

Academic Academy

Academic Support Index

-2016-

Legal...



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Middle to High School Transition Rubric and the STARS Protocol by David Stevens is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).

Outcomes of this presentation

- Understand the theoretical framework of the Academic Support Index;
- Understand the correlations to student outcomes and the predictive nature of the ASI;
- Examine how the ASI provides a counter narrative to the traditional methods of educational data disaggregation;
- Experience how the ASI can help focus educational data by providing “apples to apples” comparisons; and
- Examine some examples of how the ASI can be used to interrupt historical patterns of student performance.

Questions I had...

- How can we tell if our programs or interventions are actually making a difference for students?
- Predictive Analytics: How can we figure out which students might struggle academically in advance so we can target them for support?
- How can we target our limited resources to the students most in need?
- How can we talk about the achievement gap without contributing to stereotype threat?
- Fundamentally, how can we become more effective with our outcomes and more efficient with our resources?

How we traditionally look at data...

California High School Exit Exam (CAHSEE)	n=	CAHSEE Math Passing Rate 2014
All Students	753	90%
White	268	100%
Hispanic/Latino	177	86%
African American	152	75%

California High School Exit Exam=CAHSEE

Disproportionality

- Students with Disabilities
 - -Relative Risk Ratio for African American Students in BUSD is 3.3:1
- Students with from low socio-economic homes
 - -55% (African American), 54% (Hispanic/Latino), and 8% (White)
- Students who are in the process of learning English
 - - 61% of ELs are from Spanish speaking homes

What might our data
look like if we could
create “equivalent”
groups?

How we can begin to look at data by creating “equivalent” groups...

	n=	CAHSEE Math Passing Rate 2014
All Students	753	90%
White	268	100%
Hispanic/Latino	177	86%
African American	152	75%


What happens when we control for:

- Special education status
- EL=English Learner status
- SED=Socioeconomically disadvantaged status

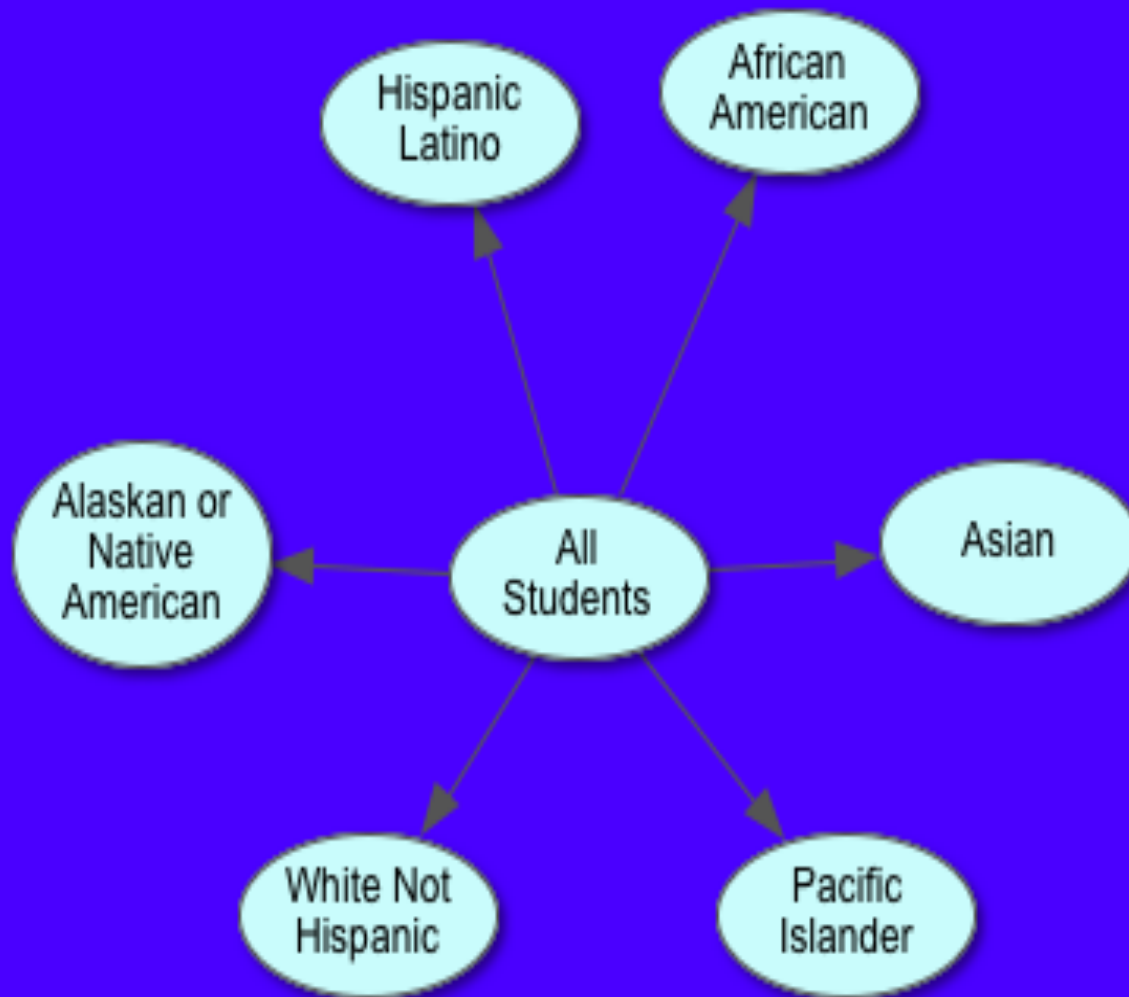
“Equivalent” groups...

	n=	CAHSEE Math Passing Rate 2014
All Students	753	90%
White	268	100%
Hispanic/Latino	177	86%
African American	152	75%
White Without Disability/EL/SED*	253	100%
Hispanic/Latino Without Disability/EL/SED*	66	99%
African American Without Disability/EL/SED*	53	91%

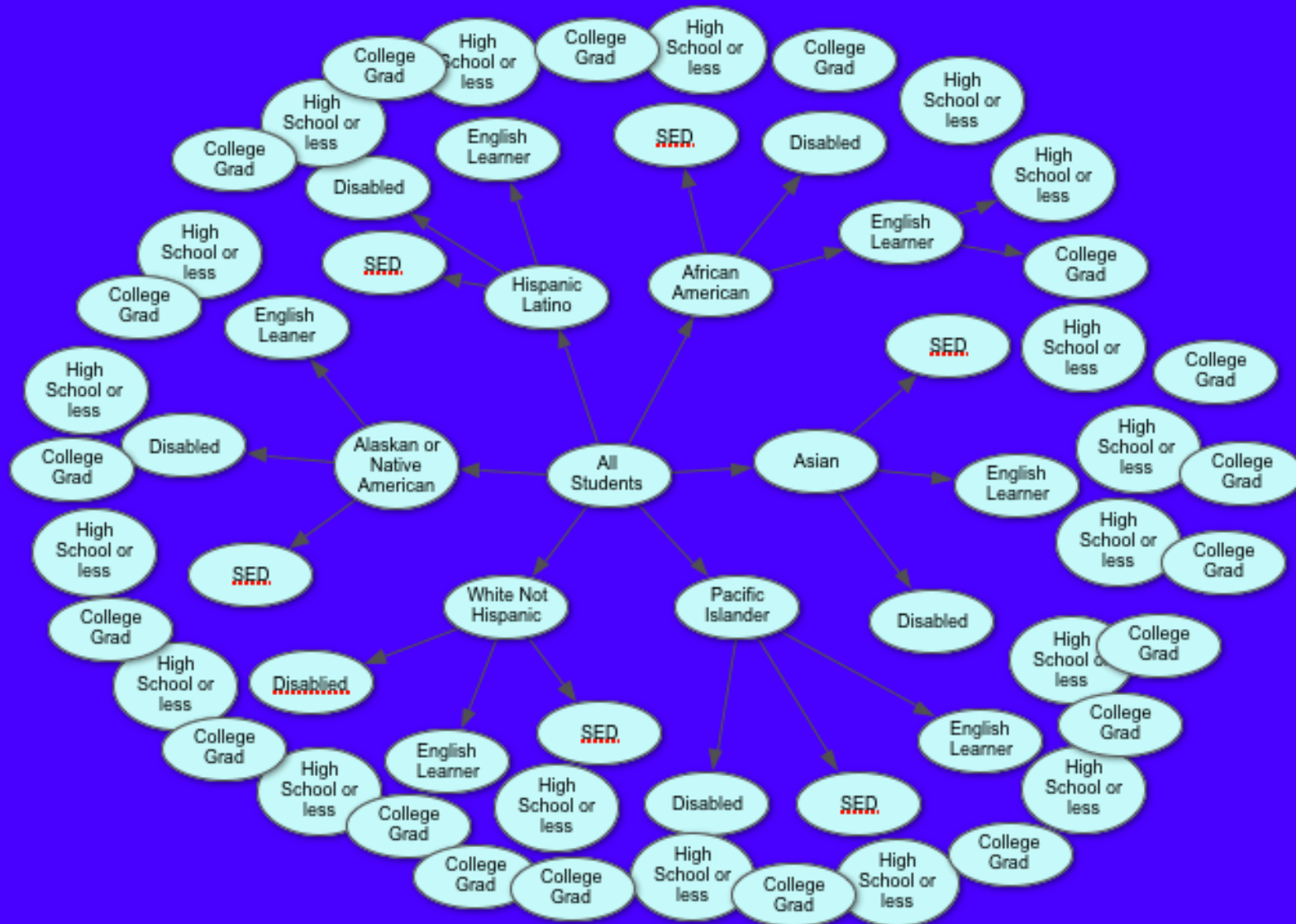
Why not continue creating equivalent groups this way?



All
Students





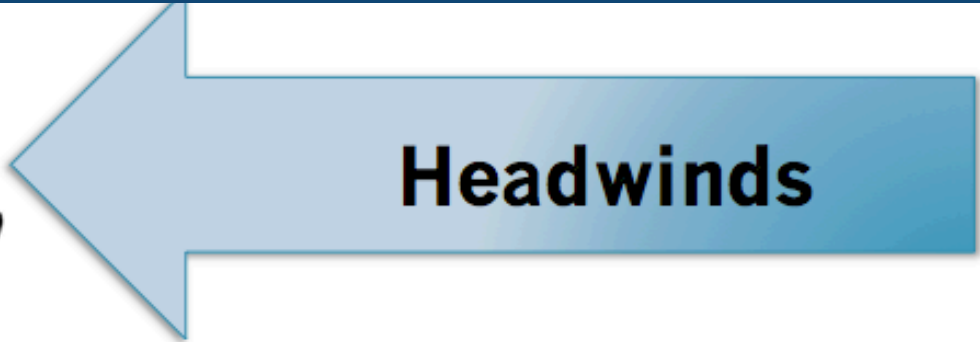
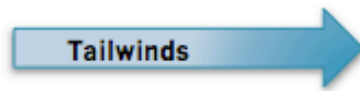




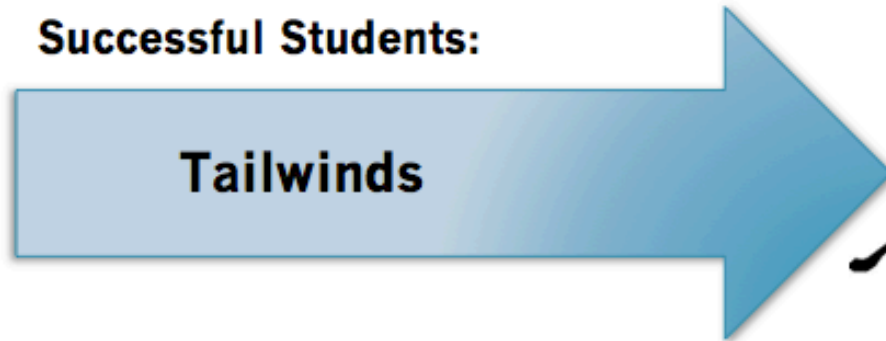
A different way to create more similar groups...

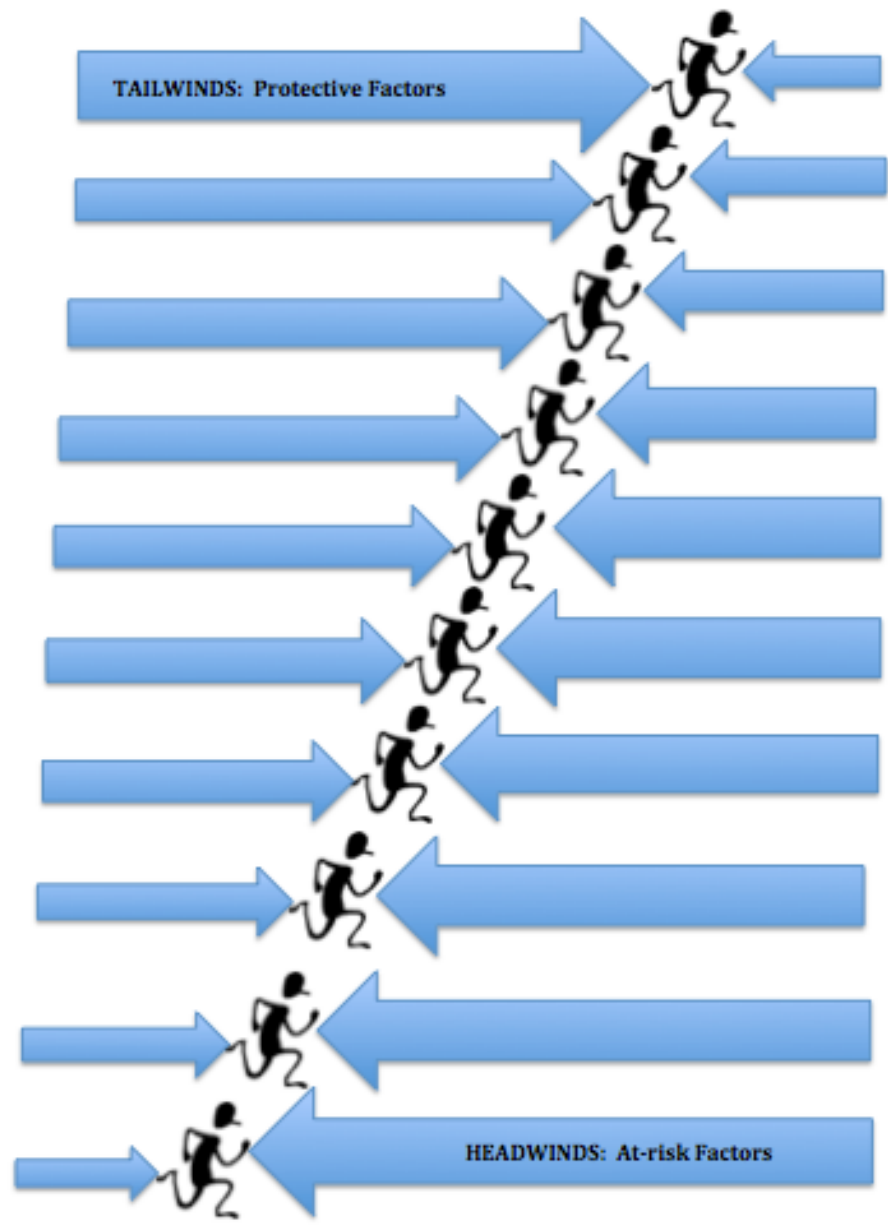
Adjust for differences but *keep it simple*
(*Easy to calculate and universally available at all schools*)

Struggling students:



Successful Students:





Protective and Risk Factors of Student Performance

Tailwinds (protective factors)

- High Parent Education Level
- Stable housing
- History of academic success
- High attendance rates

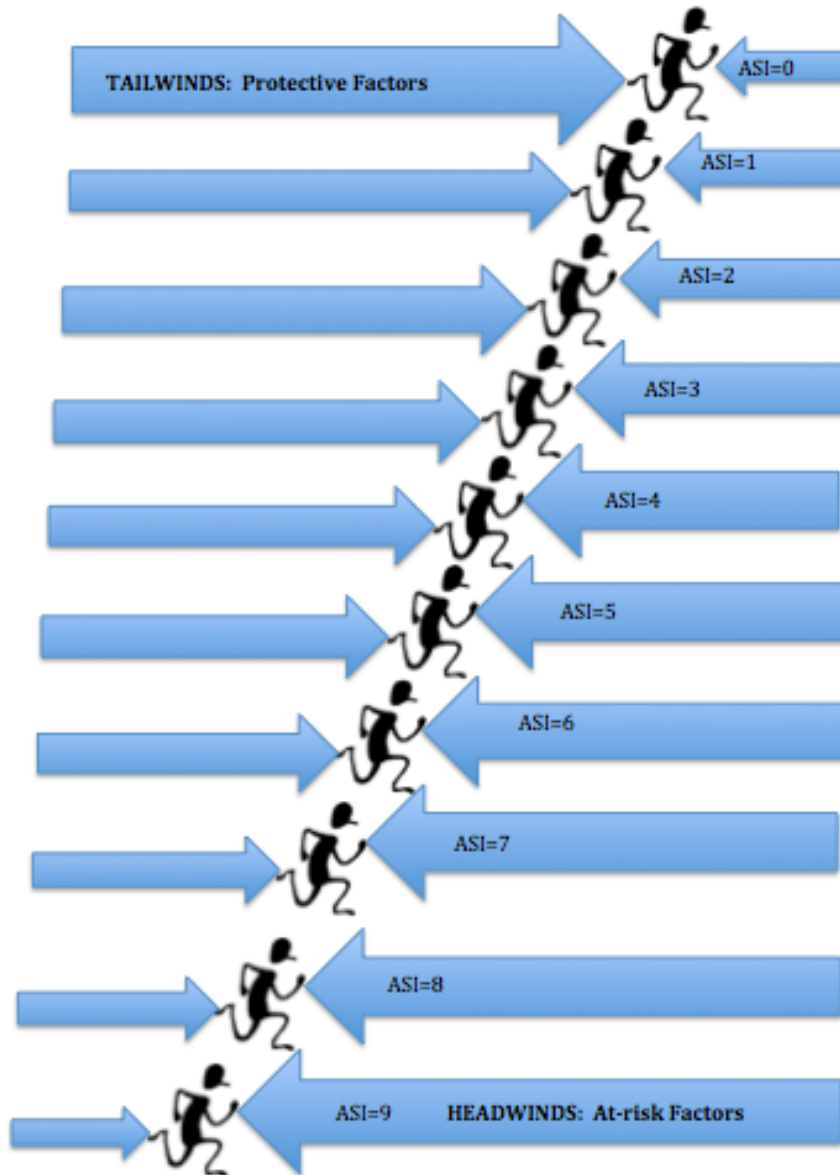


Headwinds (extra challenges)

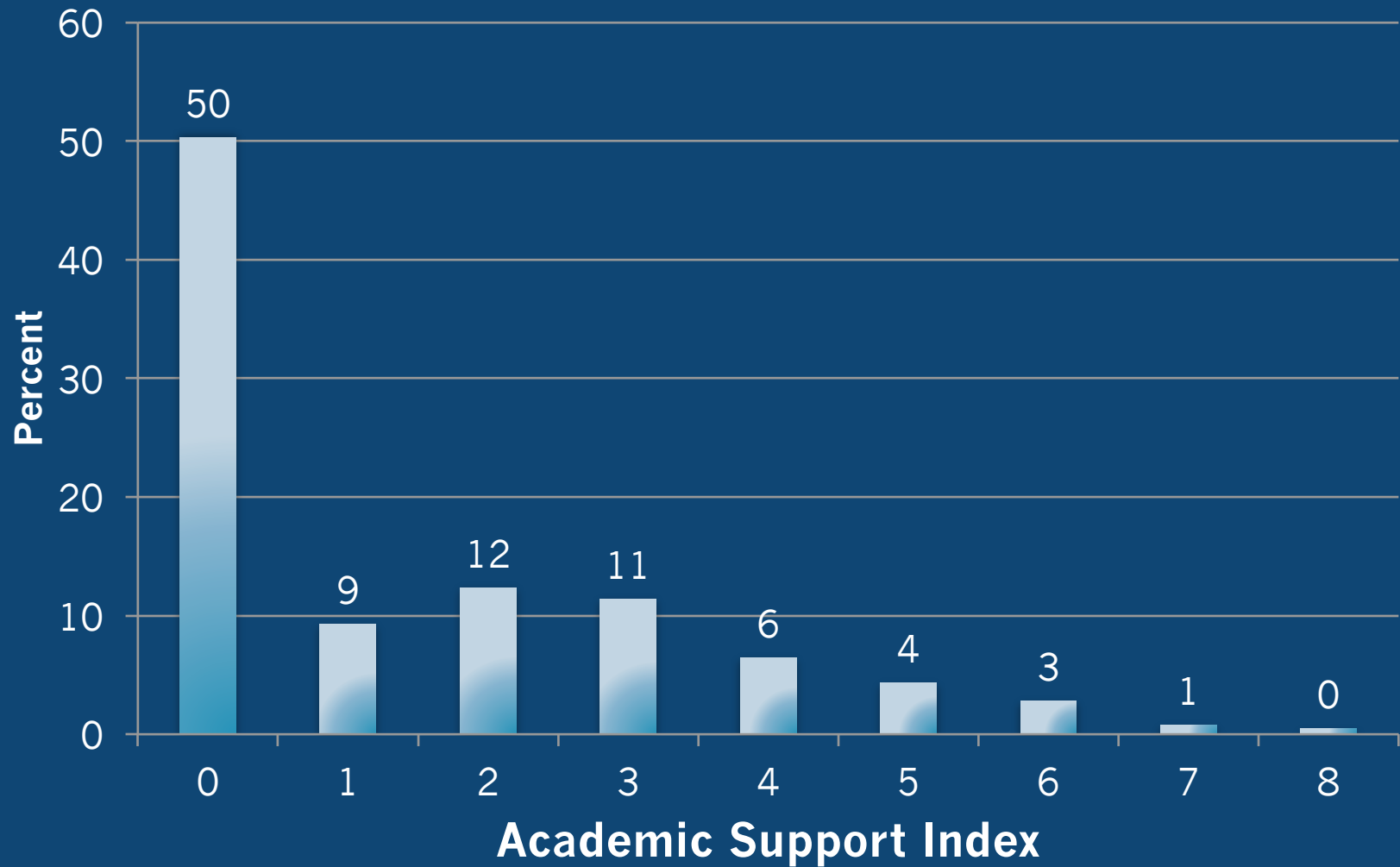
- English Learner
- Disability
- Socio-economically Disadvantaged
- Low Parent Education Level
- Homeless
- History of academic struggles
- Poor attendance

Headwinds contributing to the Academic Support Index

Headwinds	Points
English Learner	2
Special Education	2
Socio-Economically Disadvantaged	2
Parents are not high school graduates	2
Parents are high school graduates	1
Experiencing School as an African American Student	1



Distribution of Academic Support Index in BUSD:



How do these “headwinds” distribute across race and ethnicity?

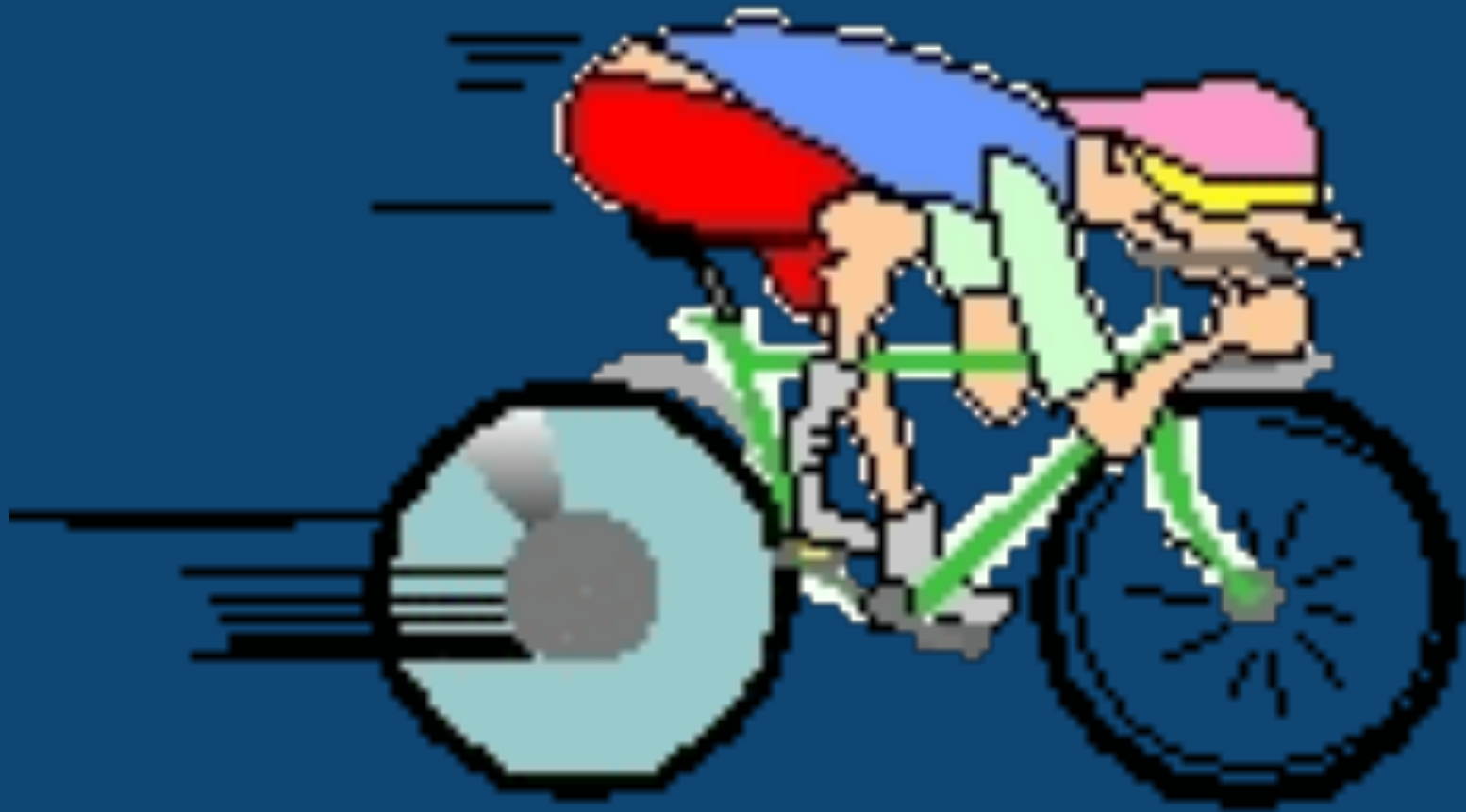


African American
Average ASI is
3.4



White Average ASI
is 0.4

Review: Low ASI



Review: High ASI



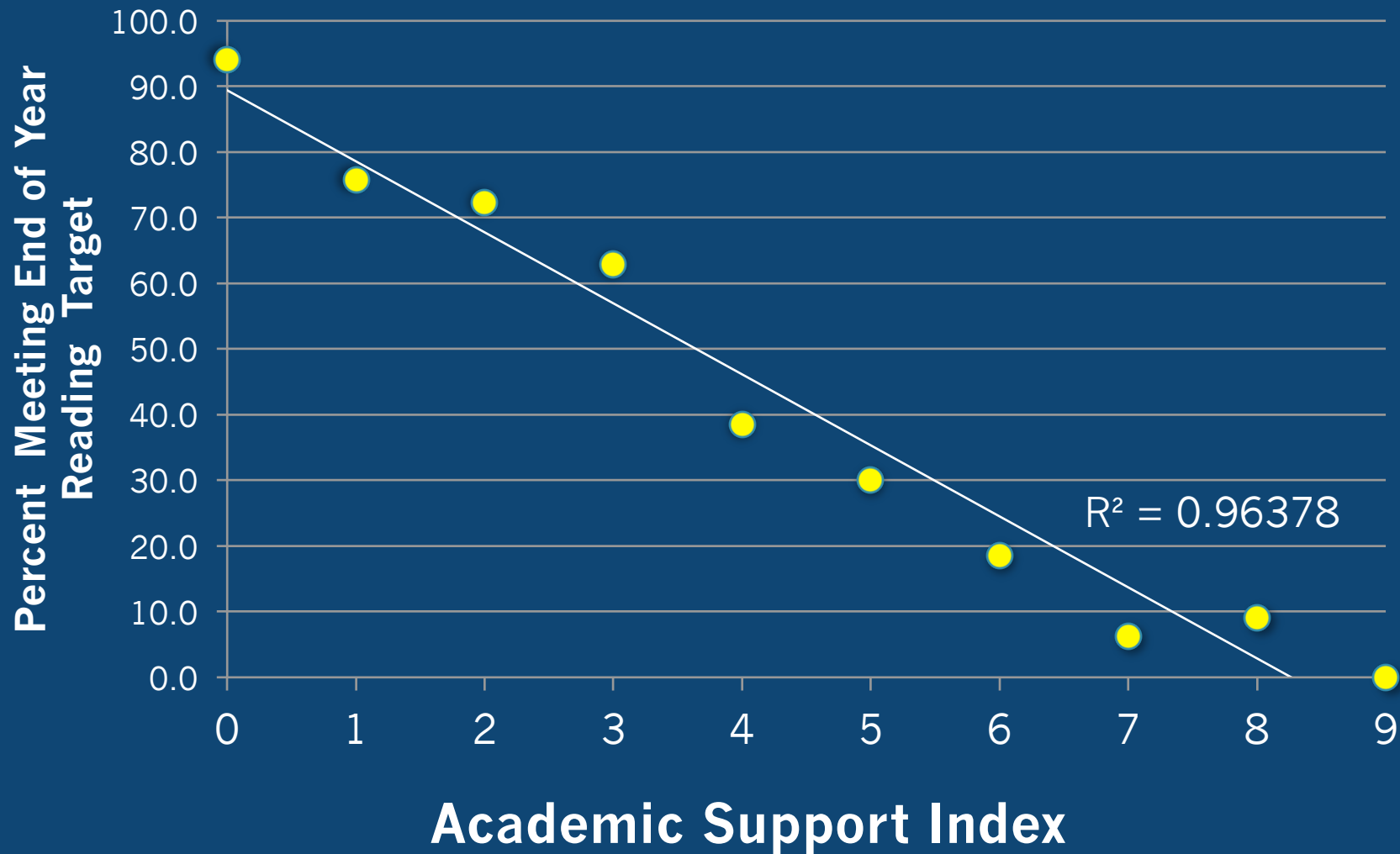
Very High ASI



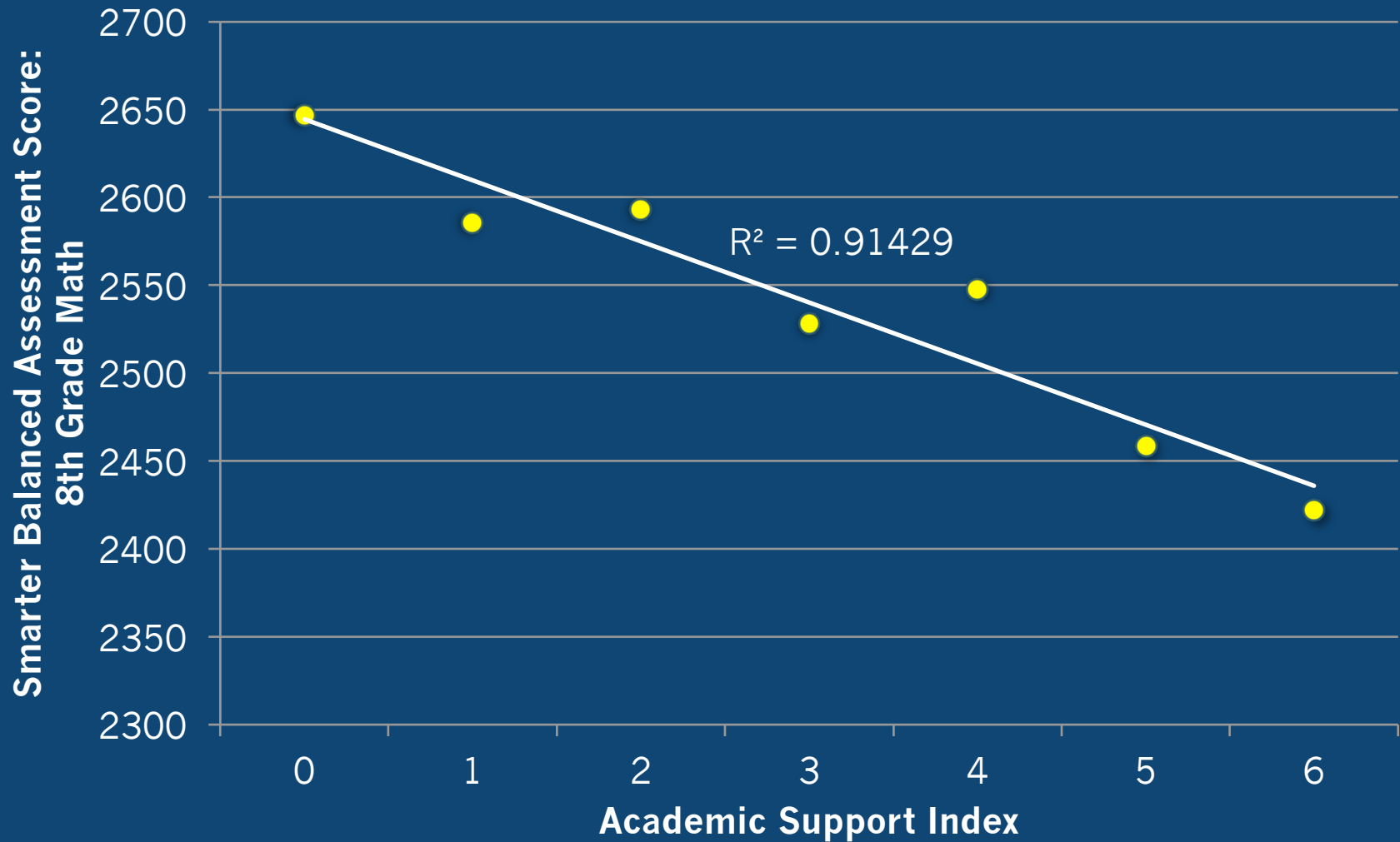
Question:

- Is there a relationship between students' ASI and student academic outcomes?

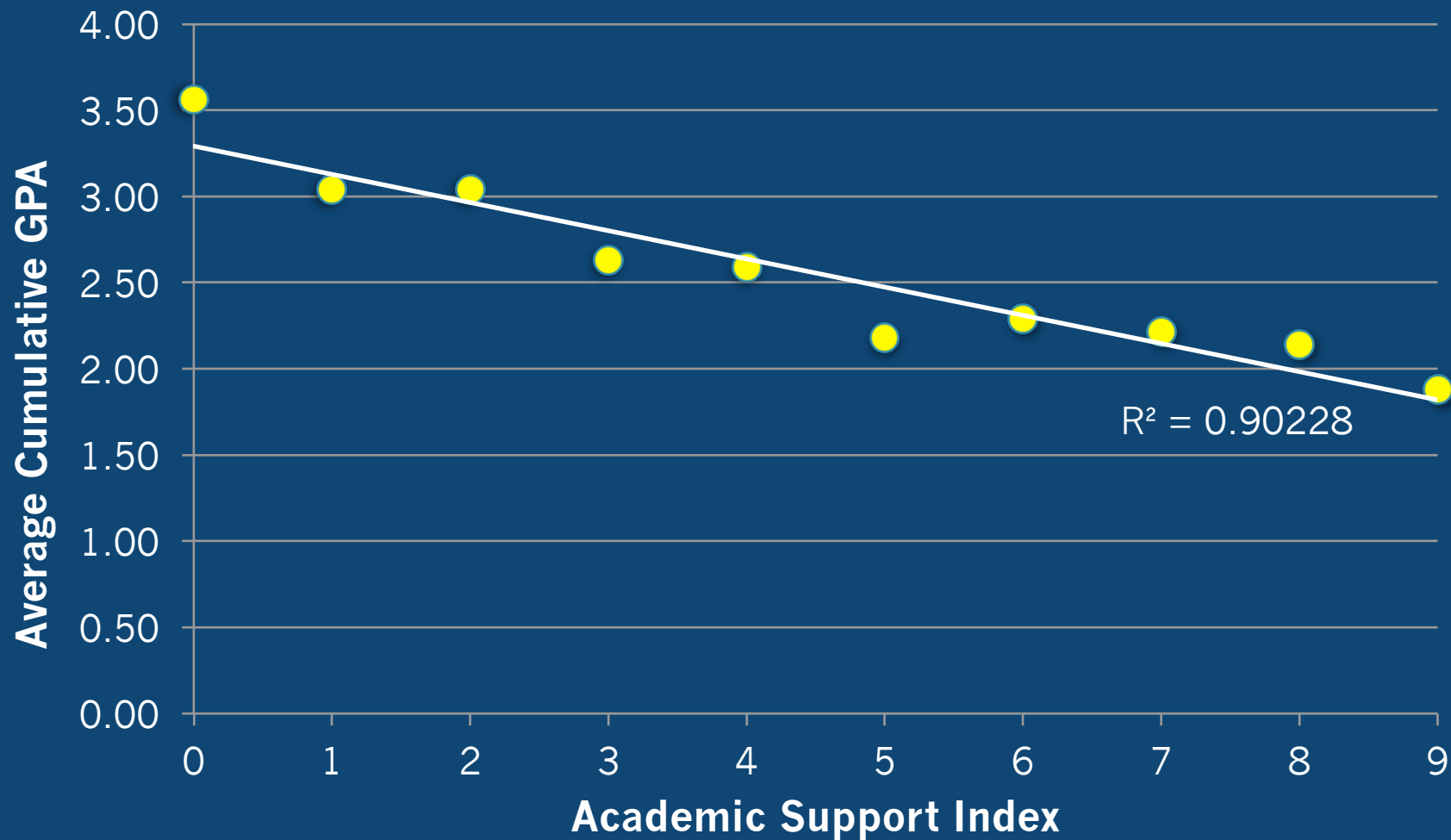
ASI vs. Meeting End of 3rd Grade Reading Target



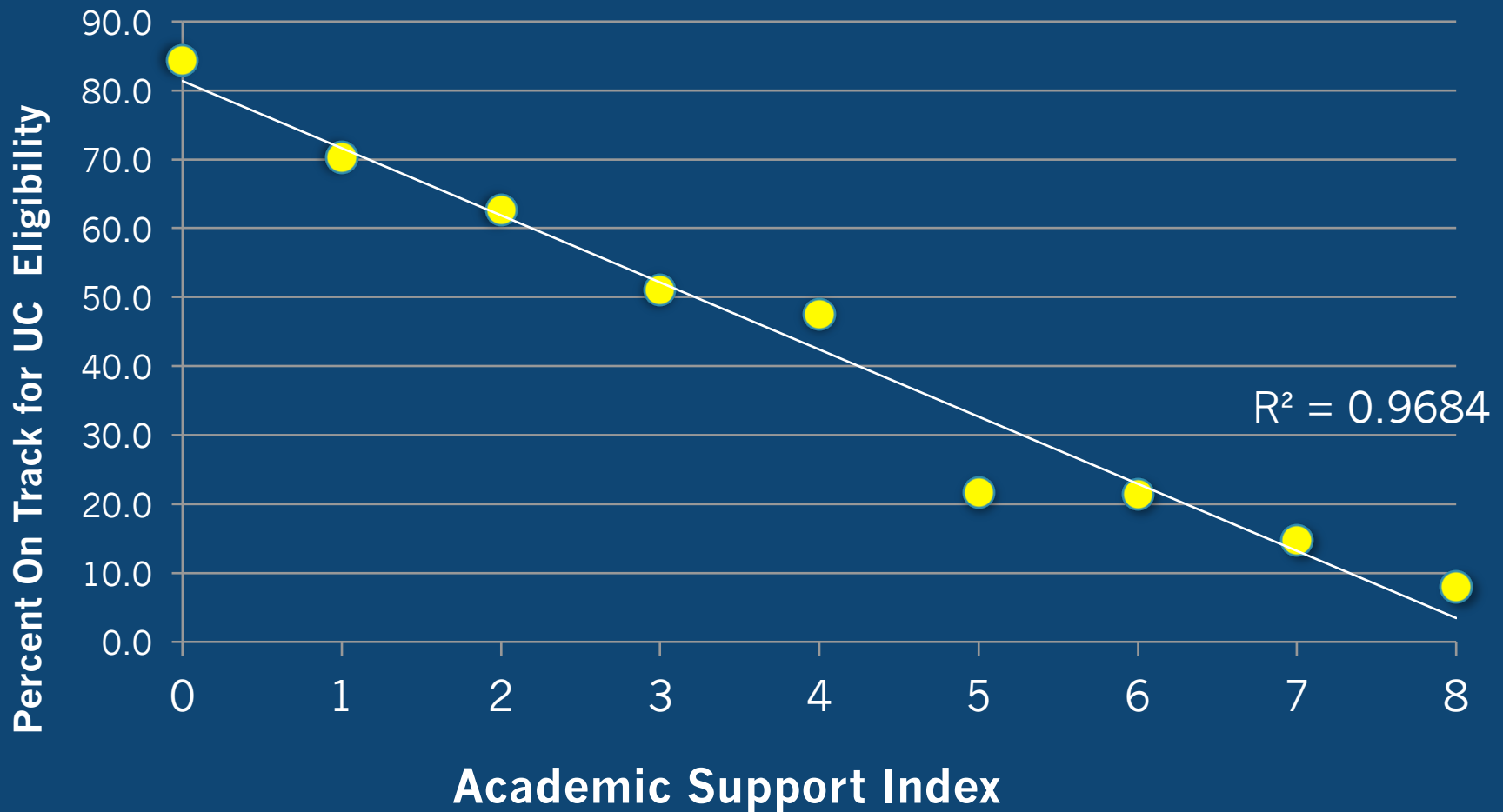
ASI vs. SBA Math Scores for BUSD 8th Graders



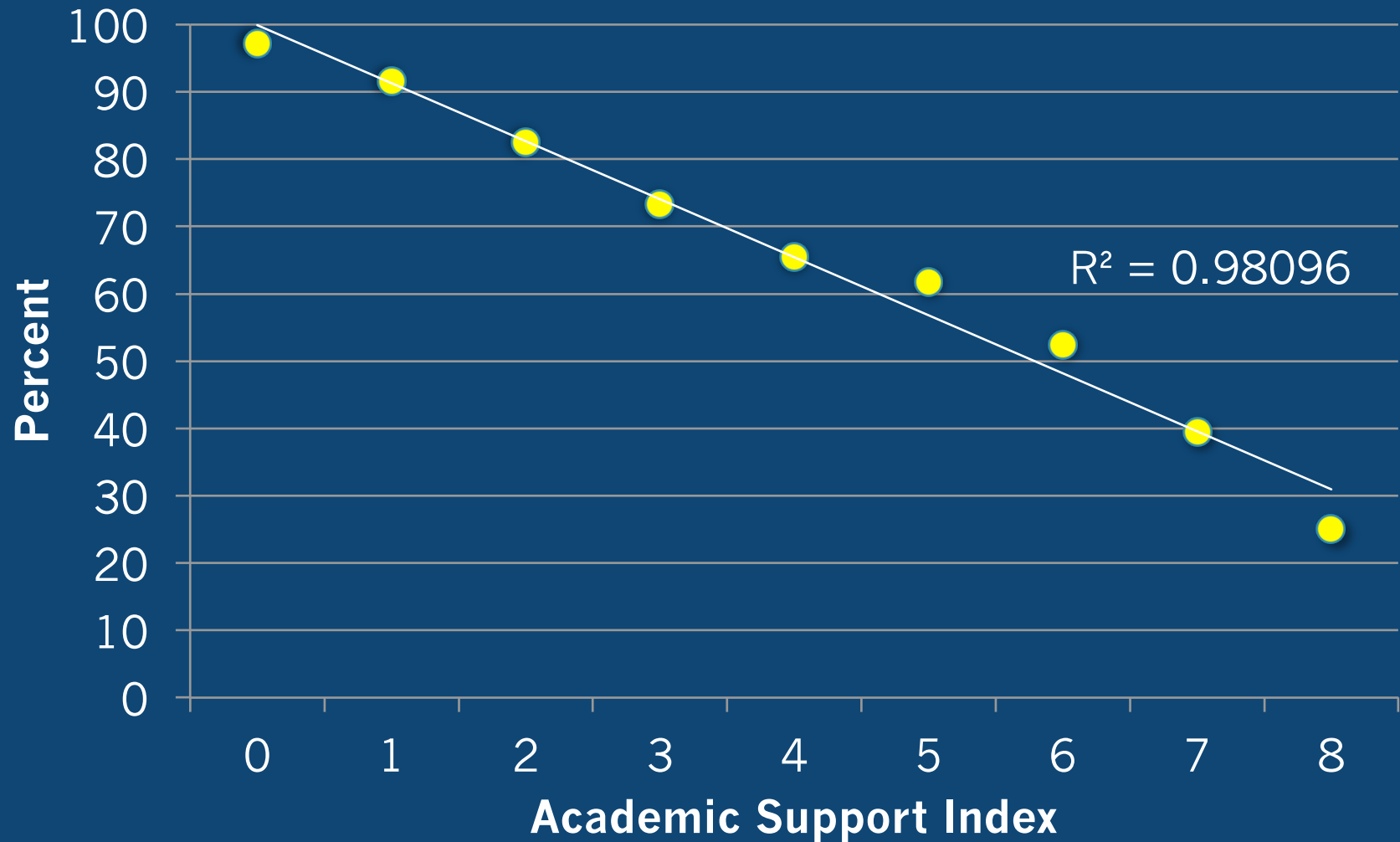
ASI vs. BHS Cumulative GPA



ASI vs. On-Track for UC Eligibility

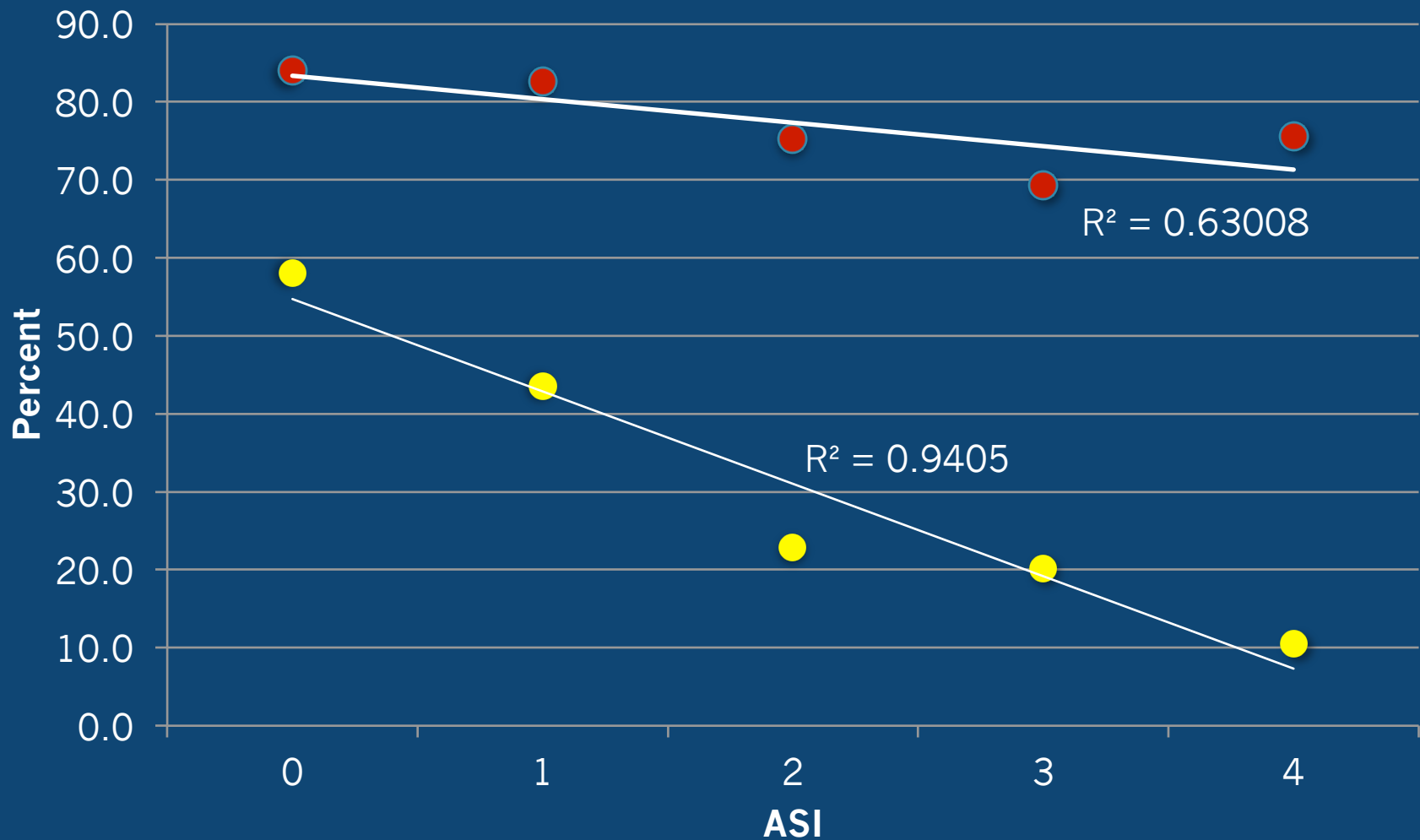


ASI vs. Enrollment in an AP or IB Course in the 12th Grade



Class of 2009

Percent Enrolling in College vs. Percent Earning a Degree

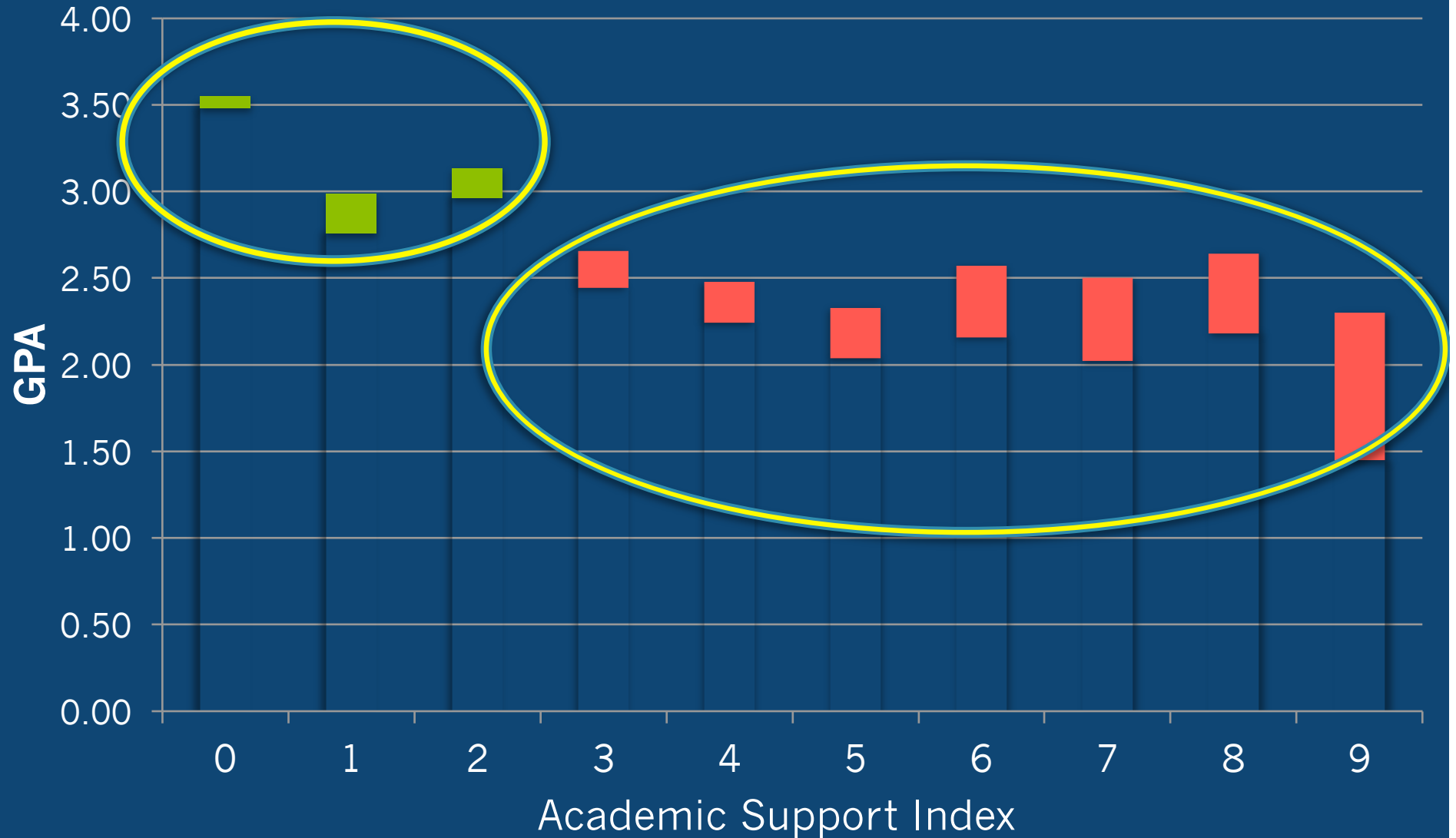


At what point does a
student begin to
“underperform?”

- GPA is under a 2.5 (we want all our children above average!)
- Requires the presence of at least two risk factors:
 - In other words: It will require at least two “headwinds” to predict that a student *might* underperform.
- No single factor reliably predicts academic underperformance!
- It is the additive nature of factors that increases the potential for underperformance.

Cumulative Grade Point Averages

95% Confidence Interval

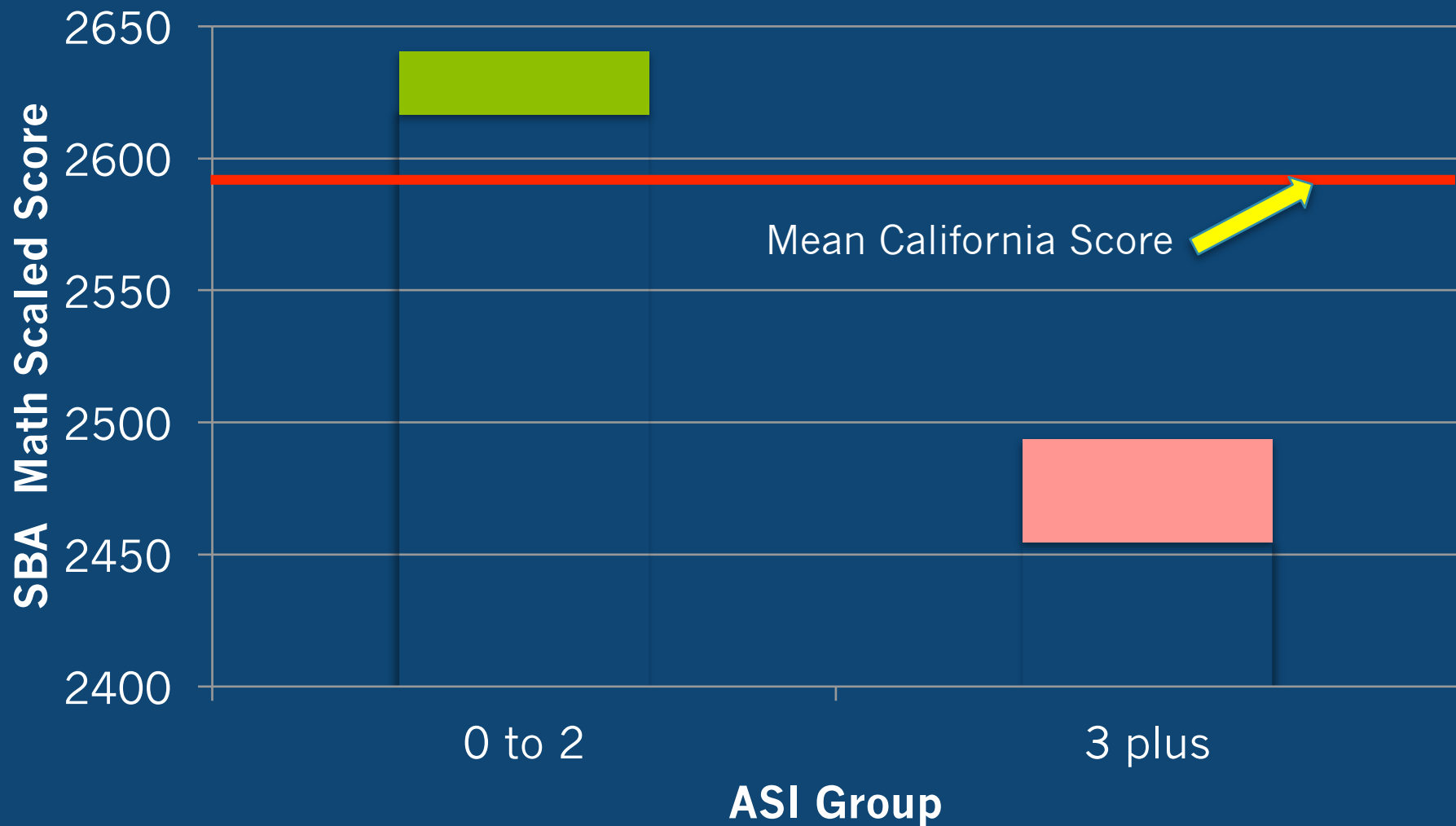


Two distinguishable groups: ASI 0 to 2 and ASI 3+

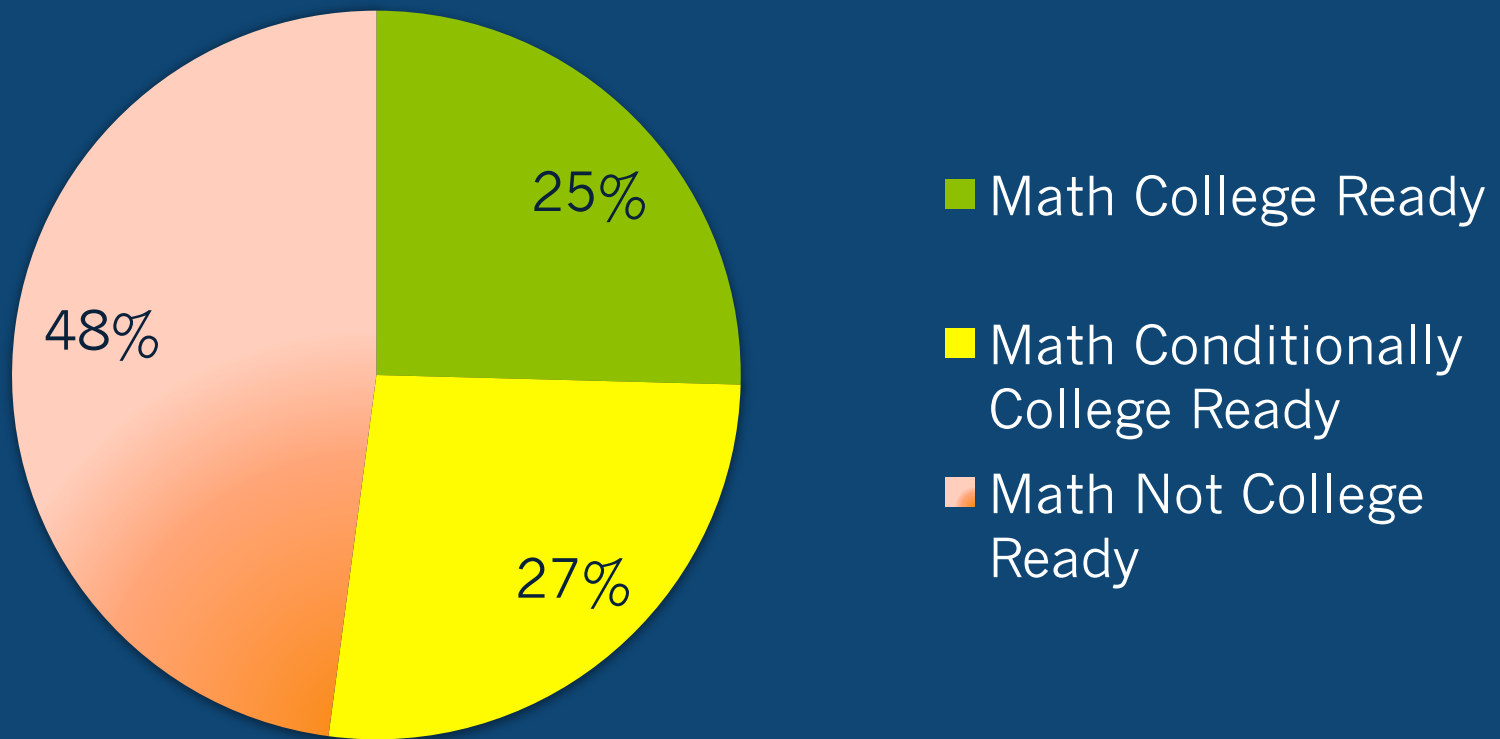
	ASI 0 to 2	ASI 3 +
GPA \geq 2.5	1335	623
GPA $<$ 2.5	105	407

The Chi-square statistic is 379.4401. The P value is 0.
This result is significant at $p < 0.05$

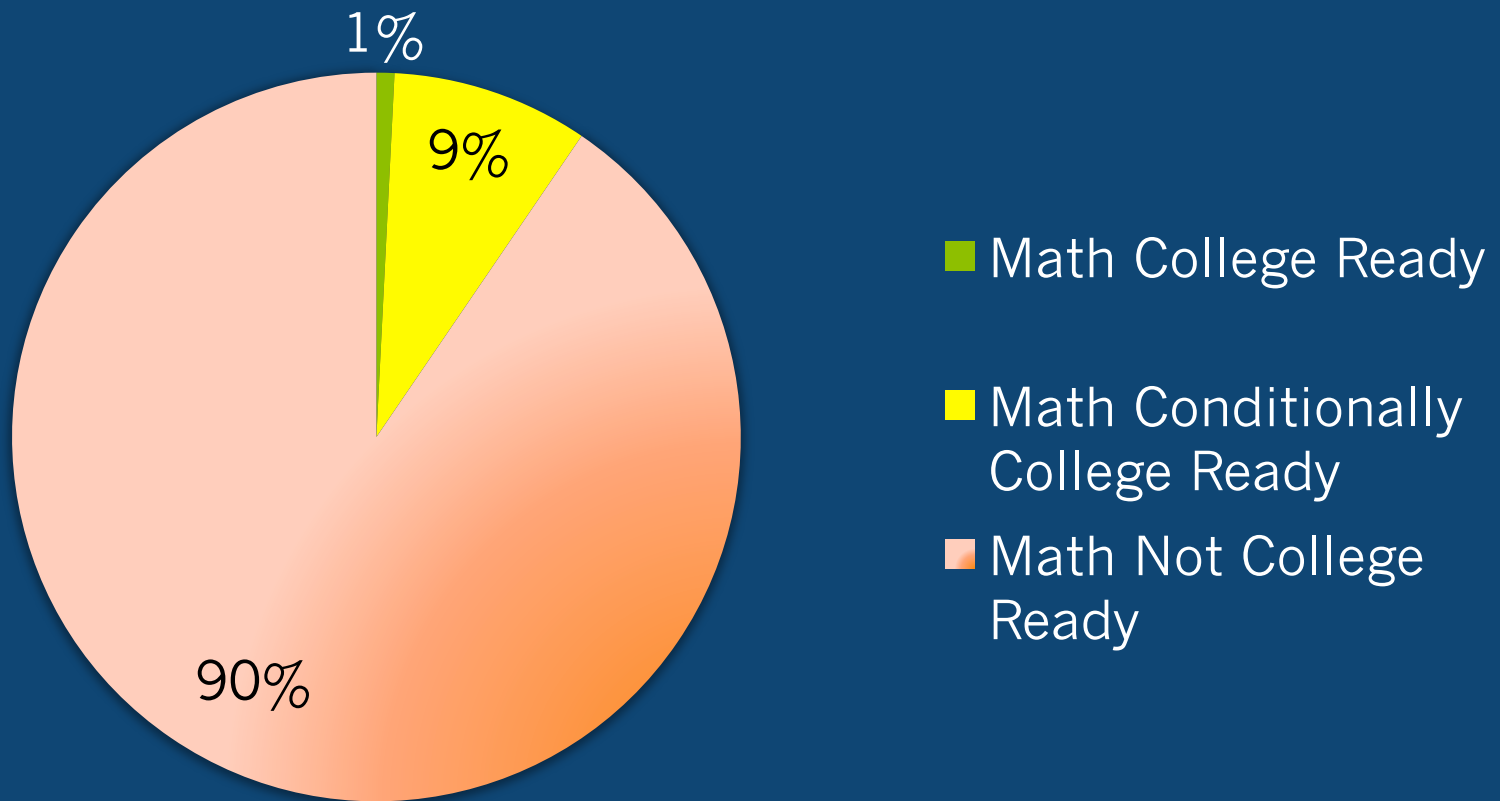
SBA Math 11th Grade



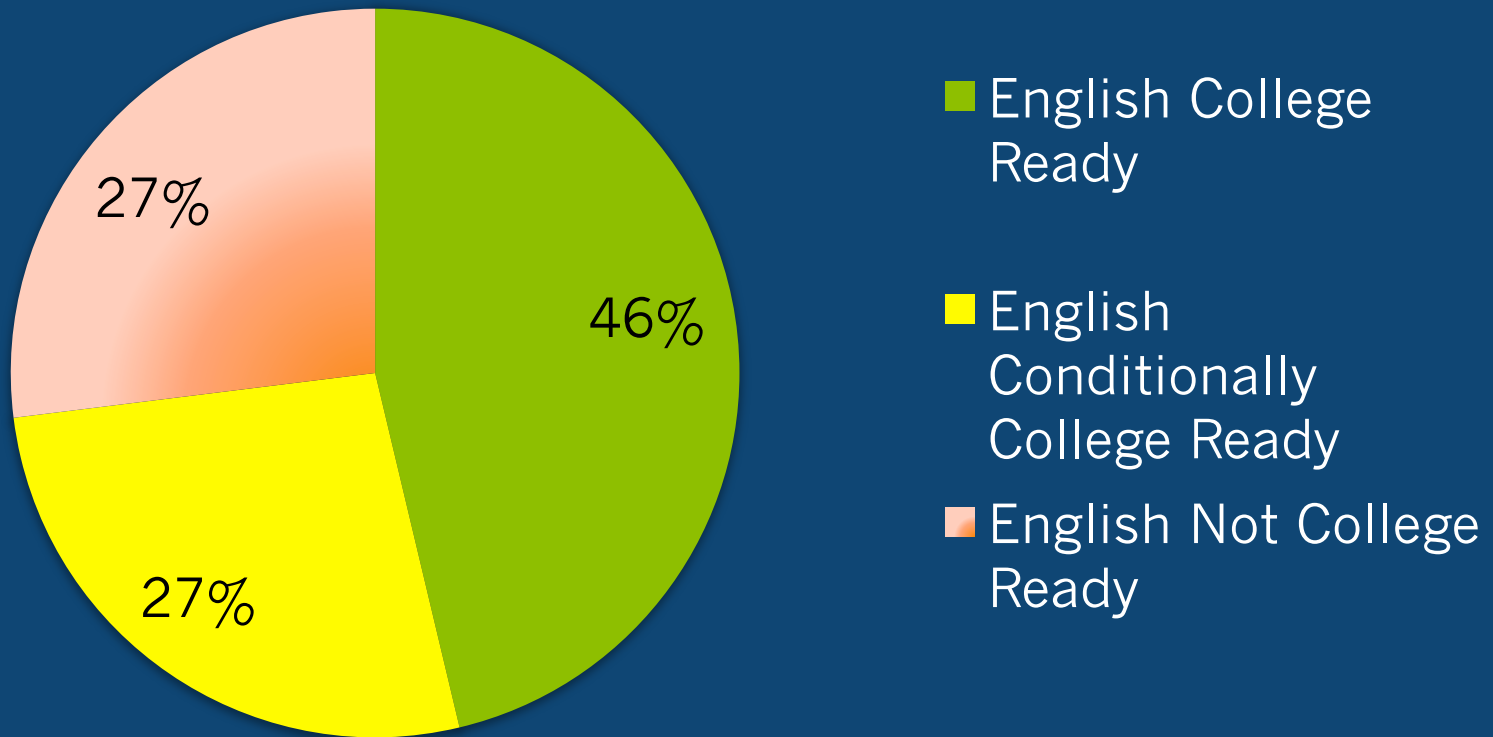
Math College Ready ASI 0-2



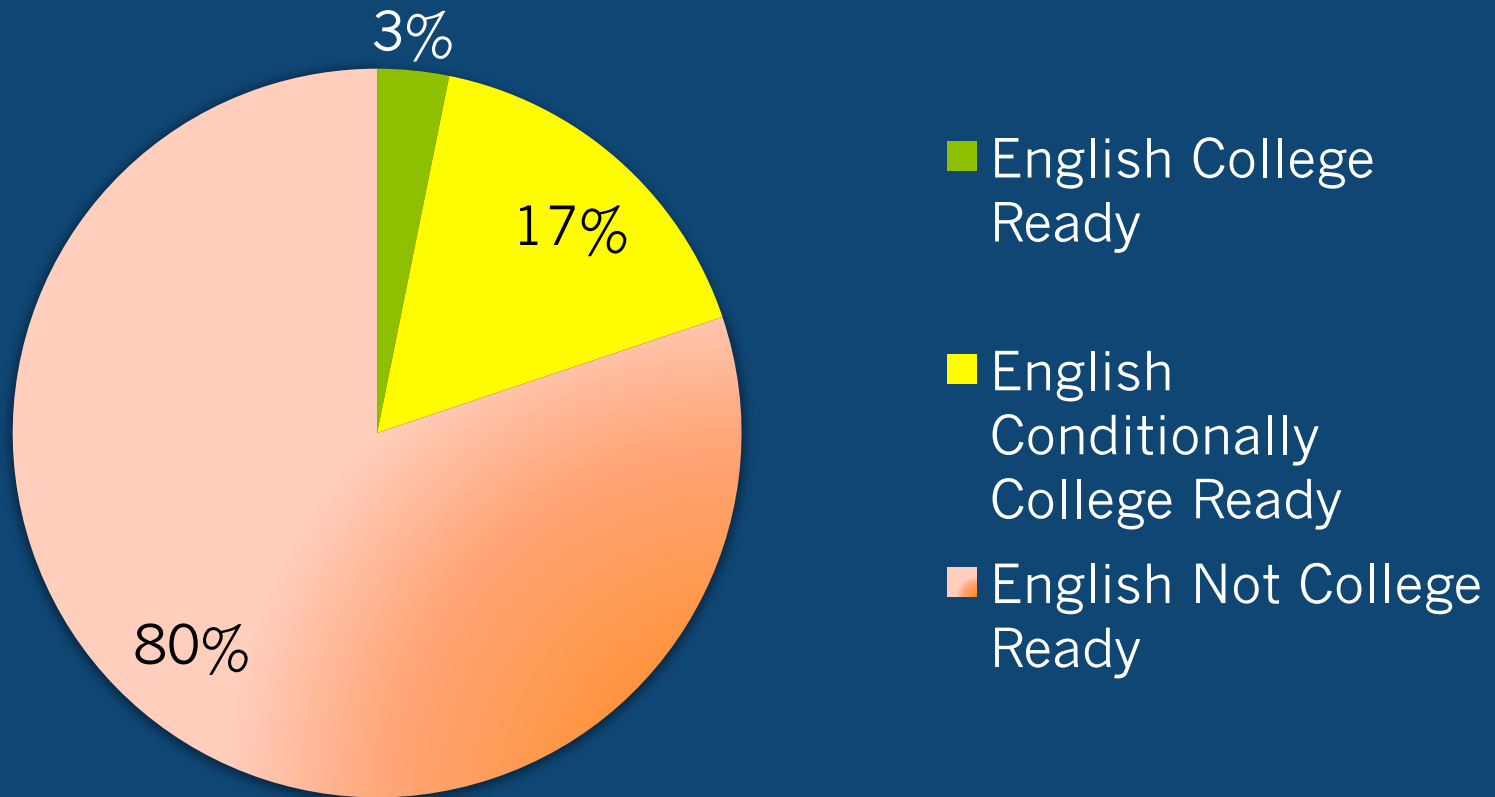
Math College Ready ASI 3 Plus



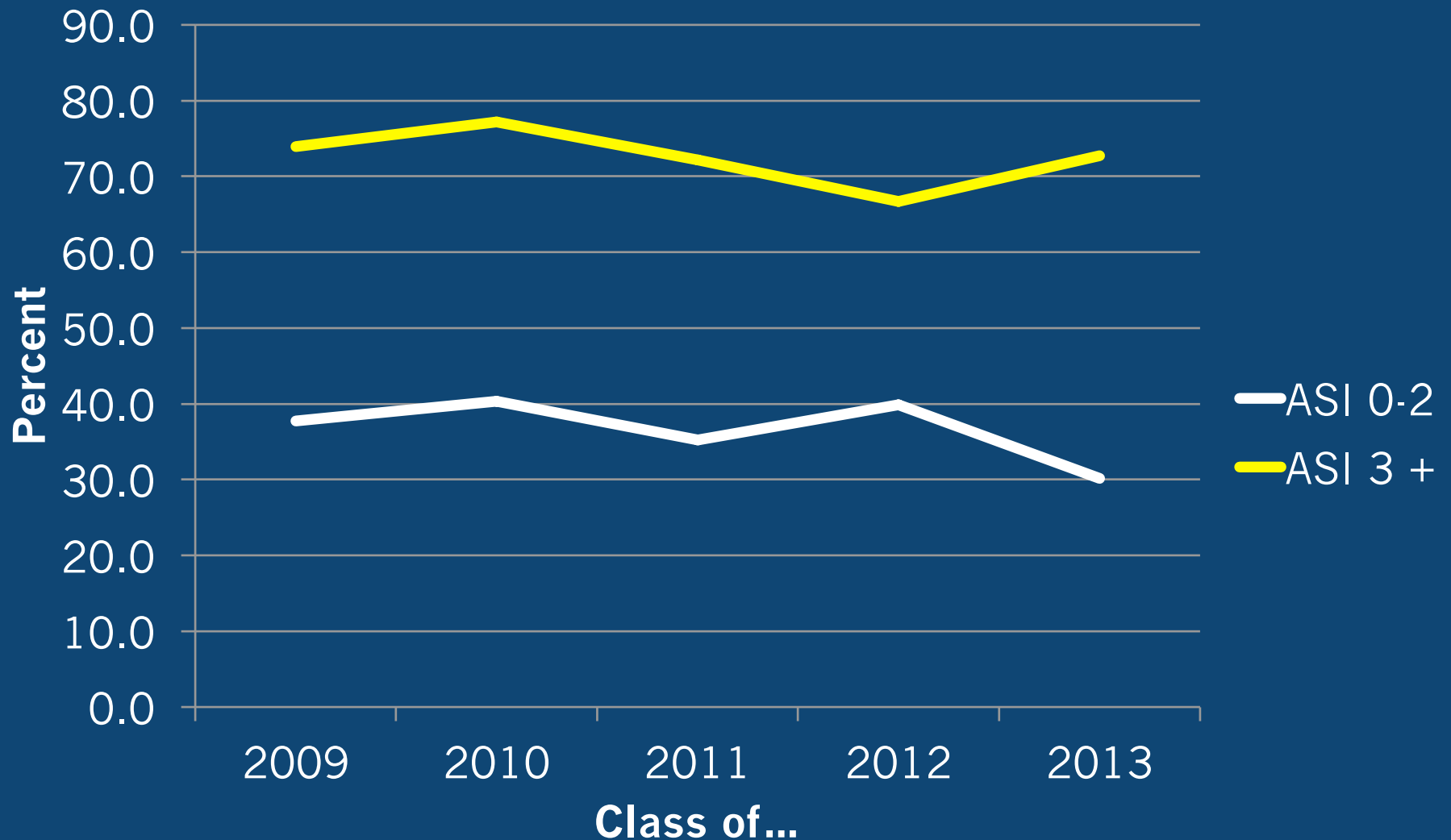
English College Ready ASI 0-2



English College Ready ASI 3 Plus



Of the students going to college, who goes to community college?



How are we using the
Academic Support Index?

Changing our language around the achievement gap

- Using ASI of 3+ for our Equity Goals
- Every year all professional development plans for both departments and learning communities have two goals:
 - Achievement Goal for all students
 - Equity Goal for a targeted population
- All PD plan equity goals address students who are ASI 3+

Examples of using the ASI to better understand schools and outcomes

- Provides context when looking at assessment data allowing for “apples to apples” comparisons
 - School assessment data, class compositions, Intervention impact
- Help identify students who might benefit from intervention
 - Case Study: CAHSEE
 - Case Study: Transition from Middle to High School
- Identifying students at-risk for suspension (new)

Context
when
looking
at data

Looking at Assessment Data...

(BHS 10th Grade ELA Common Assessments)

Learning Community	Average ASI	Pre-Assessment Mastery %	Post-Assessment Mastery %	Change in Percent Mastery
AMPS*	2.85	2	27	+25
BIHS	1.15	34	57	+23
BHS Overall	1.96	25	41	+16

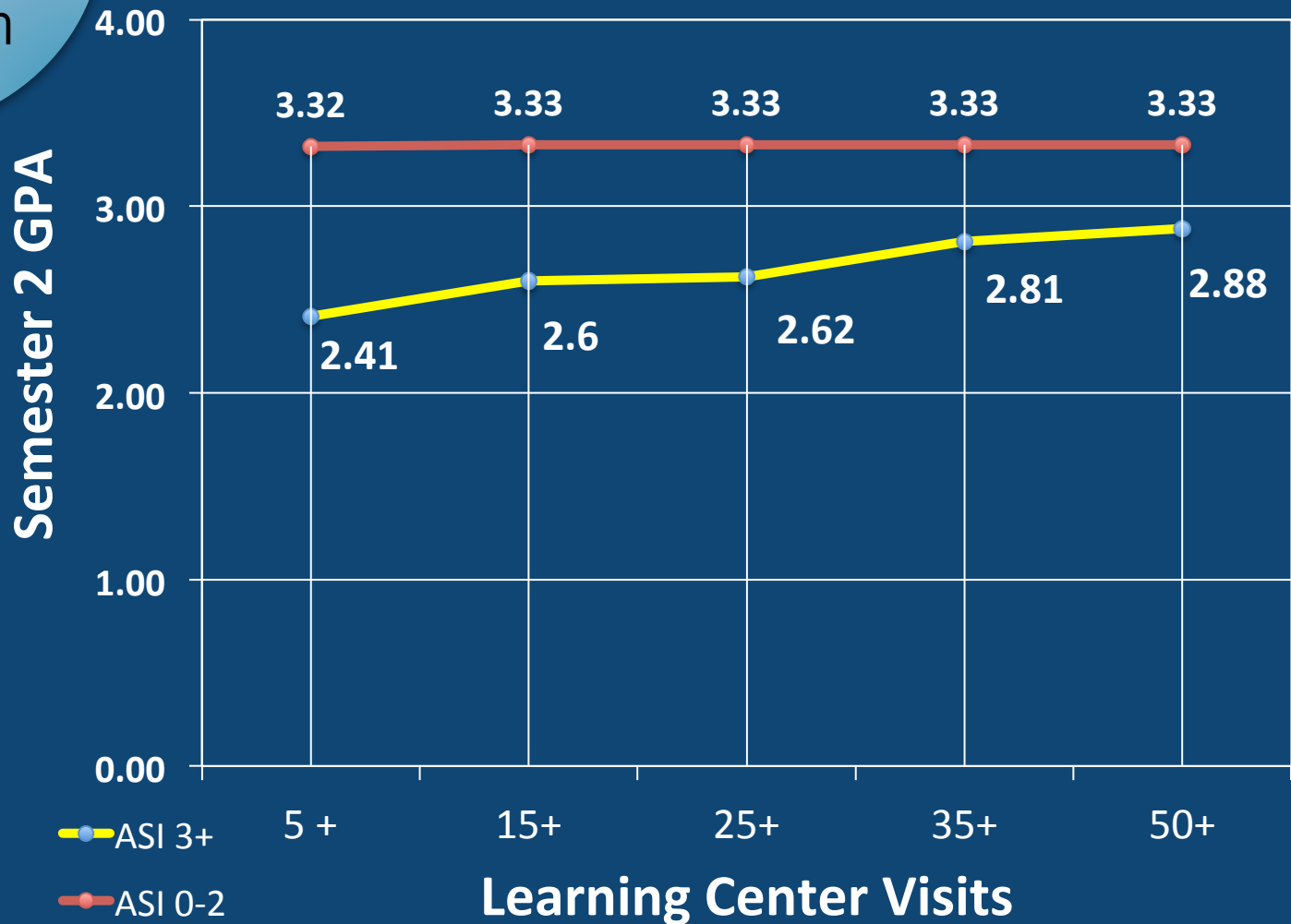
Context
when
looking at
classes

Understanding class compositions

Course	Average ASI
Traditional AP Language And Composition	0.89
AP Language and Composition Augmentation Model	3.38
School Average	1.33

Program
and
Intervention
Evaluation

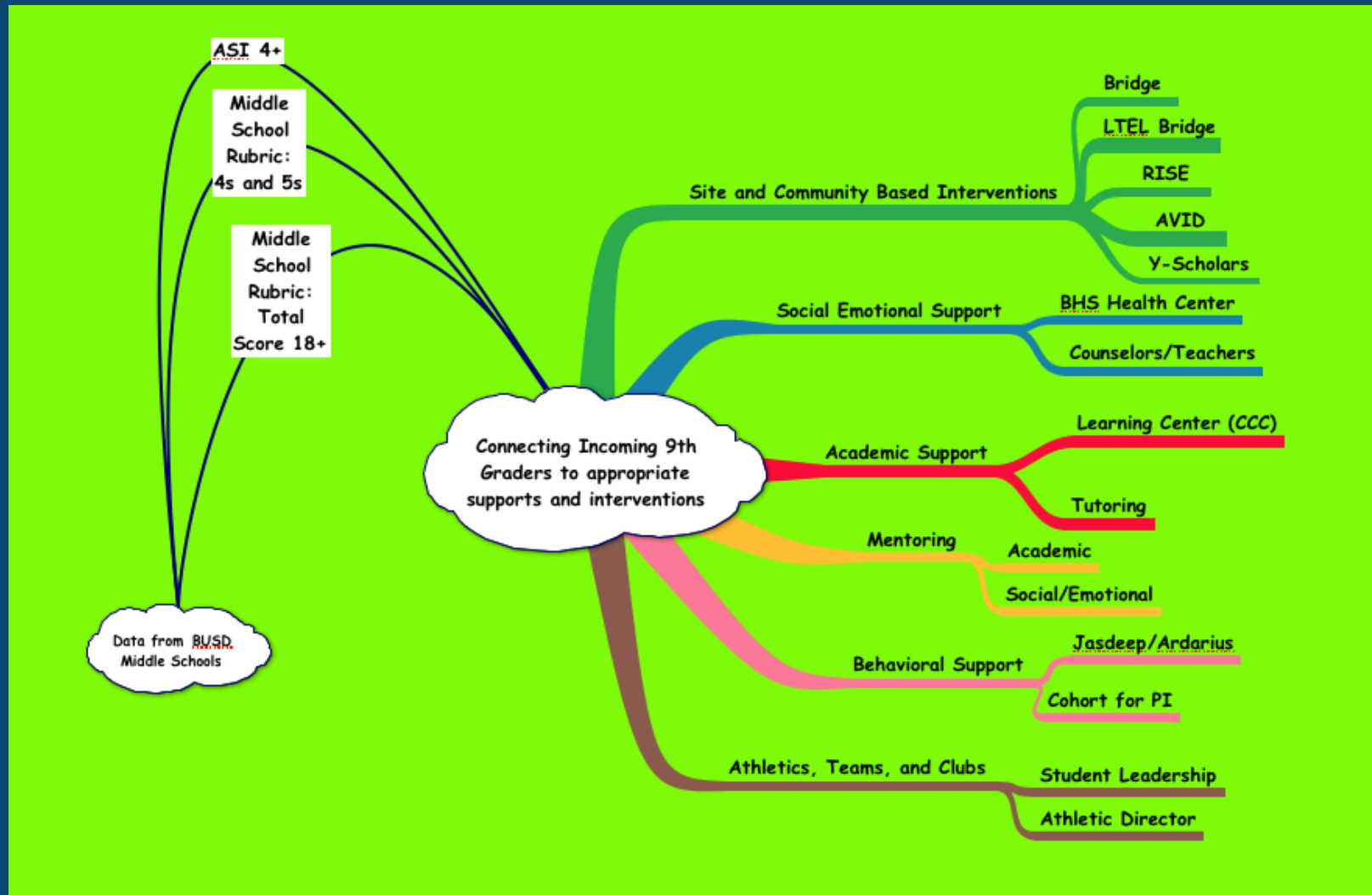
Student Learning Center



Identifying Students For Support During the Transition from Middle to High School

Case Study: The STARS Protocol

Connecting incoming 9th graders to appropriate resources

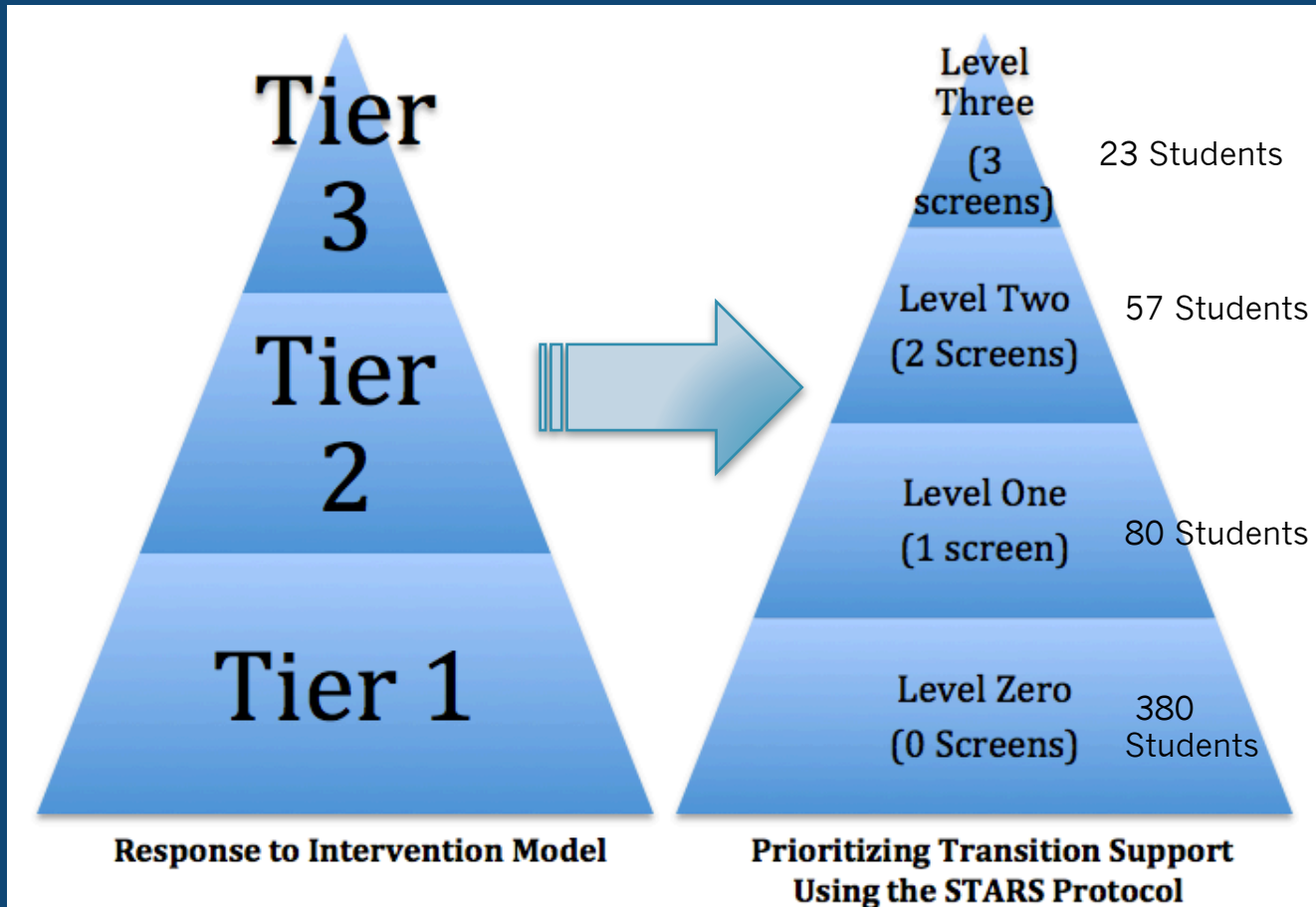


A more data informed defensible method for identifying students for appropriate interventions

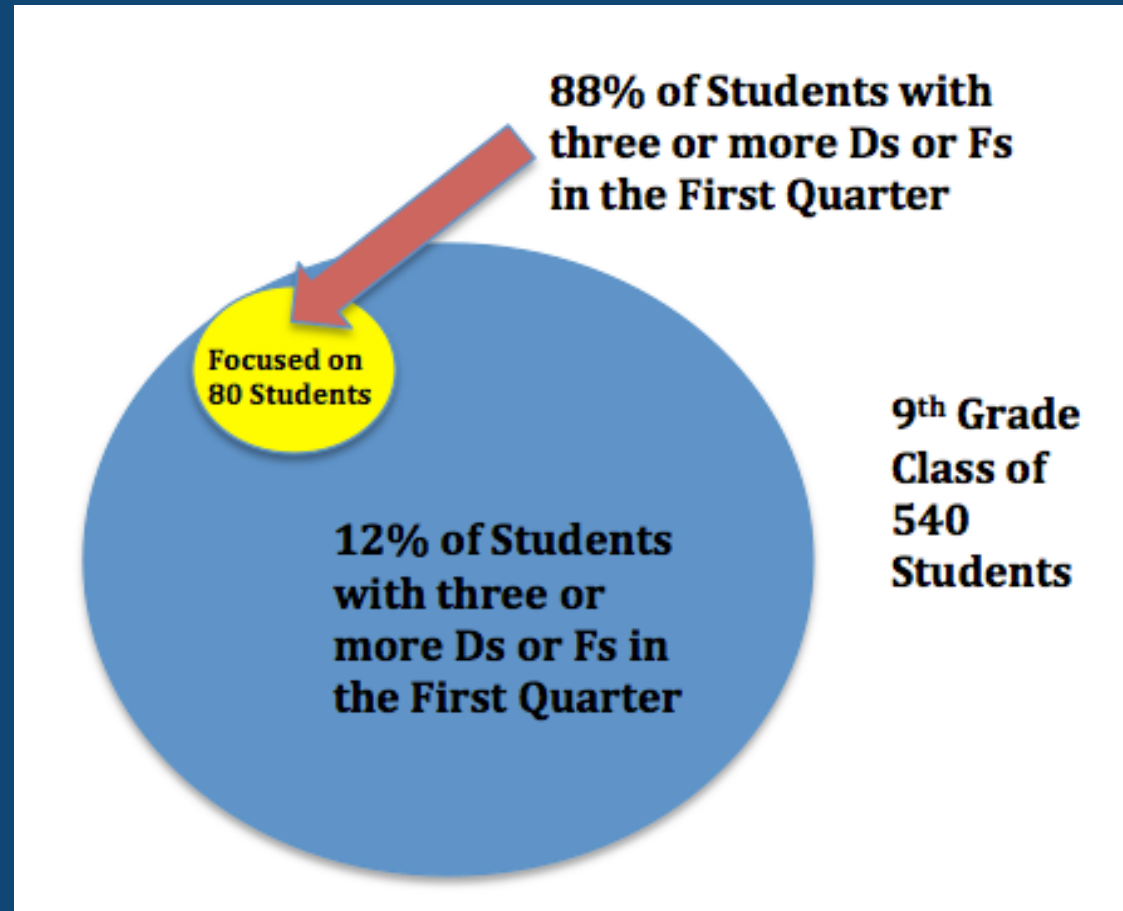
Middle To High School Transition Rubric

	Level of Concern	No Information (1)	Low (2)	Medium (3)	High (4)	Extreme (5)
1	Behavioral	No Information	<ul style="list-style-type: none"> · Age appropriate · No concerns 	<ul style="list-style-type: none"> · Some concerns 	<ul style="list-style-type: none"> · Moderate concerns 	<ul style="list-style-type: none"> · Drug and alcohol · Fighting · Gang membership · History of discipline issues · Has a Probation Officer
2	Mental Health	No information	<ul style="list-style-type: none"> · Age appropriate · No concerns 	<ul style="list-style-type: none"> · Some concerns 	<ul style="list-style-type: none"> · Moderate concerns 	<ul style="list-style-type: none"> · Should immediately connect with BHS Health Center
3	Family/ Home life	No information	<ul style="list-style-type: none"> · Strong home and family life · No concerns 	<ul style="list-style-type: none"> · Some concerns 	<ul style="list-style-type: none"> · Moderate concerns · Minimal parent engagement 	<ul style="list-style-type: none"> · Homeless/McKinney-Vento · Incarcerated parent · Group home/Foster · Loss of a parent or sibling
4	Social/Peer	No information	<ul style="list-style-type: none"> · Strong social skills/peer group · No concerns 	<ul style="list-style-type: none"> · Some concerns 	<ul style="list-style-type: none"> · Moderate concerns 	<ul style="list-style-type: none"> · Makes poor choices · Troubled peer group · Few or no friends
5	Math Skills	No Information	<ul style="list-style-type: none"> · At or above grade level · SBP 3 or 4 · No concerns 	<ul style="list-style-type: none"> · Some concerns · May need support 	<ul style="list-style-type: none"> · Moderate concerns · Should participate in support opportunities 	<ul style="list-style-type: none"> · Significantly below grade level · Has failed or repeated a math class
6	ELA Skills	No Information	<ul style="list-style-type: none"> · At or above grade level · SBP 3 or 4 · No concerns 	<ul style="list-style-type: none"> · Some concerns · May need support 	<ul style="list-style-type: none"> · Moderate concerns · Should participate in support opportunities 	<ul style="list-style-type: none"> · Significantly below grade level · Has failed or repeated an English class

Prioritizing Students For Transition Support



Results:



Middle to
High
School
Transition
Support

Percent of non-special
education 9th graders
identified prior
to their first day of class

	1 or more DFs	2 or more DFs	3 or more DFs	4 or more DFs	5 or more DFs
First Quarter	57%	71%	88%	92%	100%
First Semester	68%	68%	74%	78%	79%
Second Semester	63%	63%	69%	73%	88%

Interrupting the Predictability of Student Outcomes

Case Study: California High School Exit Exam

ASI Strongly Correlates to CAHSEE ELA Passing Rates Over Time

Academic Support Index	CAHSEE ELA PASSING RATE 2012	CAHSEE ELA PASSING RATE 2013	CAHSEE ELA PASSING RATE 2014
0	100%	100%	100%
1	95%	97%	97%
2	89%	96%	91%
3	85%	88%	87%
4	79%	89%	70%
5	50%	60%	61%
6	40%	58%	55%
7	16%	39%	43%
Correlation	R² = 0.90224	R² = 0.87051	R² = 0.96859

Results of CAHSEE Intervention

Identifying students for Intervention

Intervention and Control Groups:

- ASI 3+
- No IEP
- No ELN
- Control group:
 - Better prior performance

California High School Exit Exam	CAHSEE ELA	CAHSEE Math
Passing Rate for ASI 3+ 2013	63%	64%
Passing Rate for ASI 3+ 2014	64%	71%
Passing Rate for ASI 3+ 2015	73%	76%
Passing Rate for ASI 3+ Control	81%	82%
Passing Rate for ASI 3+ Intervention Students	98%	95%
BHS Overall Passing Rate 2015	91%	90%

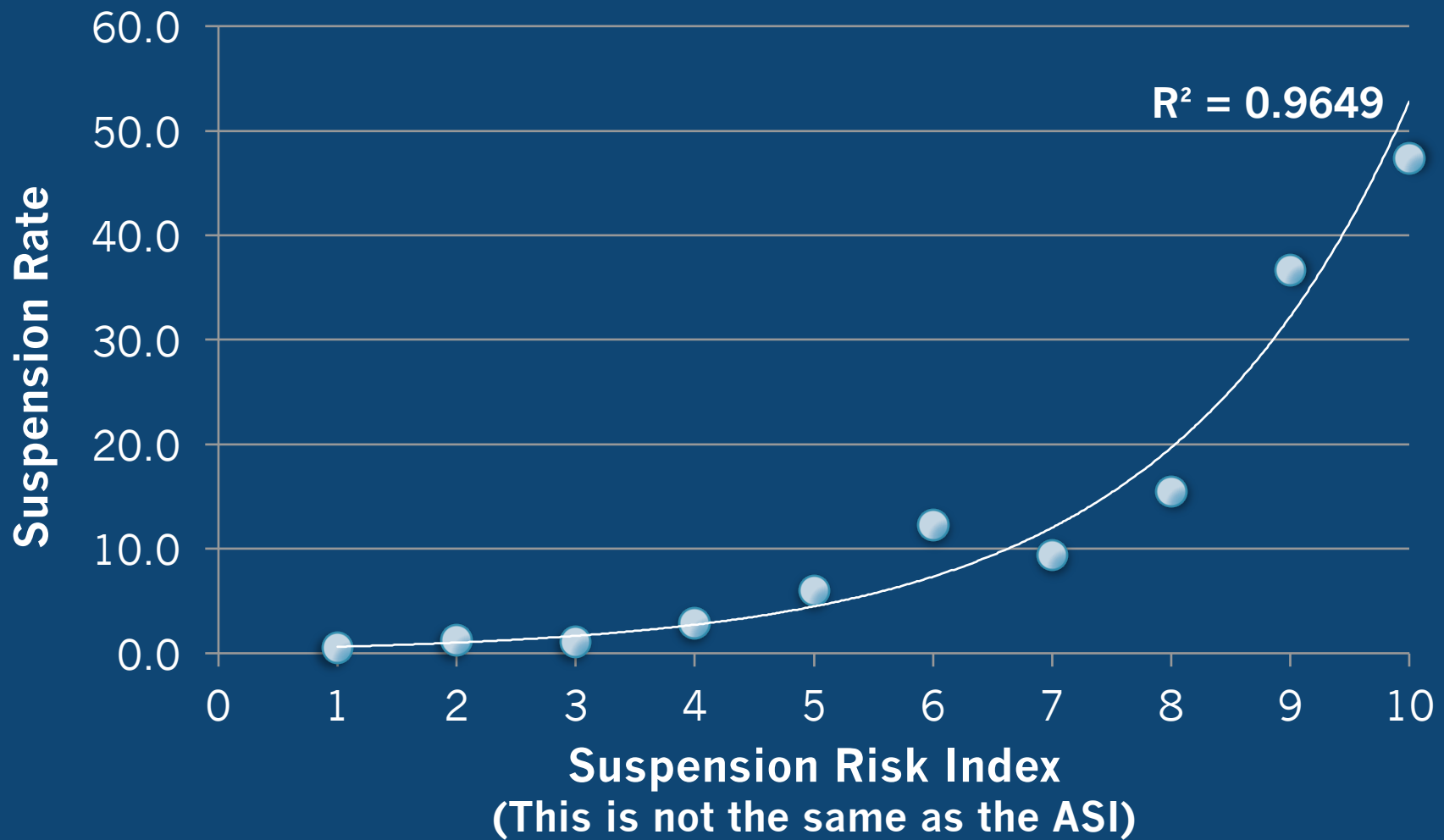
ASI Strongly Correlates to CAHSEE ELA Passing Rates Over Time

Academic Support Index	CAHSEE ELA PASSING RATE 2012	CAHSEE ELA PASSING RATE 2013	CAHSEE ELA PASSING RATE 2014	CAHSEE ELA PASSING RATE 2015
0	100%	100%	100%	98%
1	95%	97%	97%	93%
2	89%	96%	91%	90%
3	85%	88%	87%	87%
4	79%	89%	70%	84%
5	50%	60%	61%	59%
6	40%	58%	55%	40%
7	16%	39%	43%	57%
Correlation	R² = 0.90224	R² = 0.87051	R² = 0.96859	R² = 0.81752

CAHSEE Intervention Results:

- Using ASI rather than race to select students for intervention yielded the following school-wide outcomes:
 - African American students had an 11% gain in their ELA passing rate (from 68% to 79%) based on the prior year (13% over three year running average).
 - Hispanic/Latino students had a 6% gain (from 80% to 86%)
- We didn't contribute to a harmful narrative regarding race and student test performance.

Suspension Risk Index



Taking the Academic Support Index beyond Berkeley Unified...

- **Feedback and guidance:**

- Dr. David Stern: UC Berkeley Professor Emeritus
- Dr. Frank Worrell: UC Berkeley, Editor of *The Review of Educational Research*
- The Cambridge Handbook of Applied School Psychology
- Castle Redmond of the California Endowment
- Jon Baron: President of the Coalition for Evidence Based Policy

- **Educational Conferences:**

- CERA Distinguished Paper Award 2014
- CERA Presentation, 2015
- AERA Chicago, 2015
- Illuminate Users Conference, 2014, 2015, 2016

- **Publications and Presentations:**

- Three papers in the process of being submitted for publication
- Presenter: California Academic Academy, 2016
- Presentation to the Berkeley City College Black Student Union, 2015

What are the tailwinds that we can provide to students in our community?

- Schools:
 - Put strongest teachers with students who need them the most.
 - Expand successful programs such as Bridge.
 - Monitor student progress! Using assessments to guide instruction.
- Parents:
 - Provide opportunities for enrichment outside of school.
 - Talk to your kids about school. And kids, share with them!
 - Advocate for programs that support struggling students.
 - Stay involved with your child throughout high school.
- Students:
 - Support your classmates!
 - Be patient when your teachers need to re-teach a concept for the kids who didn't quite get it.
 - Go to all your classes! Missing even 2 classes every two weeks has a negative impact on your GPA!
 - Support a culture where all kids take advantage of the tailwinds at BHS!

Limitations...

- The ASI score is a screen, not *the* screen
- The ASI should be used in conjunction with other research based screens when identifying students for interventions
- Consider it a tool, not a solution (A condiment, not the meal)
- Data integrity

Thank You!

- Learn more at:
 - academicsupportindex.blogspot.com
- Contact me:
 - davestevens@berkeley.net
- Questions?