Questions: Did Austin Independent School District (AISD) high school students' passing rates on the Texas Assessment of Knowledge and Skills (TAKS), school attendance, graduation, meeting the TAKS college readiness standards, and taking steps to prepare for college vary by gender and ethnicity during the 2008–2009 school year? Did Hispanic male students differ significantly from other groups on these outcomes?

Response:

National and state-wide data show Hispanic male students lag behind other gender and ethnic groups in terms of performance on standardized achievement tests, on completing high school, and in their academic preparation for college (Greene & Winters, 2006; Navarro, 2003; Texas Education Agency, 2009). Previous AISD reports confirmed some of these findings. For example, within the class of 2005 cohort, 69% of Hispanic males graduated from high school, compared with 78% of Hispanic females and 86% of White males who did so (Malerba, 2007).

The present report uses data from the 2008–2009 school year to fulfill a request from the Office of Bilingual Education and the local college preparatory program, Con Mi Madre, to examine the following student outcomes by gender and ethnic group: (a) passing rates in all TAKS subjects, (b) school attendance rates, (c) graduating from high school, (d) rates for meeting TAKS college readiness standards, and (e) rates for taking steps to prepare for college. In this report, meeting college readiness standards used the Texas Educational Agency (TEA) definition of scoring 2200 or higher on the mathematics and/or reading/English language arts (ELA) TAKS, and preparing for college was defined as taking Advanced Placement (AP) courses, or taking the college admissions tests SAT Reasoning Test (Scholastic Aptitude Test, SAT) or the American College Testing (ACT) test or both.

Key Findings:

- Asian and White high school students passed all TAKS subjects at significantly higher rates than did their African American or Hispanic peers; across ethnic groups, significantly more female high school students passed the reading/ELA TAKS, compared with their male peers (Table 2).
- Across ethnic groups, Asian high school students had the highest attendance rates; Hispanic and African American students had significantly lower attendance rates than did students in other ethnic groups. Hispanic females had slightly, but significantly, lower attendance rates than did their male counterparts (Figure 1).
- Among students who were enrolled as 12th graders in Fall 2008, fewer Hispanic and African American students graduated in Spring 2009, compared with Asian and White students; no gender differences were found within ethnicity with respect to the likelihood of graduation (Figure 2).

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Angelica Ware Herrera, Ph.D.
Cathy Malerba, Ph.D.

- Across ethnic groups, significantly fewer African American and Hispanic 11th- and 12th-grade students scored 2200 or higher on the exit-level math or reading/ELA TAKS, compared with their Asian and White peers; however, gender differences within each ethnic group were not significant (Figures 3 and 4).
- Across all ethnic groups, Hispanic students were significantly less likely to take the SAT/ACT, compared with their Asian, White, and African American peers. Within ethnicity, fewer Hispanic and White male students took the SAT or ACT, compared with their female counterparts (Figure 5).

Recommendations:

Results show that both African American and Hispanic students' TAKS scores, attendance rates, and graduation lagged behind those of their Asian and White peers. Across all ethnic groups, female students performed better on the reading/ELA TAKS and were more likely to have taken important steps necessary to prepare for college, compared with male students. Taken together, these results suggest that district efforts to close the achievement gaps for students of different ethnicities and gender must continue.

It appears that African American and Hispanic students, and particularly male students within these groups, would benefit greatly from programs and interventions aimed at increasing graduation rates and improving college readiness. Although the present analyses examined the achievement of high school students, the extant literature on promoting graduation and college readiness among less-advantaged groups suggests that programs featuring early (i.e., elementary or middle school) and sustained interventions are most likely to be effective (Alderete & Coneway, 2007; Alexander, 2009; Fuller, 2009).

Method

The sample used in these analyses comprised all 9th- through 12th-grade students enrolled in AISD on the Public Education Information Management System (PEIMS) October snapshot date in 2008. Table 1 summarizes the demographic characteristics of these students.

Table 1: Demographic Characteristics of All High School Students, 2008–2009

Characteristic	Number	Percentage
Grade level		
9th	6,397	31%
10th	5,054	25%
11th	4,511	22%
12th	4,507	22%
Gender		
Female	9,932	49%
Male	10,537	51%
Ethnicity		
Native American	61	< 1%
Asian	650	3%
African American	2,765	14%
Hispanic	10,498	51%
White	6,495	32%
In special education	417	11%
Economically disadvantaged	10,013	49%
Limited English proficient (LEP)	2,782	14%
Total	**20,469**	**100%**

Source. AISD school records (PEIMSSUB 101 and 110), 2008–2009

Results

TAKS Passing Rates

At the high school level in 2008–2009, across gender, Hispanic and African American students passed all subjects of TAKS at lower rates than did White or Asian students. Significantly more Hispanic students passed the math, social studies, and science TAKS, compared with African American students (results not shown).

Among African American, Hispanic, and White students, females passed TAKS at significantly higher rates than did males on the reading/ELA TAKS; no significant differences were found between males and females in the other subject areas (Table 2).

Table 2: All High School Students' Passing Rates on the Texas Assessment of Knowledge and Skills (TAKS), by Gender Within Ethnicity

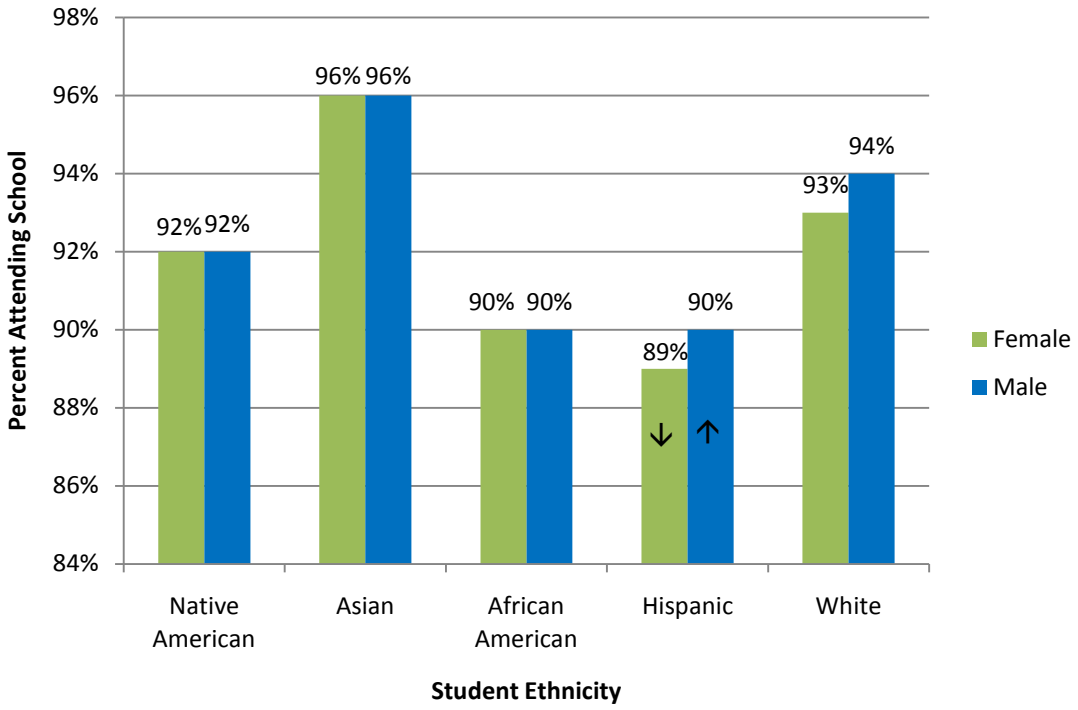
Student group	Percentage passing (number tested)			
	Math	Reading/ELA	Social studies	Science
Native American				
Females	90% (20)	100% (20)	100% (19)	100% (17)
Males	75% (24)	92% (25)	95% (19)	84% (19)
Asian				
Females	93% (217)	96% (216)	96% (133)	93% (137)
Males	93% (222)	90% (219)	96% (141)	89% (141)
African American				
Females	50% (938)	86% (890) ↑	87% (538)	58% (626)
Males	44% (933)	72% (924) ↓	83% (512)	53% (589)
Hispanic				
Females	61% (3,527)	85% (3,432) ↑	89% (2,046)	62% (2,272)
Males	59% (3,621)	77% (3,623) ↓	89% (2,052)	66% (2,244)
White				
Females	89% (2,214)	98% (2,203) ↑	99% (1,423)	92% (1,466)
Males	90% (2,370)	94% (2,368) ↓	99% (1,524)	93% (1,563)
Average passing rate (total number of students tested)	74% (14,086)	89% (13,920)	93% (8,407)	79% (9,074)

Source. AISD summary TAKS records, 2008–2009 (sample limited to students with scored TAKS tests)
Note. An arrow next to the percentage indicates a statistically significant gender difference using the logistic regression technique (Gravetter & Wallnau, 1992). Analyses controlled for the effects of previous-year Texas Assessment of Knowledge and Skills results meeting the minimum standard score; limited English proficiency status; whether the student was in special education; and if the student was economically disadvantaged (i.e., eligible for free or reduced priced lunch).

School Attendance

Across all ethnic groups, Asian high school students had the highest attendance rates and African American and Hispanic students had the lowest rates (results not shown). For all ethnic groups except Hispanics, gender differences among and between the groups were not statistically significant. Hispanic females had slightly, but significantly, lower attendance rates than did their male counterparts. See Table A1 in the Appendix for frequencies by student ethnic group.

Figure 1: School Attendance Rate of All High School Students, by Ethnicity and Gender

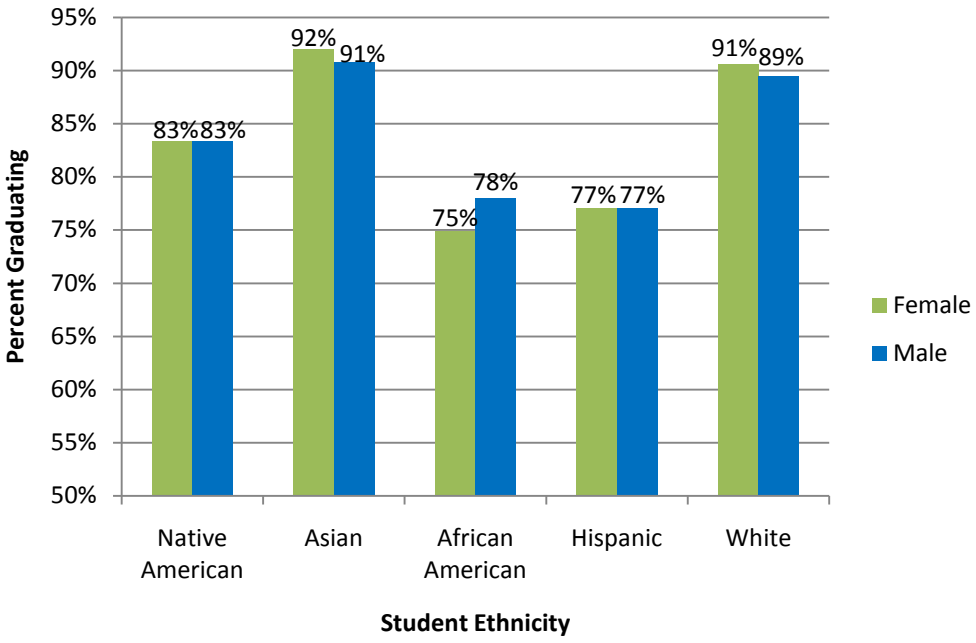


Source. AISD student records (PEIMS Submission 400), 2008–2009
Note. Arrows indicate a statistically significant gender difference using the linear regression technique (Gravetter & Wallnau, 1992). Analyses controlled for the effects of limited English proficiency status; whether the student was in special education; and if the student was economically disadvantaged (i.e., eligible for free or reduced priced lunch). Only significant gender differences within ethnic group are shown.

High School Graduation

Of the 4,507 12th-grade students who were enrolled on the PEIMS snapshot date in Fall 2008, 3,693 (88%) graduated. Compared with Asian and White students, significantly fewer Hispanic and African American students graduated (Figure 2). Within and across the ethnic groups, the gender differences were not statistically significant. See Table A2 in the Appendix for frequencies by student group. These rates should be considered preliminary and will differ from rates calculated by TEA for the graduating class of 2009.

Figure 2: 12th-Grade Students Who Graduated, by Gender and Ethnicity



Source. AISD student records (PEIMS Submission 203), 2008–2009

Note. Significance tests for gender difference were conducted using the logistic regression technique (Gravetter & Wallnau, 1992). Analyses controlled for the effects of previous-year math Texas Assessment of Knowledge and Skills results meeting the minimum standard score; limited English proficiency status; whether the student was in special education; and if the student was economically disadvantaged (i.e., eligible for free or reduced priced lunch). Only significant gender differences within ethnic group are shown.

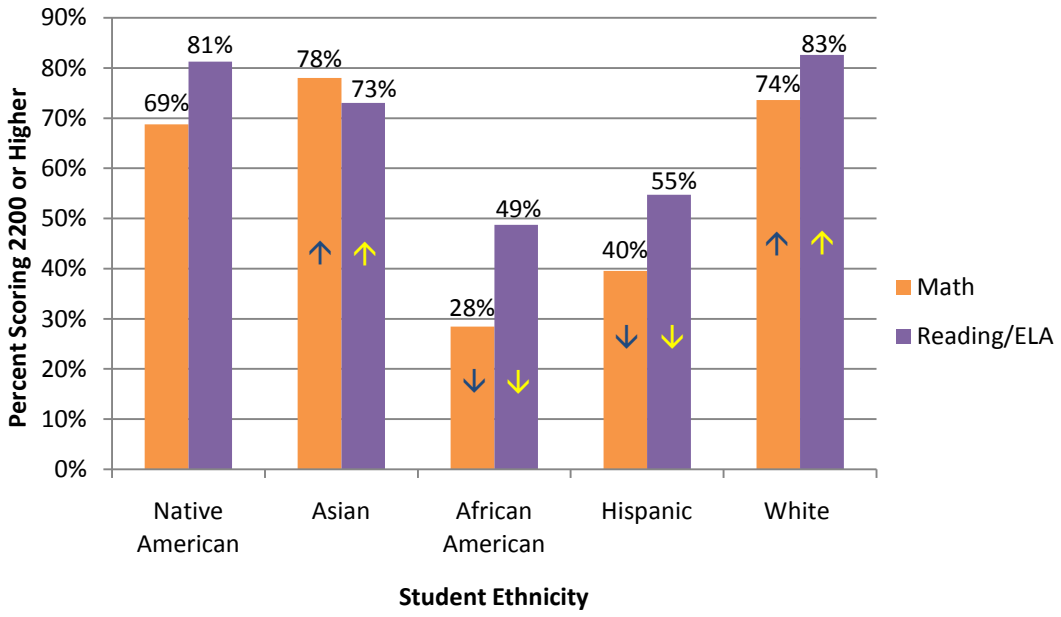
TAKS College Readiness Standards

TEA bases their TAKS college readiness criteria on legislation that involved the Texas Higher Education Coordinating Board and determined that the standard of college readiness for the exit-level TAKS would be a scale score of 2200 on the reading/ELA, math TAKS, or both. Obtaining a 2200 or higher scale score exempts students from taking college placement exams under the Texas Success Initiative (TSI).

Scoring 2200 on Math or Reading/ELA Exit-Level TAKS

Across ethnic groups, significantly fewer African American and Hispanic 11th- and 12th-grade students scored 2200 or higher on the exit-level math or reading/ELA TAKS, compared with their Asian and White peers (Figures 3 and 4). Across the ethnic groups, more 12th-grade female students than male students scored 2200 on the exit-level reading/ELA TAKS (results not shown). The gender differences within each ethnic group were not significant. See Tables A3 and A4 in the Appendix for the number of students per grouping.

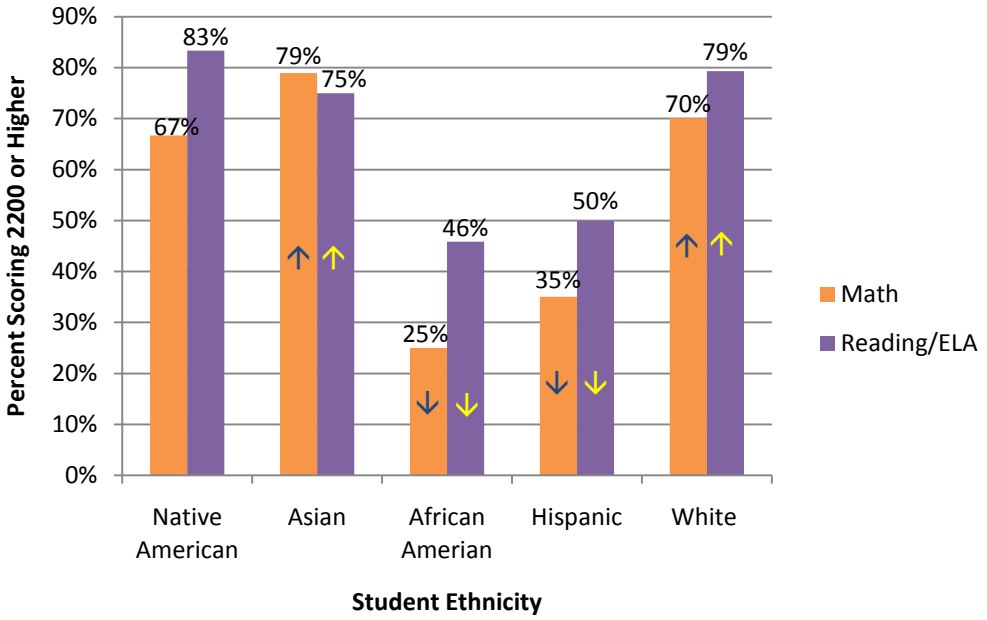
Figure 3: 11th-Grade Students who Scored 2200 or Higher on the Exit-level Math and Reading/English Language Arts (ELA) Texas Assessment of Knowledge and Skills (TAKS), by Ethnic Group



Source. AISD TAKS summary files, 2008–2009

Note. Color coded arrows indicate statistically significant differences between the groups, using the linear regression technique (Gravetter & Wallnau, 1992). Analyses controlled for the effects of previous-year Texas Assessment of Knowledge and Skills results meeting the minimum standard score; limited English proficiency status; whether the student was in special education; and if the student was economically disadvantaged (i.e., eligible for free or reduced priced lunch).

Figure 4: 12th-Grade Students who Scored 2200 or Higher on the Exit-Level Math and Reading/English Language Arts (ELA) Texas Assessment of Knowledge and Skills (TAKS), by Ethnic Group



Source. AISD TAKS summary files, 2008–2009
Note. Color coded arrows indicate statistically significant differences between the groups, using the linear regression technique (Gravetter & Wallnau, 1992). Analyses controlled for the effects of previous-year Texas Assessment of Knowledge and Skills results meeting the minimum standard score; limited English proficiency status; whether the student was in special education; and if the student was economically disadvantaged (i.e., eligible for free or reduced priced lunch).

College Preparation

Students who take more steps to prepare for college are more likely to enroll in college than are those who take fewer steps. High school students who take AP courses in the 11th and 12th grade and the SAT/ACT are significantly more likely to enroll in postsecondary education than are students who do not take AP courses or the SAT/ACT (Chicago Public Schools, 2009; Garland, 2008).

Earlier research examining the predictors of postsecondary enrollment found that, as a whole, AISD Hispanic high school graduates lagged behind their peers in postsecondary enrollment rates because they did not satisfy many of the fundamental criteria needed to enroll in a 4-year college (Garland, 2008). Table 3 and Figure 5 present two of these fundamental criteria needed to be prepared for college (i.e., taking AP courses in 11th and/or 12th grade and taking the SAT, ACT, or both) and present the gender and ethnic distributions for each.

Across ethnic groups, 11th-and 12th-grade female students took significantly more AP courses than did male students. Within ethnic groups, African American, Hispanic, and White female students took significantly more AP courses than did their male counterparts (Table 3).

Table 3: Advanced Placement (AP) Courses Taken by All 11th- and 12-Grade Students, by Gender and Ethnicity

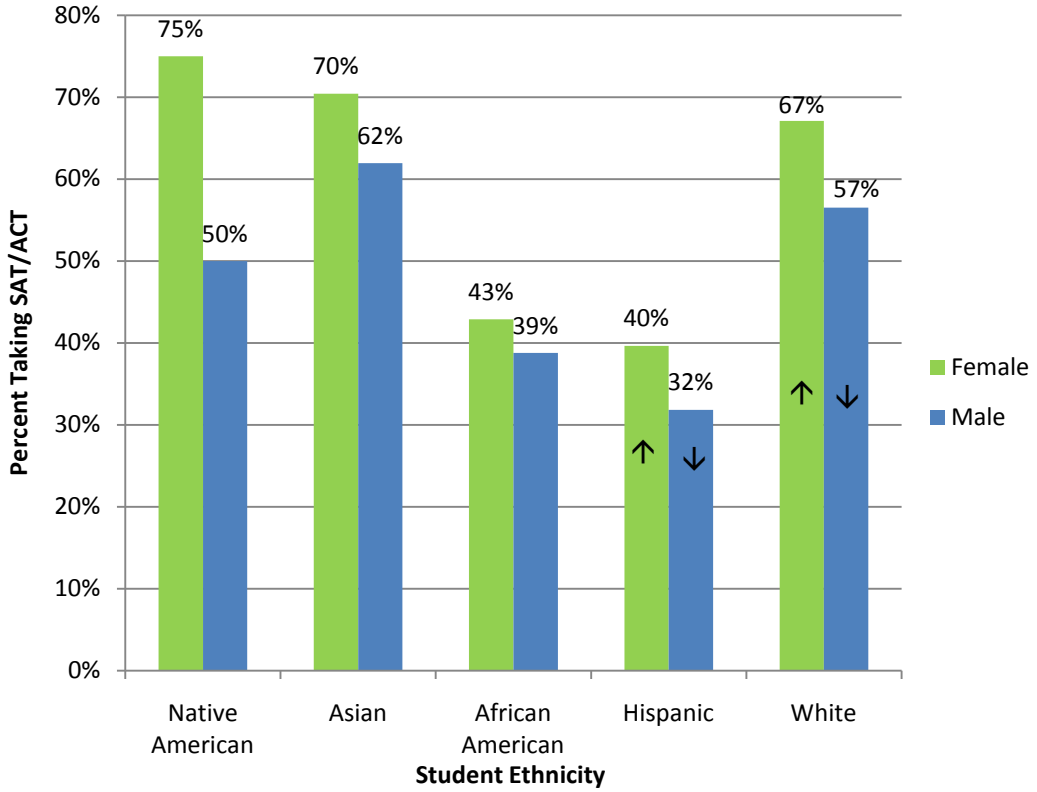
Student group	Average Number of AP Courses	STD	Number of students
Native American			
Females	3.69	3.72	16
Males	2.08	2.75	12
Asian			
Females	5.76	5.59	159
Males	5.81	5.63	134
African American			
Females	1.86 ↑	3.06	632
Males	1.17 ↓	2.35	575
Hispanic			
Females	1.91 ↑	2.98	2199
Males	1.55 ↓	2.88	2142
White			
Females	3.72 ↑	4.18	1514
Males	3.22 ↓	4.23	1635
District average and standard deviation of AP courses taken and total number of students	3.08	3.74	9018

Source. AISD AP records, 2008-2009.

Note. Arrows next to percentage indicate a statistically significant gender difference using linear regression (Gravetter & Wallnau, 1992). Analyses controlled for the effects of previous-year math Texas Assessment of Knowledge and Skills results meeting the minimum standard score; limited English proficiency status; whether the student was in special education; and if the student was economically disadvantaged (i.e., eligible for free or reduced priced lunch). Only significant gender differences within ethnic group are shown.

Across ethnic groups, female students were more likely to have taken the SAT, ACT, or both[1] than were male students. Among the ethnic groups, Hispanic students were less likely to have taken the SAT/ACT than were their Asian, White, and African American peers. Within the ethnic groups, significant gender differences were found among the Hispanic and White students. Hispanic and White female students were significantly more likely to have taken the SAT/ACT than were their male counterparts (Figure 5). See Table A5 in the Appendix for the frequencies of students in each group.

Figure 5: 11th and 12th Grade Students Who Took the Scholastic Aptitude Test (SAT) or American College Testing (ACT) Test, by Gender and Ethnicity



Source. AISD SAT and ACT records, 2007–2008 and 2008–2009

Note. Because the total number of Native American students is small (*n* = 16), comparisons made among or between them are not meaningful. An arrow next to a percentage indicates a statistically significant gender difference using linear regression (Gravetter & Wallnau, 1992). Analyses controlled for the effects of previous-year math Texas Assessment of Knowledge and Skills results meeting the minimum standard score; limited English proficiency status; whether the student was in special education; and if the student was economically disadvantaged (i.e., eligible for free or reduced priced lunch). Only significant gender differences within ethnic group are shown.

[1] An indicator variable was created that collapsed across the SAT and ACT results. Students who took either the SAT or ACT or both were given a 1, while students who took neither test were given a 0.

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Appendix

Table A1. High School Students With 2008–2009 Attendance Data, by Ethnicity and Gender

Student group	Number of students
Native American	
Females	28
Males	33
Asian	
Females	328
Males	319
African American	
Females	1,334
Males	1,400
Hispanic	
Females	5,037
Males	5,332
White	
Females	3,097
Males	3,374
Total number of students	20,282

Table A2. 12th Grade Students Who Graduated in Spring 2009, by Gender and Ethnicity

Student group	Number of students
Native American	
Females	*
Males	*
Asian	
Females	80
Males	59
African American	
Females	253
Males	223
Hispanic	
Females	854
Males	777
White	
Females	697
Males	740
Total number of students	3,693

Note. * Cell sizes with fewer than 6 students are redacted to protect student privacy.

Table A3: Number of 11th Graders Who Scored 2200 or Higher on Math and Reading/English Language Arts (ELA) Texas Assessment of Knowledge and Skills (TAKS), by Ethnicity and Gender

Student group	Math	Reading/ELA
Native American		
Females	7	9
Males	*	*
Asian		
Females	57	59
Males	53	44
African American		
Females	93	166
Males	73	118
Hispanic		
Females	444	634
Males	433	580
White		
Females	540	630
Males	602	652
Total number of students	2,306	2,896

Note. A total of 4,511 students in the 11th grade took the math TAKS, reading/ELA TAKS, or both. Of those, 2, 306 (51%) scored 2200 or higher on the math TAKS and 2,896 (64%) scored 2200 or higher on the reading/ELA TAKS. * Cell sizes with fewer than 6 students are redacted to protect student privacy.

Table A4: Number of 12th Graders Who Scored 2200 or Higher on Math and Reading/ English Language Arts (ELA) Texas Assessment of Knowledge and Skills (TAKS), by Ethnicity and Gender

Student group	Math	Reading/ELA
Native American		
Females	*	6
Males	*	*
Asian		
Females	69	67
Males	51	47
African American		
Females	85	161
Males	71	125
Hispanic		
Females	375	586
Males	369	474
White		
Females	547	632
Males	572	635
Total number of students	2,147	2,737

Note. A total of 4,507 students in the 12th grade took the math TAKS, reading/ELA TAKS, or both in their 11th-grade year. Of those, 2, 147 (48%) scored 2200 or higher on the math TAKS and 2,737 (61%) scored 2200 or higher on the reading/ELA TAKS. * Cell sizes with fewer than 6 students are redacted to protect student privacy.

Table A5: Number of 11th- and 12th-Grade Students Who Took the Scholastic Aptitude Test (SAT) or American College Testing (ACT) Test, by Gender and Ethnicity

Student group	11th Grade	12th Grade
Native American		
Females	10	6
Males	6	6
Asian		
Females	72	87
Males	69	65
African American		
Females	294	338
Males	289	286
Hispanic		
Females	1,091	1,108
Males	1,128	1,014
White		
Females	744	770
Males	808	827
Total number of students	1,725	2,476

Note. A total of 4,511 students in the 11th grade and 4,507 students in 12th grade were included in these analyses. Of those, 1,725 (38%) 11th graders and 2,476 (55%) 12th graders took the SAT, ACT, or both.