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EDUCATION EQUALS ECONOMICS

My BROTHER'S KEEPER

Disproportional Difference Data Analysis

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Proud Member of:
THE Blueprint for EDUCATIONAL CHANGE™

My BROTHER'S KEEPER

- National initiative launched in 2014 by President Obama to *address persistent opportunity gaps faced by boys and young men of color and ensure that all young people can reach their full potential.*

- ~200 Communities around the country have accepted the Challenge

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GREATER AUSTIN AREA

- Vision:

Become a national model for boosting academic achievement, enhancing health and well-being and elevating the lifetime prosperity for young boys and men of color.

- Committee Structure:

1. Ensure all children enter school ready & read at grade level by 3rd grade
2. Ensure middle school students have advanced opportunities by 8th grade
3. Ensure all youth graduate high school college & career ready
4. Ensure all youth complete post-secondary and are employed
5. Ensure males of color have equitable access to healthcare
6. Ensure violence to and by males of color is prevented and increase second chances

Disproportional Difference Data Analysis: WHY?

- **Provide Focus**: use objective data analysis to identify those metrics that will make the biggest difference in closing gaps for young men of color
  - ✓ Choose range of metrics at each level of the education pipeline
  - ✓ Determine disproportional difference for all metrics
  - ✓ ID 2 focus metrics based on disproportional difference & other factors
- **Support Action**: Provide comparative data sets to help institutions and our community *move the needle* on these metrics
  - ✓ What factor(s) most influence metric? (Gender/ethnicity/income)
  - ✓ Which schools are bright spots across the region?
  - ✓ Provide districts data to compare schools and focus actions

Data Analysis Goal 1

- **Provide Focus**: use objective data analysis to identify those metrics that will make the biggest difference in closing gaps for young men of color

Disproportional Difference Comparisons

- Each metric is calculated by income (low income or not), Gender (male or female), and Ethnicity (Black, Hispanic, White, Asian) – 16 total categories
- "Target Population" is a weighted average of Black and Hispanic low income males
- "Comparison Population" is White, non-low income females
- Disproportional difference is the percentage point difference between the target and comparison groups

High School Metrics Reviewed

- % Chronically Absent
- Disciplinary Referrals
- % Retained in 9th grade
- Passing rate in English II End of Course Exam
- Highest level math course completed
- Completion of CTE coursework
- % of students taking at least 1 AP/IB/Dual Credit Course
- Graduation rate (measured at 4, 5, and 6 years)
- Higher education enrollment

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Disproportional Differences in Metrics: High School

Metric	Disproportionality Difference	# Impacted	Notes
Passing rate in English II EOC Exam	49.7	2319	
% of students completing Pre-Calc or higher	37.3	1438	Students who complete at least one course beyond Algebra 2 have a significantly better chance of post-secondary success (46%-63% success rates with Pre-Calc or AP versus 21% success rate with Alg 2)
Higher education enrollment	29.5	752	Difference is twice the graduation rate difference; white non-low income female enrollment rate almost twice that of target group
% of students taking at least 1 AP/IB Course	26.8	4069	
Disciplinary Referrals - % referred >=1	23.2	3822	Blacks have far higher referral rates than Hispanics, all genders and income statuses
Graduation Rate	15.9	616	Low income grad rates have increased 23 percentage points in last 7 years – 1.5X the rate of the state improvement
% Chronically Absent	14	2355	Almost no difference between males and females
% Retained in 9th grade	11.7	488	Has dropped from 15% to 7.3% for all males in last 7 years
% of students taking at least 1 Dual Credit Course	6.6	979	Rates are relatively low for all groups
Disciplinary Referrals –days missed	6% (of the school year)	---	Black and Hispanic low income males are missing twice as many days as comparison group
Completion of CTE coursework	1.7	252	Almost no difference across all groups

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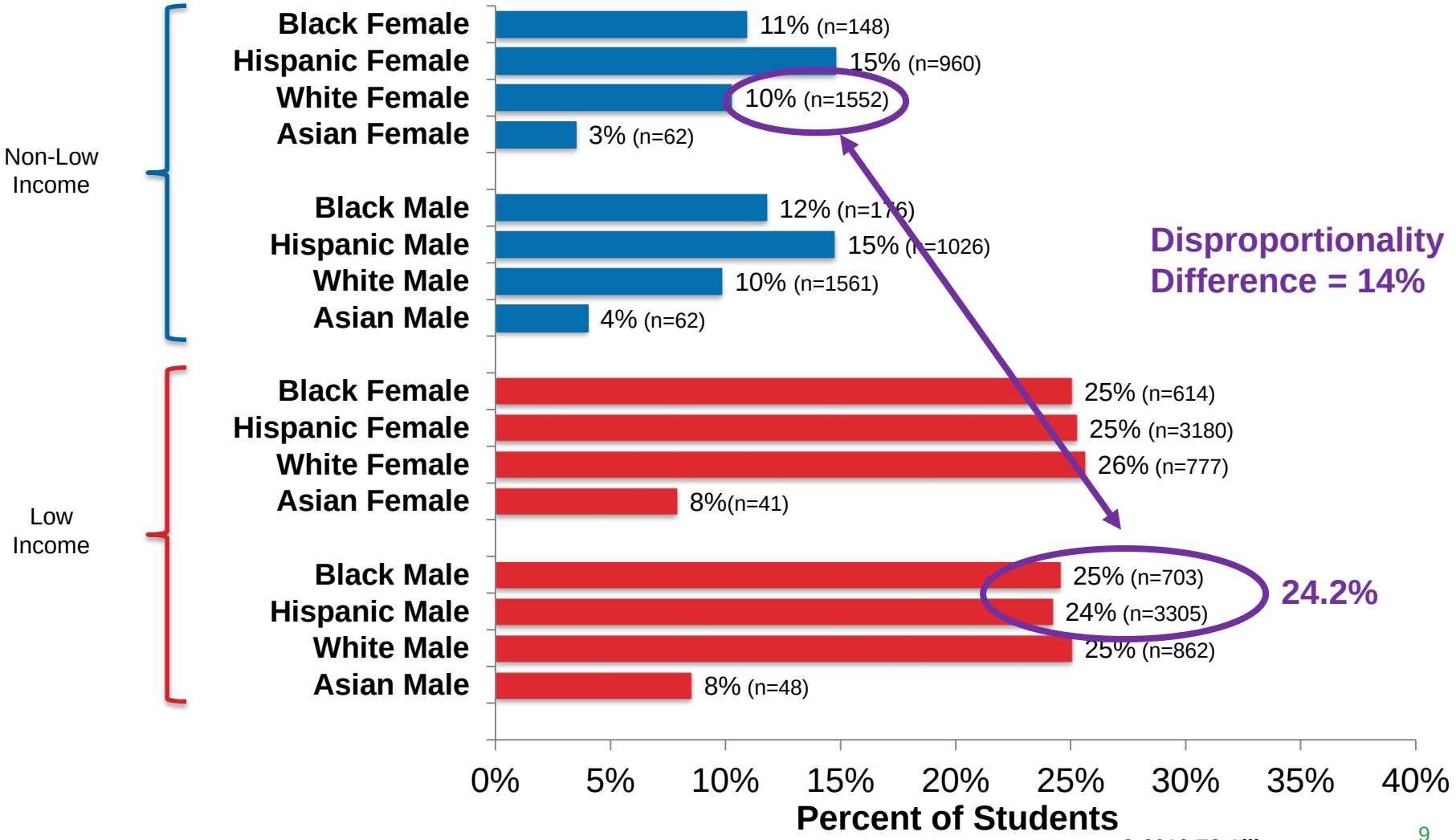
Chronic Absence Rates

Grades 9-12, 2013-2014



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

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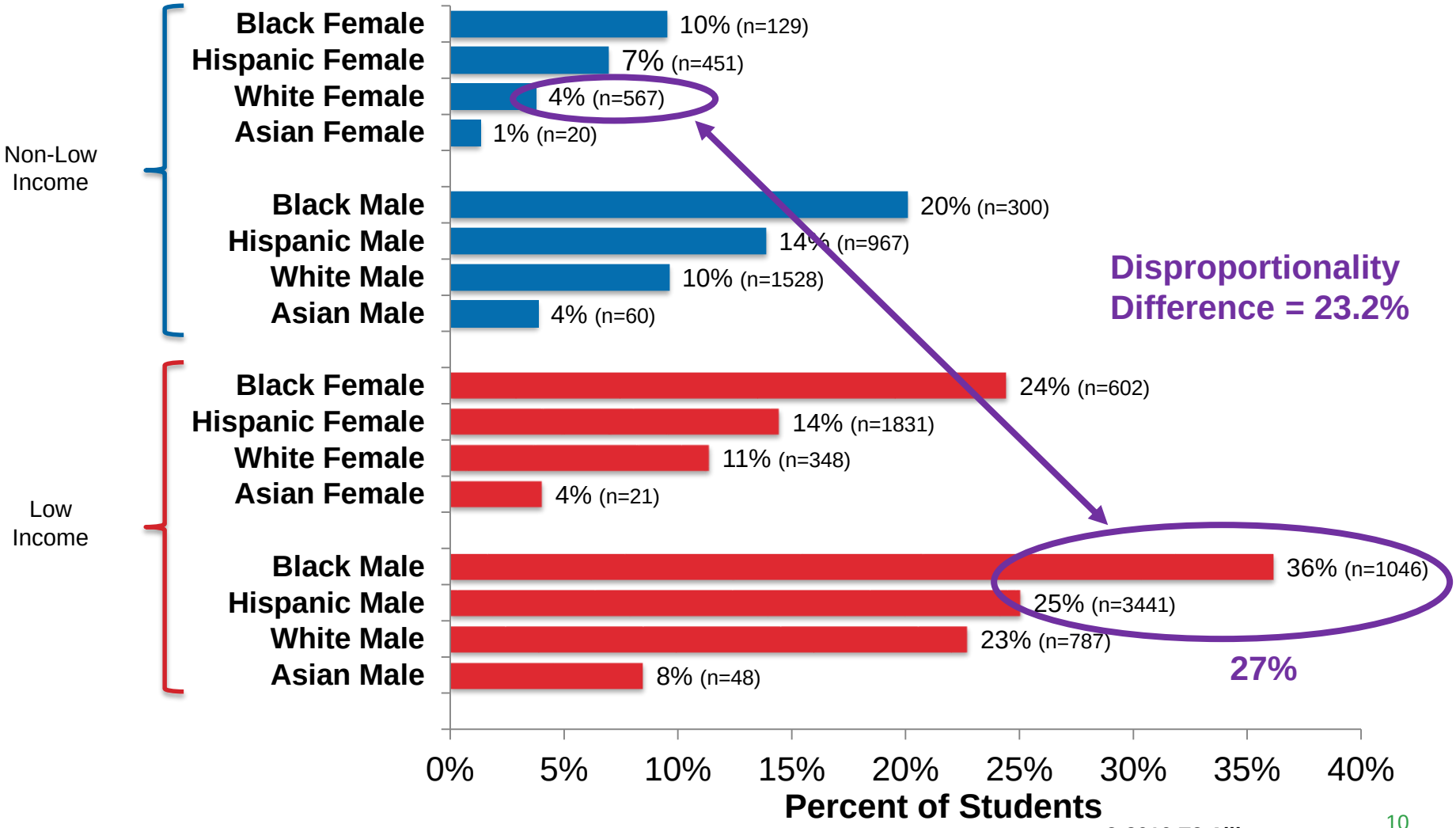
Disciplinary Referral Rates

Grades 9-12, 2013-2014



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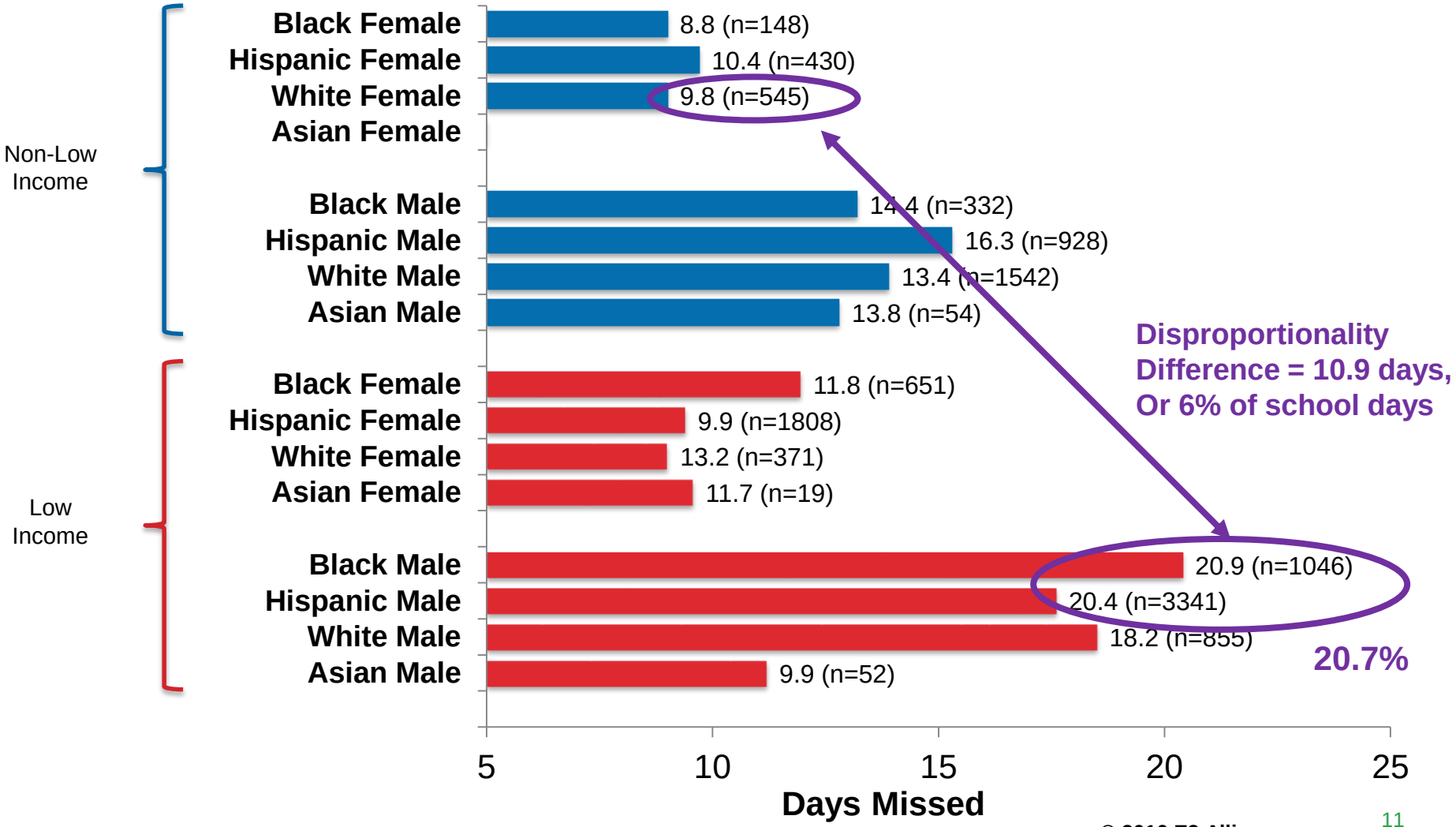
Days Missed due to Disciplinary Referrals

Grades 9-12, 2013-2014



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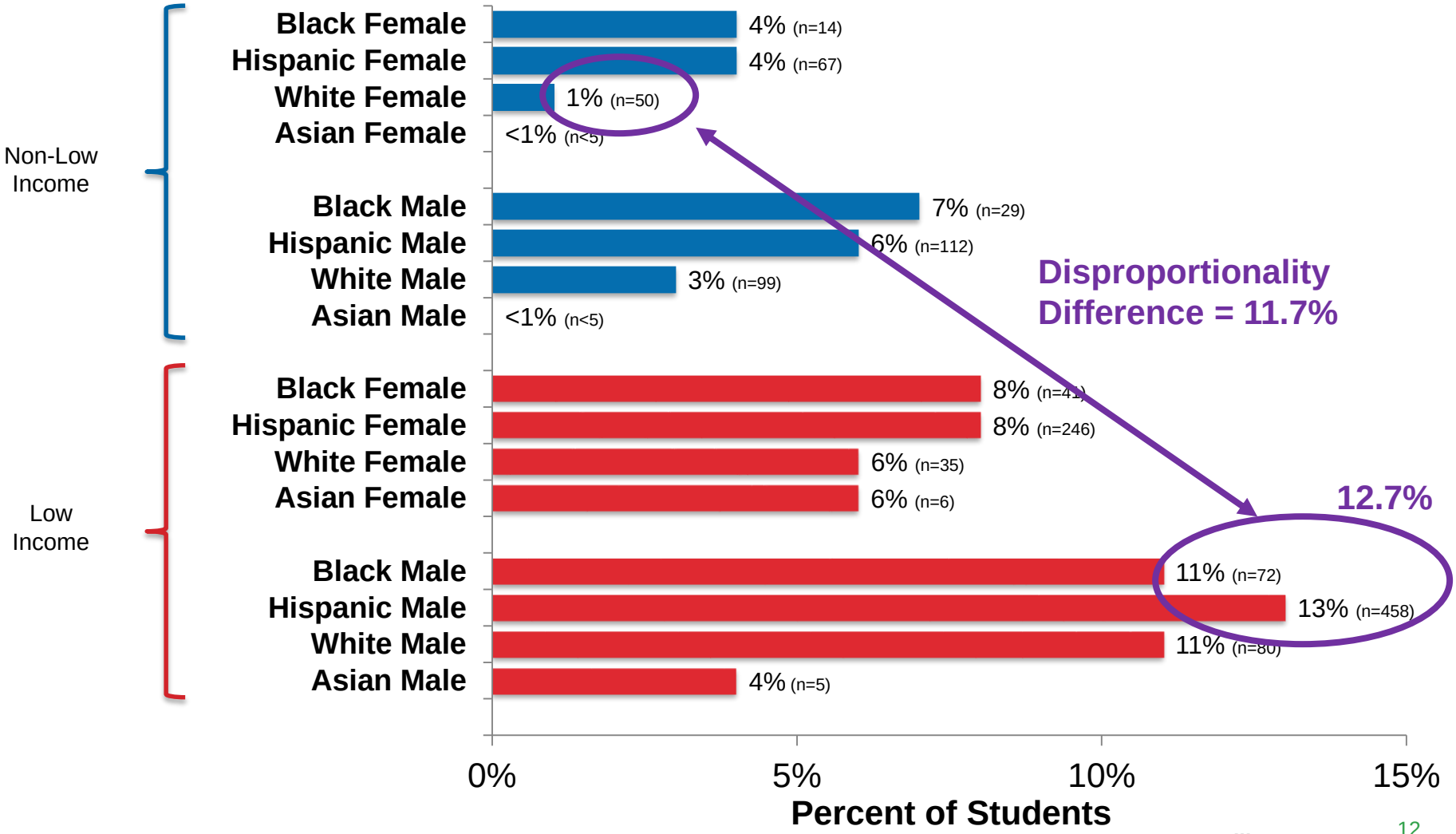
Grade 9 Retention Rates
2014-2015



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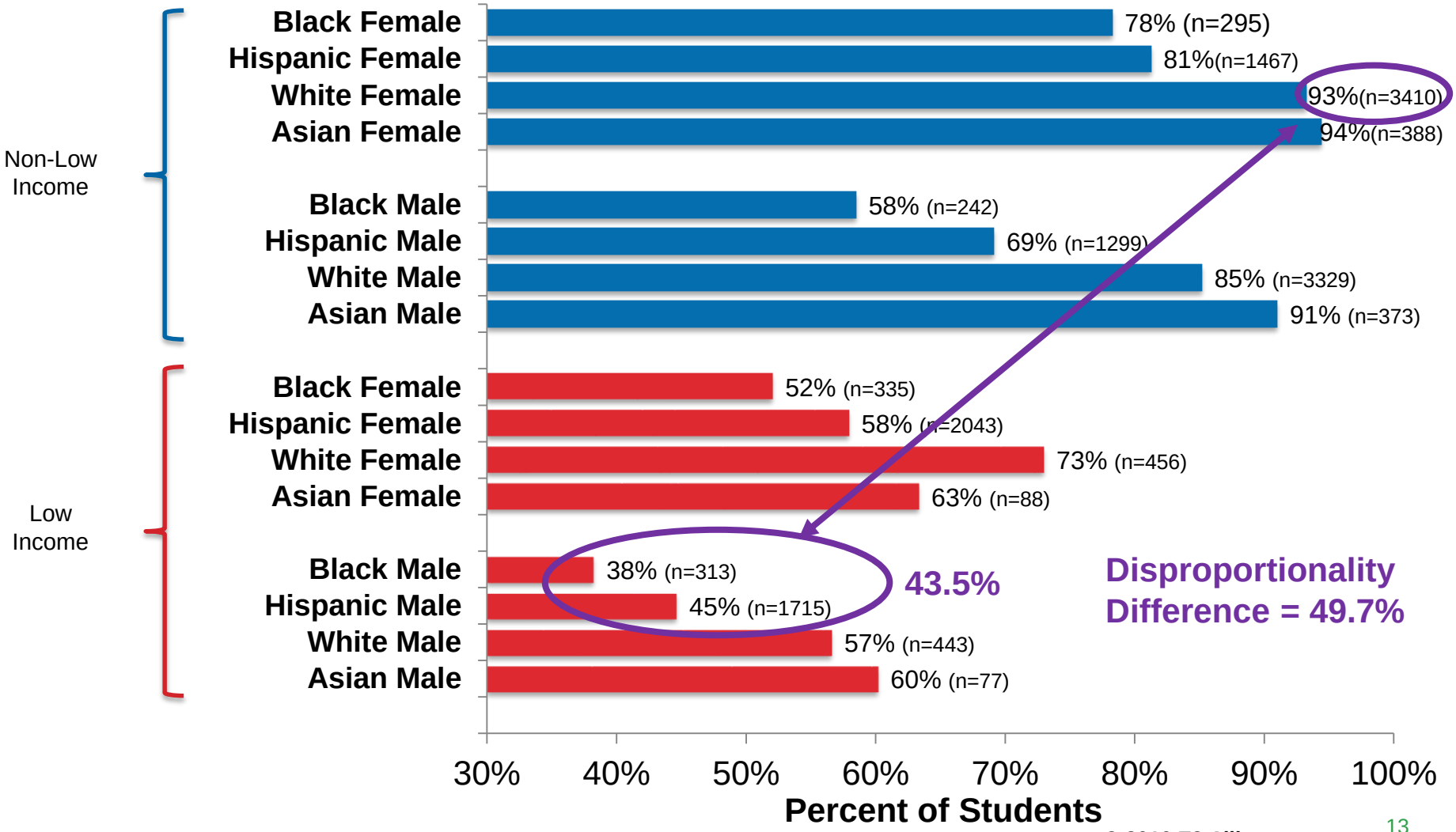
English II EOC Pass Rate

Grades 9-12, Spring 2015



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

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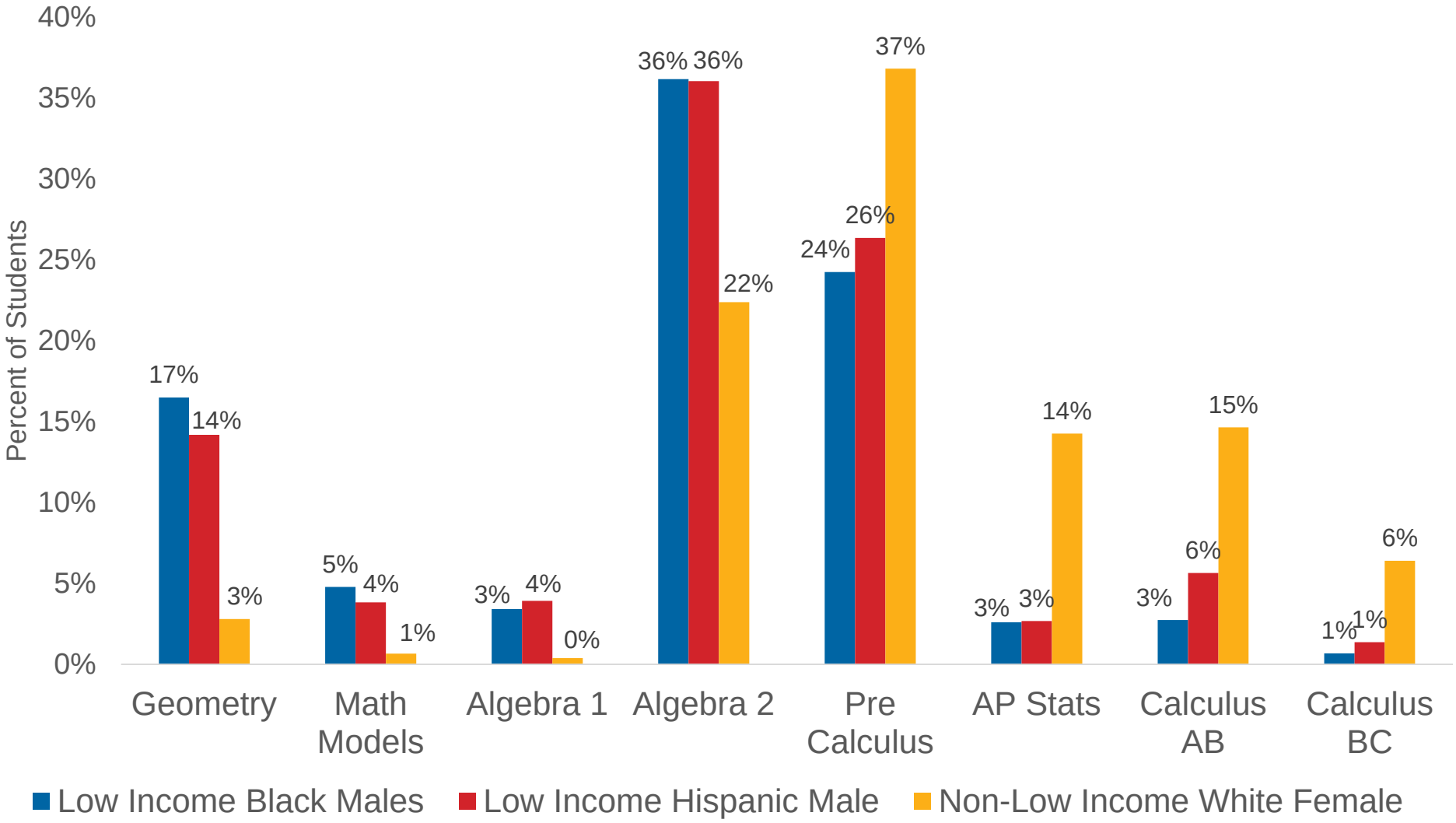
Highest Math Course Completed

Grades 9-12, Graduating Class of 2014



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

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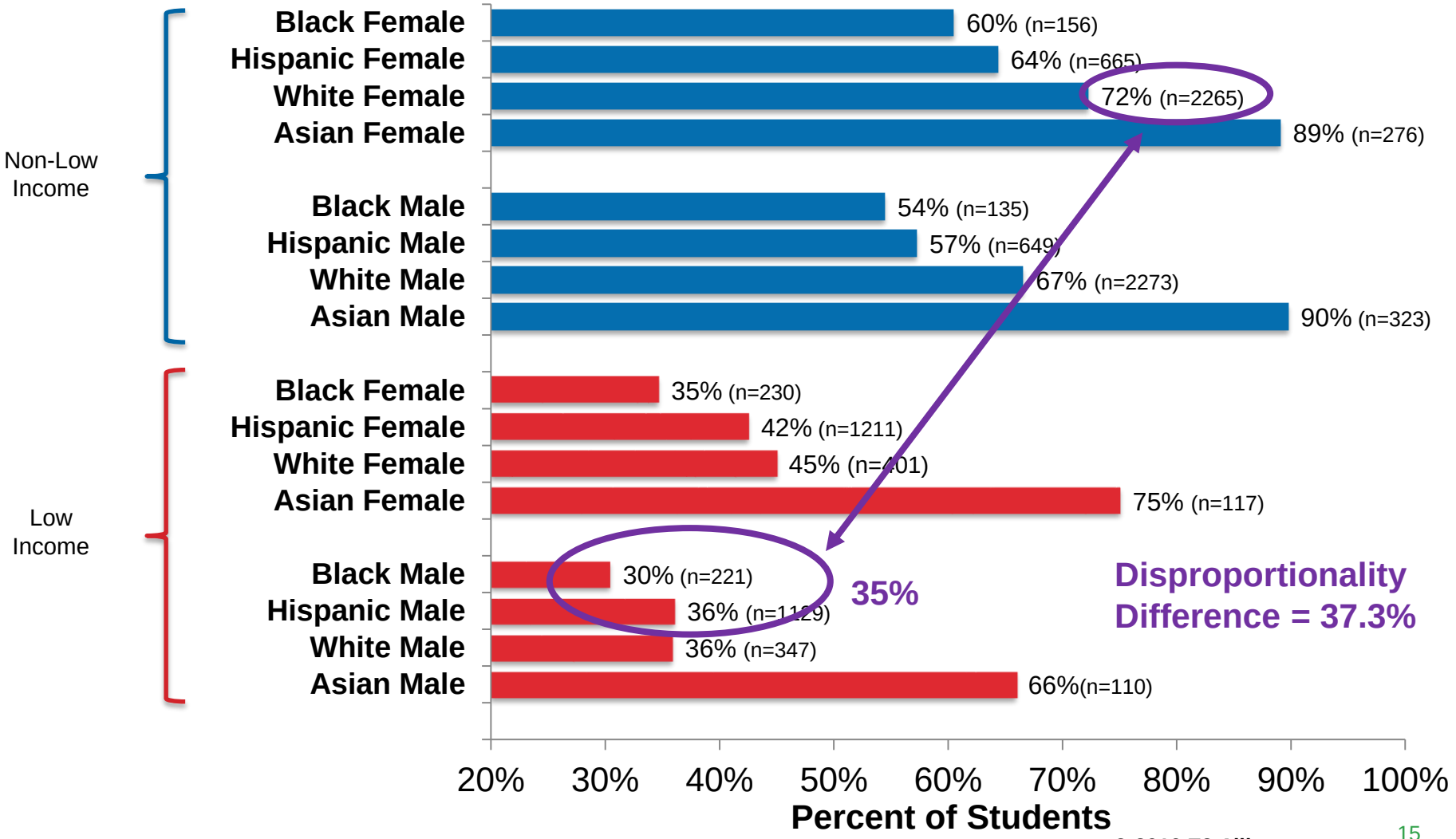
Percent of students Completing at least Pre-Calculus

Grades 9-12, Graduating Class of 2014



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

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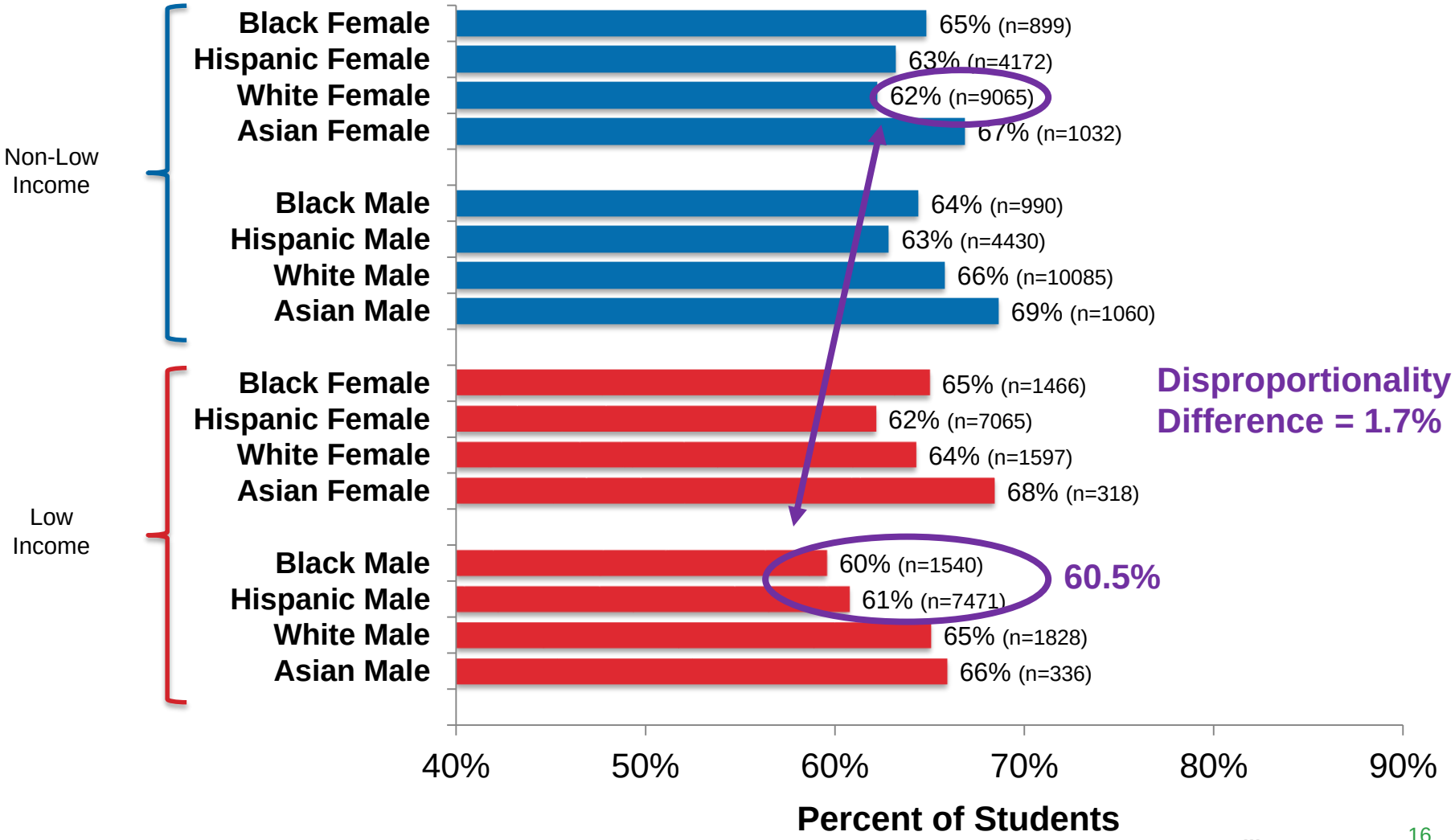
CTE Course Passing Rates

Grades 9-12, 2013-2014



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

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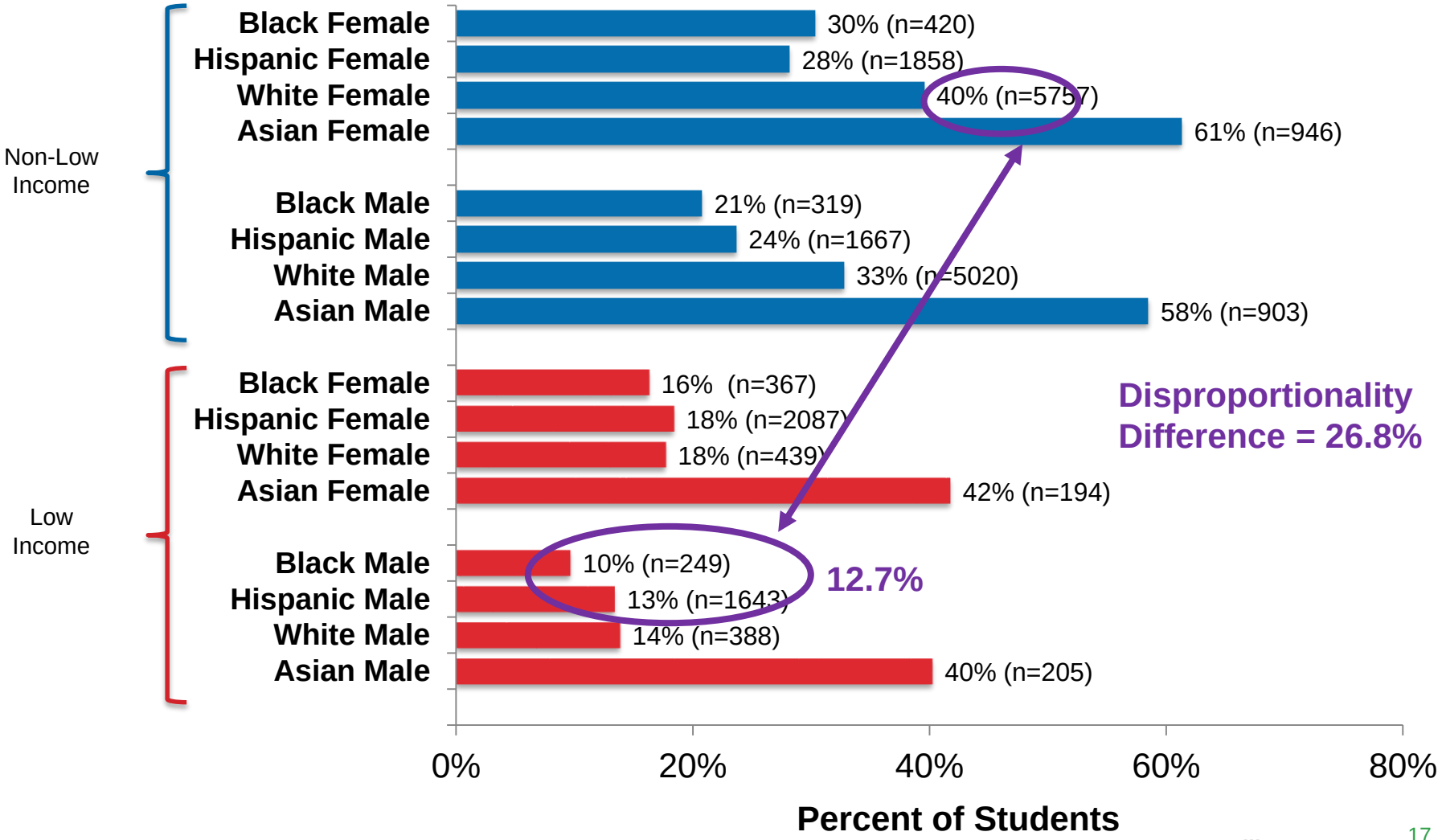
AP/IB Course Passing Rates

Grades 9-12, 2013-2014



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

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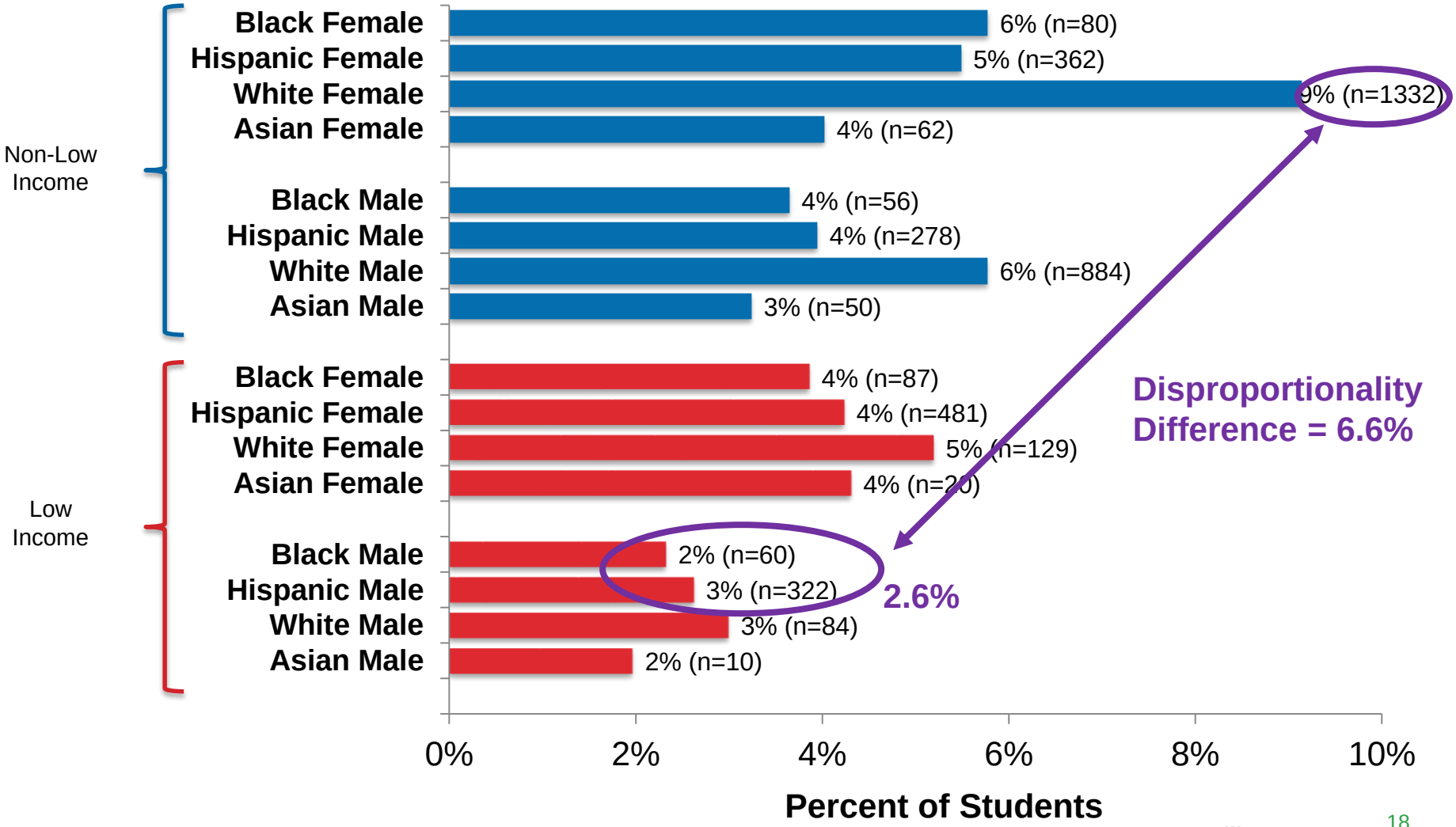
Dual Credit Course Passing Rates

Grades 9-12, 2013-2014



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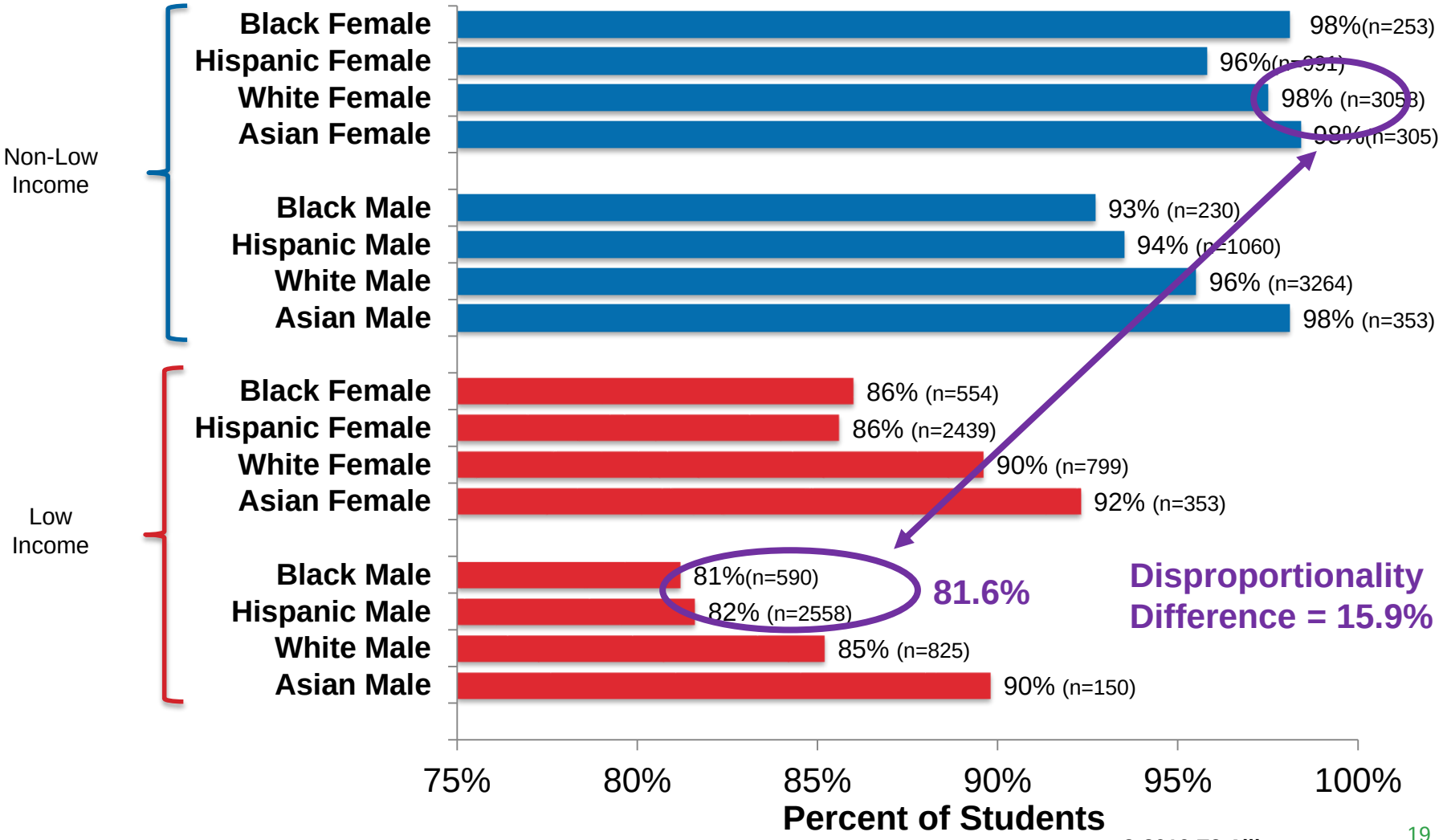
Graduation Rates

4-year rates, Graduating Class of 2014



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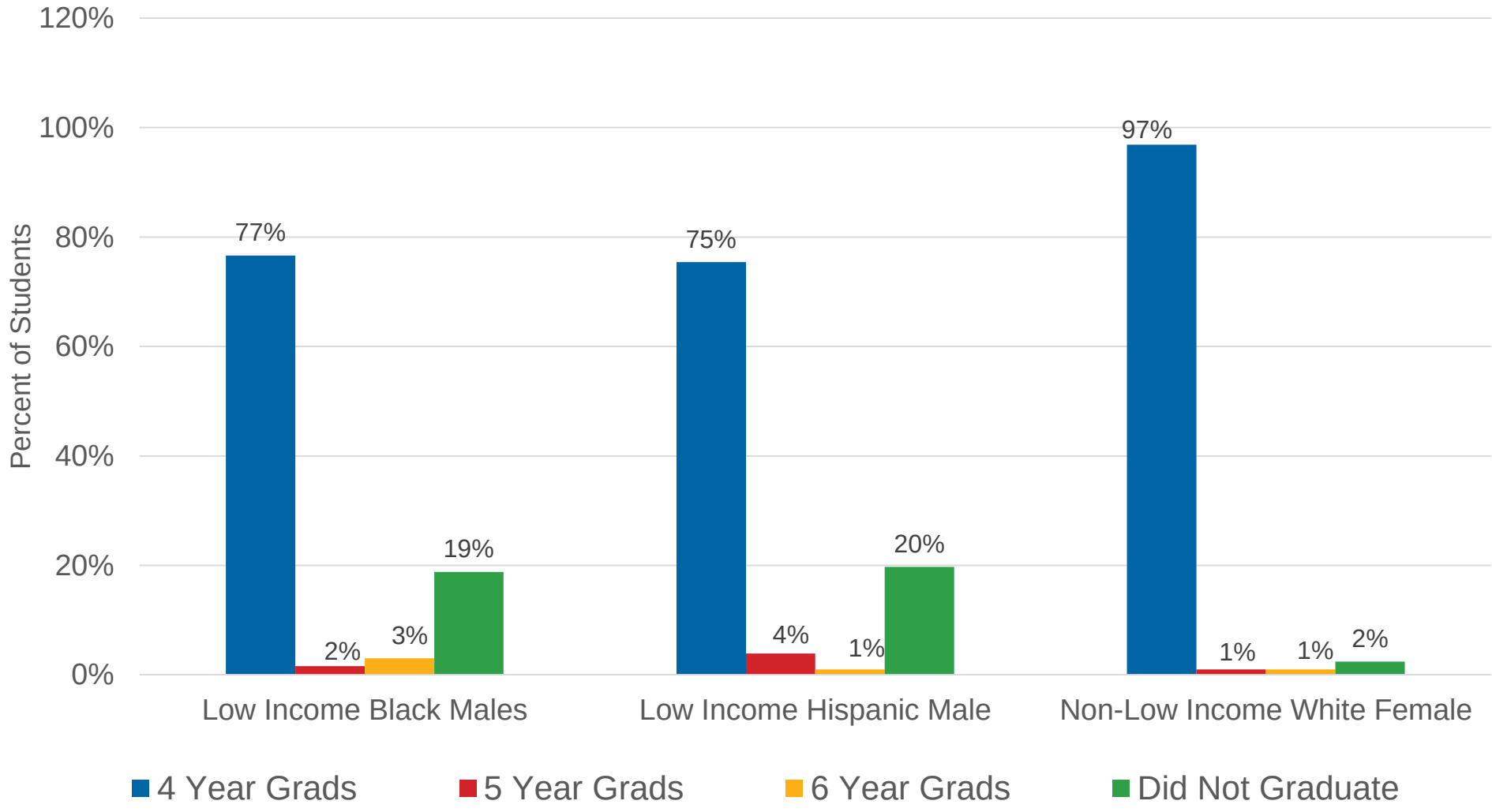
4, 5 and 6 year Graduation Rates

Ninth Graders in 2008-2009



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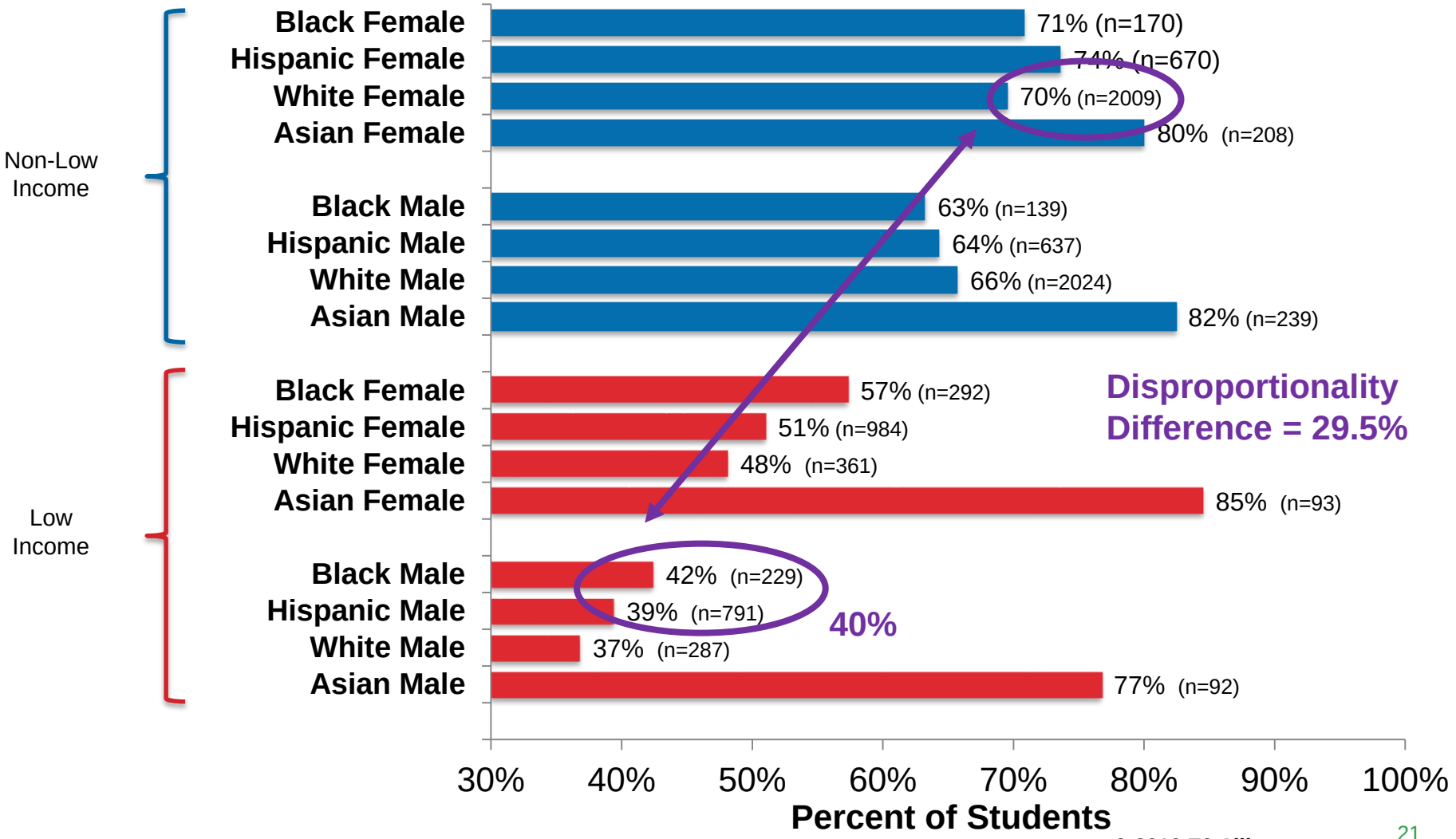
Higher Education Enrollment Rates 2014-2015



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

Choosing "Top 2" Focus Metrics

Decision Criteria:

- Greatest disproportionality for our target students
- Number of students potentially impacted
- Potential to change outcomes
- "Leading" versus "lagging" indicator
- Ability to amplify and build upon existing work

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Data Analysis Goal 2

- **Support Action**: Provide comparative data sets to help institutions and our community *move the needle* on these metrics

Focus Metric: Percent of Students Passing at Least Pre-Calculus

- ✓ Closely tied to later success: recent E3 Alliance research indicates that students who pass Pre-Calculus have a much higher probability (46%) of completing any post-secondary credential as compared to students who complete just Algebra II (21%)
- ✓ Because strong literacy skills are required to access higher level math information, this effectively incorporates literacy competency as well
- ✓ Can be impacted relatively easily with changes to policy and practice, e.g. course assignment practices and family/counselor training on importance of taking advanced classes (although for many students will require interventions/supports much earlier to prepare them)

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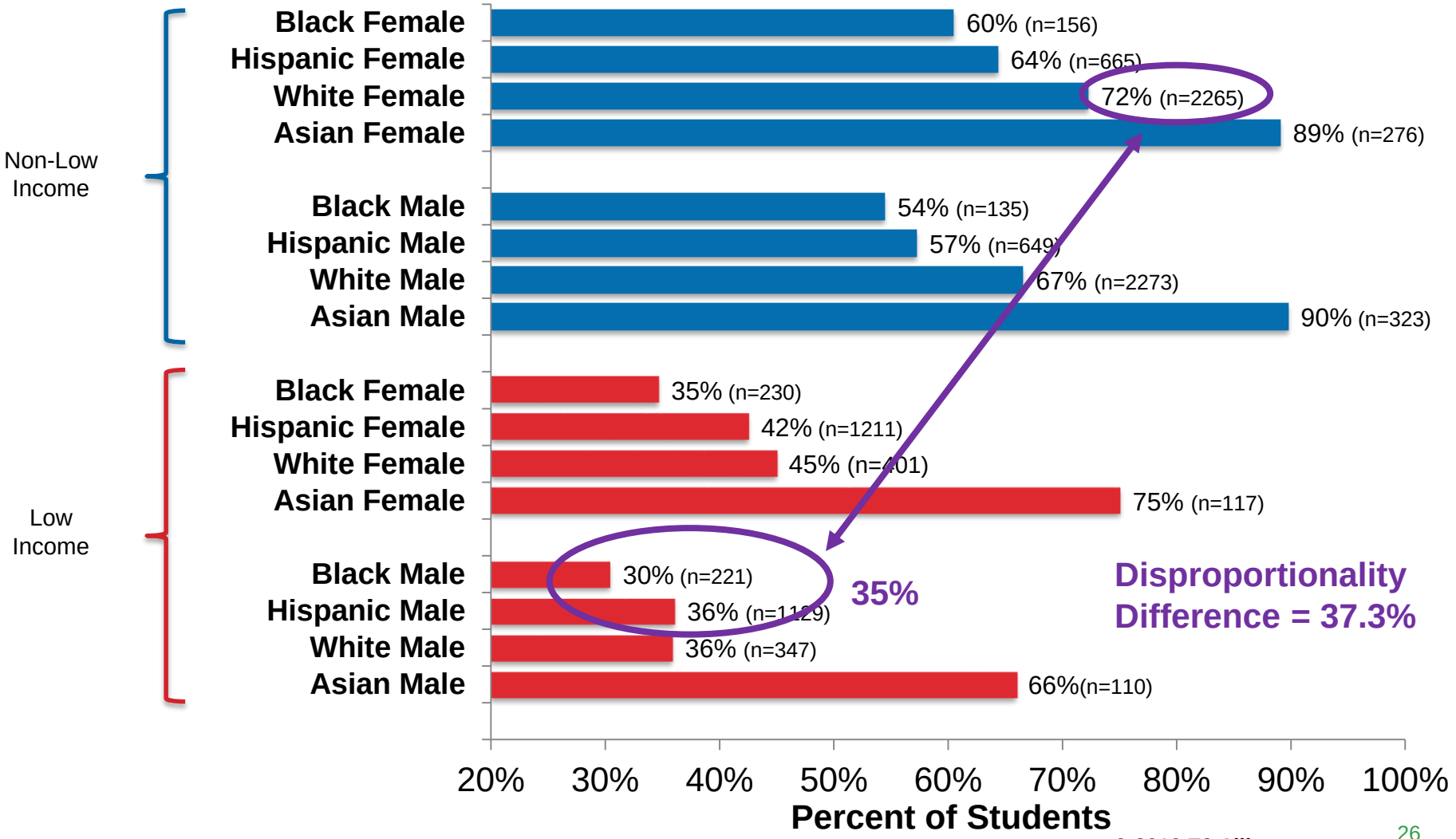
Percent of students Completing at least Pre-Calculus

Grades 9-12, Graduating Class of 2014



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

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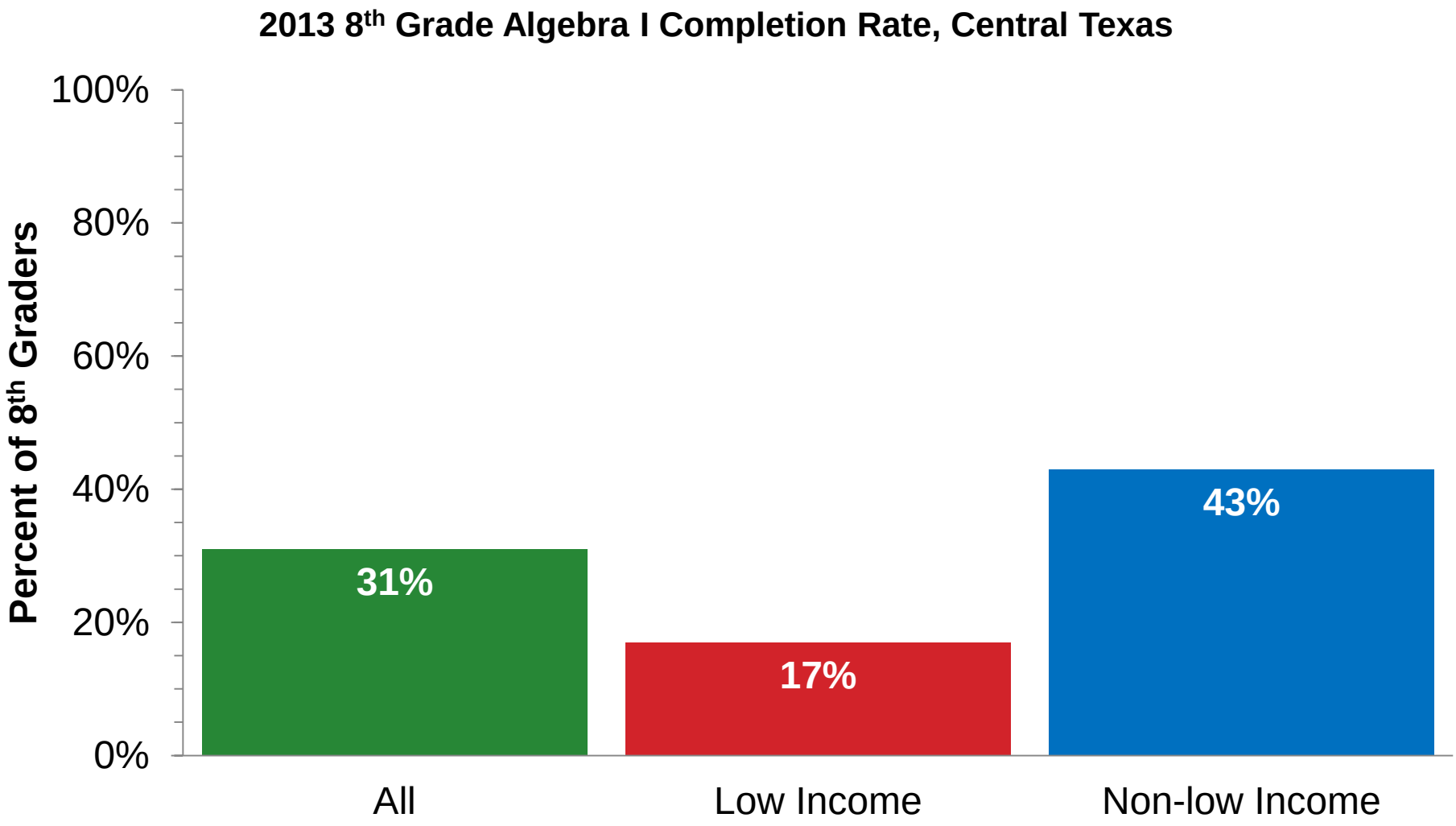
Wide Variation in 8th Grade Algebra Completion Rates



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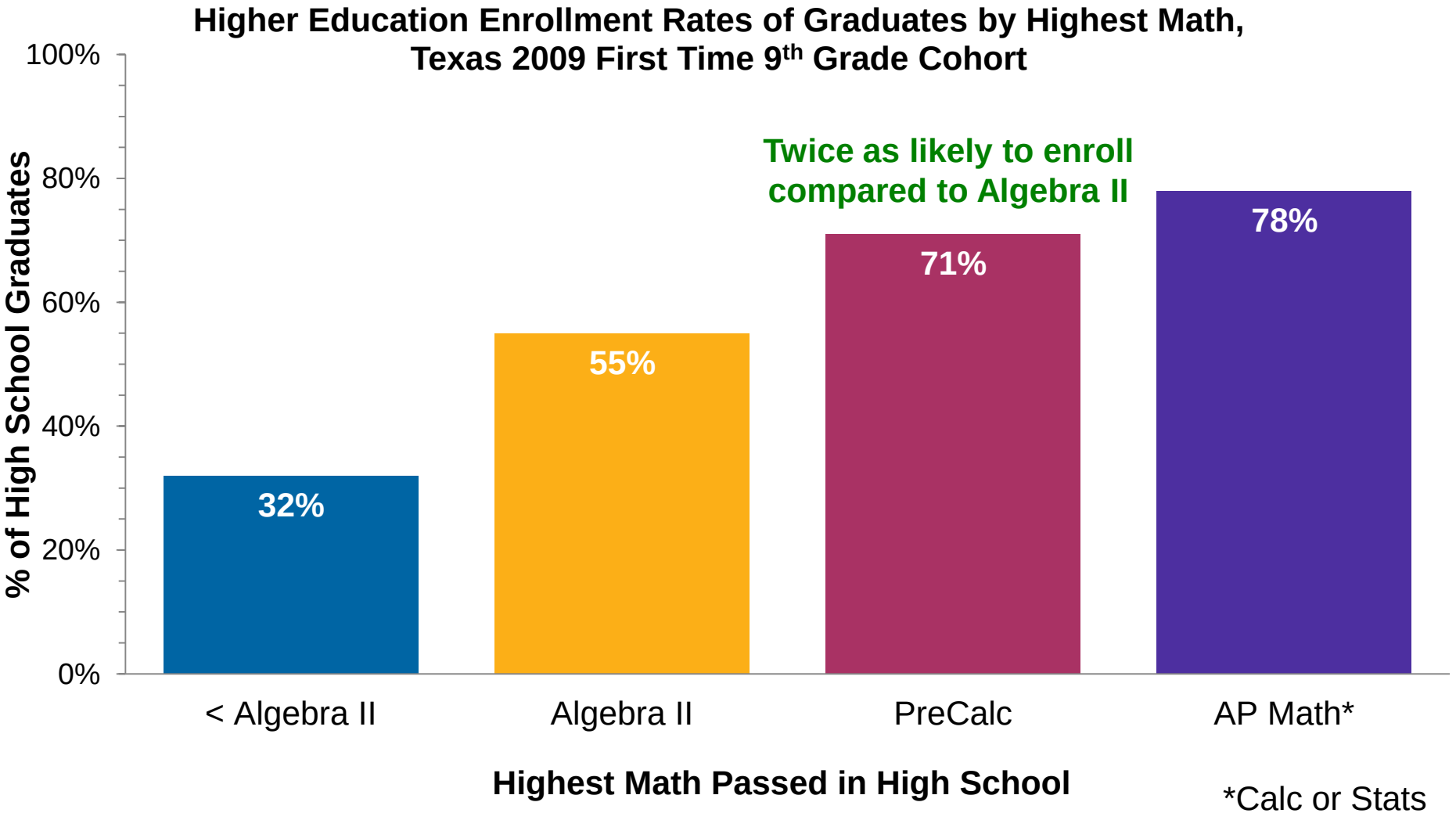
Large Increase in Texas Higher Ed Enrollment Rates Between Algebra II and PreCalculus



Odds ratios take into account demographics & prior achievement; 2004 cohort
Source: E3 Alliance analysis of data at the UT Austin Education Research Center

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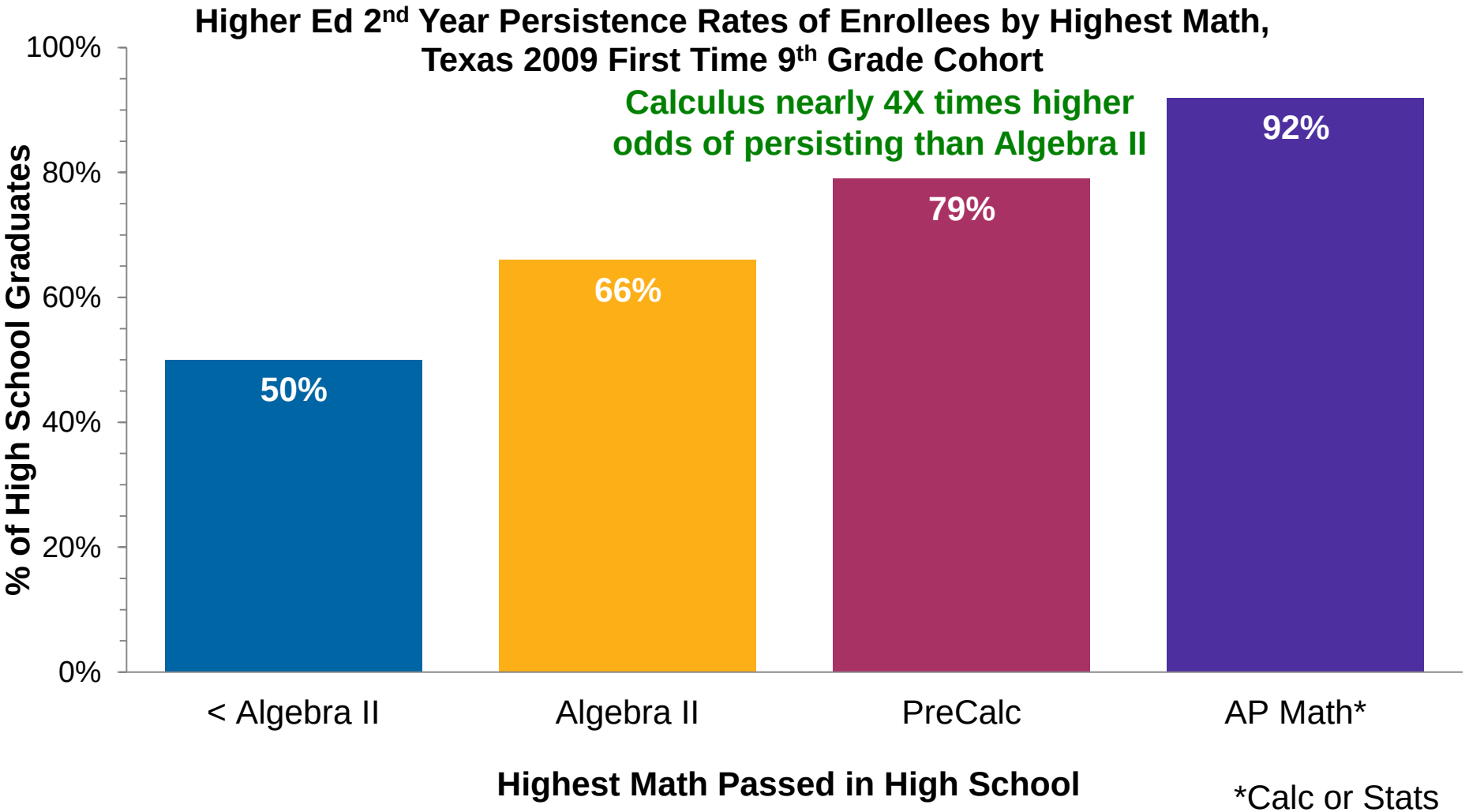
Strong Relationship Between Highest Math in HS and Higher Ed Persistence



Odds ratios take into account demographics & prior achievement; 2004 cohort
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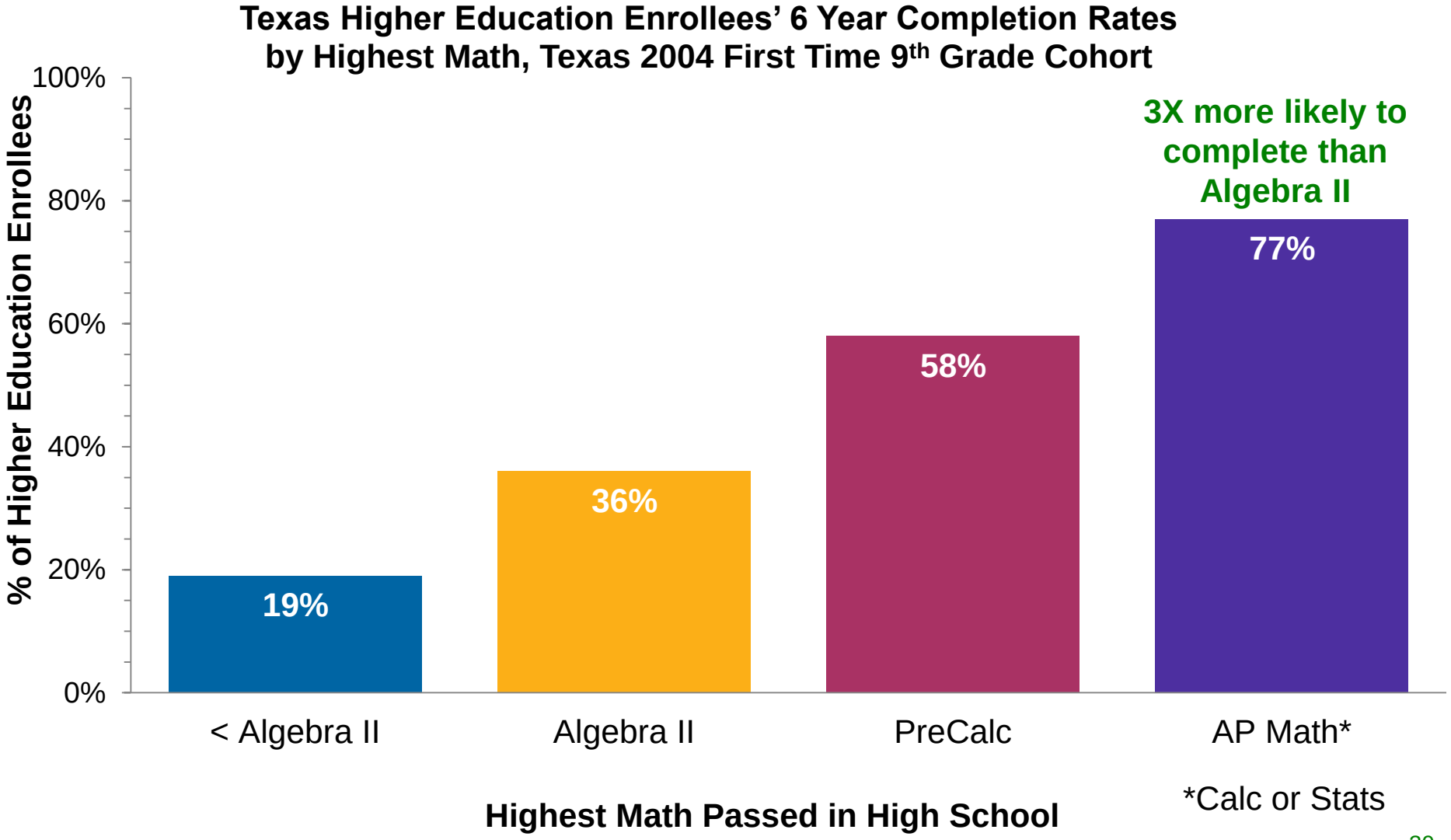
3 in 4 Higher Ed Enrollees with AP for Highest Math Completed



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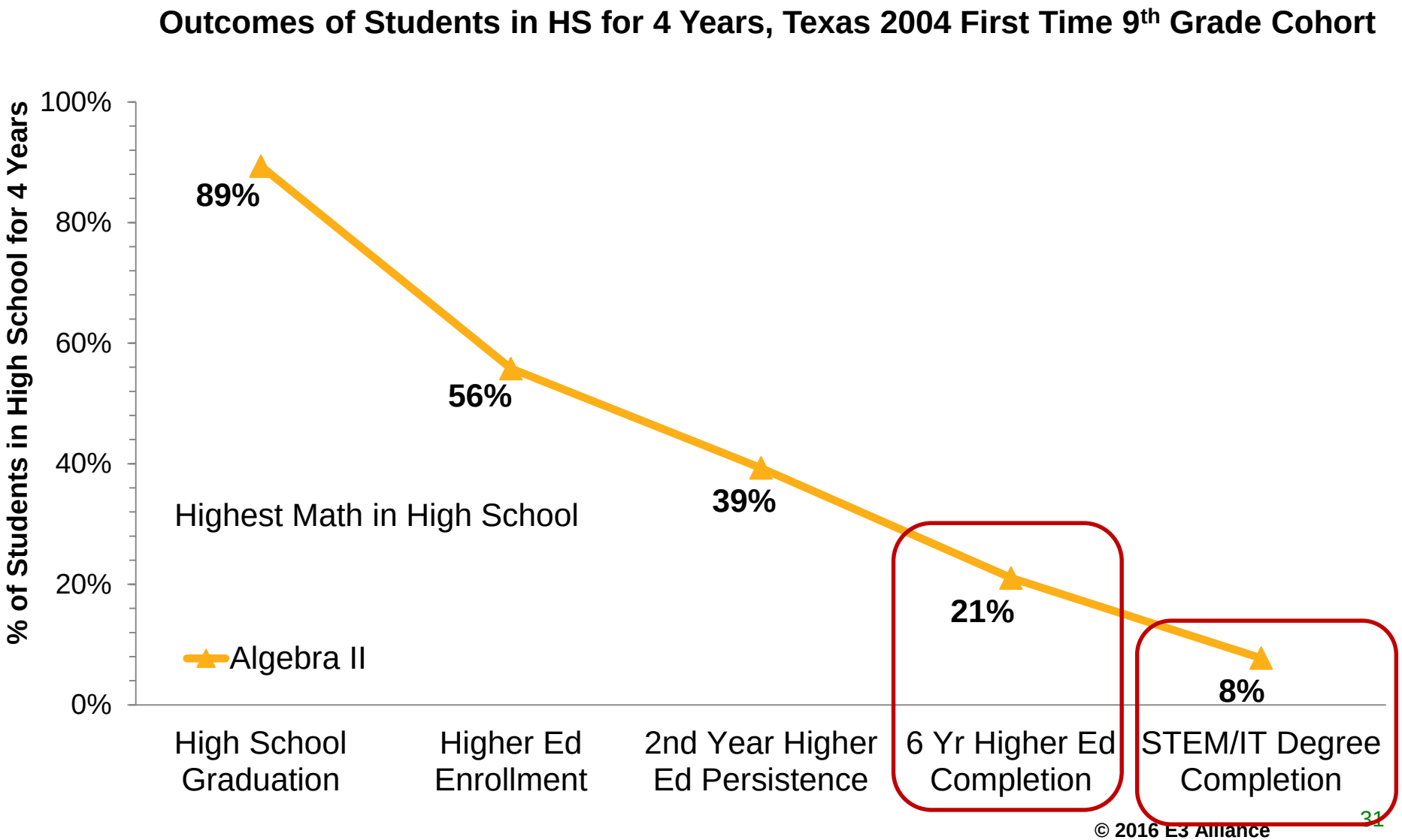
Gaps in Higher Education Outcome Rates by Highest Math



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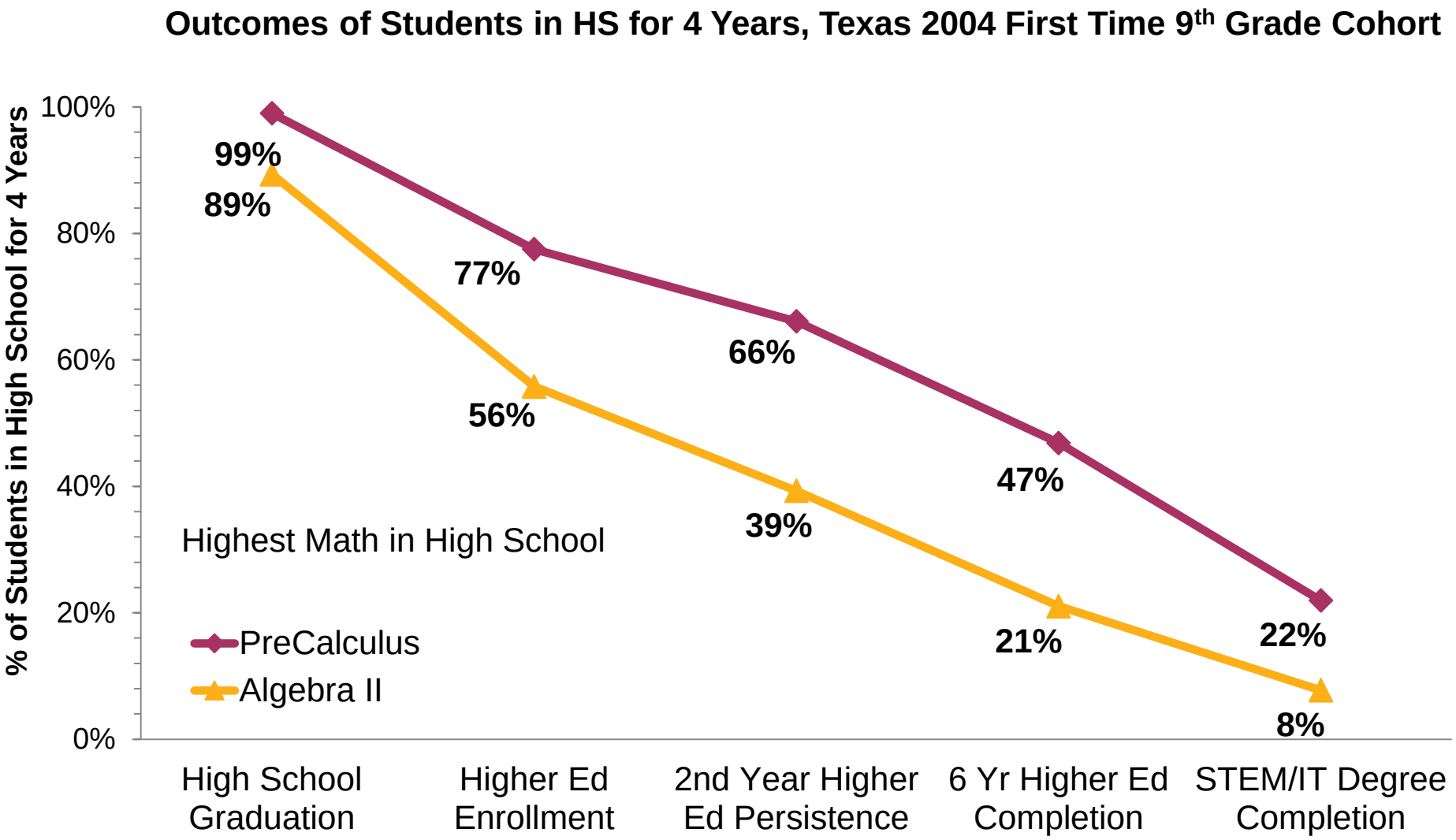

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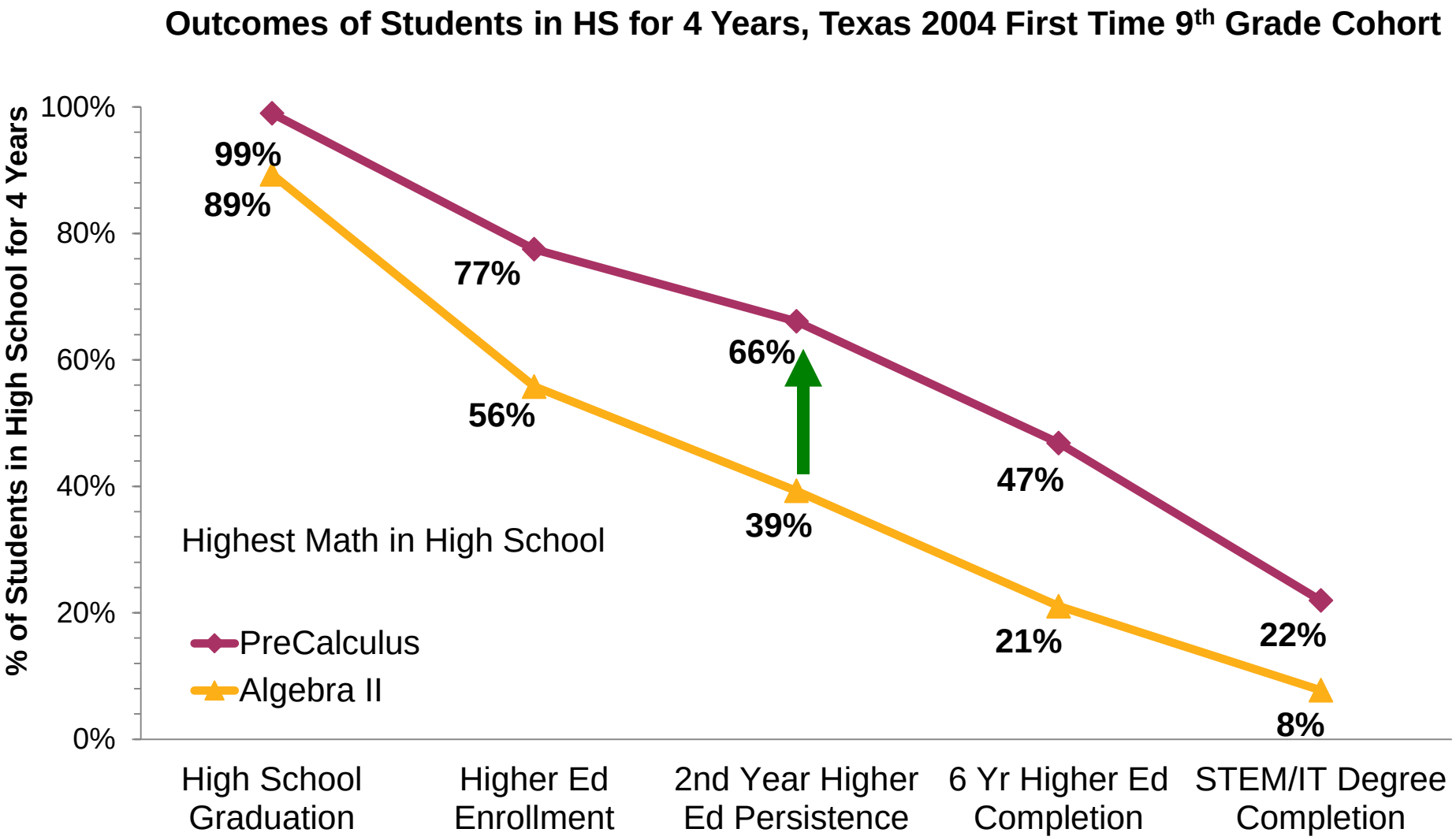

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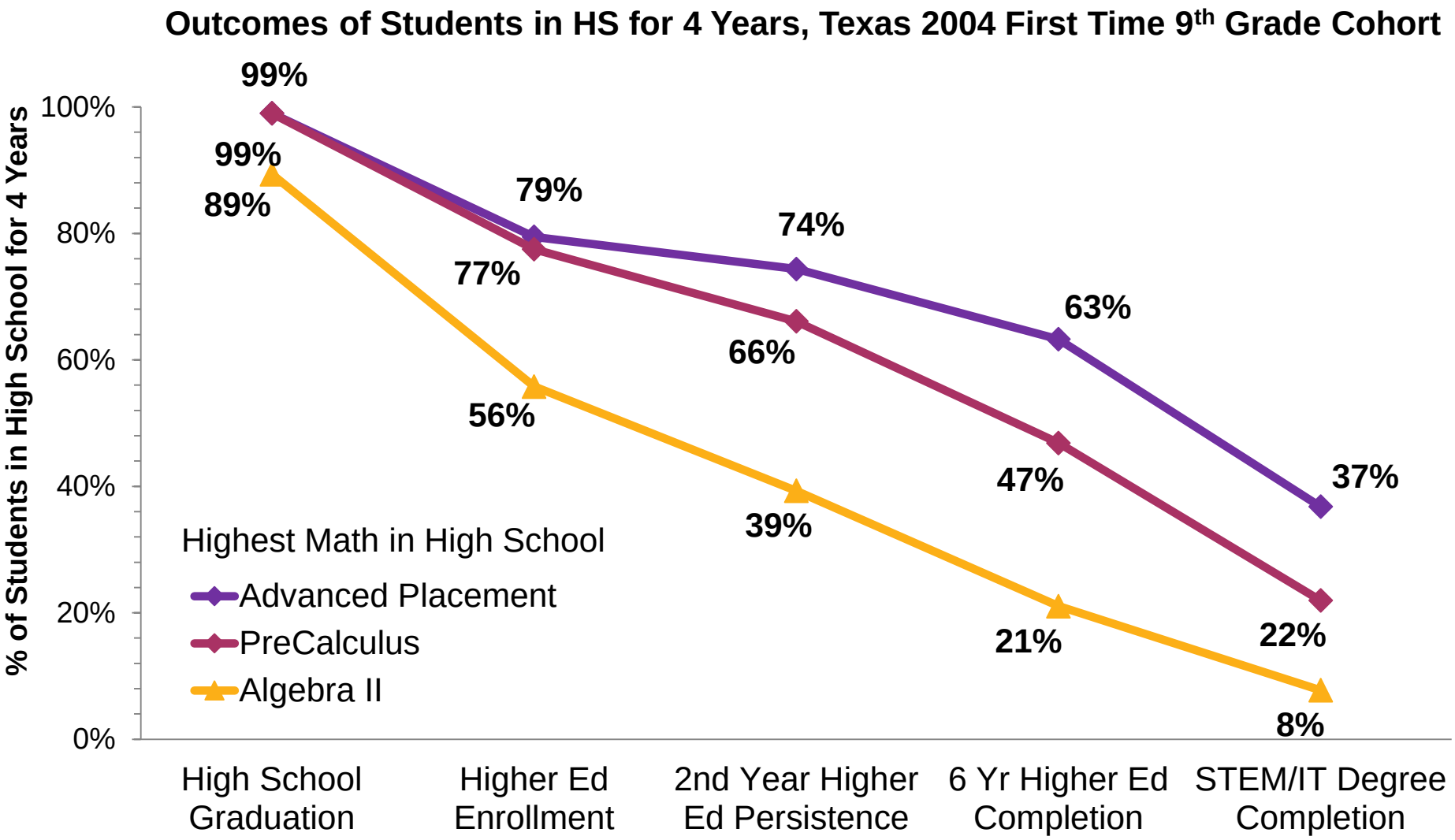

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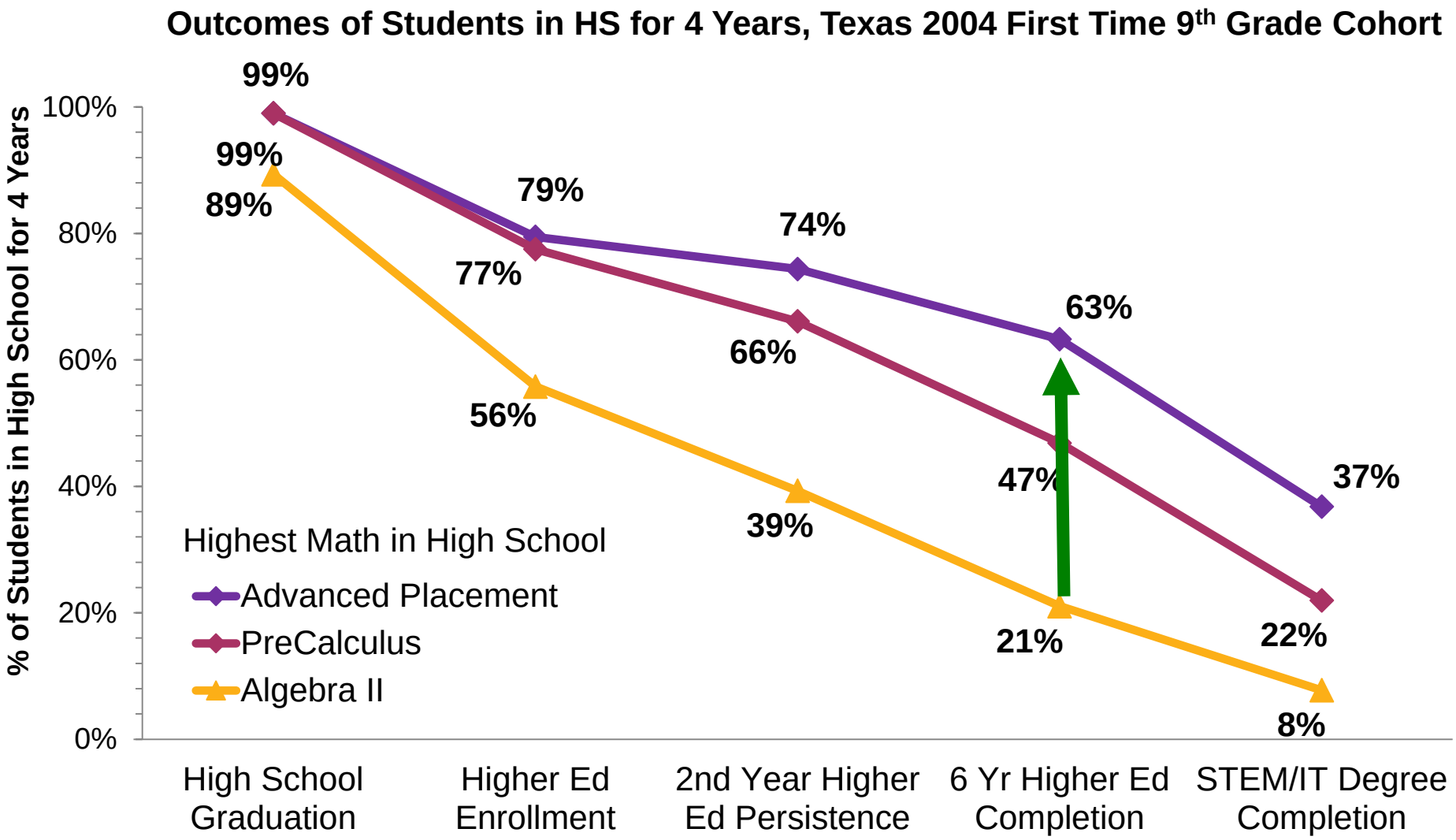

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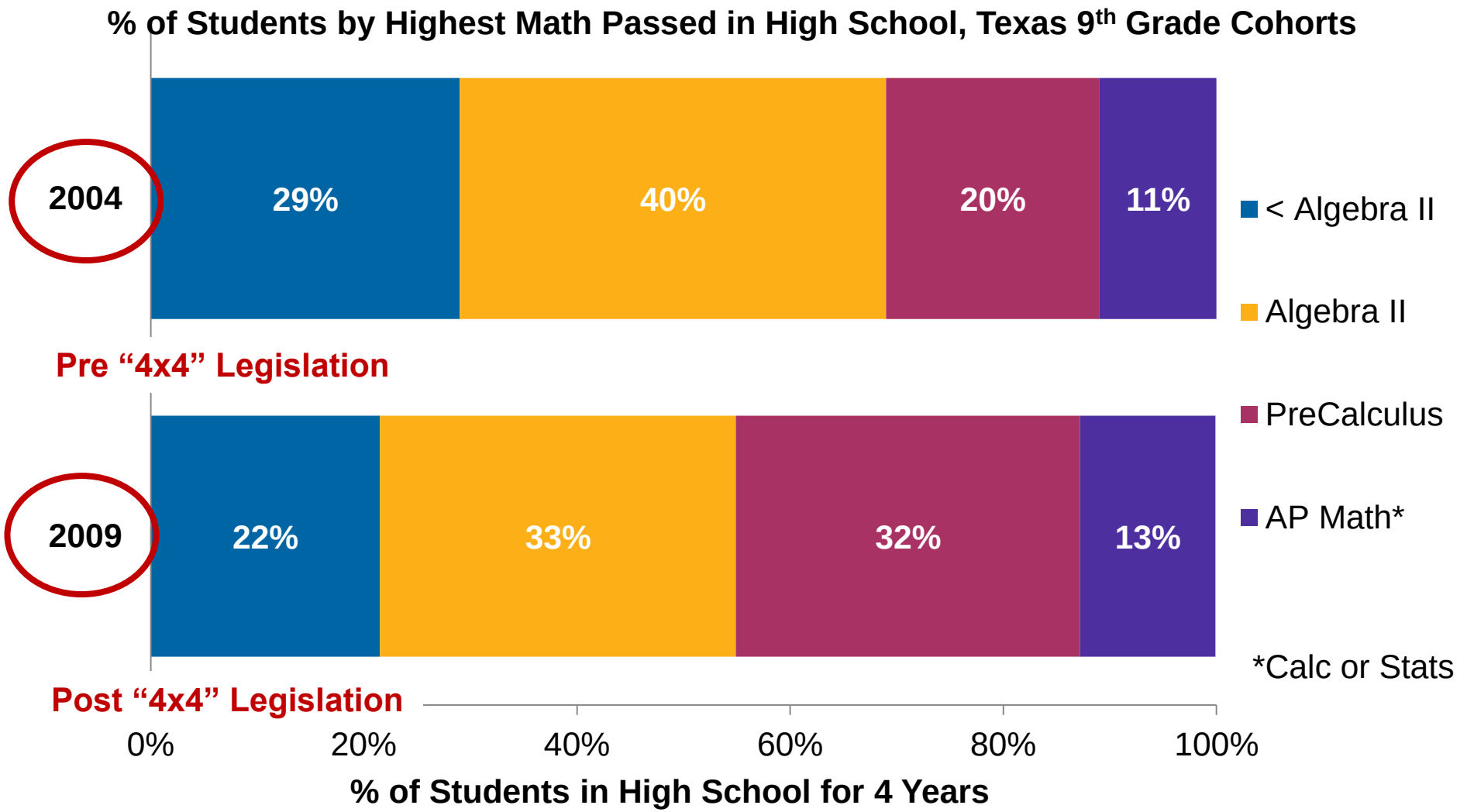
Higher Proportion of 2009 Cohort had PreCalculus as Highest Math Passed



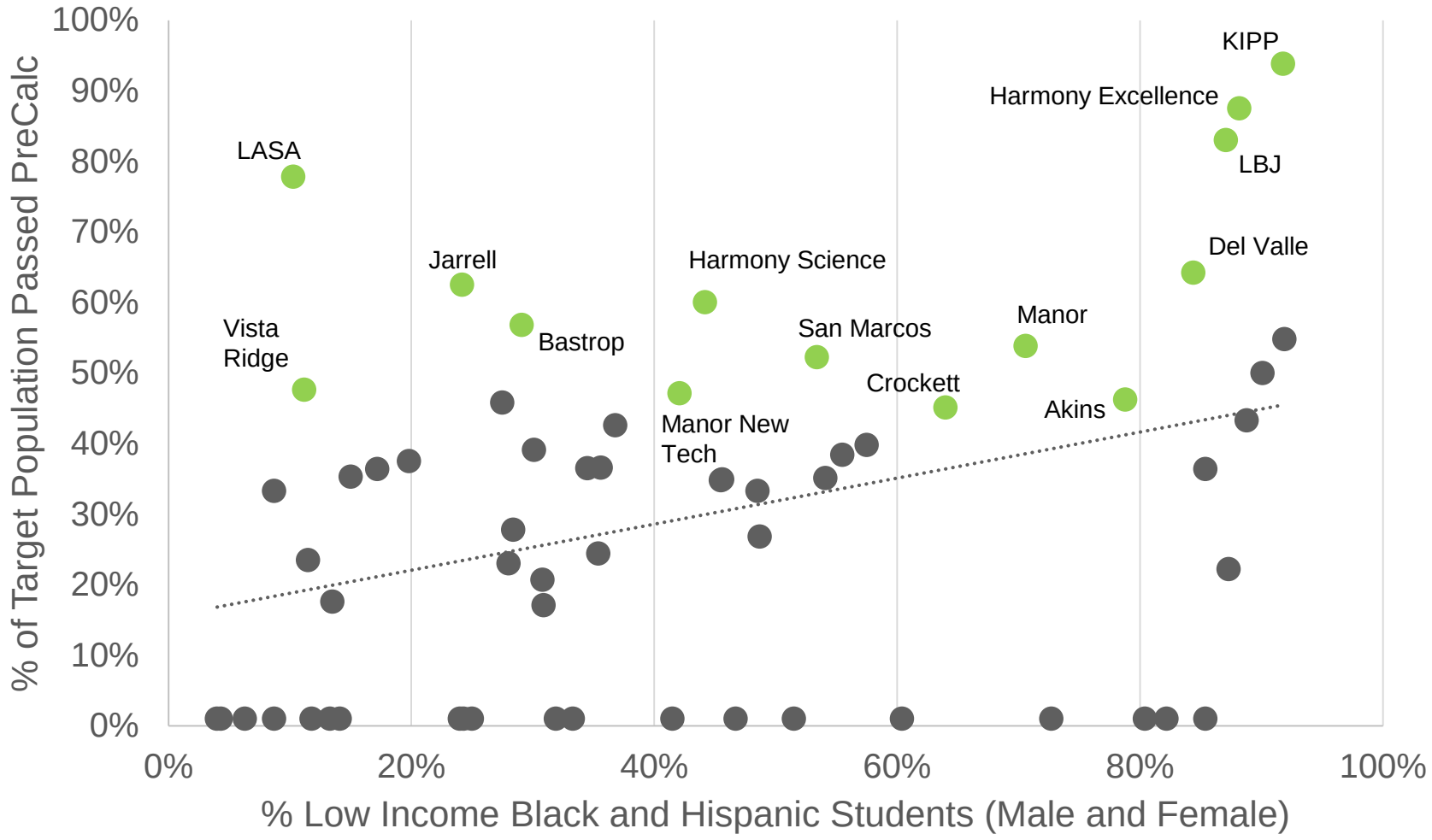
Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

What Influences the Probability of Passing PreCalc?

	All Students
Gender	*R^2=0.0049*
Male	51%
Female	57%
Economic Status	*R^2=0.1074*
Non-Low Income	68%
Low Income	23%
Race/Ethnicity	*R^2=0.0704*
White	63%
Black	28%
Hispanic	32%
Asian	75%
Other	47%

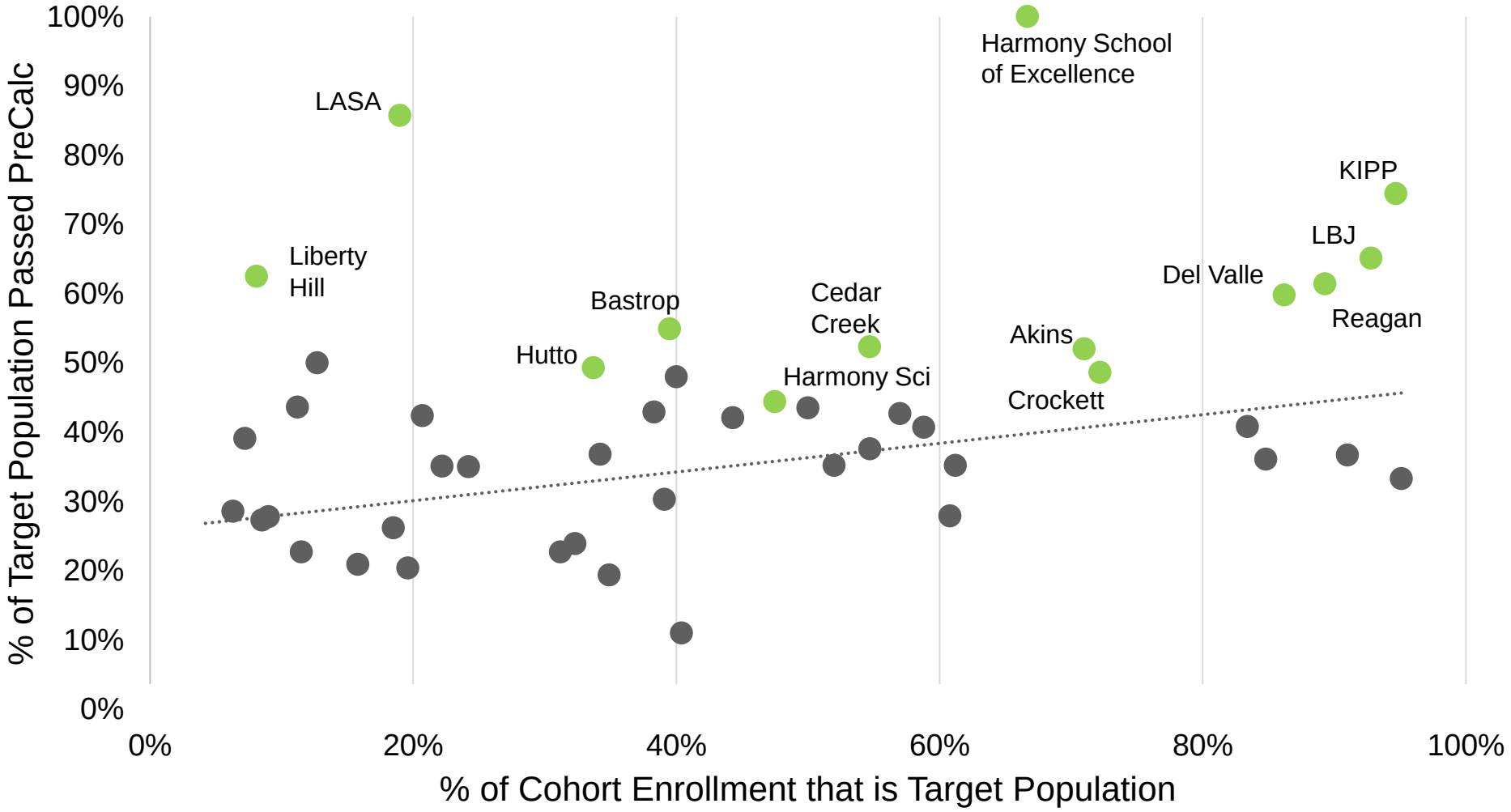
*All values significant at p<.001

Pre-Calculus Passing Rate Bright Spot Schools
2013-2014



*Excluding all Juvenile Justice-focused schools and schools with <10% target population

Pre-Calculus Passing Rate Bright Spot Schools
2014-2015



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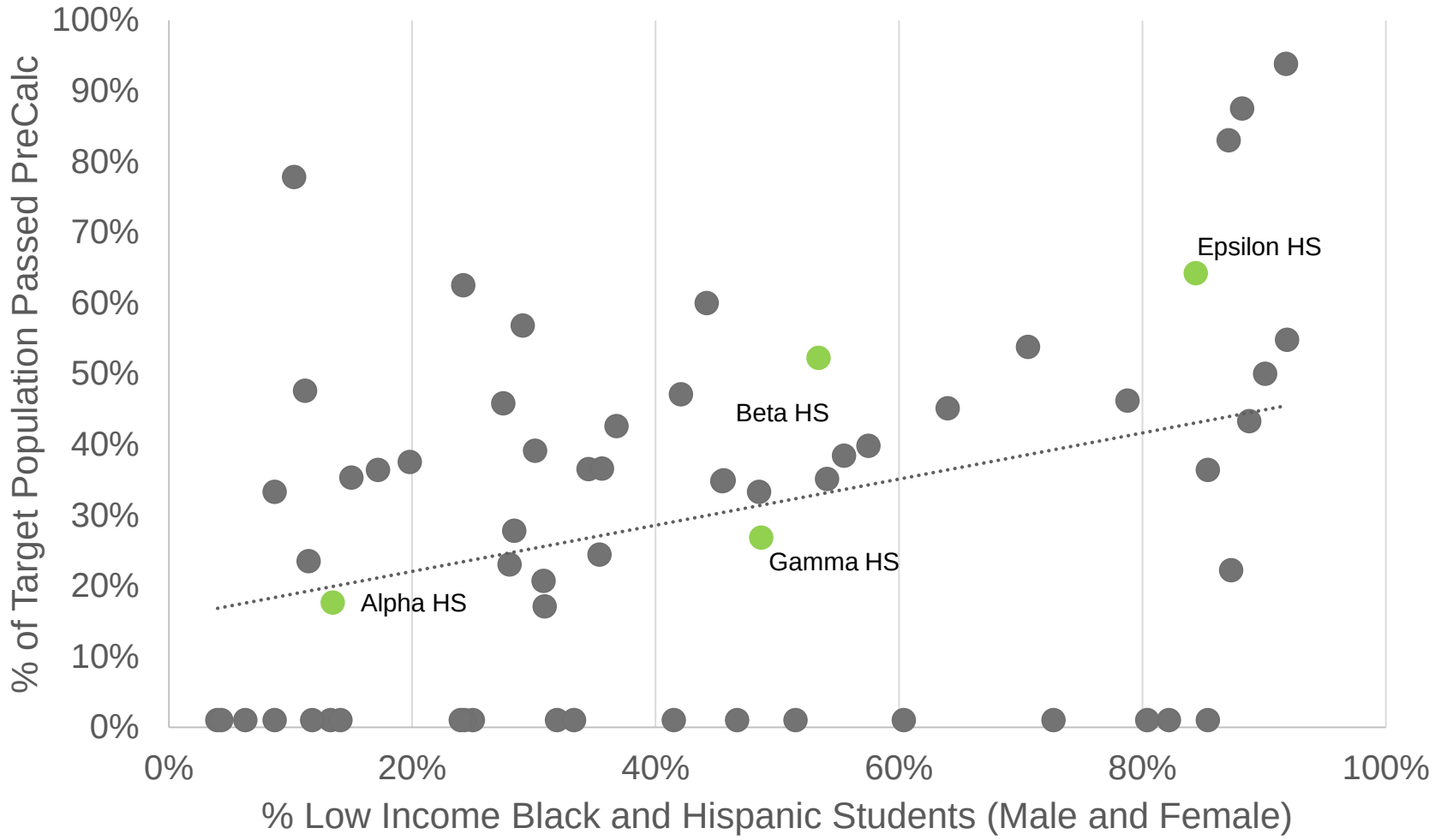
Pre-Calculus Passing Rate Bright Spot Schools Number of Students per Campus

Campus Name	*District*	*# 2015 Graduates*
KIPP Austin Collegiate	Charter School	49
LBJ High School	Austin ISD	132
Reagan	Austin ISD	111
Del Valle	Del Valle ISD	371
Crockett	Austin ISD	261
Akins	Austin ISD	452
Harmony School Of Excellence	Charter School	17
Cedar Creek	Bastrop ISD	209
Harmony Science Academy North Austin	Charter School	52
Bastrop	Bastrop ISD	234
Hutto	Hutto ISD	299
LASA	Austin ISD	174
Liberty Hill	Liberty Hill ISD	198

Pre-Calculus Passing Rate District Focus

Example ISD 2014-2015 - CONFIDENTIAL



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Focus Metric: Percent Chronically Absent

- ✓ Strong predictor of student achievement
- ✓ While disproportional difference is only 14 percentage points, target group has 2 ½ X higher rate of chronic absences
- ✓ Incorporates social (nonacademic) factors in student success
- ✓ Builds on work already started in region (School Success Mentors being piloted in 3 schools)
- ✓ National studies show chronic absence behavior can be changed for many students
- ➢ *Note: gap is measured for all grades but Bright Spots are based on grade 9, where we can still change behavior*

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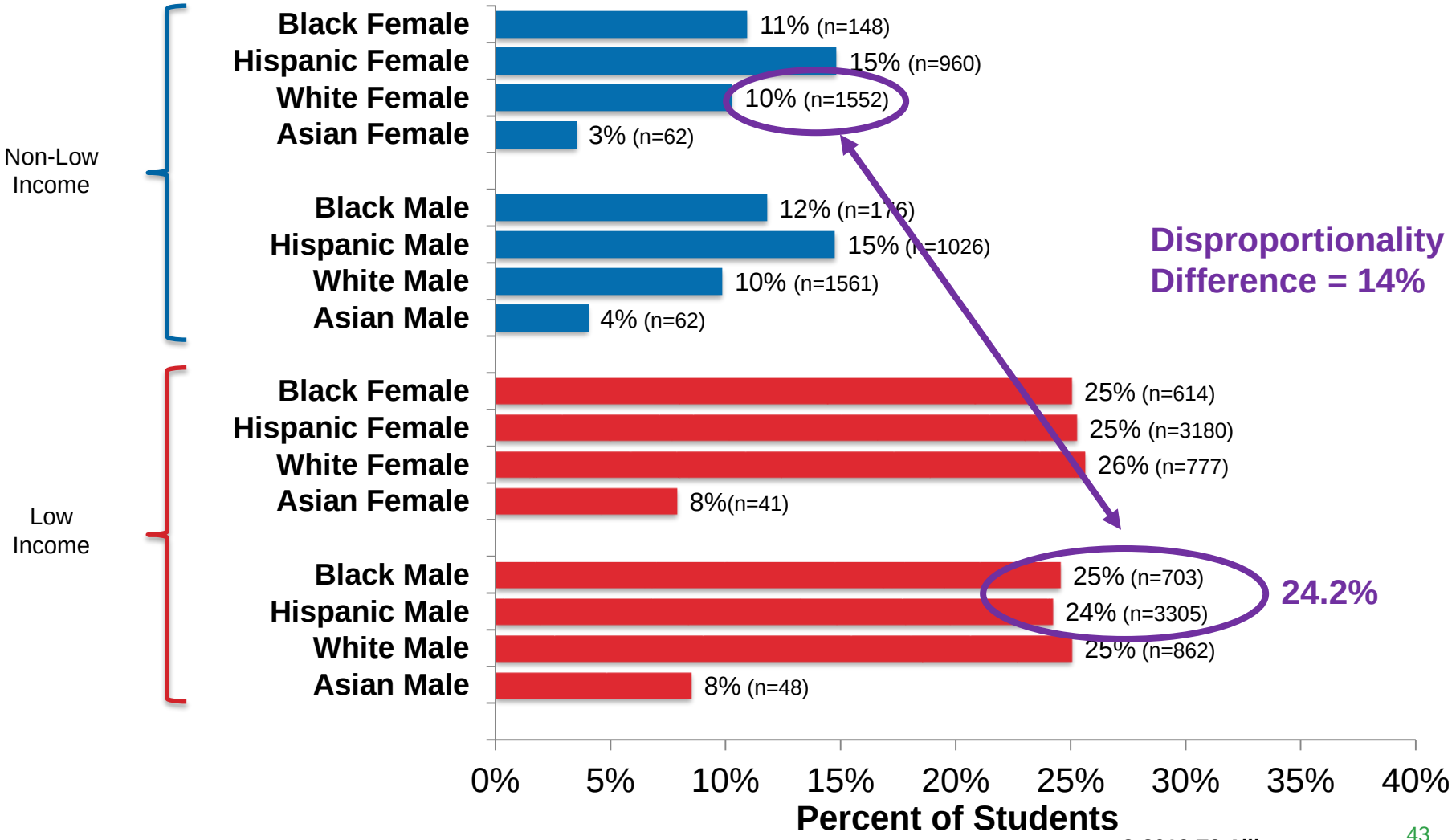
Chronic Absence Rates

Grades 9-12, 2013-2014



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

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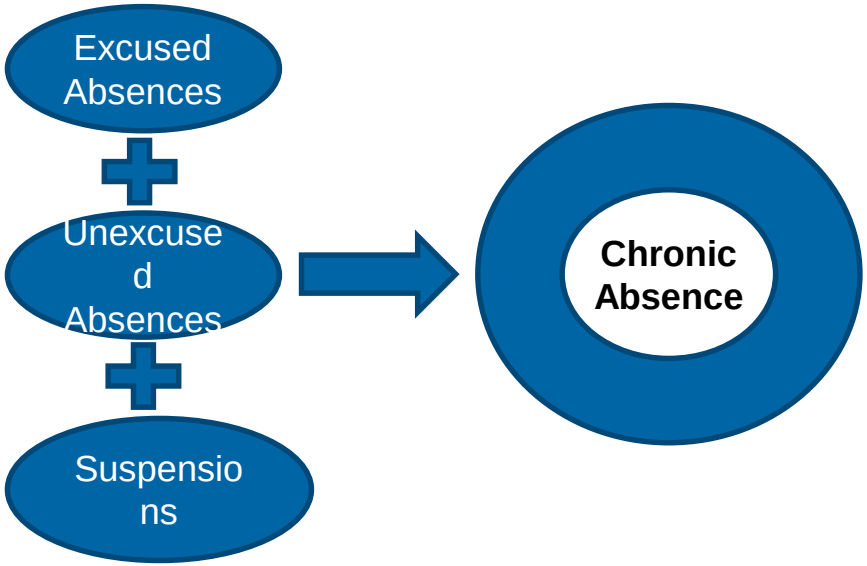
What is Chronic Absence?

Missing 10% or more of school for ANY reason.



Chronic Absence is different from truancy (unexcused absences only) or average daily attendance (how many students show up to school each day).

Why Do we Care? Chronic absenteeism, whether excused or unexcused, is correlated to both in-school and community causes, and is a huge predictor of poor educational and life outcomes.

- **Most schools and districts** monitor ADA and Truancy, but they don't always track chronic absenteeism
- **Good Average Daily Attendance** can mask chronic absences. Most schools with high chronic absenteeism have ADA of 90% or higher
- **68% of** chronically absent students in CTX are low income

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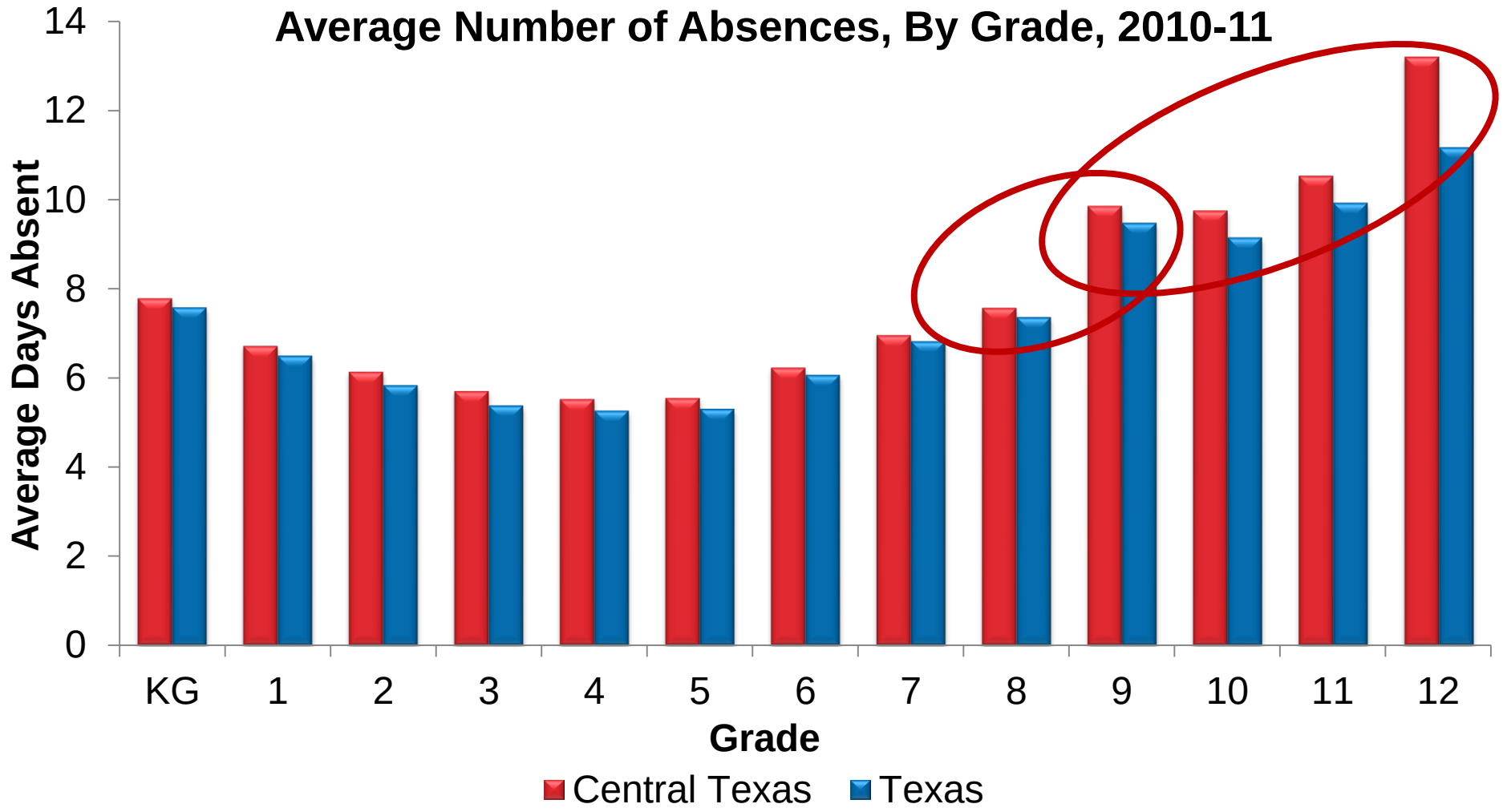
Central Texas Has More Absences Than Texas on Average at Every Grade



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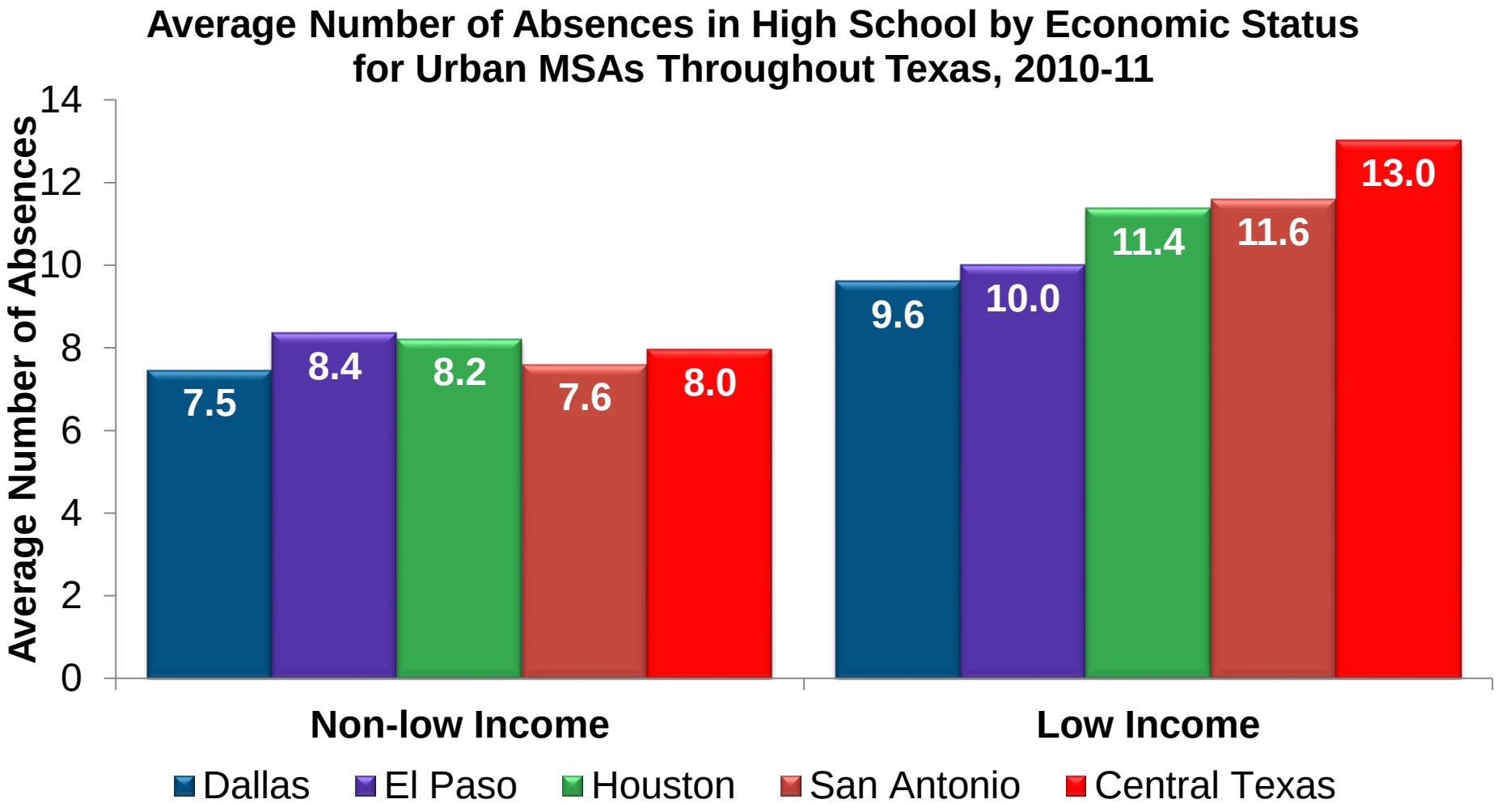
Central Texas Low Income Students Miss More School Than Students in All Other Urban Areas in Texas



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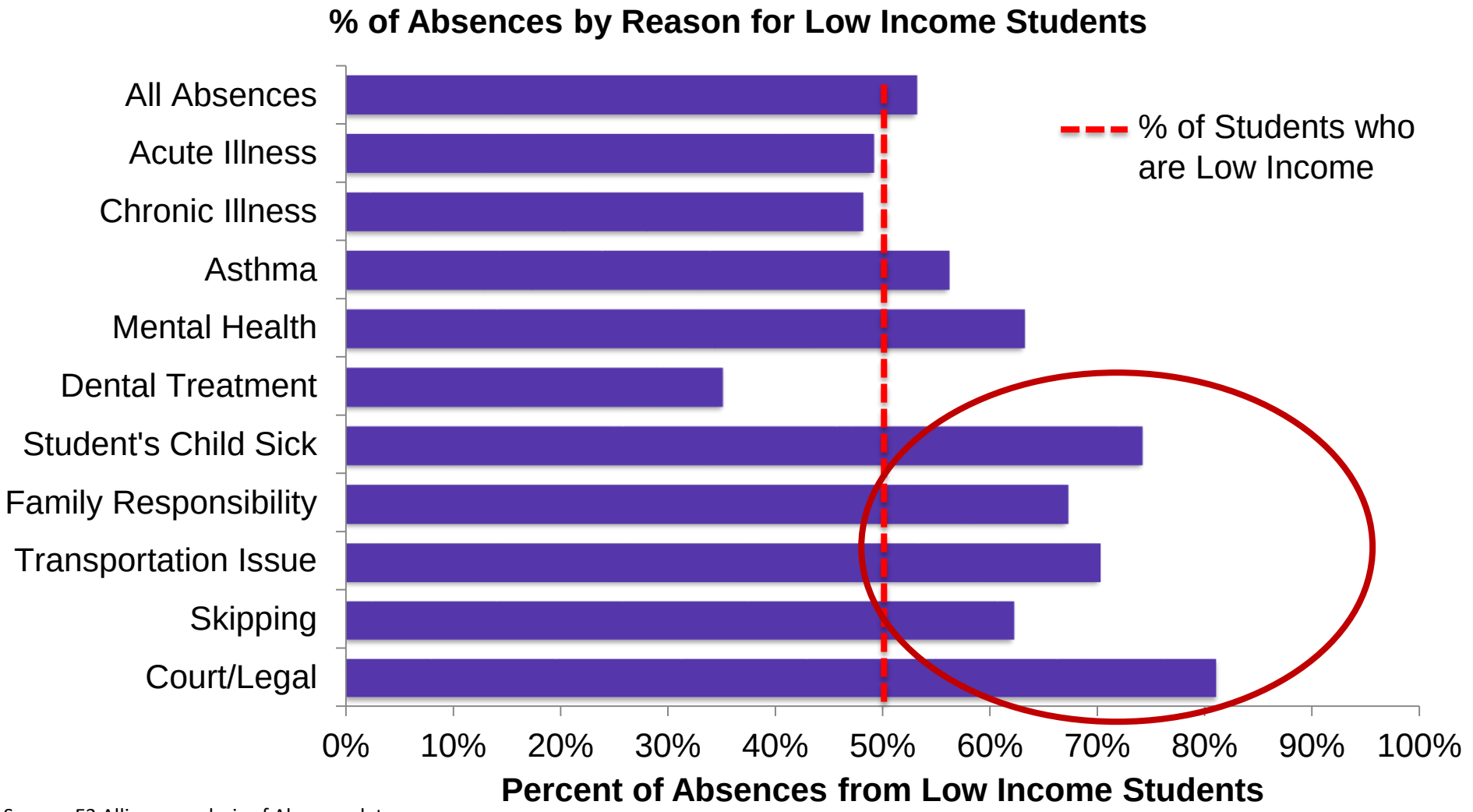
Low Income Students Have More than Their Share of Non-Medical Absences



Source: E3 Alliance analysis of Absence data from 9 schools in PISD & HCISD, 1/14/13-3/8/13

Chronically absent 9th grade students are

10 times

more likely to not graduate on time compared to students who miss five or fewer days.

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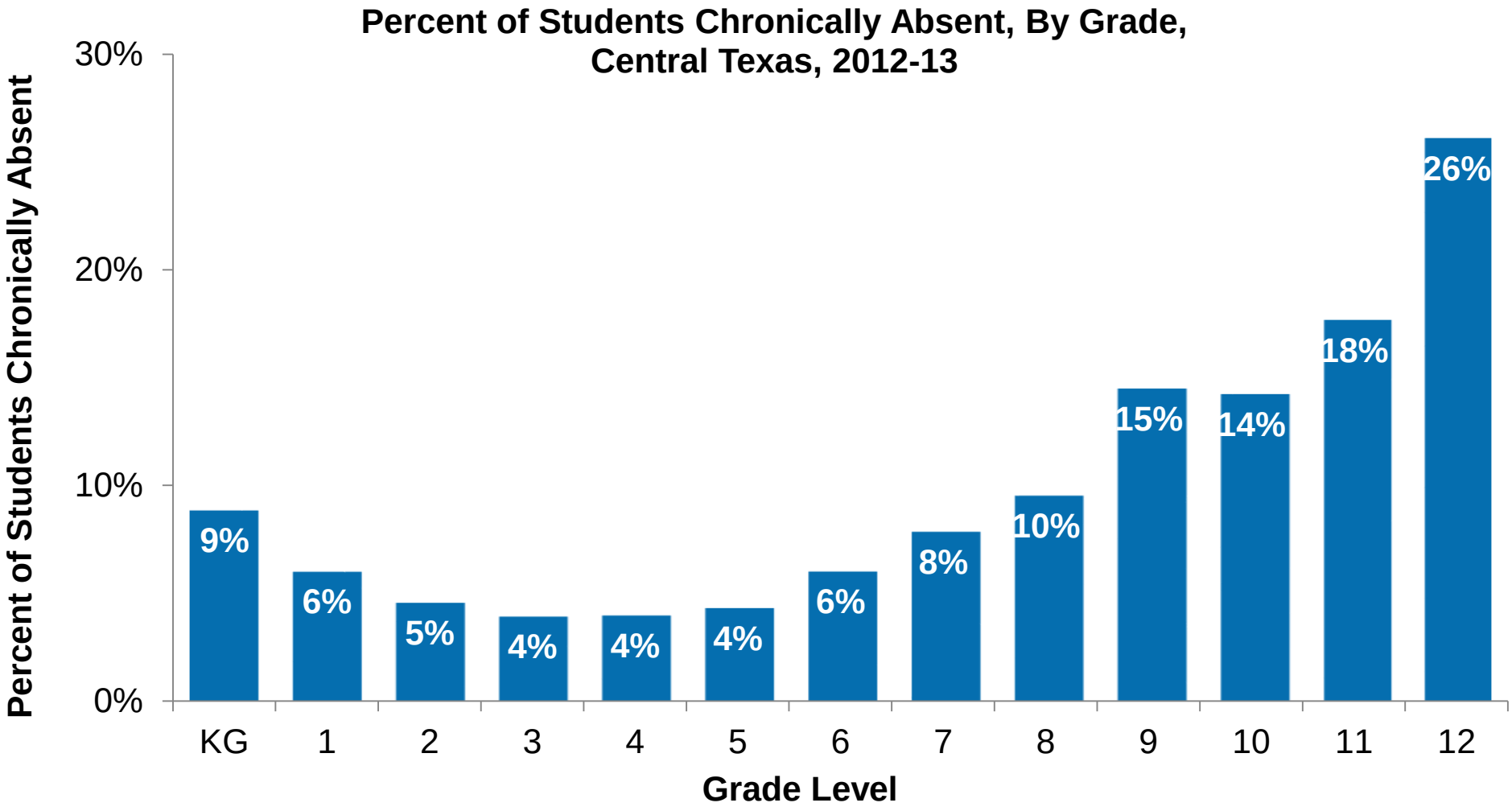
Students in Higher Grades More Likely to be Chronically Absent



Source: E3 Alliance analysis of PEIMS data at the UT Austin Education Research Center

Probability of Being Chronically Absent

	All Students
Gender	*R^2=0*
Male	10%
Female	9%
Economic Status	*R^2=0.0166*
Non-Low Income	6%
Low Income	71%
Race/Ethnicity	*R^2=0.007*
White	7%
Black	65%
Hispanic	61%
Asian	32%
Other	56%

*All values significant at p<.001, except gender

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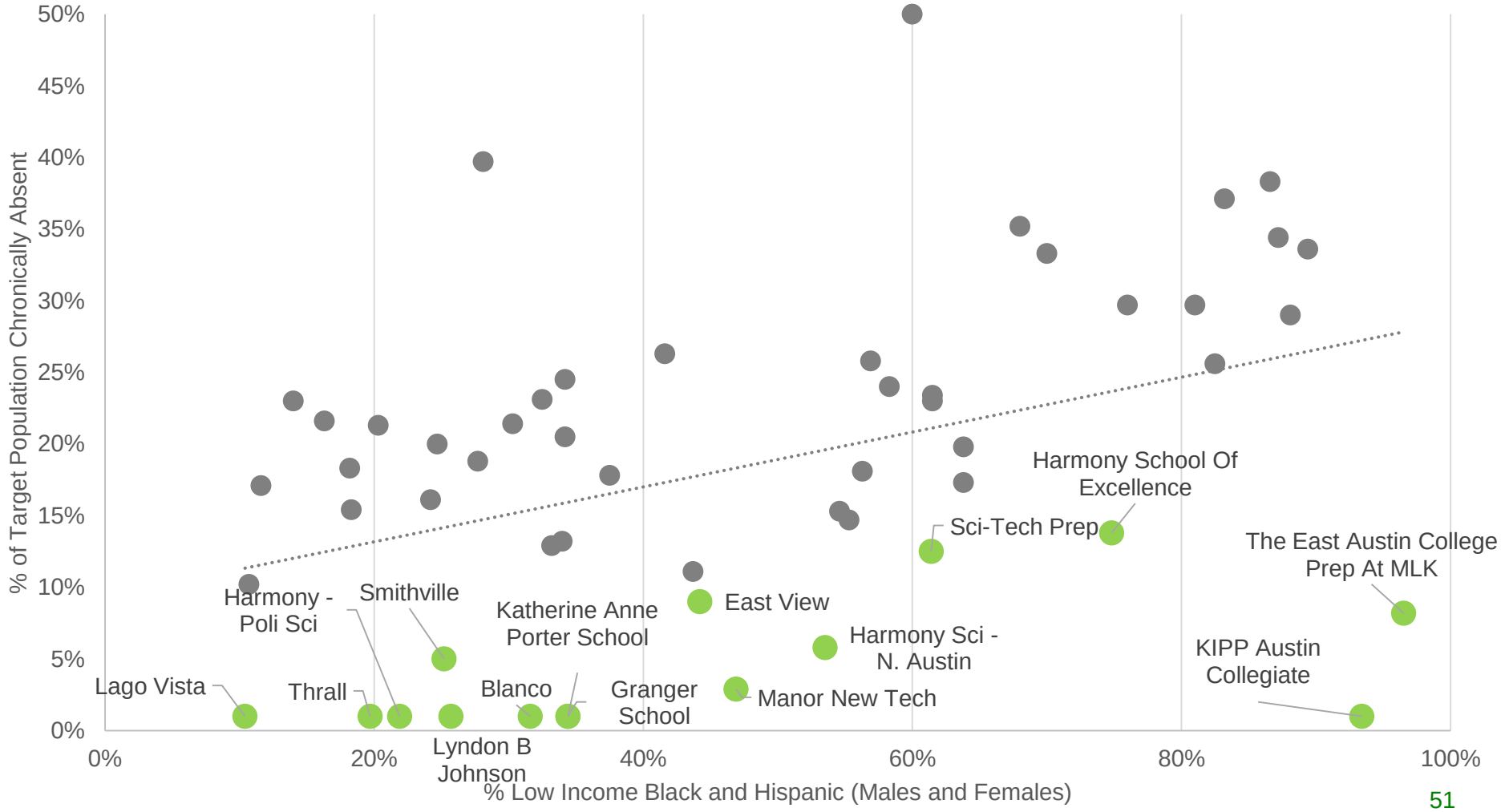
Chronic Absence Rate Bright Spot Schools

Grade 9 Only, 2014-15



*Excluding all Juvenile Justice-focused schools and schools with <10% target population

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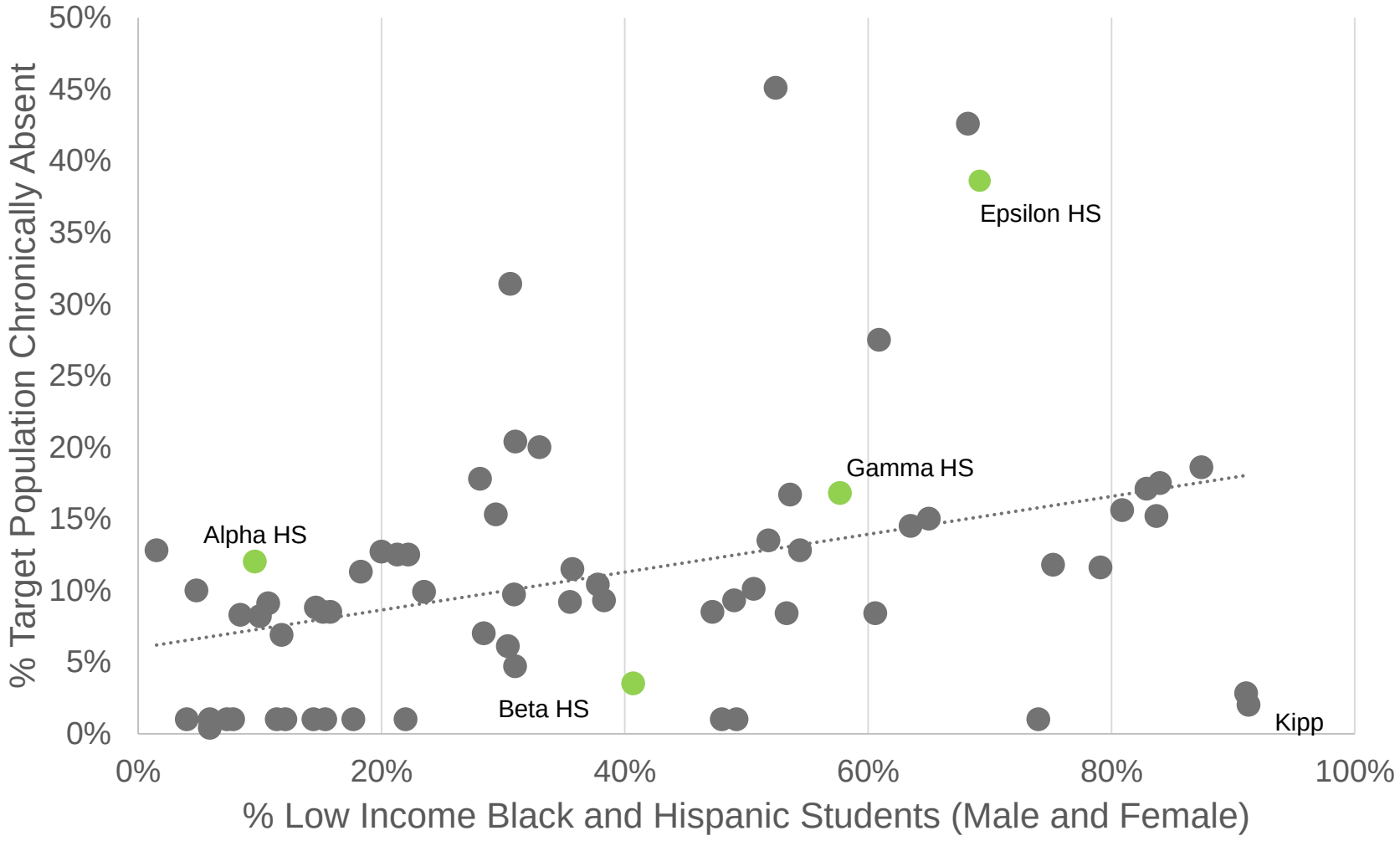
Chronic Absence 9th Grade Bright Spots
Number of Students per Campus

Campus	District	# of 9th Graders
Lago Vista	Lago Vista ISD	134
Thrall	Thrall ISD	61
Harmony School of Political Science	Charter School	32
Lyndon B Johnson	Blanco ISD	74
Blanco	Blanco ISD	76
Granger School	Granger ISD	32
Katherine Anne Porter School	Wimberley ISD	32
KIPP Austin Collegiate	Charter School	198
Manor New Technology High	Manor ISD	113
Smithville	Smithville ISD	155
Harmony Science Academy North Austin	Charter School	187
The East Austin College Prep At MLK	Austin ISD	144
East View	Georgetown ISD	378
Sci-Tech Preparatory	Austin ISD	57
Harmony School Of Excellence	Charter School	103

Chronic Absence Rate District Focus

Example ISD 2013-14 - CONFIDENTIAL



*Excluding all Juvenile Justice-focused schools and schools with <10% target population

Possible Next Steps for Committee

1. Review landscape of efforts to build on
   A. School Success Mentors pilot in Travis & Lanier HS's
   B. Pathways of Promise Math initiative Steering Committee
   C. Dana Center New Mathways Project (NMP) – math options beyond Algebra II- piloting this fall?
   D. Region 13 Mathways – math course alignment & college prep course
2. Overlay qualitative data (the ***why?***) to understand bright spots, plan for regional change in target metrics
3. Meet with partner districts to share analysis and build action plans to address improvements in target metrics school by school
4. Build regional action plan to move the needle on target metrics

Disproportional Difference Data Analysis: WHY?

- **Provide Focus**: use objective data analysis to identify those metrics that will make the biggest difference in closing gaps for young men of color
  - ✓ Choose range of metrics at each level of the education pipeline
  - ✓ Determine disproportional difference for all metrics
  - ✓ ID 2 focus metrics based on disproportional difference & other factors
- **Support Action**: Provide comparative data sets to help institutions and our community *move the needle* on these metrics
  - ✓ What factor(s) most influence metric? (Gender/ethnicity/income)
  - ✓ Which schools are bright spots across the region?
  - ✓ Provide districts data to compare schools and focus actions

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The conclusions of this research do not necessarily reflect the opinions or official position of the Texas Education Agency, the Texas Higher Education Coordinating Board, or the State of Texas.

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Thank You!

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