eligible	All
Elementary	213	48483	48696
	146.8	48549.2	
	5.4645	-0.3005	
Middle School	24	18724	18748
	56.5	18691.5	
	-4.3252	0.2378	
High School	24	19114	19138
	57.7	19080.3	
	-4.4357	0.2439	
All	261	86321	86582

Cell Contents
Count
Expected count
Standardized residual

Descriptive Statistics

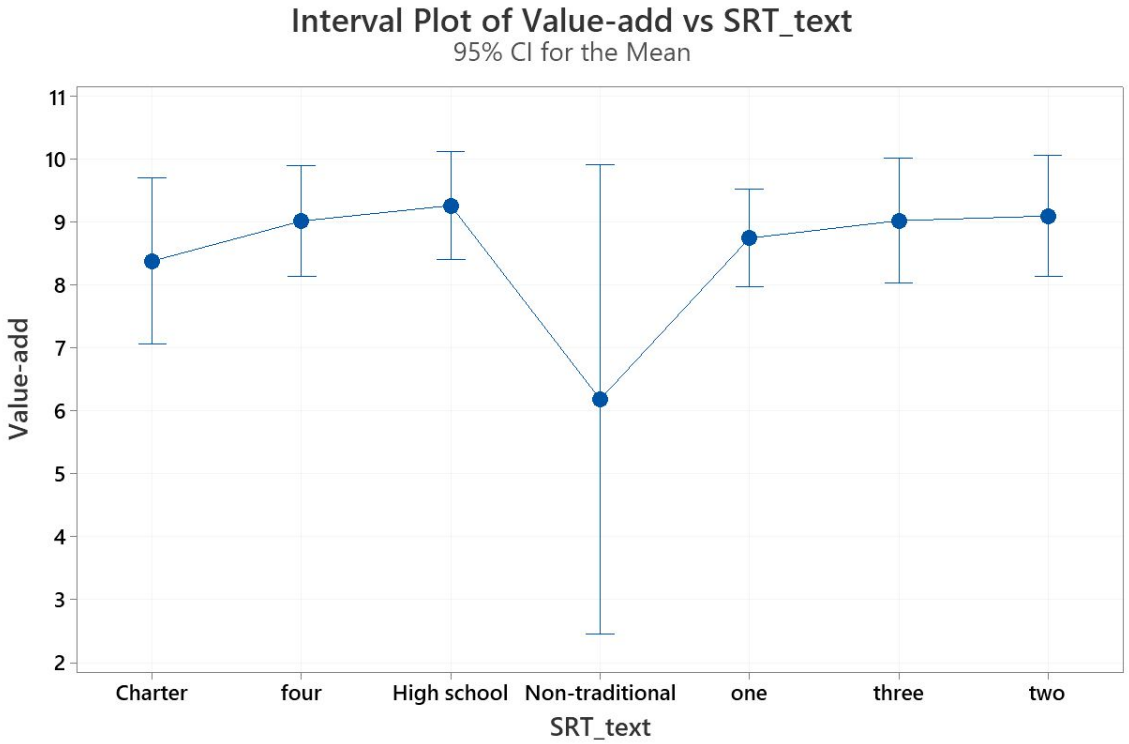
Recoded student.grade	N	Median	Mean Rank	Z-Value
Elementary	48696	174.00	46640.8	44.70
Middle School	18748	171.17	41520.6	-10.96
High School	19138	164.96	36504.1	-42.57
Overall	86582		43291.5	



Descriptive Statistics

student.grade	N	Median	Mean Rank	Z-Value
1	7118	175.000	42833.6	21.74
2	6588	176.000	44659.8	28.00
3	7832	173.000	37903.6	1.65
4	7776	173.000	38307.0	3.37
5	7844	173.000	38793.6	5.49
6	6473	171.280	37115.7	-1.58
7	6079	171.620	37677.4	0.58
8	6196	170.645	36061.3	-5.54
9	7549	158.000	30254.5	-30.74
10	4726	166.440	33435.4	-13.40
11	3242	168.330	34744.8	-7.46
12	3621	167.460	34774.9	-7.82
Overall	75044		37522.5	

Appendix F: Value Add by SRT

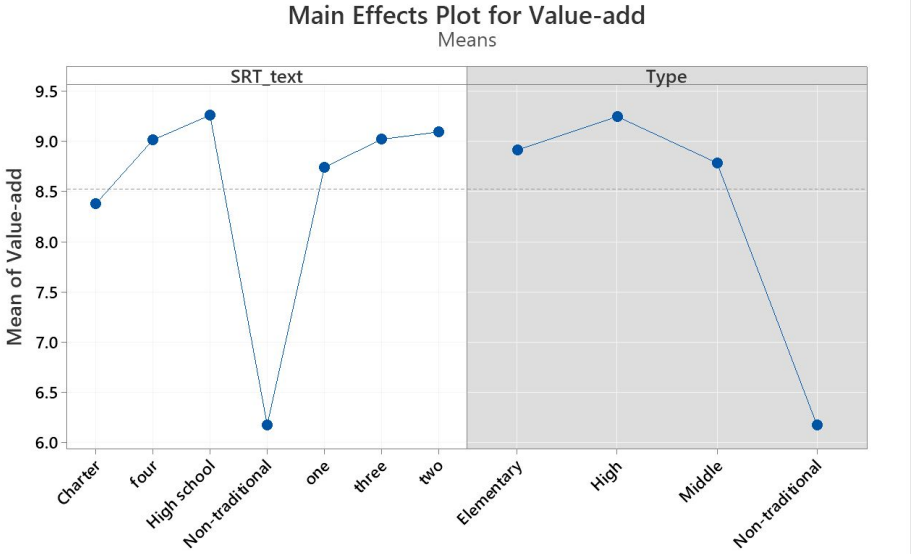


The pooled standard deviation is used to calculate the intervals.

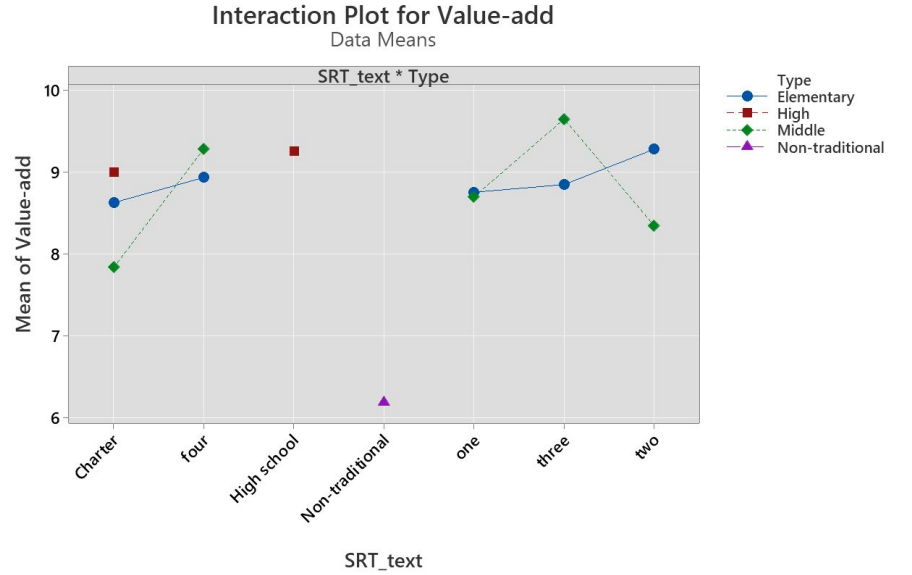
Though non traditional schools tend to underperform, the small sample size means no statistically significant difference can be found.

Appendix G: Value Add by SRT and Type

Non-Traditional underperforms, but not statistically significant. No other noticeable trends.



A gray background represents a term not in the model.



Displayed terms are not in the model.

Appendix H: Binned Value Add by Type

Rows: Type Columns: Recoded Value-add

	Low	Moderate	High	All
Elementary	19	25	16	60
	19.200	25.200	15.600	
	-0.0456	-0.0398	0.1013	
High	4	10	6	20
	6.400	8.400	5.200	
	-0.9487	0.5521	0.3508	
Middle	8	7	4	19
	6.080	7.980	4.940	
	0.7787	-0.3469	-0.4229	
Non-traditional	1	0	0	1
	0.320	0.420	0.260	
	1.2021	-0.6481	-0.5099	
All	32	42	26	100

Cell Contents
Count
Expected count
Standardized residual

No statistical significance found.

Appendix I: Course Failure and Subject

Rows: Failed the course (0=no, 1=yes) Columns: Subject

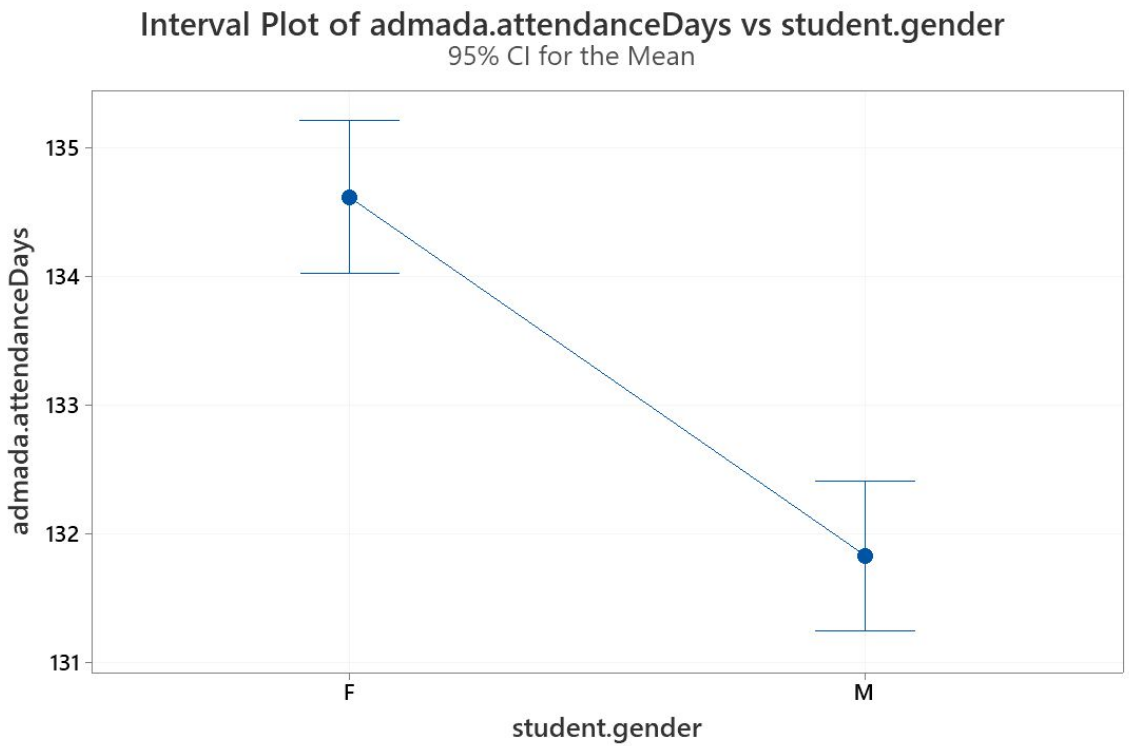
	Electives	English	Foreign Language	Health/PE	Math	Science	Social Studies	Missing	All
0	38926	18016	9767	7670	20956	18031	18663	18870	132029
	37362	18306	9709	7309	21721	18709	18912		
	8.091	-2.146	0.590	4.219	-5.193	-4.957	-1.812		
1	5044	3528	1659	932	4607	3987	3594	832	23351
	6608	3238	1717	1293	3842	3309	3345		
	-19.239	5.102	-1.403	-10.033	12.347	11.788	4.308		
All	43970	21544	11426	8602	25563	22018	22257	*	155380

Cell Contents
Count
Expected count
Standardized residual

Higher than expected failure counts in all core subjects: math, english, science, and social studies.

Math and science are the worst offenders.

Appendix J: Attendance M/F



The pooled standard deviation is used to calculate the intervals.

One-way ANOVA: admada.attendanceDays versus student.gender

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
student.gender	1	167847	167847	43.23	0.000
Error	86580	336186048	3883		
Total	86581	336353895			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
62.3133	0.05%	0.05%	0.05%

Means

student.gender	N	Mean	StDev	95% CI
F	42531	134.615	61.919	(134.023, 135.207)
M	44051	131.830	62.692	(131.248, 132.412)

Pooled StDev = 62.3133

Appendix K: Disability Data

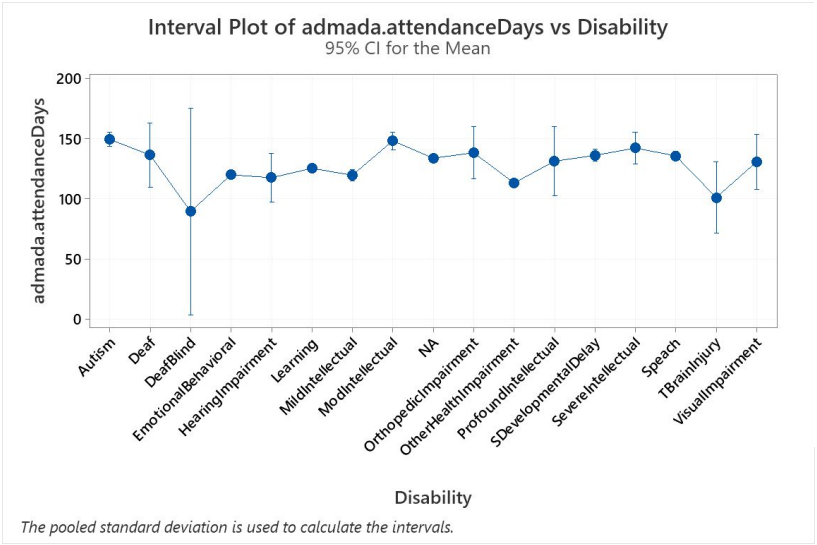
One-way ANOVA: admada.attendanceDays versus Disability

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Disability	16	1230621	76914	19.87	0.000
Error	86565	335123274	3871		
Total	86581	336353895			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
62.2202	0.37%	0.35%	0.32%



Means

Disability	N	Mean	StDev	95% CI
Autism	415	149.58	55.74	(143.59, 155.57)
Deaf	21	136.4	63.5	(109.8, 163.0)
DeafBlind	2	89.5	54.4	(3.3, 175.7)
EmotionalBehavioral	1162	120.01	83.80	(116.43, 123.58)
HearingImpairment	36	117.6	67.9	(97.3, 137.9)
Learning	2619	125.42	64.66	(123.04, 127.81)
MildIntellectual	651	119.69	65.19	(114.91, 124.47)
ModIntellectual	269	148.30	52.34	(140.87, 155.74)
NA	78414	133.888	61.595	(133.452, 134.323)
OrthopedicImpairment	32	138.39	55.15	(116.83, 159.95)
OtherHealthImpairment	1228	113.21	75.15	(109.73, 116.69)
ProfoundIntellectual	18	131.4	52.7	(102.6, 160.1)
SDevelopmentalDelay	615	136.21	58.75	(131.29, 141.13)
SevereIntellectual	86	142.31	50.79	(129.16, 155.46)
Speach	969	135.80	63.51	(131.88, 139.71)
TBrainInjury	17	101.1	65.8	(71.5, 130.7)
VisualImpairment	28	130.9	65.6	(107.9, 153.9)

Pooled StDev = 62.2202

-Lowest attendance for Deaf/Blind but only 2 (N)

-Doesn't seem like one specific has a major effect on attendance, NA's don't seem any higher/lower despite F-Value

Appendix L: Race Data

One-way ANOVA: admada.attendanceDays versus Recoded student.raceEthnicityFe

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Recoded student.raceEthnicityFe	6	9664836	1610806	449.46	0.000
Error	85400	306063206	3584		
Total	85406	315728042			

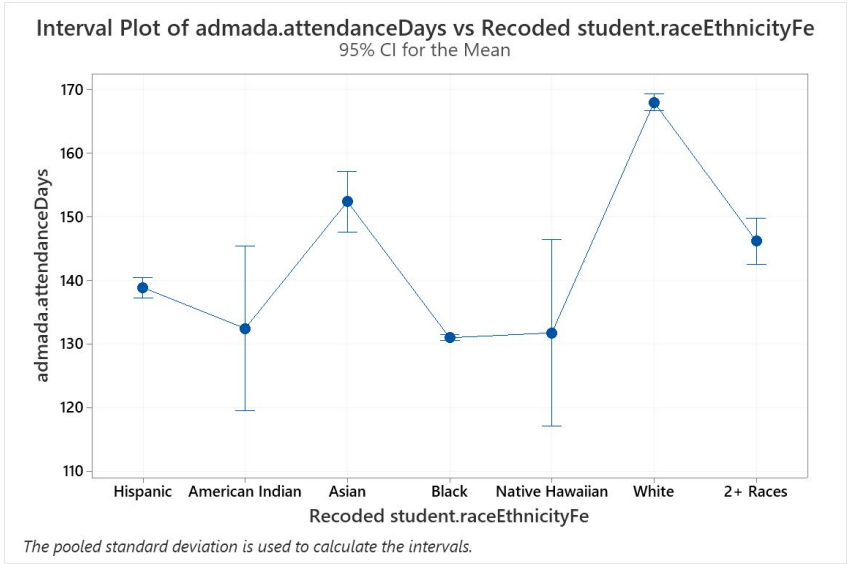
Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
59.8655	3.06%	3.05%	3.05%

Means

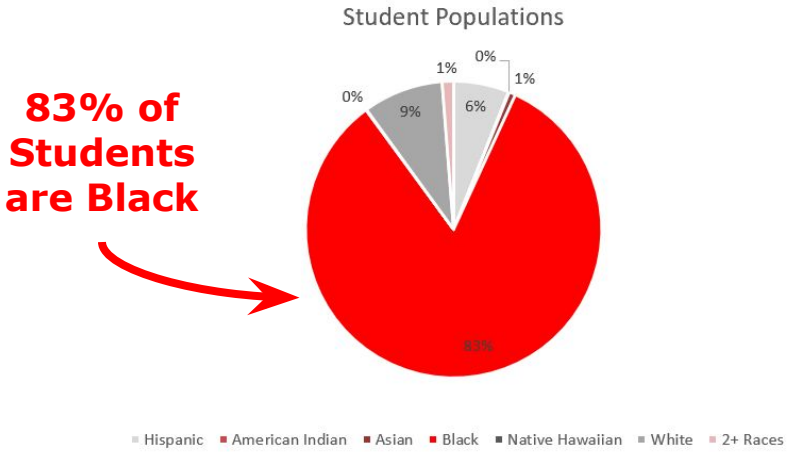
Recoded student.raceEthnicityFe	N	Mean	StDev	95% CI
Hispanic	5172	138.810	62.926	(137.178, 140.441)
American Indian	82	132.39	60.51	(119.43, 145.34)
Asian	607	152.31	48.82	(147.54, 157.07)
Black	70934	130.930	61.700	(130.489, 131.370)
Native Hawaiian	64	131.69	64.79	(117.03, 146.36)
White	7481	167.906	36.815	(166.549, 169.262)
2+ Races	1067	146.09	56.58	(142.50, 149.68)

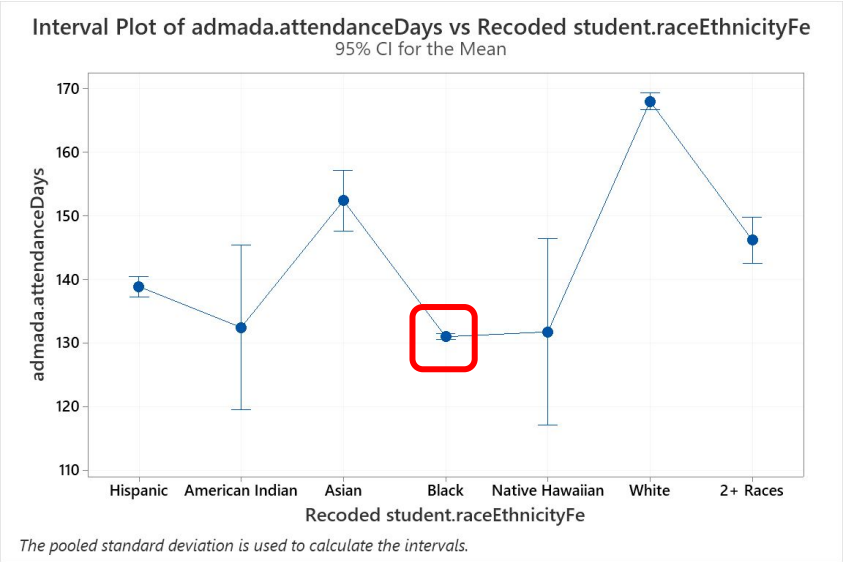
Pooled StDev = 59.8655



-White students are clearly attending many more days than other ethnicities. Extremely high numbers of blakc students but also the lowest attendance average.

Appendix M: Race Data





-Large disconnect between largest population and mean attendance.

Appendix N: Lunch Eligibility

One-way ANOVA: admada.attendanceDays versus Recoded posElig.eligibility

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Recoded posElig.eligibility	3	21147807	7049269	1936.23	0.000
Error	86578	315206088	3641		
Total	86581	336353895			

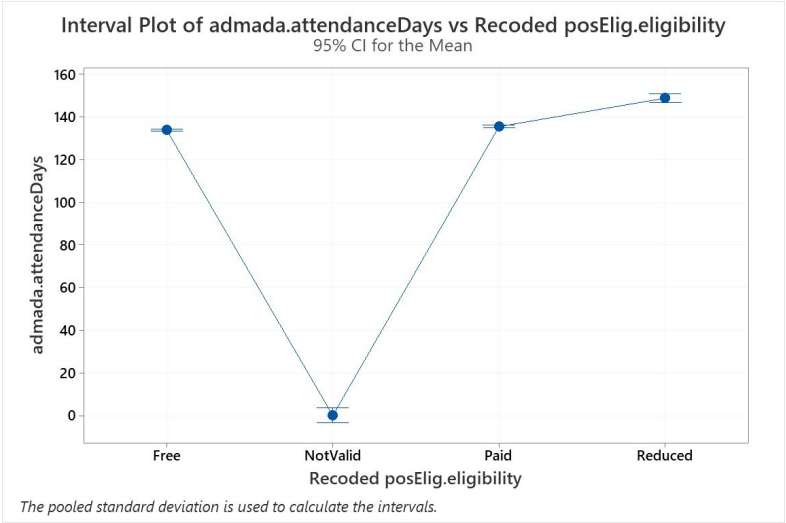
Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
60.3384	6.29%	6.28%	6.28%

Means

Recoded posElig.eligibility	N	Mean	StDev	95% CI
Free	49428	133.841	62.010	(133.309, 134.373)
NotValid	1141	0.000000	0.000000	(-3.501103, 3.501103)
Paid	33046	135.439	59.263	(134.789, 136.090)
Reduced	2967	148.76	55.37	(146.58, 150.93)

Pooled StDev = 60.3384



Appendix O: Homelessness

One-way ANOVA: admada.attendanceDays versus activeEnrollment.homeless

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
activeEnrollment.homeless	1	3305405	3305405	859.28	0.000
Error	86580	333048490	3847		
Total	86581	336353895			

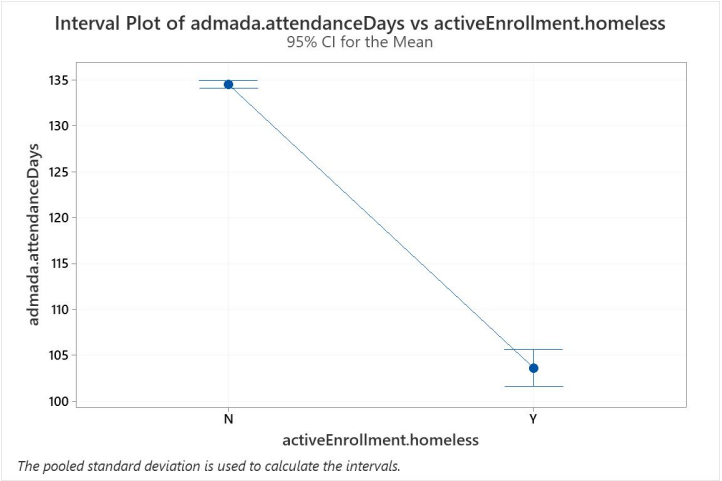
Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
62.0219	0.98%	0.98%	0.98%

Means

activeEnrollment.homeless	N	Mean	StDev	95% CI
N	82962	134.489	62.071	(134.067, 134.911)
Y	3620	103.62	60.88	(101.60, 105.64)

Pooled StDev = 62.0219



-Homelessness clearly plays a major role in school absences.

Appendix P: Zip Codes

One-way ANOVA: admada.attendanceDays versus sch.zip

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
sch.zip	17	7492227	440719	169.03	0.000
Error	78669	205121373	2607		
Total	78686	212613599			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
51.0627	3.52%	3.50%	3.48%

Means

sch.zip	N	Mean	StDev	95% CI
30305	3554	159.716	38.417	(158.037, 161.394)
30306	2997	167.903	51.242	(166.075, 169.731)
30307	682	172.258	21.978	(168.426, 176.090)
30308	643	135.70	56.00	(131.75, 139.64)
30309	2035	156.137	40.114	(153.918, 158.356)
30310	4075	139.711	54.272	(138.143, 141.278)
30311	7523	142.537	52.787	(141.383, 143.690)
30312	3566	140.670	55.214	(138.994, 142.346)
30313	832	139.89	57.05	(136.42, 143.36)
30314	7401	141.258	55.432	(140.095, 142.422)
30315	10266	137.456	55.390	(136.468, 138.444)
30316	3428	148.368	49.699	(146.659, 150.078)
30317	4279	138.871	53.652	(137.341, 140.401)
30318	8011	139.220	52.511	(138.102, 140.338)
30327	4004	167.116	31.227	(165.534, 168.697)
30331	10092	143.195	51.100	(142.199, 144.192)
30342	1278	168.413	29.483	(165.614, 171.213)
30354	4021	137.266	53.259	(135.687, 138.844)

Pooled StDev = 51.0627

sch.zip	N	Mean	StDev	95% CI
30305	3554	159.716	38.417	(158.037, 161.394)
30306	2997	167.903	51.242	(166.075, 169.731)
30307	682	172.258	21.978	(168.426, 176.090)
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30311	7523	142.537	52.787	(141.383, 143.690)
30312	3566	140.67	55.214	(138.994, 142.346)
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30327	4004	167.116	31.227	(165.534, 168.697)
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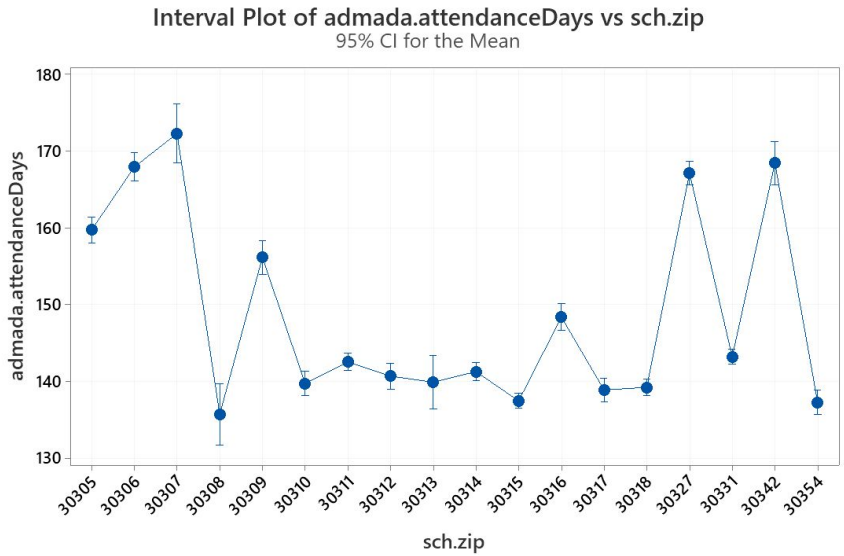
30342	1278	168.413	29.483	(165.614, 171.213)
30354	4021	137.266	53.259	(135.687, 138.844)



The pooled standard deviation is used to calculate the intervals.

30308: Intown Academy

Appendix Q: Zip Codes

30308: Intown Academy
30315:

Benteen Elementary Sch
Carver Early College
Carver School of Health Sciences
Carver School of Technology
Carver School of the Arts
Cleveland Avenue Elementary Sch
Daniel H. Stanton Elementary Sch
Emma Hutchinson Elementary Sch
Forrest Hills Academy
John Wesley Dobbs Elementary Sch
KIPP Vision
Luther Judson Price Middle School
Neighborhood Charter School
Perkerson Elementary Sch
Thomas Heathe Slater Elementary Sch
Thomasville Heights Elementary Sch

30307: Mary Lin Elementary School
30306:

Hillside
Morningside Elementary Sch
Samuel Inman Middle School
Springdale Park Elementary Sch

Appendix R: Migrants

One-way ANOVA: admada.attendanceDays versus activeEnrollment.migrant

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
activeEnrollment.migrant	1	209370	209370	53.93	0.000
Error	86580	336144525	3882		
Total	86581	336353895			

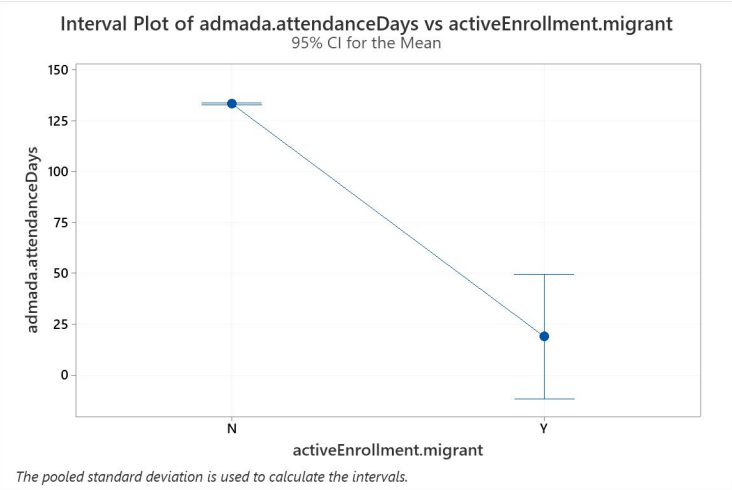
Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
62.3095	0.06%	0.06%	0.06%

Means

activeEnrollment.migrant	N	Mean	StDev	95% CI
N	86566	133.219	62.314	(132.804, 133.634)
Y	16	18.82	26.98	(-11.72, 49.35)

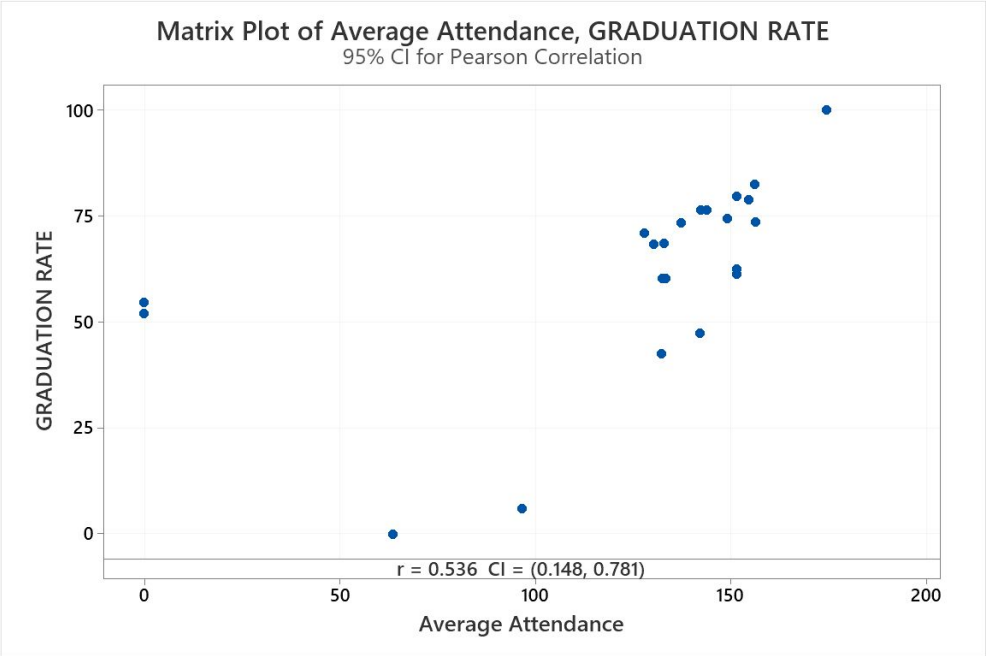
Pooled StDev = 62.3095



-Homelessness clearly plays a major role in school absences.

Appendix S: Correlation between Attendance and Graduation Rate

Correlation: Average Attendance, GRADUATION RATE



Method

Correlation type	Pearson
Number of rows used	22

Correlations

	Average Attendance
GRADUATION RATE	0.536

(Using ANOVA to calculate school # average attendance days, then matching school ID to District Graduation Rates)

Moderate correlation found between average attendance and graduation rates.

Appendix T

After removing outliers with zero attendance averages:

-Therrell School of Law, Government and Public Policy

-Therrell School of Health and Science

-Crim High School

STRONG CORRELATION FOUND!

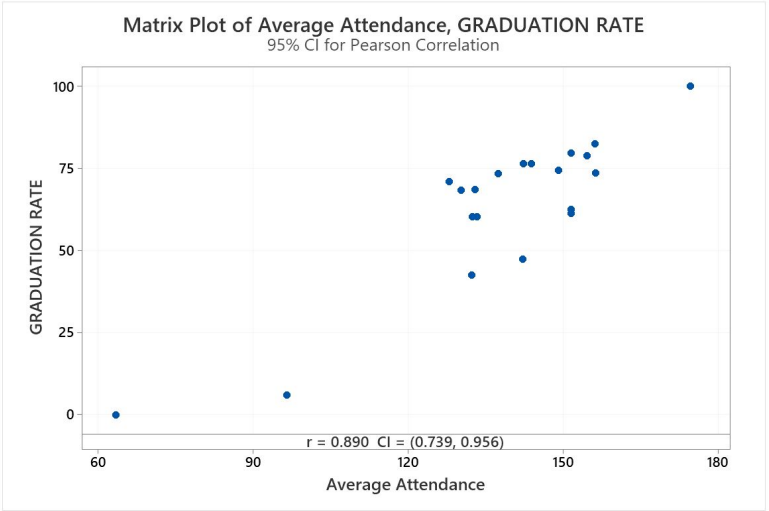
Method

Correlation type	Pearson
Number of rows used	20

Correlations

	Average Attendance
GRADUATION RATE	0.890

Correlation: Average Attendance, GRADUATION RATE



Appendix U: Solutions for Dropouts

1. **Engage and Partner with Parents**
4. **Make Learning Relevant**

Boredom and disengagement are two key reasons students stop attending class and wind up dropping out of school. In "The Silent Epidemic," 47 percent of dropouts said a major reason for leaving school was that their classes were not interesting.

7. **Rethink Schedules**

For some students, the demands of a job or family responsibilities make it impossible to attend school during the traditional bell schedule.

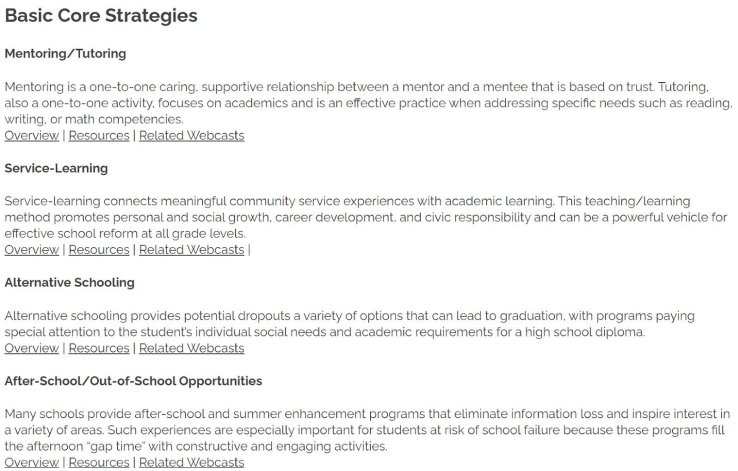
10. **Adopt a Student-Centered Funding Model**

Research shows that it costs more to educate some students, including students living in poverty, English-language learners, and students with disabilities. Recognizing this need, some districts have adopted a student-centered funding model, which adjusts the funding amount based on the demographics of individual students and schools, and more closely aligns funding to their unique needs.

https://www.edutopia.org/student-dropout-retention-strategies

https://dropoutprevention.org/effective-strategies/

https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/dropout-prevention-programs



Basic Core Strategies

Mentoring/Tutoring

Mentoring is a one-to-one caring, supportive relationship between a mentor and a mentee that is based on trust. Tutoring, also a one-to-one activity, focuses on academics and is an effective practice when addressing specific needs such as reading, writing, or math competencies.
Overview | Resources | Related Webcasts

Service-Learning

Service-learning connects meaningful community service experiences with academic learning. This teaching/learning method promotes personal and social growth, career development, and civic responsibility and can be a powerful vehicle for effective school reform at all grade levels.
Overview | Resources | Related Webcasts |

Alternative Schooling

Alternative schooling provides potential dropouts a variety of options that can lead to graduation, with programs paying special attention to the student's individual social needs and academic requirements for a high school diploma.
Overview | Resources | Related Webcasts

After-School/Out-of-School Opportunities

Many schools provide after-school and summer enhancement programs that eliminate information loss and inspire interest in a variety of areas. Such experiences are especially important for students at risk of school failure because these programs fill the afternoon "gap time" with constructive and engaging activities.
Overview | Resources | Related Webcasts

Appendix V: Solutions for Dropouts

https://www.expandinglearning.org/sites/default/files/em_articles/1_provensolutionfordropout.pdf

Predictive Factors Of Dropping Out	Impact of Quality Afterschool From Meta-analysis by Durlak et al.	Results from 21st Century Community Learning Centers
Failing grades in reading and/or math	Improved grades in reading and math	Better grades in reading and math
Poor attendance	Improved school attendance	Better school attendance
Misbehavior	Reduction in problem behaviors	Less misbehavior
Very low test scores	Improved academic achievement (test scores)	Increased test scores
Lack of effort/motivation	Positive social behavior	More positive engagement
Not engaging in class or school work	More positive school bonding	Greater homework completion

Appendix W: Solutions for Dropouts (LT)

“We will not boost graduation rates by creating new punishments or even new reformulations in the graduation rate formula. We will graduate students by redesigning schools so that they support and nurture young people, help them deal with the complexities of their lives, and help them learn material that is worth learning. Long-term improvements to the high school graduation rate require systemic investments and real changes in educational practices at the district, school, and classroom levels.”

https://edpolicy.stanford.edu/library/blog/296

Appendix X: Solutions for Dropouts (LT)

Summary of Findings

The current study explored the methods used to decrease a rural high school's dropout rate. The research questions were: (1) "How did the high school drastically reduce the dropout rate?" (2) "What was the role of each key informant in reducing the dropout rate?" Data were collected through public documents, participant demographic questionnaires, one-on-one interviews, two focus group interviews, and the research journal notes. The results indicated the students at this particular high school successfully graduated because of the positive relationships formed between staff and students and the flexibility with criteria needed to graduate. An additional benefit was the fact that the school was small with about a 100-student graduating class in 2017. Although there was no formal mentorship program, staff repeatedly linked the small school environment to the fact that they were able to identify at-risk students and quickly and effectively act on their individual needs. As Chad explained,

https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=3119&context=doctoral

-Developing better Teacher/Student relationships.

Appendix Y: Gender and Graduation Rates

Descriptive Statistics

Sample	N	Median
GRADUATION RATE_Female	9031	68.4
GRADUATION RATE_Male	9280	62.5

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
0.200000	(-0.0000000, 1.2)	95.00%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	85833172.00	0.000
Adjusted for ties	85833172.00	0.000

****High school data**

IV: Gender
DV: Graduation Rate

Statistical Test: Mann-Whitney
-Data is not normally distributed

Median graduation rates are significantly different between genders.

Female students have a higher median graduation rate of 68.4 compared to 62.5, the median graduation rate of male students.

Appendix Z: Gender and Attendance

Descriptive Statistics

	Sample	N	Median
admada.attendanceDays_Female		9031	166.100
admada.attendanceDays_Male		9280	160.675

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
1.51	(1.05, 2)	95.00%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	85206592.50	0.000
Adjusted for ties	85206592.50	0.000

****High school data**

IV: Gender
DV: Attendance

Statistical Test: Mann-Whitney
-Data is not normally distributed

Median days of attendance are significantly different between genders.

Female students have a higher median attendance of ~166 days compared to ~160 days, the median attendance of male students.

Appendix AA: Ethnicity and Graduation Rates

Descriptive Statistics

Recoded student.raceEthnicityFe	N	Median	Mean Rank	Z-Value
Hispanic	744	73.5	11256.9	11.07
American Indian	10	60.3	8117.6	-0.62
Asian	92	73.5	12953.7	6.91
Black	15280	62.5	8988.0	-9.66
Pacific Islander	7	42.5	7473.6	-0.84
White	839	82.4	14605.4	30.57
Two or more races	186	73.5	12853.3	9.59
Missing	1153	52.0	5181.7	-26.37
Overall	18311		9156.0	

Test

Null hypothesis	H_0: All medians are equal
Alternative hypothesis	H_1: At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	7	1815.95	0.000
Adjusted for ties	7	1826.88	0.000

****High school data**
IV: Ethnicity
DV: Graduation Rate

Statistical Test: Kruskal-Wallis
-Data is not normally distributed

Median graduation rates are significantly different between ethnicities.

White students have the highest median graduation rate of 82.4%, at least ~9% higher than any other ethnicity.

Black students make up ~83% of our given sample population, yet have a ~20% lower graduation rate than white students and ~11% lower than Asian and Multiracial students.

Appendix BB: Ethnicity and Attendance

Descriptive Statistics

Recoded student.raceEthnicityFe	N	Median	Mean Rank	Z-Value
Hispanic	744	167.865	10204.8	5.53
American Indian	10	159.670	8365.1	-0.47
Asian	92	174.625	13008.3	7.01
Black	15280	165.000	9523.3	21.11
Pacific Islander	7	155.520	7736.9	-0.71
White	839	173.740	12401.7	18.21
Two or more races	186	172.230	11238.9	5.40
Missing	1153	0.000	622.2	-56.63
Overall	18311		9156.0	

Test

Null hypothesis	H_0: All medians are equal
Alternative hypothesis	H_1: At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	7	3502.89	0.000
Adjusted for ties	7	3503.75	0.000

****High school data**
IV: Ethnicity
DV: Attendance

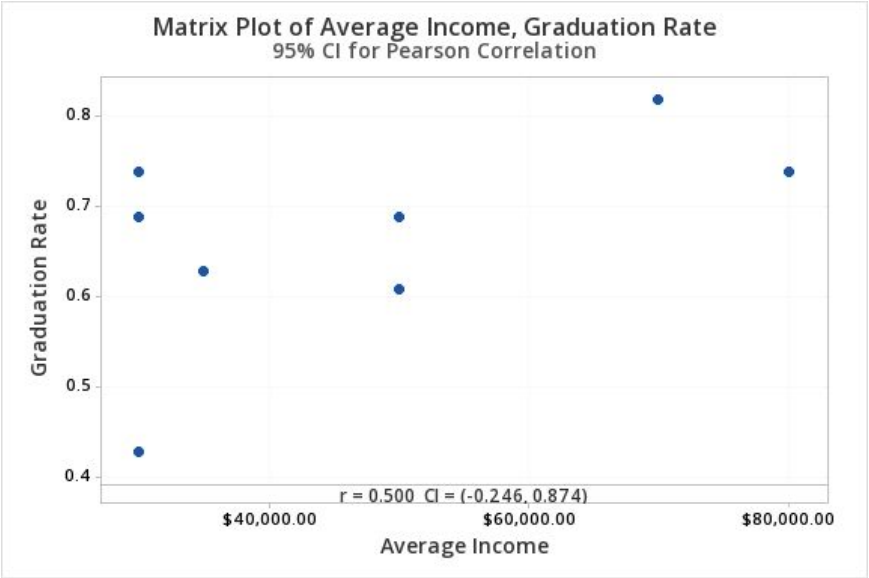
Statistical Test: Kruskal-Wallis
-Data is not normally distributed

Median days of attendance are significantly different between ethnicities.

Asian and White students attend high school in the highest numbers for a median of 175 and 174 days respectively.

American Indian and Pacific Islander students have the lowest median attendance but only compose of .09% of the students.

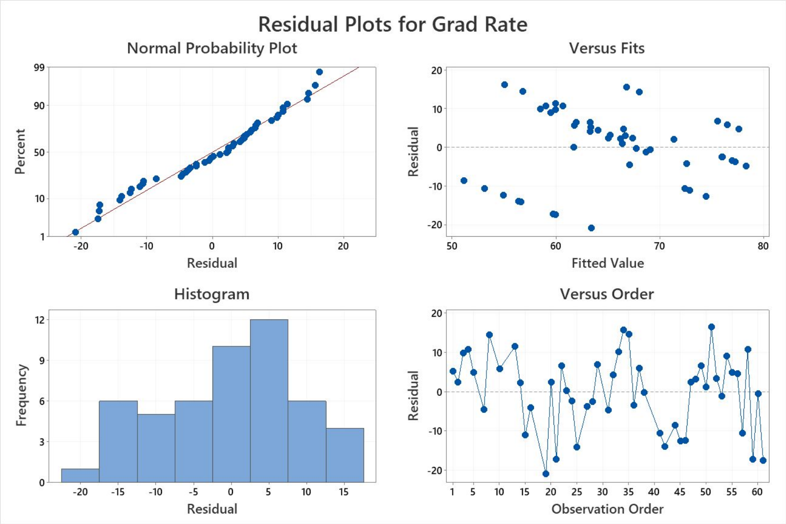
Appendix CC: High School Clusters, Average Income and Graduation Rates



Moderate correlation between income and graduation rate

Districts (High School)	Districts (Middle School)	Districts (Elementary School)	Avrage Income ($ per year)	Graduation Rate
Carver	Price	Slater	Less than $30,000	73.97% (3 high schools)
	Sylvan	Thomasville Heights		
Douglass	John Lewis Academy	Boyd	Less than $30,000	42.50%
		F.L. Stanton		
	Woodson Park	Woodson Park		
		Scott		
		Usher		
Grady	Howard	Centennial Place	$60,000-$80,000	82.40%
		Hope-Hill		
		Mary Lin		
	Centennial Place	Morningside		
		Springdale Park		
Maynard Jackson	M.L. King	Burgess-Peterson	$40,000-$60,000	68.50%
		Toomer		
		Benteen		
		Obama		
		Dunbar		
		Parkside		
Mays	Young	Miles	$30,000-$40,000	62.50%
		Beecher Hills		
		Cascade		
		Peyton Forest		
		West Manor		
Nort Atlanta	Sutton	Bolton Academy	$80,000 or more	73.50%
		Brandon		
		Garden Hills		
		Jackson		
		Rivers		
		Smith		
South Atlanta	Long	Cleveland Avenue	less than $30,000	69.27% (3 high schools)
		Dobbs		
		Heritage Academy		
		Humphries		
		Hutchinson		
Therrell	Bunche	Continental Colony	$40,000-$60,000	61.1%. (3 Therrel High Schools)
		Deerwood Academy		
		Fickett		
		Kimberly		
Washington	Brown	Hollis Innov Academy	less than $30,000	69.2% (3 high schools)
	Hollis Innov Academy	Jones		
		Tuskegee Airmen		

Standards Performance and Graduation Rates



Response is Grad Rate

50 cases used, 11 cases contain missing values

Vars	R-Sq	R-Sq (adj)	R-Sq (pred)	Mallows Cp	S	Reading: % Met or Exceeded the	ELA: % Met or Exceeded the stan	Math: % Met or Exceeded the sta	Science: % Met or Exceeded the	Social Studies: % Exceeds the s
1	36.1	34.7	30.5	0.7	9.6566	X				
1	26.0	24.4	20.0	8.1	10.391				X	
2	38.6	35.9	30.7	0.9	9.5665	X	X			
2	36.2	33.5	29.1	2.6	9.7448	X				X
3	39.3	35.4	29.7	2.3	9.6069	X	X			X
3	39.2	35.2	21.7	2.4	9.6188	X	X	X		
4	39.7	34.3	20.4	4.1	9.6882	X	X	X		X
4	39.4	34.0	26.6	4.3	9.7130	X	X		X	X
5	39.7	32.9	18.4	6.0	9.7913	X	X	X	X	X

Analysis of Variance

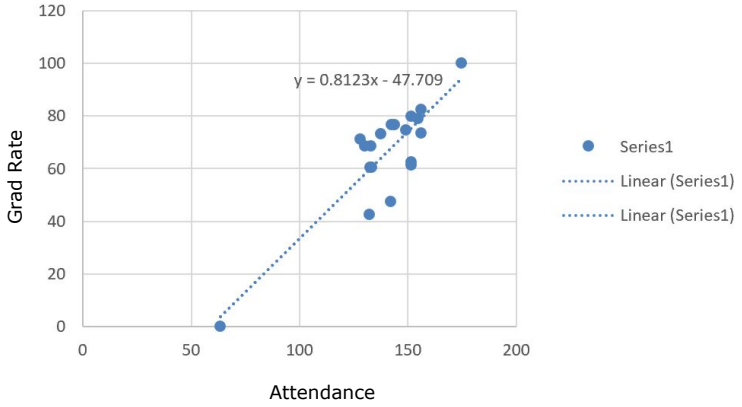
Source	DF	SS	MS	F	P
Regression	1	2523.92	2523.92	27.07	0.000
Error	48	4476.02	93.25		
Total	49	6999.94			

Appendix EE: After School Program Improvements on Graduation Rate

Sensitivity Analysis of Graduation Rates as Attendance Increases with Afterschool Programs:

		% Increase in Average Attendance							
		0%	5%	10%	15%	20%	25%	30%	35%
CE	0.7	48.91	53.74	58.57	63.40	68.23	73.06	77.89	82.72
	0.75	55.81	60.98	66.16	71.33	76.51	81.69	86.86	92.04
	0.8	62.71	68.23	73.75	79.27	84.79	90.31	95.83	101.35
	0.85	69.61	75.47	81.34	87.21	93.07	98.94	104.80	110.67
	0.9	76.51	82.72	88.93	95.14	101.35	107.56	113.78	119.99
	0.95	83.41	89.97	96.52	103.08	109.63	116.19	122.75	129.30
	1	90.31	97.21	104.11	111.01	117.92	124.82	131.72	138.62

		% Increase in Average Attendance							
		0%	5%	10%	15%	20%	25%	30%	35%
CE	0.7	48.91	53.74	58.57	63.40	68.23	73.06	77.89	82.72
	0.75	55.81	60.98	66.16	71.33	76.51	81.69	86.86	92.04
	0.8	62.71	68.23	73.75	79.27	84.79	90.31	95.83	101.35
	0.85	69.61	75.47	81.34	87.21	93.07	98.94	104.80	110.67
	0.9	76.51	82.72	88.93	95.14	101.35	107.56	113.78	119.99
	0.95	83.41	89.97	96.52	103.08	109.63	116.19	122.75	129.30
	1	90.31	97.21	104.11	111.01	117.92	124.82	131.72	138.62



eq's

$y = (CE)\,x - 47.709$

$x = y + 47.709 / (CE)$

Appendix FF: After School Program Affects

Funded by a 21st Century Community Learning Centers grant, EduCare is the afterschool provider at seven Los Angeles School District high schools. EduCare's programs are designed to give students the opportunity to develop their unique abilities, build relationships, and find relevance in their educational experience. Program activities are unique to each school and include homework assistance and tutoring, academic enrichment, structured fitness classes, and performing and fine arts activities. The **2011 graduation rate for students participating in EduCare afterschool programs over the course of 4 years of high school was 90%, as compared to 60% for nonparticipating students.** School attendance and standardized test scores also significantly improved (EduCare Foundation, 2011).

RiverzEdge Arts Project in Providence, Rhode Island, is an art and leadership program where high school students work with artists in fine and commercial arts. They guide youth to create art, and they run an arts enterprise in an environment that stresses hands-on learning, teamwork, mutual respect, responsibility, and workplace discipline. Participants build self-awareness and work skills by creating and selling products and services in the competitive arts and business markets, developing their creative voice, and preparing them for the job market. **One hundred percent of participants go on to graduate high school in a city with a 34 percent dropout rate (Afterschool Alliance, 2009)**

Sensitivity Analysis of Reading Improvement

	% Increase in %Met or Exceed 3rd Grade Reading Standard							
	0%	5%	10%	15%	20%	25%	30%	35%
0.61	63.91	66.65	69.40	72.14	74.89	77.63	80.38	83.12
0.62	64.96	67.75	70.54	73.33	76.12	78.91	81.70	84.49
0.63	66.01	68.84	71.68	74.51	77.35	80.18	83.02	85.85
0.64	67.05	69.93	72.81	75.69	78.57	81.45	84.33	87.21
0.65	68.10	71.03	73.95	76.88	79.80	82.73	85.65	88.58
0.66	69.15	72.12	75.09	78.06	81.03	84.00	86.97	89.94
0.67	70.20	73.21	76.23	79.24	82.26	85.27	88.29	91.30

	% Increase in %Met or Exceed 8th Grade Reading Standard							
	0%	5%	10%	15%	20%	25%	30%	35%
1.27	62.97	68.69	74.40	80.12	85.83	91.55	97.26	102.98
1.28	63.87	69.63	75.39	81.15	86.91	92.67	98.43	104.19
1.29	64.77	70.58	76.38	82.19	87.99	93.80	99.60	105.41
1.3	65.67	71.52	77.37	83.22	89.07	94.92	100.77	106.62
1.31	66.57	72.47	78.36	84.26	90.15	96.05	101.94	107.84
1.32	67.47	73.41	79.35	85.29	91.23	97.17	103.11	109.05
1.33	68.37	74.36	80.34	86.33	92.31	98.30	104.28	110.27

Average Test Scores among Elementary Schools

2014	Reading:			ELA:			Math:			Science:			Social Studies:		
School Name	6th	7th	8th	6th	7th	8th	6th	7th	8th	6th	7th	8th	6th	7th	8th
BROWN MIDDLE	826.66	822.50	830.33	824.81	836.01	838.29	811.54	833.50	812.22	802.56	823.93	803.96	807.01	821.13	811.98
CORETTA SCOTT	828.90	817.28	825.32	828.63	830.56	826.85	804.31	817.31	806.65	800.80	819.13	802.45	804.90	795.53	805.19
LONG MIDDLE S	821.52	815.50	826.17	821.14	826.60	830.24	800.40	811.65	819.36	796.87	818.54	798.93	789.08	806.00	807.54
BUNCHE MIDDLE	829.18	818.76	829.36	832.84	837.54	839.22	812.47	826.12	821.35	815.65	823.18	802.37	824.80	818.76	813.72
SYLVAN HILLS	817.70	813.29	824.92	820.93	826.33	827.48	804.65	814.09	802.07	795.71	809.77	793.77	792.08	809.90	806.11
CHARLES R DRE	842.71	836.03	837.23	842.12	846.22	841.05	832.42	840.82	822.79	814.94	850.35	821.68	869.23	862.64	830.90
ATLANTA CHART	841.43	842.00	838.52	837.36	850.67	837.88	814.10	848.22	809.06	810.69	836.85	798.94	806.09	811.62	800.08
YOUNG MIDDLE	830.25	821.25	830.73	828.01	833.86	836.18	809.16	821.55	819.90	805.75	821.41	797.11	804.62	819.45	799.23
PRICE MIDDLE	816.79	811.87	822.41	814.88	822.86	828.83	794.46	811.98	797.64	791.17	809.54	791.87	780.16	791.41	798.49
KING MIDDLE S	820.33	813.11	823.74	820.21	825.36	827.35	806.83	825.64	810.38	798.88	814.07	807.74	806.68	819.24	819.58
APS FORREST H	803.86	805.43	809.64	798.71	814.66	804.90	783.61	799.90	771.02	780.53	790.82	772.42	764.61	772.19	773.39
UNIVERSITY CO	820.65	815.79	827.96	819.85	824.32	828.88	798.55	808.32	804.08	792.75	796.37	782.71	782.95	776.74	809.51
HARPER ARCHER	822.37	809.59	820.77	818.56	822.18	824.92	795.02	812.40	801.22	788.90	802.24	790.99	779.07	787.47	786.04
KIPP WEST ATL	835.00	834.47	841.49	833.12	848.36	848.60	810.51	836.59	842.68	820.78	839.39	820.18	834.61	840.72	828.66
IMAGINE WESLE	845.09	841.36	842.95	831.07	851.08	839.64	810.20	836.00	819.27	802.65	842.92	808.91	801.94	832.04	812.77
THE BEST ACAD	823.06	814.07	821.33	828.05	828.27	824.99	807.46	821.04	800.03	806.90	826.48	801.25	828.10	808.45	805.46
INMAN MIDDLE	856.03	850.87	850.62	860.34	866.00	861.64	850.26	862.81	849.40	840.82	862.92	842.95	876.51	882.67	859.59
SUTTON MIDDLE	848.24	836.02	840.76	842.79	846.36	848.56	835.37	843.56	827.89	832.67	845.38	823.46	862.43	847.65	830.77
COAN MIDDLE S	822.39	817.50	824.74	820.05	830.15	829.33	799.34	819.72	811.07	791.02	815.72	795.13	790.87	783.36	792.95
KENNEDY MIDDL	826.76	818.70	831.28	827.36	833.05	828.67	812.69	820.80	810.94	797.80	813.25	788.31	795.81	832.34	806.35
PARKS MIDDLE	826.30	818.87	822.86	828.05	834.66	830.53	799.85	816.38	796.29	796.25	815.48	789.39	806.95	802.77	802.72

Average Test Scores among Middle Schools

2014	Reading:			ELA:			Math:			Science:			Social Studies:		
School Name	3rd	4th	5th	3rd	4th	5th	3rd	4th	5th	3rd	4th	5th	3rd	4th	5th
PARKSIDE ELEM	838.48	832.17	836.87	838.42	835.71	845.29	833.29	822.67	856.69	826.85	830.94	823.33	830.14	820.22	825.88
HERITAGE ACAD	815.71	813.91	814.41	816.55	817.18	821.97	805.12	796.88	805.72	802.13	801.83	799.80	804.10	799.30	806.50
DOBBS ELEMENT	815.36	819.69	815.70	821.30	823.72	823.43	818.59	818.37	824.47	808.89	820.70	810.97	816.59	815.30	814.04
FINCH ELEMENT	813.57	809.37	814.09	815.78	814.96	821.70	812.38	796.15	813.62	805.21	794.64	795.35	812.08	799.58	796.30
SPRINGDALE PA	867.01	864.73	862.26	866.22	866.95	865.54	873.15	857.78	868.30	871.08	874.07	884.48	872.75	865.02	872.56
ATLANTA PREPA	834.15	814.19	809.36	827.28	823.74	815.33	812.67	800.62	805.78	816.31	804.09	782.78	821.39	803.72	785.89
INTOWN CHARTE	806.81	817.23	827.17	804.02	818.54	831.51	794.98	791.05	812.12	791.05	792.30	818.52	804.24	792.59	813.85
CASCADE ELEME	834.80	818.52	817.61	834.24	826.75	826.04	824.76	818.95	803.75	818.75	823.09	811.57	824.35	815.20	817.50
CENTENNIAL PL	841.49	837.28	839.88	844.66	840.58	850.89	837.56	821.17	846.00	828.99	832.87	847.41	837.58	818.97	832.52
CHARLES R DRE	851.14	843.70	843.35	853.07	846.48	846.38	859.25	844.81	848.69	849.05	861.95	848.41	855.14	846.45	855.70
HERNDON ELEME	803.63	813.00	805.64	807.39	817.12	818.12	790.78	802.50	815.38	794.34	800.74	786.17	797.00	803.46	796.52
MILES ELEMENT	823.42	821.69	823.98	826.00	825.49	831.56	814.98	813.01	823.28	811.90	823.39	813.78	815.42	819.37	814.69
PERKERSON ELE	811.45	812.66	820.37	814.20	816.02	825.05	808.73	805.03	811.93	799.22	795.26	797.92	809.69	793.39	795.53
BOLTON ACADEM	832.84	823.19	819.84	827.33	829.23	827.67	822.33	813.95	825.46	820.14	825.00	804.44	821.14	805.48	797.19
DEERWOOD ACAD	829.14	828.70	823.10	832.24	831.06	833.81	818.16	818.60	825.09	821.59	836.19	815.69	832.41	829.34	818.73
BURGESS PETER	835.53	819.26	826.87	832.10	826.86	834.78	824.68	813.51	815.35	829.43	829.63	811.81	819.69	819.57	803.16
UNIVERSITY CO	834.79	809.11	819.03	836.21	811.97	827.78	830.29	795.08	804.53	827.61	792.28	805.89	835.21	794.81	799.08
NEIGHBORHOOD	851.32	859.31	846.32	837.75	850.64	843.85	836.39	853.07	854.15	843.83	849.72	841.79	831.25	849.13	833.75
BAZOLINE E US	821.37	818.63	811.23	814.63	819.93	819.60	796.28	799.20	803.65	799.37	799.97	780.83	809.06	807.08	788.77
BETHUNE ELEME	820.61	814.85	822.41	824.22	820.51	832.53	814.33	804.56	822.51	808.20	801.82	810.04	810.31	800.61	810.59
BOYD ELEMENTA	822.93	818.00	825.53	826.43	827.84	834.93	819.59	816.67	838.84	812.34	819.12	821.55	818.18	811.97	821.89
HUTCHINSON EL	818.56	816.71	811.91	818.76	822.21	819.81	812.01	811.74	812.63	809.76	806.43	798.45	817.20	812.12	804.00
KIMBERLY ELEM	815.07	811.34	813.55	814.65	816.97	820.68	804.36	805.17	804.41	803.69	796.67	793.15	806.66	796.45	799.08
RIVERS ELEMEN	852.70	843.00	836.90	847.96	847.83	840.78	852.59	836.61	835.78	840.80	848.08	847.88	849.13	833.64	825.73
TOWNS ELEMENT	817.13	812.23	824.28	819.71	818.30	833.02	805.66	798.62	823.81	805.15	792.98	805.71	814.73	796.50	809.94
IMAGINE WESLE	855.09	832.86	832.46	844.83	829.06	836.31	844.20	813.46	830.83	834.96	817.88	820.48	840.54	809.61	814.98
GARDEN HILLS	831.50	826.86	829.91	832.21	823.88	834.86	821.59	810.51	827.76	815.86	821.14	828.02	820.86	819.10	828.04
SMITH ELEMENT	870.54	855.09	857.08	864.56	854.72	856.67	880.05	853.88	867.90	863.28	867.53	861.48	867.32	847.86	853.43
MORNINGSIDE E	866.20	854.00	871.88	858.61	859.15	871.65	865.92	870.68	890.48	869.68	880.73	910.98	866.55	858.70	877.24
ADAMSVILLE EL	814.60	811.54	810.80	812.79	810.78	817.72	800.49	795.72	824.30	810.75	799.04	803.70	816.67	800.02	799.39
BRANDON ELEME	869.71	863.07	857.58	862.72	862.97	857.85	877.35	863.14	866.92	867.94	875.98	876.10	870.90	855.38	870.16
CONNALLY ELEM	812.55	817.61	811.66	811.04	819.02	819.20	799.30	805.84	809.58	795.58	802.87	785.60	799.92	796.17	794.55
EAST LAKE ELE	824.59	808.88	822.73	831.78	814.41	831.89	821.76	798.97	821.22	814.81	798.28	805.55	816.27	799.91	804.63
HOPE ELEMENTA	827.21	819.91	822.77	829.98	824.84	825.03	824.82	806.07	828.00	808.89	799.09	805.61	815.29	803.07	810.23
GIDEONS ELEME	816.94	821.55	814.81	814.51	827.52	822.63	801.99	818.35	816.77	800.71	819.34	806.65	805.60	814.25	809.54
JACKSON ELEME	873.92	861.27	855.07	869.10	861.94	862.57	878.32	866.19	876.61	870.66	883.97	878.13	879.64	871.75	866.25
LIN ELEMENTAR	870.93	858.65	852.05	853.99	853.81	851.96	854.18	863.81	872.34	859.81	874.83	883.18	856.31	861.67	845.64
VENETIAN HILL	824.85	815.46	812.62	823.55	817.14	822.78	815.25	804.08	822.78	810.04	799.52	791.93	814.60	804.67	803.20
WEST MANOR EL	849.08	846.14	851.19	849.11	845.61	856.30	843.67	839.53	882.47	841.02	844.07	853.81	849.98	828.14	854.86
BEECHER HILLS	835.84	838.47	822.66	832.76	836.96	835.24	817.39	833.37	822.37	821.27	846.29	806.74	821.91	839.12	805.44
CONTINENTAL C	817.91	822.23	812.22	819.92	825.94	818.24	811.35	813.26	808.85	806.69	822.79	805.91	815.73	822.55	797.39
FAIN ELEMENTA	815.72	805.54	809.78	814.23	811.94	823.38	797.25	795.92	799.00	797.77	799.15	786.71	803.95	795.28	792.65
PEYTON FOREST	831.81	824.75	821.66	828.37	834.62	833.40	823.43	805.63	807.98	824.29	832.20	817.00	826.34	817.87	814.27
WHITE ELEMENT	821.08	810.60	825.59	828.74	818.26	841.06	822.68	802.00	846.15	806.51	800.59	810.67	803.15	798.66	804.94
FICKETT ELEME	828.37	827.34	819.71	835.36	831.01	830.37	831.06	825.23	833.40	820.21	824.38	807.03	822.74	820.01	807.61
SCOTT ELEMENT	810.68	805.42	814.31	808.06	809.17	816.79	797.47	786.85	803.43	793.94	793.45	793.66	797.27	790.80	796.36
WHITEFOORD EL	830.76	824.90	821.75	831.46	831.18	832.55	818.05	818.71	824.04	817.05	817.20	811.40	836.24	813.93	812.67
CLEVELAND ELE	822.22	833.00	825.53	822.93	840.63	841.37	812.34	829.25	851.56	803.05	823.09	821.88	805.86	819.78	817.65
COOK ELEMENTA	820.47	811.59	820.57	818.26	813.11	828.60	802.33	801.18	820.93	801.87	797.26	802.57	807.32	801.13	799.09
MAJONES ELE	824.82	820.43	818.59	823.61	821.10	823.71	817.27	808.85	821.98	813.10	815.82	799.56	819.15	808.48	811.31
SLATER ELEMEN	817.67	809.70	809.64	813.39	810.97	817.87	810.92	795.25	803.15	805.20	798.44	798.06	812.68	797.16	793.71
BENTEEN ELEME	820.92	817.59	835.81	824.24	827.97	839.35	810.68	819.67	843.46	813.15	802.74	834.15	815.03	808.58	834.54
CAPITOL VIEW	826.66	828.98	836.31	823.48	824.84	838.84	826.05	819.24	834.53	818.33	820.48	835.53	820.96	812.48	836.28
D H STANTON E	807.69	822.32	815.43	809.91	826.00	827.33	801.00	815.85	813.55	794.30	822.08	799.34	801.06	813.57	803.30
THOMASVILLE H	817.80	816.11	817.12	820.22	820.56	826.35	811.87	803.74	812.37	805.31	806.19	802.91	818.64	807.41	802.54
DUNBAR ELEMEN	804.77	810.46	805.11	805.83	813.88	813.76	785.79	789.27	784.82	789.58	800.37	794.20	798.58	802.19	790.29
GROVE PARK EL	820.66	807.75	812.40	825.57	808.15	814.91	821.83	793.82	803.89	809.48	791.95	796.42	814.76	794.56	797.79
HUMPHRIES ELE	823.73	816.15	826.80	820.43	823.62	837.17	818.48	815.17	830.88	809.83	815.94	807.98	814.46	808.65	807.77
F L STANTON	810.76	808.54	813.36	809.09	821.35	820.39	791.17	808.16	802.73	788.30	812.07	798.46	795.47	807.04	797.36
TOOMER ELEMEN	845.81	817.14	830.88	853.38	835.07	838.81	860.64	794.13	833.17	848.23	808.80	823.73	863.00	806.40	833.38
WOODSON ELEME	809.69	813.21	810.66	809.92	815.75	821.05	803.26	807.27	816.56	794.89	796.90	790.05	809.03	794.27	796.13

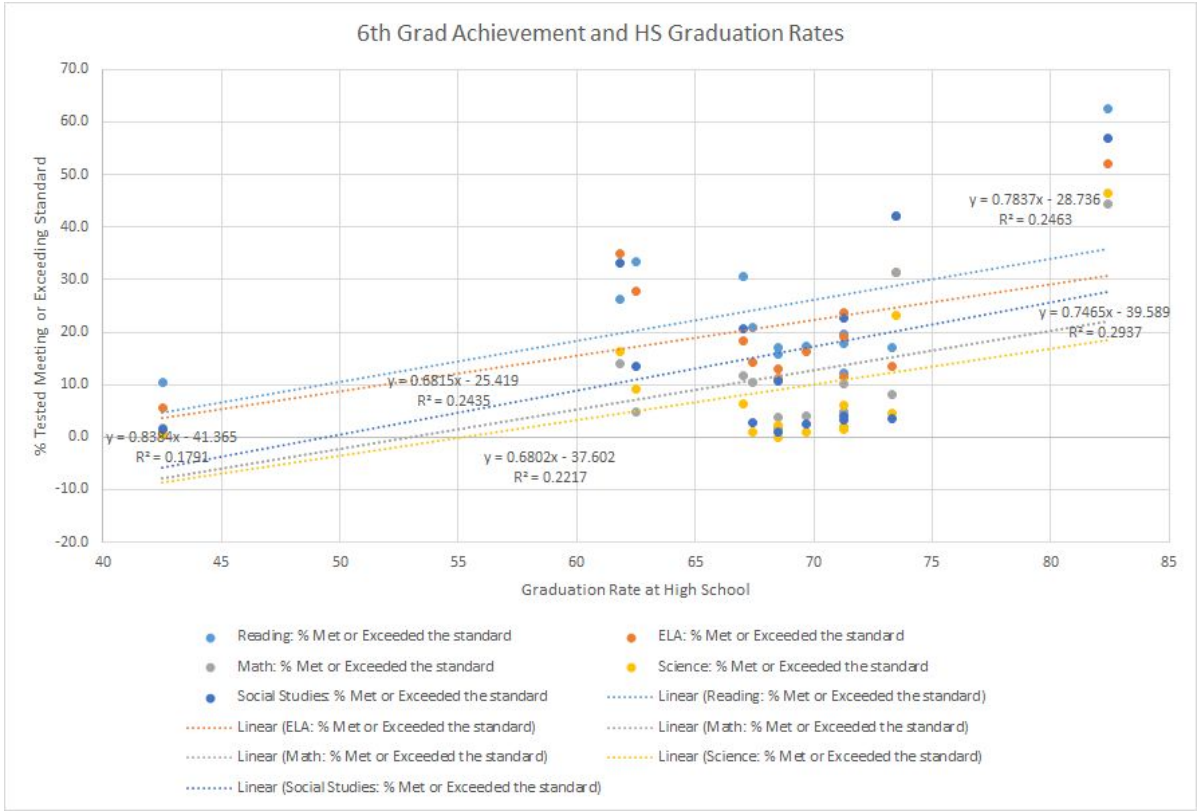
Grade and Dropout

Rows: Status Columns: Grade

		6	7	8	9	10	11	12	Missing	All
Completion	0	10	1617	35390	29945	26402	30671		0	124035
	0.000	0.008	1.304	28.532	24.142	21.286	24.728		*	100.000
	*	83.33	78.88	59.97	78.08	89.97	95.94		*	77.16
	0.000	0.006	1.006	22.017	18.629	16.425	19.081		*	77.164
		9.3	1581.9	45538.1	29593.0	22644.4	24668.4			
		0.243	0.884	-47.555	2.046	24.971	38.218			
Dropout	0	1	165	13240	4573	1618	651		1	20248
	0.000	0.005	0.815	65.389	22.585	7.991	3.215		*	100.000
	*	8.33	8.05	22.43	11.92	5.51	2.04		*	12.60
	0.000	0.001	0.103	8.237	2.845	1.007	0.405		*	12.597
		1.5	258.2	7433.8	4830.9	3696.6	4027.0			
		-0.416	-5.802	67.342	-3.710	-34.187	-53.200			
Transfer	0	1	268	10385	3833	1326	647		6	16460
	0.000	0.006	1.628	63.092	23.287	8.056	3.931		*	100.000
	*	8.33	13.07	17.60	9.99	4.52	2.02		*	10.24
	0.000	0.001	0.167	6.461	2.385	0.825	0.403		*	10.240
		1.2	209.9	6043.1	3927.1	3005.0	3273.6			
		-0.206	4.009	55.853	-1.502	-30.629	-45.907			
Missing	1	7	191	9080	3366	1093	594		0	*
	*	*	*	*	*	*	*		*	*
	*	*	*	*	*	*	*		*	*
	*	*	*	*	*	*	*		*	*
All	0	12	2050	59015	38351	29346	31969		*	160743
	0.000	0.007	1.275	36.714	23.859	18.256	19.888		*	100.000
	*	100.00	100.00	100.00	100.00	100.00	100.00		*	100.00
	0.000	0.007	1.275	36.714	23.859	18.256	19.888		*	100.000

Cell Contents
- *Count*
- *% of Row*
- *% of Column*
- *% of Total*
- *Expected count*
- *Standardized residual*

6th Grade Standards and Graduation



Solution

Reduce HS Dropout

Vestibulum nec congue tempus lorem ipsum

Invest in Early Education

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