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**ADVANCED COURSEWORK COMPLETION RATES BY ETHNICITY IN
TEXAS:**

A MULTI-YEAR STATEWIDE STUDY

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Abstract

This study represents an analysis of the trends of Texas students by ethnicity who participated in advanced coursework (i.e., Advanced Placement, International Baccalaureate, or dual enrollment) over the past 11 school years. Archival data from the Texas Education Agency were obtained and analyzed for all public high schools with available data. The percentage of students completing advanced coursework from all ethnic groups (i.e., Asian, White, Hispanic, and Black) has increased over the past 11 years; however, statistically significant achievement gaps remain among ethnic groups. Statistically significant differences with large effect sizes were present in the percentages of students who completed an advanced course. As such, strong concerns are present regarding inequities in advanced coursework enrollment in Texas schools.

INTRODUCTION

In their recent book that outlines concerns of the U.S. educational system, Joel Klein and Condoleezza Rice (2012) stated that the “education crisis is a national security crisis” (p. 7). Economists have predicted higher unemployment rates of U.S. citizens because of a lack of advanced education and workforce skills (Noah, 2012). Further, individuals without postsecondary training “cannot expect to effectively compete for jobs against fellow U.S. citizens or global peers” (Klein & Rice, 2012, p. 8). Baum, Ma, and Payea (2010) claimed that postsecondary training could result in rewards for all groups in society, including racial and ethnic groups. Historically, disparities in student academic achievement by ethnicity, gender, and socioeconomic status have been well documented (Anderson, 1989; Carnevale & Rose, 2004; Corbett, Hill, & Rose, 2008; Farr, 2010; Fultz, 1995; Kirp, 2010; Klopfenstein, 2004b; Moore & Slate, 2008, 2010; Orlich & Gifford, 2006; Tyack, 2004; Williams, 2011). Unfortunately, the Bureau of Labor Statistics (2012) has projected that disparities of racial and ethnic groups with the lowest levels of educational attainment are expected to grow more rapidly than any other group. This projection could have significant implications for the long-term economic stability of the country (Bureau of Labor Statistics, 2012).

Addressing the disparity issue and finding solutions to closing the gaps in achievement and performance has been at the center of national and statewide educational reforms for the past 30 years. Since the 1990s, serious efforts to reform secondary education have been instituted (Clark, 2007; National Governors Association and Achieve, Inc., 2005; U.S. Department of Education, 1994, 1996, 2001, 2003, 2007, 2008). Because of the growing remediation efforts for students in their first year of college, many of the reform efforts have targeted secondary education with the goal of enhancing student preparation for college and careers following high school (Achieve, Inc., 2009; Dolejs, 2006; U.S. Department of Education, 1996, 2008). A focus on the level of rigor of the high school curriculum has been specific to these reforms. A rigorous high school curriculum has been exemplified through advanced coursework, including: Advanced Placement (AP), the International Baccalaureate (IB), and dual credit coursework (Conley, 2010). Known for their college-level rigor and ability to predict student performance, these programs afford students the opportunity to complete college-level work while still enrolled in high school (Patterson, Packman, & Kobrin, 2011). However, participation in advanced coursework has been divided primarily by race and economic status, with White, affluent students more likely to participate in these courses than low-income, Black, and Hispanic students (Geiser & Santelices, 2004).

Over the past 15 years, researchers have indicated that differences by ethnicity continue to mark access to advanced courses (Astin & Oseguera, 2004; Barnes, Slate, & Rojas-LeBouef, 2010; Corra, Carter, & Carter, 2011; Flowers, 2008; Handwerk, Tognatta, Coley, & Gitomer, 2008; Klopfenstein, 2004a, 2004b; Moore & Slate, 2008, 2010; Ndura, Robinson, & Ochs, 2003; Peters & Mann, 2009; Preston, 2006). In 2002, Solórzano and Ornelas determined that access to AP courses in California was denied disproportionately to Hispanic, Black, and low-income students. These researchers also indicated that low-income urban students were the least likely to enroll in AP courses. A decade later, using a national sample in 2013, Holmes concluded that Asian and White students were more likely to participate in advanced courses than were Black or Hispanic

students. In a different study, Asian and White students who participated in AP courses were more likely than Black or Hispanic participants to experience positive differences with: college exam scores, college GPA, degree attainment, and earned income (Flowers, 2008). Historically, the majority of students who enroll in advanced courses have been higher-income White, Asian, and female students (College Board, 2012; Koch, 2012; Klopfenstein, 2004b; Planty, Provasnik, & Daniel, 2007; Reigle-Crumb, 2006). Unfortunately, disparities along racial and economic lines still exist in course participation and performance. In fact, both the International Baccalaureate Organization (2013) and the College Board (2013) have developed policy statements meant to address equity and access issues in the advanced courses.

Texas has been a leader in college readiness and has implemented *Closing the Gaps by 2015* (Texas Higher Education Coordinating Board, 2000) to address the achievement gaps and prepare students for future employment in the global economy. One of the features of the initiative is the expansion of AP/IB use for all students in high school classrooms across the state. Although the state provides annual data on AP performance in Texas, few researchers have analyzed a decade of AP/IB and dual credit participation rates by ethnicity, since the advent of the *No Child Left Behind* legislation. The differences examined in our study might imply that biases still exist within the state. These biases might have negative repercussions, such as educational inequality or unequal access to higher education (Carnevale & Rose, 2004). Thus, the purpose of this study was to examine long-term advanced course (i.e., AP, IB, dual credit) completion rates among Texas public high school students (i.e., from the 2001-2002 school year to the 2011-2012 school year) to determine the extent to which differences exist by ethnicity and the extent to which these differences have changed.

METHODOLOGY

The three research questions pertaining to this study include:

- a) What are the percentages of high school students by ethnicity (i.e., Black, Hispanic, White, and Asian) who completed an advanced or dual enrollment course for each school year, 2001-2012?
- b) What is the difference in the percentages of students by ethnicity (i.e., Black, Hispanic, White, and Asian) who completed an advanced or dual enrollment course for each school year, 2001-2012?
- c) What is the trend regarding the percentages of students by ethnicity (i.e., Black, Hispanic, White, and Asian) who completed an advanced or dual enrollment course from 2001 to 2012?

The first question is a descriptive research question, the second question is an inferential research question, and the final question is a trend research question. Such questions were used to analyze trends in student enrollment in advanced coursework by ethnicity from 2001-2012. The Texas Education Agency (2011) defined Advanced Course/Dual Enrollment for this study:

Advanced courses include dual enrollment courses. Dual enrollment courses are those courses for which a student earns both high school and college credit. Deciding who gets credit for the dual credit course is described in Texas Administrative Code The course for which credit is awarded must provide advanced academic instruction beyond, or in greater depth than, the essential knowledge and skills for the equivalent high school course. (para. 8)

A non-experimental research design was used to analyze the advanced course enrollment rates of Texas public high school students. Specifically, 11 years of archival data were obtained from the Texas Education Agency's Academic Excellence Indicator System database for all public high schools in Texas. The students selected for inclusion into this study were those students who had taken at least one advanced course while in 11th or 12th grade and whose ethnicity was categorized as Black, White, Hispanic, or Asian. Participants in this study were selected from all traditional public high schools throughout the state of Texas. Students who were excluded from the study included those students who attended private, charter, and alternative high schools; students categorized by the Texas Education Agency as Limited English Proficient; students with learning disabilities; and students from other ethnic categories or multi-ethnic (i.e., comprising two or more ethnicities) who constituted less than 1% of the total population of students.

After review and acceptance by a university Institutional Review Board, the data were downloaded and recoded for each participating Texas public high school by school year. The SPSS version 20.0 was utilized to analyze the data for this study. Specific variables examined were ethnicity and advanced coursework completion rates. After data were downloaded and recoded, assumptions for normality, linearity, and homogeneity were checked prior to conducting an Analysis of Variance (ANOVA) procedure. The parametric ANOVA procedure, due to its robustness, was calculated to address the inferential research question (Field, 2009; Harris, 1998).

RESULTS

For this investigation of the performance on advanced course participation of Texas high school students by ethnicity, three research questions were analyzed for each of the 11 school years of data available, which included the 2001-2012 school years. The results are presented by research questions.

Research Question 1

Descriptive statistics, including mean and standard deviation, were repeated for the 11 years of data analyzed. Presented in Table 1 are the descriptive statistics for the percentage of Texas high school students by ethnicity (i.e., Black, Hispanic, White, and Asian) who completed an advanced course/dual enrollment course from the 2001-2002 school year to the 2011-2012 school year. Asian students were most likely to complete an advanced course/dual enrollment course and Black students were the least likely to complete an advanced course/dual enrollment course in each of the study's school years.

Hispanic students were less likely than Asian or White students to complete an advanced course during this time period.

Table 1

Mean Percentages of Students by Ethnicity who Completed an Advanced/Dual Enrollment Course by School Year

Year	Black		Hispanic		White		Asian	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
2001-2002	12.77	11.14	12.91	10.57	20.92	12.46	35.19	16.92
2002-2003	12.26	10.88	12.63	9.80	21.55	12.35	36.13	16.71
2003-2004	12.42	10.76	12.92	10.11	21.91	12.78	36.05	16.71
2004-2005	12.73	10.61	13.31	9.50	21.96	12.15	35.16	16.94
2005-2006	13.41	10.72	13.98	10.00	22.62	12.23	37.77	17.88
2006-2007	13.55	11.26	14.41	10.61	22.92	12.75	37.04	16.71
2007-2008	14.06	12.20	15.05	10.96	23.57	13.30	37.73	17.63
2008-2009	14.93	12.15	15.91	11.22	24.19	13.31	38.92	17.53
2009-2010	16.61	13.44	17.60	12.66	25.45	14.41	41.59	18.56
2010-2011	18.05	13.99	19.94	14.13	27.03	15.49	44.02	17.98
2011-2012	21.02	16.17	22.38	15.94	28.56	16.44	45.91	19.54

Research Question 2

An ANOVA procedure was conducted to determine the extent to which the percentage of students who completed an advanced course/dual enrollment course differed as a function of ethnic membership for each school year. Statistically significant differences were noted for each school year within the study. Additionally, Scheffé post hoc procedures revealed that statistically significant differences were present in the percentages of students who completed an advanced course/dual enrollment course for the pairwise comparisons with the exception of Black and Hispanic students.

For the 2001-2002 school year, the ANOVA revealed a statistically significant difference, $F(3, 3139) = 385.31, p < .001, \eta^2 = .27$, a large effect size (Cohen, 1988). For the 2002-2003 school year, the ANOVA revealed a statistically significant difference, $F(3, 3173) = 470.42, p < .001, \eta^2 = .31$, a large effect size (Cohen, 1988). For the 2003-2004 school year, the ANOVA revealed a statistically significant difference, $F(3, 3282) = 463.67, p < .001, \eta^2 = .30$, a large effect size (Cohen, 1988). For the 2004-2005 school year, the ANOVA revealed a statistically significant difference, $F(3, 3255) = 443.08, p < .001, \eta^2 = .29$, a large effect size (Cohen, 1988). For the 2005-2006 school year, the ANOVA revealed a statistically significant difference, $F(3, 3292) = 491.84, p < .001, \eta^2 = .31$, a large effect size (Cohen, 1988). For the 2006-2007 school year, the ANOVA revealed a statistically significant difference, $F(3, 3337) = 448.77, p < .001, \eta^2 = .29$, a large effect size (Cohen, 1988). For the 2007-2008 school year, the ANOVA revealed a statistically significant difference, $F(3, 3392) = 423.14, p < .001, \eta^2 = .27$, a large effect size (Cohen, 1988). For the 2008-2009 school year, the ANOVA revealed a statistically significant difference, $F(3, 3433) = 438.13, p < .001, \eta^2 = .28$, a large effect size (Cohen, 1988). For the 2009-2010 school year, the ANOVA revealed a statistically significant difference, $F(3, 3534) = 409.56, p < .001, \eta^2 = .26$, a large effect size (Cohen, 1988). For

the 2010-2011 school year, the ANOVA revealed a statistically significant difference, $F(3, 3494) = 360.26, p < .001, \eta^2 = .24$, a large effect size (Cohen, 1988). For the 2011-2012 school year, the ANOVA revealed a statistically significant difference, $F(3, 4048) = 298.92, p < .001, \eta^2 = .18$, a large effect size (Cohen, 1988).

Summarized in Table 2 are the partial eta squared and effect sizes for the percentage of students who completed at least one advanced course. The partial eta squared values ranged from .18 to .31 over the 11-year period within the study. A significant finding of this study was the consistency of large effect sizes for each school year within the study.

Table 2

Partial Eta Squared and Effect Sizes for the Percentages of Students who Completed an Advanced/Dual Enrollment Course by School Year

School Year	η^2	Effect Size	Ethnic Group with the smallest %	Ethnic Group with the largest %
2001-2002	.27	Large	Black	Asian
2002-2003	.31	Large	Black	Asian
2003-2004	.30	Large	Black	Asian
2004-2005	.29	Large	Black	Asian
2005-2006	.31	Large	Black	Asian
2006-2007	.29	Large	Black	Asian
2007-2008	.27	Large	Black	Asian
2008-2009	.28	Large	Black	Asian
2009-2010	.26	Large	Black	Asian
2010-2011	.24	Large	Black	Asian
2011-2012	.18	Large	Black	Asian

Research Question 3

Many secondary educational reforms efforts were implemented over a decade ago in compliance with the *No Child Left Behind* legislation. Therefore, a critical analysis of the impact of expanding access to advanced coursework was critical in determining the implications for the various ethnic groups. The third research question in which all 11 years of data were analyzed was: What is the trend regarding the percentages of students by ethnicity (i.e., Black, Hispanic, White, and Asian) who completed an advanced or dual enrollment course from 2001 to 2012?

Overall, the percentage of Texas students completing advanced coursework from all ethnic groups increased over the past 11 years. However, data presented in Figure 1 illustrates continued evidence of access and achievement gaps between ethnic groups. Specifically, gaps still remain between the percentage of Asian and White students who completed an advanced course/dual enrollment course in comparison to the percentage of Hispanic and Black students who completed an advanced course. Of particular significance is that Asian students were two to three times more likely than Hispanic or Black students to complete an advanced course/dual enrollment course in each school year within this study.

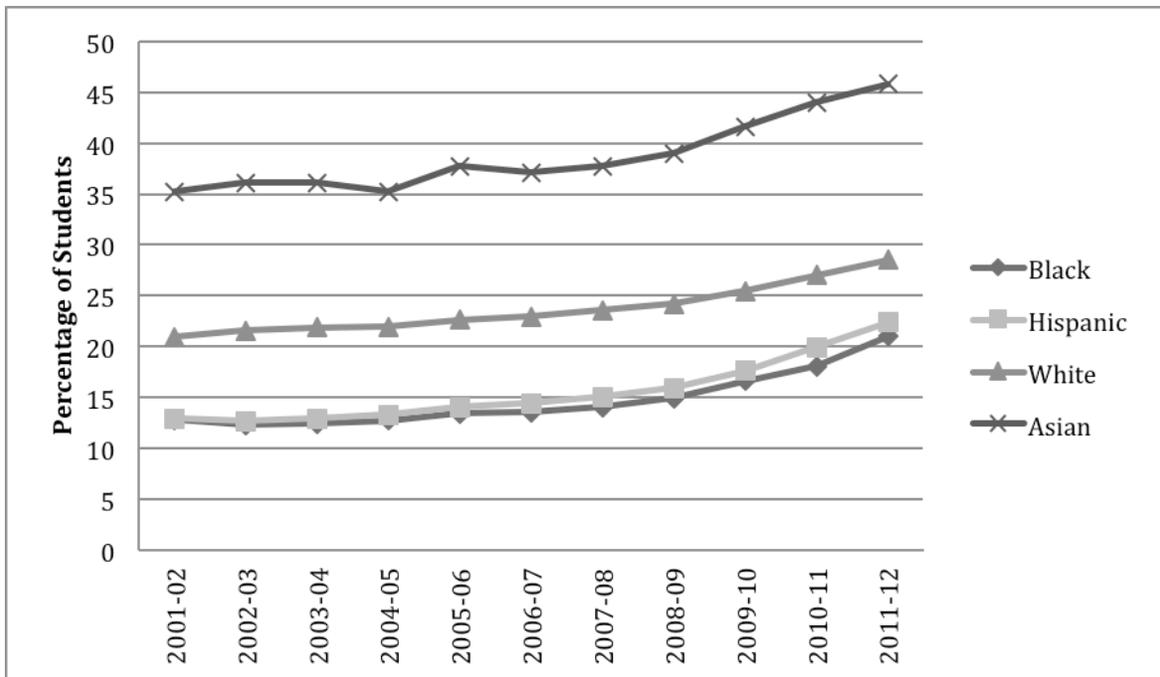


Figure 1. Overall mean score percentages of students by ethnic group who completed an advanced course/dual enrollment course by school year.

The gap has actually widened over the past 11 years between Asian students and the other ethnic groups. The largest gap is evident between the percentage of Asian and Black students who completed an advanced course/dual enrollment course. In the 2001-2002 school year, the difference in the percentage of Black (12.77%) and Asian (35.19%) students who completed an advanced course was 22.42%. By the 2011-2012 school year, the difference in the percentage of Black (21.02%) and Asian (45.81%) students who completed an advanced course had increased to 24.79%.

A widening gap in student achievement was also evident between the percentage of Asian and Hispanic students who completed an advanced course/dual enrollment course over the past 11 years. In the 2001-2002 school year, the difference in the percentage of Hispanic (12.91%) and Asian (35.19%) students who completed an advanced course was 22.28%. By the 2011-2012 school year, the difference in the percentage of Hispanic (22.38%) and Asian (45.81%) students who completed an advanced course had increased to 23.43%. Furthermore, a gap of 14.27% was evident between the percentage of White students who completed an advanced course (20.92%) and Asian students (35.19%) in 2001-2002. However, by 2011-2012, the gap between White and Asian students who completed an advanced course had increased to 17.25%.

In addition, a substantial gap remains between the percentage of White students who completed an advanced course/dual enrollment course in comparison to Hispanic and Black students, although this gap decreased slightly over the past 11 years. In the 2001-2002 school year, the difference in the percentage of White (20.92%) and Black (12.77%) students who completed an advanced course/dual enrollment course was 8.15%. However, by the 2011-2012 school year, the difference in the percentage of

White (28.56%) and Black (21.02%) students who completed an advanced course/dual enrollment course narrowed to 7.54%.

On a positive note, a declining gap was observed between the percentage of White and Hispanic students who completed an advanced course/dual enrollment course over the past 11 years. In the 2001-2002 school year, the difference in the percentage of White (20.92%) and Hispanic (12.91%) students who completed an advanced course/dual enrollment course was 8.01%. However, by the 2011-2012 school year, the difference in the percentage of White (28.55%) and Hispanic (22.38%) students who completed an advanced course/dual enrollment course declined to 6.18%.

DISCUSSION

Noting the gaps in advanced coursework completion among Black, Hispanic, White, and Asian high school students has further implications. Closely related to advanced coursework completion is access to postsecondary opportunities. According to the College Board (2013), 85% of elite postsecondary institutions reported that students' advanced-course experiences are given some priority in college admissions decisions. Concurrently, the National Association for College Admission Counseling (2012) reported that college admission professionals considered the number of advanced courses and the grades earned in these classes before other factors such as test scores on SAT and ACT. Given the claim that inequity of access to top colleges still exists for many Hispanic, Black, and low-income students (Reardon, Baker, & Klasik, 2012), understanding the role that advanced coursework completion plays in the admission process is important.

According to Conley (2010), advanced coursework "has become the new college preparatory curriculum" (p. 211). Related to advanced courses are two other important criteria in college admissions — high school grade point averages and class rankings. In some high schools, students who complete advanced coursework may increase their overall grade point averages and subsequent class rankings since many high schools give more weight to the grades earned in these advanced courses (Conley, 2010). In addition to influencing college admissions, advanced courses might also have an economic benefit. Many colleges offer college credit for dual-credit courses and for specific scores earned on the end-of-course AP and IB exams (College Board, 2013). As such, advanced courses might provide an economical benefit for students allowed to earn college credit while still in high school (College Board, 2013; Vedder et al., 2010).

Because students who attend higher quality universities typically have better outcomes in their careers (Dale & Krueger, 2011), future studies are needed to identify barriers to advanced coursework completion. Enhancing the postsecondary preparation for the Black and Hispanic populations appears to be related to having a diverse and equitable workforce. Based on the findings of this study, it appears that the fastest growing segments of the population might not have sufficient access to advanced coursework, which, according to previous studies, relates to postsecondary opportunities and future employment (Callan, Finney, Kirst, Usdan, & Venezia, 2006).

Although the state of Texas provides annual data on AP performance, few researchers have analyzed a decade of advanced course completion rates by ethnicity. The findings presented in this study could be used by educators and policymakers to

review policies related to advanced course access over the past decade. In addition, the results can guide the design of programs and policies focused on access to advanced coursework for all students. Even so, limitations in this study should be noted as we analyzed publicly-available secondary data. As such, data were reported by schools rather than by individual students. Further, the advance-coursework indicator combined AP, IB, and dual-credit courses. Of value would be additional studies where researchers examine access to these programs in isolation and use individual-level data to determine if these patterns persist.

CONCLUSION

This study represents a comprehensive analysis of the trends of Texas high school students who participated in advanced coursework over the past 11 years with an analysis of the differences of advanced course access among ethnic groups. Disparities in the mean percentage of students who completed at least one advanced course were noted for each of the 11 school years within the study. Asian students had the highest percentage of advanced course completion followed by White, Hispanic, and Black students. Inferential statistical procedures revealed statistically significant differences between the percentages of students who completed an advanced course by ethnicity for all 11 years within the study. A key finding of this study was the large effect sizes that were evident in each year of the study. In analyzing the trend in course completion in Texas over the past 11 years, it was noted that the total percentage of students who completed an examination during this period increased 21%. Yet, a distinct widening of the gap between ethnic groups on course completion rates was clearly evident. As more students of ethnic groups take advanced courses, school leaders and teachers should consider appropriate supports for all students to achieve success in advanced coursework.

REFERENCES

- Achieve, Inc. (2009). Closing the expectation gap 2009: Fourth annual 50-state progress report on the alignment of high school policies with the demands of college and careers. Retrieved from <http://www.achieve.org/files.50-state-2009.pdf>
- Anderson, J. D. (1989). *The education of Blacks in the south, 1860-1935*. Chapel Hill, NC: University of North Carolina Press.
- Astin, A., & Oseguera, L. (2004). The declining equity of American higher education. *The Review of Higher Education*, 27, 321. doi:10.1353/rhe.2004.0001
- Barnes, W., Slate, J. R., & Rojas-LeBouef, A. (2010). College readiness and academic preparedness: The same concepts? *Current Issues in Education*, 13(4), 1-27.
- Baum, S., Ma, J., & Payea, K. (2010). Education pays: The benefits of higher education for individuals and society. Retrieved from http://advocacy.collegeboard.org/sites/default/files/Education_Pays_2010.pdf
- Bureau of Labor Statistics. (2012, March 29). Overview of the 2010-11 projections; Occupational outlook handbook (2012-13 ed.). Retrieved from <http://www.bls.gov/ooh/about/projections-overview.htm>

- Callan, P. M., Finney, J. E., Kirst, M. W., Usdan, M. D., & Venezia, A. (2006). Claiming common ground: State policymaking for improving college readiness and success (National Center Report No.06-1). San Jose, CA: The National Center for Public Policy and Higher Education.
- Carnevale, A. P., & Rose, S. J. (2004). Socioeconomic status, race/ethnicity, and selective college admissions. In R. D. Kahlenberg (Ed.). *America's untapped resource* (pp. 101-156). New York, NY: Century Foundation Press.
- Clark, C. (2007). Secondary education in the United States (Lyndon B. Johnson School of Public Affairs Policy Research Report No. 155). Retrieved from http://www.utexas.edu/lbj/archive/pubs/pdf/prp_155.pdf
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- College Board. (2012). *The 8th annual AP report to the nation*. New York, NY: Author.
- College Board. (2013). *College Board's equity and access policy statement*. Retrieved from <http://professionals.collegeboard.com/k-12/assessment/ap/equity>
- Conley, D. T. (2010). *College and career ready: Helping all students succeed beyond high school*. San Francisco, CA: Jossey-Bass. doi:10.1002/9781118269411
- Corra, M., Carter, J. S., & Carter, S. K. (2011). The interactive impact of race and gender on high school advanced course enrollment. *Journal of Negro Education*, 80(1), 33-46.
- Corbett, C., Hill, C., & Rose, A. (2008). *Where the girls are: The facts about gender equity in education*. Washington, DC: American Association of University Women Educational Foundation.
- Dale, S. B., & Krueger, A. B. (2011) Estimating the return to college selectivity over the career using administrative earning data (IZA Discussion Papers 5533). Retrieved from <http://ftp.iza.org/dp5533.pdf>
- Dolejs, C. (2006). *Report on key practices and policies of consistently higher performing high schools*. San Mateo, CA: The National High School Center. Retrieved from http://www.betterhighschools.org/docs/ReportOfKeyPracticesandPolicies_10-31-06.pdf
- Farr, S. (2010). *Teaching as leadership: The highly effective teacher's guide to closing the achievement gaps*. San Francisco, CA: Jossey Bass.
- Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). Thousand Oaks, CA: Sage.
- Flowers, L. A. (2008). Racial differences in the impact of participating in AP programs on educational and labor market outcomes. *Educational Foundations*, 22(1), 121-132.
- Fultz, M. (1995). African American teachers in the South, 1890-1940: Powerlessness and the ironies of expectations and protests. *History of Education Quarterly*, 401-422. doi:10.2307/369578
- Geiser, S., & Santelices, V. (2004). *The role of advanced placement and honors courses in college admissions (CSHE 4.04)*. Berkeley, CA: Center for Studies in Higher Education, University of California at Berkeley. Retrieved from <http://cshe.berkeley.edu/publications/role-advanced-placement-and-honors-courses-college-admissions>

- Handwerk, P., Tognatta, N., Coley, R. J., & Gitomer, D. H. (2008). Access to success: Patterns of Advanced Placement participation in U.S. high schools (ETS Policy Information Report). Princeton, NJ: Educational Testing Service. Retrieved from ERIC database. (ED 505556)
- Harris, M. B. (1998). Basic statistics for behavioral science research (2nd ed.). Boston, MA: Allyn & Bacon.
- Holmes, M. A. (2013). Ethnic and gender differences in Advanced Placement exam performance: A multiyear national study (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 1431912992)
- International Baccalaureate Organization. (2013). Access and advancement. Retrieved from <http://www.ibo.org/accessandadvancement/>
- Kirp, D. L. (2010). The widest achievement gap. Retrieved from <http://www.nationalaffairs.com/publications/detail/the-widest-achievement-gap>
- Klein, J. I., & Rice, C. (2012). U.S. education reform and national security: Issue 68 of independent task force report. New York, NY: Council on Foreign Relations.
- Klopfenstein, K. (2004a). The Advanced Placement expansion of the 1990s: How did traditionally underserved students fare? *Education Policy Analysis Archives*, 12(68), 1-14.
- Klopfenstein, K. (2004b). Advanced placement: Do minorities have equal opportunity? *Economics of Education Review*, 23, 115-131. doi:10.1016/S0272-7757(03)00076-1
- Koch, B. M. (2012). A comparison of Advanced Placement scores for Hispanic students from California, Texas, and Arizona (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3531781)
- Moore, G. W., & Slate, J. R. (2008). Who's taking the Advanced Placement courses and how are they doing: A statewide two-year study. *The High School Journal*, 92, 56-67. doi:10.1353/hsj.0.0013
- Moore, G. W., & Slate, J. R. (2010). Advanced Placement courses and American Indian performance. *American Secondary Education*, 38(2), 73-94.
- National Association for College Admission Counseling. (2012). The evolution of college admission requirements. *Journal of College Admission*, 15(3), 20-22.
- National Governors Association and Achieve, Inc. (2005, February). An action agenda for improving America's high schools. Retrieved from <http://www.nga.org/cms/home/nga-center-for-best-practices/center-publications/page-edu-publications/col2-content/main-content-list/2005-national-education-summit-o.html>
- Ndura, E., Robinson, M., & Ochs, G. (2003). Minority students in high school advanced placement courses: Opportunity and equity denied. *American Secondary Education*, 32(1), 21-38.
- Noah, T. (2012). *The great divergence: America's growing inequality crisis and what we can do about it*. New York, NY: Bloomsbury Press.
- Onwuegbuzie, A. J., & Daniel, L. G. (2002). Uses and misuses of the correlation coefficient. *Research in the Schools*, 9(1), 73-90.
- Orlich, D. C., & Gifford, G. (2006, October). Test scores, poverty, and ethnicity: The new American dilemma. Paper presented at the Phi Delta Kappa Summit on Public Education, Washington, DC.

- Patterson, B. F., Packman, S., & Kobrin, J. L. (2011). AP exam taking and performance: Relationships with first-year subject area college grades (Research Report 2011-4), New York, NY: College Board.
- Peters, S. J., & Mann, R. L. (2009). Getting ahead: Current secondary and postsecondary acceleration options for high-ability students in Indiana. *Journal of Advanced Academics*, 20, 630-657. doi:10.1177/1932202X0902000404
- Planty, M., Provasnik, S., & Daniel, B. (2007). High school course takings: Findings from the condition of education 2007 (NCES 2007-065). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Preston, D. L. (2006). Characteristics of concurrent/dual credit students in the gulf coast community colleges of Texas. *Journal of Applied Research in the Community College*, 14(1), 7-17.
- Reardon, S. F., Baker, R., & Klasik, D. (2012). Race, income, and enrollment patterns in highly selective colleges, 1982-2004. Stanford, CA: Center for Education Policy Analysis. Retrieved from <http://cepa.stanford.edu/content/race-income-and-enrollment-patterns-highly-selective-colleges-1982-2004>
- Reigle-Crumb, C. (2006). The path through math: Course sequences and academic performance at the intersection of race/ethnicity and gender. *American Journal of Education*, 113, 1-17.
- Solórzano, D. G., & Ornelas, A. (2002). A critical race analysis of Latina/o and African American advanced placement enrollment in public high schools. *High School Journal*, 87, 15 - 26. doi:10.1353/hsj.2004.0003
- Texas Education Agency. (2011). Glossary for the Academic Excellence Indicator System. Retrieved from <http://ritter.tea.state.tx.us/perfreport/aeis/2011/glossary.html>
- Texas Higher Education Coordinating Board. (2000). Closing the gaps by 2015. Retrieved from <http://www.thecb.state.tx.us/index.cfm?objectid=858D2E7C-F5C8-97E9-0CDEB3037C1C2CA3>
- Tyack, D. (2004). *Seeking common ground: Public schools in a diverse society*. Cambridge, MA: Harvard University Press.
- U.S. Department of Education. (1994). HR 1804: Goals 2000 Educate America act. Retrieved from <http://www2.ed.gov/legislation/GOALS2000/TheAct/intro.html>
- U.S. Department of Education. (1996). Goals 2000: Increasing student achievement through state and local initiatives. Retrieved from ERIC database. (ED 396460)
- U.S. Department of Education. (2001). No Child Left Behind Act of 2001. Retrieved from <http://www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf>
- U.S. Department of Education. (2003). Preliminary overview of programs and changes included in the No Child Left Behind Act of 2001. Retrieved from http://www.ed.gov/nclb/overview/intro/progsum/sum_pg2.html
- U.S. Department of Education. (2007). Higher education for a highly competitive world. Retrieved from <http://www2.ed.gov/teachers/how/prep/higher/higher-ed.pdf>
- U.S. Department of Education. (2008). A nation accountable: Twenty-five years after A Nation at Risk. Retrieved from <http://www.ed.gov/rsctst/research/pubs/accountable/>

Vedder, R., Gillen, A., Bennett, D., Denhart, M., Robe, J., Holbrook, T., . . . Malesick, M. (2010). 25 ways to reduce the cost of college. Retrieved from http://www.centerforcollegeaffordability.org/uploads/25_Ways_Ch02.pdf

Williams, A. (2011). A call for change: Narrowing the achievement gap between White and minority students. *The Clearing House*, 84, 65-71.
doi:10.1080/00098655.2010.511308

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