

Graduation Rate Differences by Ethnicity/Race at Texas Community Colleges: A Statewide, Multiyear Examination

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Abstract: In this multiyear, statewide investigation, the degree to which differences were present in graduation rates between Black and White, Black and Hispanic, and Black and Asian students was addressed for the 2007-2008 academic year to the 2015-2016 academic years. Inferential statistical procedures revealed the presence of statistically significant differences for all 9 academic years. In all 9 years, Black students had statistically significantly lower graduation rates than White, Hispanic, and Asian students. Also identified were the Texas community colleges that had the highest and that had the lowest graduation rates of their Black students in the last two academic years. Implications of these findings and recommendations for future research were discussed.

Keywords: Asian, Black, Hispanic, White, Texas community colleges, Graduation rates.

1. Introduction

Community colleges provide students across the United States with a feasible way to obtain relevant and affordable training to ensure they can obtain gainful employment in the 21st century. According to the [1], community colleges served 41% of all United States undergraduates in the fall of 2015. Most community colleges serve a large population of students who are low-income and underrepresented. The education provided at these institutions is essential for these types of students to have a pathway to attaining upward economic success [2]. Unfortunately, less than 40% of community college students earned a certificate or degree within six years [3].

A pathway to becoming middle-class citizens can be created for low-income and underrepresented individuals through community colleges [4]. Completing an associate's degree or certificate compared to simply earning a high school diploma is related with higher earnings. Continuing low completion rates at community colleges; however, intensify the prevailing economic inequalities present in the United States [2]. Continuing to address low completion rates, especially for underrepresented individuals, will allow the United States to remain competitive globally [5].

According the [6], even though educational attainment has increased for all ethnic/racial groups, a higher percentage of

Asian students obtained a bachelor's degree, 38%, compared to a rate of 21% for White students, 11% for Black students, and 10% for Hispanic students. Asian and White students are more likely to complete a bachelor's degree than are Black and Hispanic students. As such, efforts should be made to ensure underrepresented groups, such as Hispanic and Black individuals, are prepared to earn their bachelor's degree.

Community colleges have a diverse student body, with an average of 6% Asians, 13% Blacks, 24% Hispanics, and 47% Whites enrolled [1]. Accordingly, community colleges are leaders in educating students from varied backgrounds [7]. Because most community colleges have open enrollment admissions policies, meeting graduation performance outcomes may be difficult for some students, given their lack of college-readiness [8].

Though college access has increased, graduation rates have remained low. In Texas, only one of every three students who initially enrolled at a Texas community college has completed a postsecondary credential after being enrolled over a 6-year period [9]. Because future funding is based on success points achieved by meeting certain performance measures, Texas community colleges must reform by improving their student outcomes (e.g., graduation rates) immediately to ensure proper funding [10].

[11] examined graduation rates of Texas community college students by ethnicity/race. They analyzed Texas community college statewide data for the 1999-2000 through the 2009-2010 academic years. [11] established that the graduation rates of Asian, Black, Hispanic, and White Texas community college students increased over this 10-year period. Asian students had the highest graduation rates, followed by White students, Hispanic students, and finally by Black students. Black students had the lowest persistence and graduation rates of the four ethnic/racial groups of Texas community

college students. Established in the [11] investigation was that, over a 10-year period, the graduation rates of White and Hispanic students increased by 9%. For Black students, graduation rates increased by 8% over this 10-year period. For graduation rates to increase further, [11] contended that policymakers should implement policies and procedures to improve graduation rates at community colleges.

In a recent study, [12] conducted an analysis of the graduation rates of Black and White Texas community college students for the 2007-2008 through the 2015-2016 academic years. Inferential statistical analyses revealed the presence of statistically significant differences in graduation rates between Black and White students in all nine years of Texas statewide data. White students had statistically significantly higher graduation rates, almost 15% higher, than the graduation rates of Black students at Texas community colleges.

In a recent dissertation,[13] compared the graduation rates of Hispanic and White students at Texas community colleges for the 2008-2009 academic year through the 2014-2015 academic year. Inferential statistical analyses revealed the presence of statistically significant differences between Hispanic and White students in all seven years of academic statewide data. White students had statistically significantly higher graduation rates that ranged from 43% to 46% than the graduation rates of Hispanic students that ranged from 41% to 43%. Readers should note, however, that the graduation rates of both groups of students were less than 50%.

[14] conducted another examination of graduation rates at community colleges, in relation to student engagement. After analyzing data from the Community College Survey of Student Engagement survey and the Integrated Postsecondary Education Data System,[14] documented the presence of relationships between positive student

engagement and graduation rates. [14] contended that by addressing institution-wide policies and practices at community colleges to include support for students, enhanced student engagement can lead to improvement in student success (e.g., graduation and completion rates).

In empirical comparisons of the graduation rates of Texas and Oklahoma community college students,[15] examined the graduation rates of Black, Hispanic, and White students. Documented in that investigation was the presence of a decline in 3-year graduation rates for students in both states between the 2002 and the 2012 academic years. This decline was established despite the fact that both states had adopted policies to increase graduation rates. With respect to the State of Texas, the *Closing the Gaps by 2015* program was created to improve graduation rates of Black, Hispanic, and White students. Even though this program was adopted, fewer Black and White students graduated from Texas community colleges. On the positive side, the graduation rates of Hispanic students increased.

The highest percentage of students of color in the U.S. is being educated at community colleges. Consequently, in many states more Black students are enrolled in community colleges than are enrolled at 4-year universities. The question that needs to be answered by community colleges is the degree to which the needs of students of color are being met [16]. Despite a focus of community colleges on enrolling and retaining students, the persistence and retention rates of community college students is 67% lower than the persistence and retention rates of 4-year university students[17]. A disconnect still exists in Texas between enrollment and retention rates because enrollment has increased but persistence rates have not improved [11]. Because of open admissions policies for community colleges, the unique challenges of serving underrepresented

students is not being considered when persistence and retention quotas are derived by policymakers. In Texas, the Texas Higher Education Coordinating Board formulates unattainable policies concerning community colleges when it pertains to meeting persistence and retention goals [11].

The overall purpose of this study was to examine the degree to which differences were present in graduation rates among Asian, Black, White, and Hispanic students enrolled in Texas community colleges. Specifically focused on in this article were the graduation rates of Black students compared with the graduation rates of White, Hispanic, and Asian students. Graduation rates were addressed for the 2007-2008 through the 2015-2016 academic years for Texas community college students. The final purposes of this investigation involved identifying Texas community colleges with the highest and with the lowest graduation rates of their Black students in the last two academic years of available data.

Non-completers of degrees and certificates at community colleges leads to long-term detrimental financial costs. Students who received financial benefits and did not graduate will owe thousands of dollars for education they did not complete. This issue causes an economic and civic loss to the U.S. society. The diminishing number of citizens who could potentially contribute to addressing workforce demands will linger as long as young adults continue to enter the workforce underprepared [18]. A well-educated populace is beneficial to corporations and businesses [19].

In Texas community colleges, Black students are not persisting and graduating, causing them to fall behind all other ethnic/racial groups [15]. The overrepresentation of Black students in developmental education courses may be interpreted to indicate that the education system is not working for them as they continue to lag behind other ethnic/racial

groups [20]. For over 14 years, the total 1-year persistence rates have remained stagnant for Black students at Texas community colleges [21]. Of the Texas community college population, only 3% of students complete a degree or certificate [20]. Making sure students persist to graduation should be a top priority for legislators, administrators, faculty, and staff because without more college graduates with specialized skills, employers will lack qualified applicants for jobs [22]. Consequently, by 2020 two thirds of the jobs in the workforce across the United States will require some type of postsecondary education [18].

In this study, the following research questions were addressed: (a) What is the difference in graduation rates between Black and White students enrolled in Texas community colleges?; (b) What is the difference in the graduation rates between Black and Hispanic students enrolled in Texas community colleges?; (c) What is the difference in the graduation rates between Black and Asian students enrolled in Texas community colleges?; (d) What trend is present in the graduation rates of Black, White, Hispanic, and Asian students over this 9-year period?; (e) What are the Texas community colleges that have the highest graduation rates of Black students in the 2013-2014 and the 2015-2016 academic years?; and (f) What are the Texas community colleges that have the lowest graduation rates of Black students in the 2013-2014 and the 2015-2016 academic years? The first three research questions were repeated for the 2007-2008 through the 2015-2016 academic years whereas the fourth research question involved a comparison of results across all nine academic years. The last two research questions involved analyses of the last two academic years of available data.

2. Method

2.1 Research Design

For this study, a non-experimental causal-comparative research design was present [23, 24]. The independent variable present in causal comparative research cannot be manipulated. Archival data that were examined denoted events that had occurred previously [24]. The independent variable in this investigation was ethnicity/race (i.e., Black, White, Hispanic, Asian). The dependent variables were the graduation rates of these four ethnic/racial groups of community college students in each academic year. A total of 9 years of data was analyzed.

2.2 Participants and Instrumentation

Archival data were obtained for the 2007-2008 through the 2015-2016 academic years on Texas community colleges from the [25]. Statistical data on every community college in Texas is maintained by the Texas Higher Education Coordinating Board. Community college districts are required to report the graduation rates of their students by ethnicity /race along with other data. These data are made available to the public after being aggregated by the Texas Higher Education Coordinating Board. The graduation rates of Asian, Black, Hispanic, and White students were downloaded from the Texas Higher Education Coordinating Board Interactive Accountability System. According to the [25], graduation rates for students at 2-year institutions include students who graduate with an associate degree or certificate within three years. For the 9 academic years, 70 Texas community colleges provided data that were analyzed for the 2007-2008 academic year through the 2012-2013 academic years. For the 2013-2014 and 2015-2016 academic years, 71 Texas community colleges provided data that were analyzed.

3. Results

Because the Texas Higher Education Coordinating Board links the graduation rates of Black and White students, Black and Hispanic students, and Black and Asian students with the academic year and demographic characteristic, dependent samples *t*-tests were used in this study. Dependent samples *t*-tests are a suitable inferential statistical procedure to calculate when the variables (i.e., graduation rates) are associated [26]. Results will now be reported by research question for all nine academic years.

3.1 Results for Research Question One

The first research question, "What is the difference in graduation rates between Black and White students enrolled in Texas community colleges?" was repeated for each of nine academic years, beginning with the 2007-2008 academic year and ending with the 2015-2016 academic year. With respect to the 2007-2008 academic year, a statistically significant difference was revealed between Black and

White students in their graduation rates, $t(69) = -7.48, p < .001$. This difference represented a large effect size (Cohen's *d*) of 1.30 [27]. The graduation rates of Black students were more than 9 times lower than the graduation rates of White students. Table 1 contains the descriptive statistics for this analysis.

For the 2008-2009 academic year, a statistically significant difference was present in graduation rates, $t(69) = -6.11, p < .001$ between Black and White students. This difference represented a large effect size (Cohen's *d*) of 1.20 [27]. The graduation rates of Black students were more than 8 times lower than the graduation rates of White students. Delineated in Table 1 are the descriptive statistics for this analysis. Concerning the 2009-2010 academic year, a statistically significant difference was yielded in graduation rates, $t(69) = -8.67, p < .001$ between Black and White students. This difference represented a large effect size (Cohen's *d*) of 1.50 [27]. The graduation rates of Black students were more than 10 times lower than the graduation rates of White students.

Table 1. Descriptive Statistics of the Graduation Rates of Black and White Students in Texas Community College in the 2007-2008 through the 2010-2011 Academic Years

Academic Year and Student Group	<i>n</i> of community colleges	<i>M</i> %	<i>SD</i> %
2007-2008			
Black	70	31.01	13.00
White	70	44.09	9.94
2008-2009			
Black	70	31.70	15.68
White	70	43.76	6.47
2009-2010			
Black	70	29.92	15.38
White	70	44.98	6.83
2010-2011			
Black	70	31.67	12.21
White	70	44.84	6.36

Table 2. Descriptive Statistics of the Graduation Rates of Black and White Students in Texas Community College in the 2011-2012 through the 2015-2016 Academic Years

Academic Year and Student Group	<i>n</i> of community colleges	<i>M</i> %	<i>SD</i> %
2011-2012			
Black	70	31.64	13.46
White	70	44.83	7.41
2012-2013			
Black	70	32.78	11.11
White	70	45.24	6.36
2013-2014			
Black	71	32.80	11.75
White	71	45.91	6.90
2014-2015			
Black	71	33.38	12.49
White	71	44.75	8.46
2015-2016			
Black	71	31.86	12.99
White	70	43.50	7.23

With respect to the 2010-2011 academic year, a statistically significant difference was revealed in graduation rates, $t(69) = -7.98$, $p < .001$ between Black and White students. This difference represented a large effect size (Cohen's d) of 1.31 [27]. The graduation rates of Black students were more than 9 times lower than the graduation rates of White students. For the 2011-2012 academic year, a statistically significant difference was yielded in graduation rates, $t(69) = -7.48$, $p < .001$ between Black and White students. This difference represented a large effect size (Cohen's d) of 1.31 [27]. The graduation rates of Black students were more than 9 times lower than the graduation rates of White students. Table 2 contains the descriptive statistics for this analysis.

For the 2012-2013 academic year, a statistically significant difference was present in graduation rates, $t(69) = -8.13$, $p < .001$ between Black and White students. This difference represented a large effect size (Cohen's d) of 1.24 [27]. The graduation rates of Black students were more than 8 times lower than the graduation rates of White students. Readers are directed to Table 2 for

the descriptive statistics of this analysis. Regarding the 2013-2014 academic year, a statistically significant difference was present in graduation rates, $t(70) = -10.45$, $p < .001$ between Black and White students. This difference represented a large effect size (Cohen's d) of 1.31 [27]. The graduation rates of Black students were more than 9 times lower than the graduation rates of White students.

Concerning the 2014-2015 academic year, a statistically significant difference was yielded in graduation rates, $t(70) = -7.69$, $p < .001$ between Black and White students. This difference represented a large effect size (Cohen's d) of 1.13 [27]. The graduation rates of Black students were more than 6 times lower than the graduation rates of White students. With respect to the 2015-2016 academic year, a statistically significant difference was present in graduation rates, $t(70) = -8.34$, $p < .001$ between Black and White students. This difference represented a large effect size (Cohen's d) of 1.16 [27]. The graduation rates of Black students were more than 6 times lower than the graduation rates

of White students. Table 2 contains the descriptive statistics for this analysis.

3.2 Results for Research Question Two

The second research question, "What is the difference in graduation rates between Black and Hispanic students enrolled in Texas community colleges?" was repeated for each of nine academic years, beginning with the 2007-2008 academic year and ending with the 2015-2016 academic year. With respect to the 2007-2008 academic year, a statistically significant difference was revealed between Black and Hispanic students in their graduation rates, $t(69) = -7.06$, $p < .001$. This difference represented a large effect size (Cohen's d) of 1.11 [27]. The graduation rates of Black students were more than 6 times lower than the graduation rates of Hispanic students. Table 3 contains the descriptive statistics for this analysis.

For the 2008-2009 academic year, a statistically significant difference was present in graduation rates, $t(69) = -5.11$, $p < .001$ between Black and Hispanic students. This difference represented a large effect size (Cohen's d) of 1.03 [27]. The graduation rates of Black students were more than 6 times lower than the graduation rates of Hispanic

students. Concerning the 2009-2010 academic year, a statistically significant difference was present in graduation rates, $t(69) = -6.32$, $p < .001$ between Black and Hispanic students. This difference represented a large effect size (Cohen's d) of 1.26 [27]. The graduation rates of Black students were more than 8 times lower than the graduation rates of Hispanic students. Table 3 contains the descriptive statistics for this analysis. With respect to the 2010-2011 academic year, a statistically significant difference was present in graduation rates, $t(69) = -5.47$, $p < .001$ between Black and Hispanic students. This difference represented a large effect size (Cohen's d) of 0.94 [27]. The graduation rates of Black students were more than 5 times lower than the graduation rates of Hispanic students.

Concerning the 2011-2012 academic year, a statistically significant difference was present in graduation rates, $t(69) = -5.11$, $p < .001$ between Black and Hispanic students. This difference represented a large effect size (Cohen's d) of 0.90 [27]. The graduation rates of Black students were more than 5 times lower than the graduation rates of Hispanic students. Delineated in Table 4 are the descriptive statistics for this analysis.

Table 3. Descriptive Statistics of the Graduation Rates of Black and Hispanic Students in Texas Community College in the 2007-2008 through the 2010-2011 Academic Years

Academic Year and Student Group	<i>n</i> of community colleges	<i>M</i> %	<i>SD</i> %
2007-2008			
Black	70	31.01	13.00
Hispanic	70	42.14	7.69
2008-2009			
Black	70	31.70	15.68
Hispanic	70	42.08	8.83
2009-2010			
Black	70	29.92	15.38
Hispanic	70	42.62	8.32
2010-2011			
Black	70	31.67	12.21
Hispanic	70	41.08	6.78

Table 4. Descriptive Statistics of the Graduation Rates of Black and Hispanic Students in Texas Community College in the 2011-2012 through the 2015-2016 Academic Years

Academic Year and Student Group	<i>n</i> of community colleges	<i>M%</i>	<i>SD%</i>
2011-2012			
Black	70	31.64	13.46
Hispanic	70	40.69	7.46
2012-2013			
Black	70	32.78	11.11
Hispanic	70	42.37	7.37
2013-2014			
Black	71	32.80	11.75
Hispanic	71	42.11	9.18
2014-2015			
Black	71	33.38	12.49
Hispanic	71	43.05	7.55
2015-2016			
Black	71	31.86	12.99
Hispanic	71	42.12	7.35

For the 2012-2013 academic year, a statistically significant difference was present in graduation rates, $t(69) = -5.80$, $p < .001$ between Black and Hispanic students. This difference represented a large effect size (Cohen's d) of 0.95 [27]. The graduation rates of Black students were more than 5 times lower than the graduation rates of Hispanic students. Table 4 contains the descriptive statistics for this analysis. With respect to the 2013-2014 academic year, a statistically significant difference was present in graduation rates, $t(70) = -5.82$, $p < .001$ between Black and Hispanic students. This difference represented a large effect size (Cohen's d) of 0.93 [27]. The graduation rates of Black students were more than 5 times lower than the graduation rates of Hispanic students. Readers are directed to Table 4 for the descriptive statistics of this analysis.

Concerning the 2014-2015 academic year, a statistically significant difference was present in graduation rates, $t(70) = -6.41$, $p < .001$ between Black and Hispanic students. This difference represented a large effect size

(Cohen's d) of 0.96 [27]. The graduation rates of Black students were more than 5 times lower than the graduation rates of Hispanic students. With respect to the 2015-2016 academic year, a statistically significant difference was present in graduation rates, $t(70) = -6.78$, $p < .001$ between Black and Hispanic students. This difference represented a large effect size (Cohen's d) of 1.02 [27]. The graduation rates of Black students were more than 6 times lower than the graduation rates of Hispanic students. Table 4 contains the descriptive statistics for this analysis.

3.3 Results for Research Question Three Results

The third research question, "What is the difference in graduation rates between Black and Asian students enrolled in Texas community colleges?" was repeated for each of nine academic years, beginning with the 2007-2008 academic year and ending with the 2015-2016 academic year. With respect to the 2007-2008 academic year, a statistically significant

difference was revealed between Black and Asian students in their graduation rates, $t(69) = -4.65, p < .001$. This difference represented a large effect size (Cohen's d) of 1.54 [27]. The graduation rates of Black students were more than 10 times lower than the graduation rates of Asian students. Table 5 contains the descriptive statistics for this analysis.

For the 2008-2009 academic year, a statistically significant difference was present in graduation rates, $t(69) = -3.32, p < .001$ between Black and Asian students. This difference represented a large effect size (Cohen's d) of 1.28 [27]. The graduation rates of Black students were more than 8 times lower than the graduation rates of Asian students. Delineated in Table 5 are the descriptive statistics for this analysis. Concerning the 2009-2010 academic year, a statistically significant difference was present in graduation rates, $t(69) = -5.20, p < .001$ between Black and Asian students. This difference represented a large effect size (Cohen's d) of 1.79 [27]. The graduation rates of Black students were more than 12 times lower than the graduation rates of Asian students.

With respect to the 2010-2011 academic year, a statistically significant

difference was present in graduation rates, $t(69) = -5.26, p < .001$ between Black and Asian students. This difference represented a large effect size (Cohen's d) of 1.82 [27]. The graduation rates of Black students were more than 12 times lower than the graduation rates of Asian students. Revealed in Table 5 are the descriptive statistics for this analysis. Concerning the 2011-2012 academic year, a statistically significant difference was present in graduation rates, $t(69) = -2.83, p < .001$ between Black and Asian students. This difference represented a large effect size (Cohen's d) of 1.15 [27]. The graduation rates of Black students were more than 6 times lower than the graduation rates of Asian students. Delineated in Table 6 are the descriptive statistics for this analysis.

For the 2012-2013 academic year, a statistically significant difference was present in graduation rates, $t(69) = -3.48, p < .001$ between Black and Asian students. This difference represented a large effect size (Cohen's d) of 1.03 [27]. The graduation rates of Black students were more than 5 times lower than the graduation rates of Asian students. Table 6 contains the descriptive statistics for this analysis.

Table 5. Descriptive Statistics of the Graduation Rates of Black and Asian Students in Texas Community College in the 2007-2008 through the 2011-2012 Academic Years

Academic Year and Student Group	<i>n</i> of community colleges	<i>M</i> %	<i>SD</i> %
2007-2008			
Black	70	31.01	13.00
Asian	70	46.42	2.98
2008-2009			
Black	70	31.70	15.68
Asian	70	44.59	2.85
2009-2010			
Black	70	29.92	15.38
Asian	70	47.86	2.70
2010-2011			
Black	70	31.67	12.21
Asian	70	49.88	27.66

Table 6. Descriptive Statistics of the Graduation Rates of Black and Asian Students in Texas Community College in the 2011-2012 through the 2015-2016 Academic Years

Academic Year and Student Group	<i>n</i> of community colleges	<i>M</i> %	<i>SD</i> %
2011-2012			
Black	70	31.64	13.46
Asian	70	43.23	29.86
2012-2013			
Black	70	32.78	11.11
Asian	70	43.17	25.70
2013-2014			
Black	71	32.80	11.75
Asian	71	43.11	24.77
2014-2015			
Black	71	33.38	12.49
Asian	71	51.63	28.84
2015-2016			
Black	71	31.86	12.99
Asian	70	52.29	25.77

Concerning the 2014-2015 academic year, a statistically significant difference was present in graduation rates, $t(70) = -5.09$, $p < .001$ between Black and Asian students. This difference represented a large effect size (Cohen's d) of 1.82 [27]. The graduation rates of Black students were more than 12 times lower than the graduation rates of Asian students. With respect to the 2015-2016 academic year, a statistically significant difference was present in graduation rates, $t(70) = -6.85$, $p < .001$ between Black and Asian students. This difference represented a large effect size (Cohen's d) of 2.04 [27]). The graduation rates of Black students were more than 15 times lower than the graduation rates of Asian students. Table 6 contains the descriptive statistics for this analysis.

3.4 Results for Research Question Four

The fourth research question involved determining the degree to which a trend was present in the graduation rates of Black, White, Hispanic, and Asian students over this 9-year time period. Depicted in Figure 1 are the

graduation trends over time of Black, White, Hispanic, and Asian students for the 2007-2008 academic year through the 2015-2016 academic years. The graduation rates of Black students remained consistently lower than the graduation rates of White, Hispanic, and Asian students over time. Asian students had the highest graduation rates followed by White students and then Hispanic students.

3.5 Results for Research Question Five

What are the Texas community colleges that had the highest graduation rates of Black students in the 2013-2014 and the 2014-2015 academic years?, descriptive statistics were calculated. As revealed in Table 7, Vernon College had the best graduation rates for their Black students followed by Southwest Texas Junior College, South Texas College, Brazosport College, and Lone Star College-Cy-Fair. The graduation rates of Black students ranged from 76% to 44% for the top 10 Texas community college in the 2013-2014 academic year.

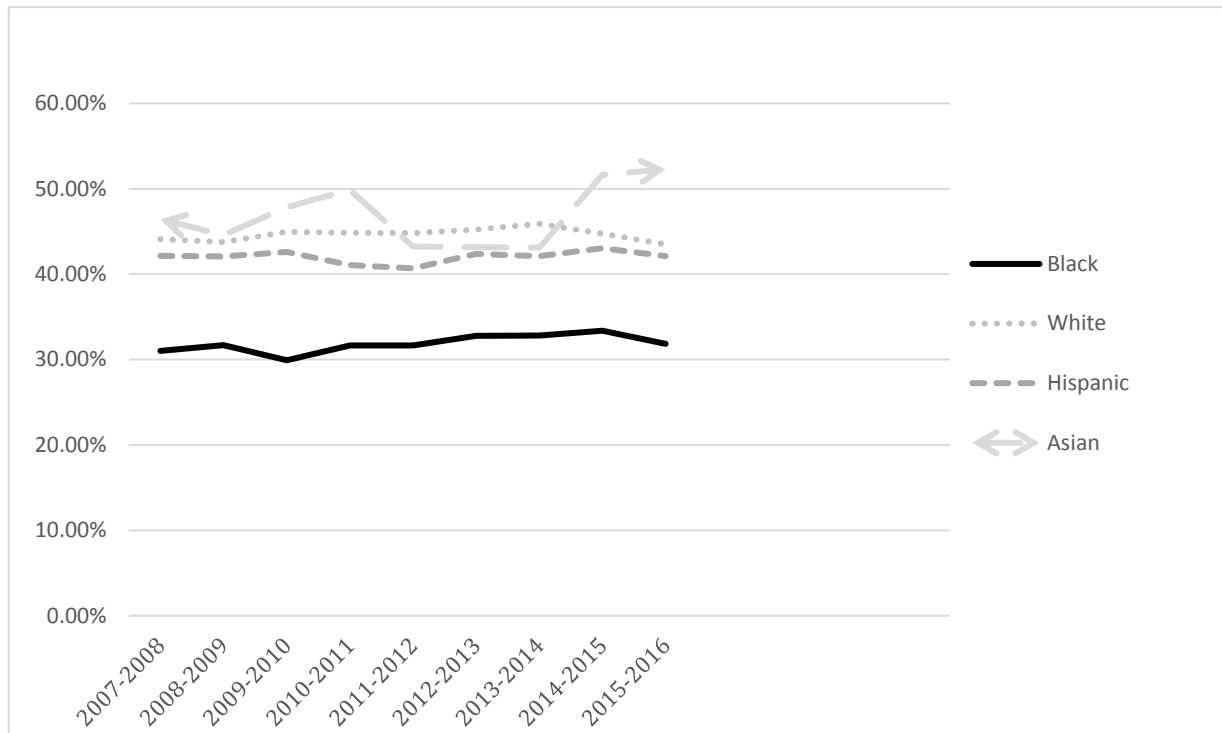


Figure 1. Graduation rate trends of Black, White, Hispanic, and Asian students at Texas community colleges for the 2007-2008 academic year through the 2015-2016 academic year.

Table 7. Descriptive Statistics of the Top Ten Texas Community Colleges with the Highest Graduation Rates of Black Students in the 2013-2014 Academic Year

Texas Community College	M%
Vernon College	76%
Southwest Texas Junior College	67%
South Texas College	56%
Brazosport College	55%
Lone Star College-Cy-Fair	51%
Alvin Community College	50%
Ranger College	50%
Lee College	49%
Western College	45%
Tarrant County College-Northwest	44%

Table 8. Descriptive Statistics of the Top Ten Texas Community Colleges with the Highest Graduation Rates of Black Students in the 2014-2015 Academic Year

Texas Community College	M%
Laredo College	100%
Texas Southmost College	60%
Brazosport College	53%

Continued

Table 8. Continued

Southwest Texas Junior College District	50%
Lone Star College-Cy-Fair	47%
San Jacinto College- South	46%
Alamo Community College- Palo Alto	46%
Vernon College	45%
Coastal Bend College	44%
Amarillo College	42%

Table 9. Descriptive Statistics of the Top Ten Texas Community Colleges with the Lowest Graduation Rates of Black Students in the 2013-2014 Academic Year

Texas Community College	M%
Laredo College	0%
Frank Phillips College	12%
Amarillo College	14%
Alamo Community College- St. Philip's College	17%
Howard College	19%
Temple College	19%
Howard County Junior College District	20%
Victoria College	20%
Grayson College	20%
Del Mar College	21%

Table 10. Descriptive Statistics of the Top Ten Texas Community Colleges with the Lowest Graduation Rates of Black Students in the 2014-2015 Academic Year

Texas Community College	M%
Victoria College	0%
Southwest Collegiate Institute for the Deaf	0%
Weatherford College	18%
Lone Star College-Kingwood	21%
Del Mar College	21%
Central Texas College	21%
Alamo Community College-St. Philip's College	21%
McLennan Community College	22%
Dallas County Community College-El Centro	22%
Dallas County Community College-North Lake	22%

With respect to the 2014-2015 academic year, Laredo College had the best graduation rates of their Black students, followed by Texas Southmost College, Brazosport College, Southwest Texas Junior College District, and Lone Star College-Cy-Fair. The graduation rates of Black students ranged

from 100% to 42% for the top 10 Texas community colleges in the 2014-2015 school year. Table 8 contains the descriptive statistics for this analysis.

3.6 Results for Research Question Six

To answer the final research question, “What are the Texas community colleges that have the lowest graduation rates of Black students in the 2013-2014 and the 2015-2016 academic years?, descriptive statistics were calculated. As presented in Table 9, Laredo College had the poorest graduation rates for their Black students followed by Frank Phillips College, Amarillo College, Alamo Community College-St. Philip’s College, and Howard College. The graduation rates of Black students ranged from 21% to 0% for the poorest 10 Texas community colleges in the 2013-2014 academic year.

Concerning the 2014-2015 academic year, Victoria College had the poorest graduation rates of their Black students, followed by Southwest Collegiate Institute for the Deaf, Weatherford College, Lone Star College-Kingwood, and Del Mar College. The graduation rates of Black students ranged from 22% to 0% for the poorest Texas community colleges in the 2014-2015 school year. Table 10 contains the descriptive statistics for this analysis.

4. Discussion

In this multiyear statewide study, the difference in graduation rates of Black students compared to White, Hispanic, and Asian students who were enrolled in Texas community colleges in 9 academic years (i.e., 2007-2008 through 2015-2016) were described. For all 9 academic years, statistically significant differences were revealed for all comparisons. Over the 9-year period, the graduation rates of Black students were more than 10 times lower than the graduation rates of Asian students; 9 times lower than the graduation rates of White students; and more than 5 times lower than the graduation rates of Hispanic students. Over the 9 academic years, the graduation rates for Black students at Texas community

colleges remained consistent at 31.86% as compared to 44.65% for White students, 42.02% for Hispanic students, and 46.60% for Asian students. The graduation rates of Black students in Texas community colleges have not improved over time and continue to lag in comparison to other ethnic/racial groups. Also identified were the Texas community colleges that had the best graduation rates of Black students in the last two academic years of available data. Finally identified were the Texas community colleges that had the lowest graduation rates of their Black students in the last two academic years of available data.

4.1. Connections with Existing Literature

The results of this multiyear, statewide investigation were congruent with the findings of other researchers [12, 13] who conducted multiyear analyses of graduation rates of Black, White, and Hispanic students enrolled in Texas community colleges. In particular, [12] determined, after analyzing the graduation rates of Black and White students enrolled in Texas community colleges over nine years (i.e., 2007-2008 through 2015-2016), that statistically significant differences were present with graduation rates for Black students ranging from 28.78% to 33.57% and 43.32% to 46.00% for White students. In his multiyear, statewide analysis, the graduation rates of Black students were consistently lower than the graduation rates of White students.

In a related study, [13] investigated the graduation rates of Hispanic and White students enrolled in Texas community colleges between the 2008-2010 academic year and the 2014-2015 academic years. Over seven academic years, statistically significant differences were present in five academic years. In every academic year analyzed, the graduation rates of Hispanic students were consistently lower than the graduation rates of White students.

4.2 Implications for Policy and Practice

Based upon the results of this multiyear, statewide study, the following implications for policy can be made. First, the low graduation rates of Black students at Texas community colleges clearly result in a reduced number of Black educated persons who are trained and ready for the current Texas workforce. When Black students do not graduate with a certificate or a degree, it is difficult for them to obtain the education needed for employment in the 21st century. This situation also creates difficulties with meeting the demands of current employers who do not have a sufficient number of educated employees especially in manufacturing technology fields which support the oil industry in Texas. Second, mentors to support Black students who are attending Texas community colleges are needed to help increase the graduation rates of individuals in this ethnic/racial group.. Hopefully by having these mentors, Black students will have the support that is needed to overcome barriers to graduating. In particular, specific funding in the form of targeted grants should be provided to Texas community colleges to support Black students, to ensure they persist to graduation. With this grant money, barriers to Black students such as a lack of child care, transportation, and housing could be addressed to help retain them.

Third, addressing the number of Black students in developmental classes in Texas community college must occur. By starting with an examination of high schools especially in high poverty areas is needed to identify why a large number of Black students are not college ready. Black students who remain in remedial classes for long periods tend to lose motivation and dropout. Texas colleges must implement strategies to move Black students faster through remedial coursework (i.e., implementation of 8-week classes and co-remediation). Offering extensive tutoring for

support often moves the students faster through developmental classes [20]. Finally, requiring Black students to take student success courses that emphasize study skills, time management skills, and test-taking skills is crucial for their success. Even though most community colleges and many universities require first-time students to take student success classes, this class should be offered in high school as an elective. In turn, the knowledge gained from student success classes will help Black students develop the necessary academic strategies and skills while in high school to become ready for the expectations of college earlier.

Implications for practice involve the following suggestions. A required organization affiliation to assist with retaining Black students in Texas community colleges is needed. By having these types of support groups, Black students will continue in Texas community colleges and graduate. Having the funding for support services is necessary but also having an identified retention coordinator for Black students accessible on campus to implement these types of retention efforts is crucial. Special support programs that have retention advisors who use predictive analytics software could assist Black students who are at-risk early in their postsecondary endeavors. This software could be utilized by admissions departments and faculty members as a tool to help Black students who are at-risk be identified early allowing them to be provided extra assistance to persist to graduation. The collaboration of Texas community colleges, local high schools, the Texas Workforce Commission, and local businesses, along with the Department of Education on a national level, could maximize resources to help Black students persist through community colleges and graduate.

4.3 Recommendations for Future Research

Based upon the results of this Texas, statewide investigation, several recommendations for future research can be made. First, because this study was based entirely on Texas data, researchers are encouraged to extend this study to other states. The extent to which the findings delineated herein would be generalizable to students in other states is not known. A second recommendation would be to extend this study to 4-year university settings. By extending this study to 4-year postsecondary institutions, data will be collected regarding the degree to which the results delineated herein solely on community college students would be generalizable to 4-year university students.

A third recommendation would be to replicate this investigation to other student demographic characteristics such as gender. The degree to which results based on Black students would be generalizable specifically to Black female and Black male students is not known. Fourth, because this multiyear, statewide study was based entirely on empirical quantitative data, researchers are encouraged to conduct qualitative and/or mixed methods research. As such, these studies could involve researchers addressing the reasons for low graduation rates of Texas Black community college students and derive targeted solutions for solving this problem.

5. Conclusion

In this multiyear, statewide analysis, the graduation rates of Black students at Texas community colleges were analyzed for the 2007-2008 academic year through the 2015-2016 academic years. Inferential statistical analyses revealed that graduation rates for Black students at Texas community college were statistically significantly lower than graduation rates of White, Hispanic, and Asian students. Over the 9 academic years, the graduation rates for Black students at Texas community colleges remained consistent at

31.86% as compared to 44.65% for White students, 42.02% for Hispanic students, and 46.60% for Asian students. The graduation rates of Black students in Texas community colleges have not improved over time and continue to lag in comparison to other ethnic/racial groups. These low graduation rates, not only of Black students, should be cause for concern especially given the strong focus on improving postsecondary education in Texas. With the two initiatives of Closing the Gaps and Achieving the Dream, little positive results appear to have occurred, at least in respect to graduation rates. Perhaps it is time for educational policymakers and leaders to re-examine the initiatives they propose and, for once, propose initiatives that will have positive outcomes.

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