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# Differences Between Hispanic and White Texas Community College Students in their Graduation Rates: A Statewide, Multiyear Investigation

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### Abstract

In this multiyear, statewide investigation, the graduation rates of Hispanic students and White students in Texas community colleges were analyzed for the 2008-2009 through the 2014-2015 academic years. Of particular interest was whether graduation rates differed for Hispanic and White students in these academic years. Inferential statistical analyses revealed statistically significant differences in the 2008-2009, 2009-2010, 2010-2011, 2011-2012, and the 2012-2013 academic years. The average graduation rates of Hispanic students were lower than the average graduation rates of White students. Of note, however, is that both Hispanic and White students had low graduation rates from Texas community colleges. Implications for practice and recommendations for future research were provided.

## 1. Introduction

A college education is an important education attainment [1, 2, 3]. Receiving a postsecondary degree is often viewed as leading to better paying jobs and enhancing the quality of a person's life [1, 3]. In 2009, then-President Obama outlined a plan for strengthening education and increasing student success [4]. At the core of President Obama's plan is to promote postsecondary access and opportunity, along with improving persistence and completion rates [4].

Although a focus on college and career readiness is present, all citizens are not receiving a quality education, as indicated by the current college completion rates [5]. In Texas, the rate of college completion within six years is 51.7%, similar to the national trend [6]. Although these statistics have improved over the last decade, a concern remains on the shortage of college graduates needed to fill jobs in the new economy [5].

### 1.1. Differences in Enrollment by Ethnicity/Race

Community colleges currently enroll over one-half of all beginning higher education students [7, 8, 9]. Moreover, a large percentage of Black and Hispanic students receive an education at community colleges [10], as community colleges enroll larger percentages of non-White students [11]. Over the past 30 years, efforts have been made to increase the number of Hispanic students attending college [12]. When it comes to

enrolling in college, Hispanics are making big improvements. Since 1993, the number of Hispanics ages 18 to 24 enrolled in a 2- or 4-year college have more than tripled [13]. In 1993, 728,000 Hispanics were enrolled in college. In 2013, 2.2 million Hispanics were enrolled, more than a 200% increase [13]. In the same time period, college enrollment for White students increased by 14% and the enrollment rate for Black students increased 78% [13]. College enrollment rates for Hispanics are relatively low when compared to the enrollment rates for White and Black students [14]. Similarly, [15] documented that although college enrollment rates for Hispanics between the ages of 18-24 experienced an increase, Hispanics trailed behind at 28%, versus Asians with 63%, Whites with 45%, and Blacks with 34%.

## **1.2. Differences in Graduation Rates by Ethnicity/Race**

Although the enrollment rate for Hispanics has increased, Hispanics continue to fall behind White students in obtaining a 4-year degree. In 2013, only 15% of Hispanics between the ages of 25-29 had a bachelor's degree or higher [13]. In comparison, among people between the ages of 25-29, 40% of Whites, 20% of Blacks, and 60% of Asians had a bachelor's degree or higher [13]. One reason that Hispanics are falling behind in obtaining a bachelor's degree is that of all racial/ethnic groups, Hispanics are more likely (50%) to attend a 2-year school. By comparison, 30% of Whites, 32% of Asians, and 34% of Blacks enroll in a 2-year college [13]. Cejda and Short [16] recommended developing programs and assistance to Hispanic families in applying to, paying for, and graduating from college.

In a recent study, [17] analyzed the numbers and percentages of Hispanic college students who obtained associate degrees for the 2000 through the 2011 academic year. Hernandez et al. [17] revealed an increase from 2000 to 2011 in the number of Hispanic students obtaining associate degrees at community colleges in Texas. In fact, they documented that the number of Hispanic community college students in Texas who obtained associates degrees almost tripled in the 2011 academic year as in the 2000 academic year. Furthermore, they demonstrated the presence of statistically significant increases in the number of Hispanic community college students who obtained associates degrees and the percentage of Hispanic students obtaining associate degrees from 2000 to 2011. Hernandez et al. [17] recommended that research studies be conducted on the transfer outcomes of Hispanic students attending community colleges in Texas.

In a similar study, [7] reviewed the number and percentage of associate degrees awarded to Hispanic students by Texas community colleges in the 2000 through the 2008 academic years. Cox et al. [7] also investigated the increase of the Hispanic adult population that received associate degrees from 2000 to 2008. Cox et al. [7] noted that the number of associates degrees awarded from 2000 to 2007 increased every year; however, the number decreased from 2007 to 2008. Cox et al. [7] concluded that even though the actual numbers of

associates degrees awarded to Hispanics increased, the percentage of total degrees awarded did not increase. Moreover, they documented that the percentage of Hispanics receiving an associate's degree was not statistically significant between the 2000 and the 2008 academic years, indicating Hispanics received degrees below the projected target of the initiative to close the achievement gap in Texas. Moreover, [7] argued that the Texas initiative to close the achievement gap did not appear to have a meaningful impact.

Similarly, [10] investigated the graduation and persistence rates of community college students as a function of ethnicity (i.e., White, Black, Hispanic, and Asian) for the 2000 through 2010 academic years. They analyzed data from all community colleges in the state of Texas. Spangler and Slate [10] documented an increase in the graduation and persistence rates for each ethnic/racial group between the 2000 and 2010 academic years. Over the 10-year period, the persistence and graduation rates for Hispanic students increased from 31.52% to 41.30% [10].

## **1.3. Statement of the Problem**

The relationship between a quality education and a growing economy has been emphasized by the United States government [5]. With respect to Texas, as noted by [17] it is estimated that from 2008 to 2018, of the four million newly created jobs in Texas, 56% will require postsecondary education. Hernandez et al. [17] suggested that due to the low college enrollment rate and degree attainment, employment opportunities may be limited for Hispanics. Community colleges can assist Hispanic students in acquiring a stable career by increasing the graduation rates for Hispanic students. Additionally, by completing an associate's degree at a community college, Hispanic students will be more likely to transfer to a 4-year institution and receive a bachelor's degree.

## **1.4. Purpose of the Study**

The purpose of this study was to examine the extent to which differences were present in graduation rates between Hispanic and White students enrolled at Texas community colleges in the 2008-2009 through the 2014-2015 academic years. Specifically addressed was the degree to which the graduation rates differed between Hispanic and White enrolled in Texas community colleges. The final purpose was to ascertain the extent to which the graduation rates of Hispanic and White students changed over the seven academic years of data analyzed.

## **1.5. Significance of the Study**

Several researchers [e.g., 7, 17, 10] have previously documented that student ethnicity/race is related to their graduation rates from community colleges. However, few researchers have exclusively focused their attention on the difference in the graduation rates between Hispanic and White community college students. By evaluating the graduation rates of Hispanic and White community college students, the

connection between ethnicity/race and graduation rates at Texas community colleges was explored. The findings of this study may have practical application for community college administrators in increasing the graduation rates for all students, regardless of ethnic/racial group.

### 1.6. Research Questions

The following research questions were addressed in this study: (a) What is the difference in the graduation rates between Hispanic and White students enrolled in Texas community colleges for the 2008-2009 academic year?; and (b) To what extent are trends present in the graduation rates between Hispanic and White students enrolled in Texas community colleges for the 2010-2011 through the 2014-2015 academic years? The first research question was repeated for the 2010-2011 through the 2014-2015 academic years whereas the second research question involved the results of all five academic years.

## 2. Method

### 2.1. Research Design

A nonexperimental, causal comparative research design [18] was used to address the research questions present in this study. A causal comparative research design allows researchers to examine the relationship between “one or more categorical independent variables and one or more quantitative dependent variables” [18, p. 43]. The independent variable in this study was the ethnicity (i.e., Hispanic, White) of the student. The dependent variables in the study were the graduation rates for each academic year. Archival data were acquired and examined in this investigation. Accordingly, neither the independent variable nor the dependent variables could be manipulated.

### 2.2. Participants

The data that were analyzed in this multiyear, statewide investigation were downloaded from the Texas Higher Education Coordinating Board Interactive Accountability System database. Data were grouped by ethnicity (i.e., Hispanic, White) and academic year. Data on Hispanic and White students from all Texas 2-year public community colleges who attended college in the 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, and 2014-2015 academic years were used in this investigation.

### 2.3. Instrumentation and Procedures

Data were downloaded from the Texas Higher Education Coordinating Board Interactive Accountability System. In this system, data on all 2-year community colleges in the State of Texas were represented. Community colleges in Texas comprised the participants for this study. During the time period of this investigation, data were obtained from approximately 70 Texas community colleges. The data for student ethnicity/race and graduation rates were downloaded

from the Texas Higher Education Coordinating Board Interactive Accountability database in an Excel format.

## 3. Results

Prior to conducting inferential statistics to determine whether statistically significant differences were present in graduation rates between Hispanic and White students who were enrolled in a Texas community college, checks were conducted to determine the extent to which the data were normally distributed. The standardized skewness coefficients (i.e., the skewness value divided by its standard error) and the standardized kurtosis coefficients (i.e., the kurtosis value divided by its standard error) were calculated [19]. Although some of the graduation rate data were not normally distributed, a decision was made to use parametric dependent samples *t*-tests to answer the research questions. Statistical results will now be presented by academic year.

Concerning the 2008-2009 academic year, the parametric dependent samples *t*-test revealed a statistically significant difference in graduation rates,  $t(68) = -1.92, p < .001$ , between Hispanic and White students at Texas community colleges. This difference represented a small effect size (Cohen's *d*) of 0.30 [20]. The graduation rates of Hispanic students were lower, 2.4% lower, than the graduation rates of White students at Texas community colleges. Readers are directed to Table 1 for the descriptive statistics for this analysis.

**Table 1.** Descriptive Statistics for Graduation Rates of Hispanic and White Texas Community College Students in the 2008-2009 Academic Year

Ethnicity	<i>n</i> of community colleges	<i>M</i> %	<i>SD</i> %
Hispanic	69	42.68	8.37
White	69	45.02	6.87

For the 2009-2010 academic year, the parametric dependent samples *t*-test revealed a statistically significant difference in graduation rates,  $t(68) = -4.04, p < .001$ , between Hispanic and White students at Texas community colleges. This difference represented a moderate effect size (Cohen's *d*) of 0.55 [20]. The graduation rates of Hispanic students were 3% lower than the graduation rates of White students at Texas community colleges. Table 2 contains the descriptive statistics for this analysis.

**Table 2.** Descriptive Statistics for Graduation Rates of Hispanic and White Texas Community College Students in the 2009-2010 Academic Year.

Ethnicity	<i>n</i> of community colleges	<i>M</i> %	<i>SD</i> %
Hispanic	69	41.13	6.83
White	69	44.82	6.41

With respect to the 2010-2011 academic year, the parametric dependent samples *t*-test revealed a statistically significant difference in graduation rates,  $t(68) = -3.97, p < .001$ , between Hispanic and White students at Texas community colleges. This difference represented a moderate effect size (Cohen's *d*) of 0.54 [20]. The graduation rates of Hispanic students were 4% lower than the graduation rates of White students at Texas community colleges. Delineated in

Table 3 are the descriptive statistics for this analysis.

**Table 3.** Descriptive Statistics for Graduation Rates of Hispanic and White Texas Community College Students in the 2010-2011 Academic Year.

Ethnicity	n of community colleges	M%	SD%
Hispanic	69	40.78	7.49
White	69	44.83	7.47

Concerning the 2011-2012 academic year, the parametric dependent samples *t*-test revealed a statistically significant difference in graduation rates,  $t(68) = -3.29, p < .001$ , between Hispanic and White students at Texas community colleges. This difference represented a small effect size (Cohen’s *d*) of 0.40 [20]. The graduation rates of Hispanic students were 2.7% lower than the graduation rates of White students at Texas community colleges. Table 4 contains the descriptive statistics for this analysis.

**Table 4.** Descriptive Statistics for Graduation Rates of Hispanic and White Texas Community College Students in the 2011-2012 Academic Year.

Ethnicity	n of community colleges	M%	SD%
Hispanic	69	42.53	7.30
White	69	45.30	6.40

For the 2012-2013 academic year, the parametric dependent samples *t*-test revealed a statistically significant difference in graduation rates,  $t(69) = -2.94, p < .001$ , between Hispanic and White students at Texas community colleges. This difference represented a small effect size (Cohen’s *d*) of 0.40 [20]. The graduation rates of Hispanic students were 3% lower than the graduation rates of White students at Texas community colleges. Revealed in Table 5 are the descriptive statistics for this analysis.

**Table 5.** Descriptive Statistics for Graduation Rates of Hispanic and White Texas Community College Students in the 2012-2013 Academic Year.

Ethnicity	n of community colleges	M%	SD%
Hispanic	70	42.94	8.33
White	70	46.00	6.91

With respect to the 2013-2014 academic year, the parametric dependent samples *t*-test did not reveal a statistically significant difference in graduation rates,  $t(69) = -1.64, p = .10$ , between Hispanic and White students at Texas community colleges. In the 2013-2014 academic year, the graduation rate for White and for Hispanic students were within 2%. Delineated in Table 6 are the descriptive statistics for this analysis.

**Table 6.** Descriptive Statistics for Graduation Rates of Hispanic and White Texas Community College Students in the 2013-2014 Academic Year.

Ethnicity	n of community colleges	M%	SD%
Hispanic	70	43.14	7.57
White	70	44.89	8.45

Concerning the 2014-2015 academic year, the parametric dependent samples *t*-test did not reveal a statistically significant difference in graduation rates,  $t(70) = -1.00, p = .32$ , between Hispanic and White students at Texas

community colleges. In this academic year, the graduation rate for White students and for Hispanic students was 43% and 42%, respectively. Readers are directed to Table 7 for the descriptive statistics for this analysis.

**Table 7.** Descriptive Statistics for Graduation Rates of Hispanic and White Texas Community College Students in the 2014-2015 Academic Year.

Ethnicity	n of community colleges	M%	SD%
Hispanic	71	42.38	7.31
White	71	43.32	7.35

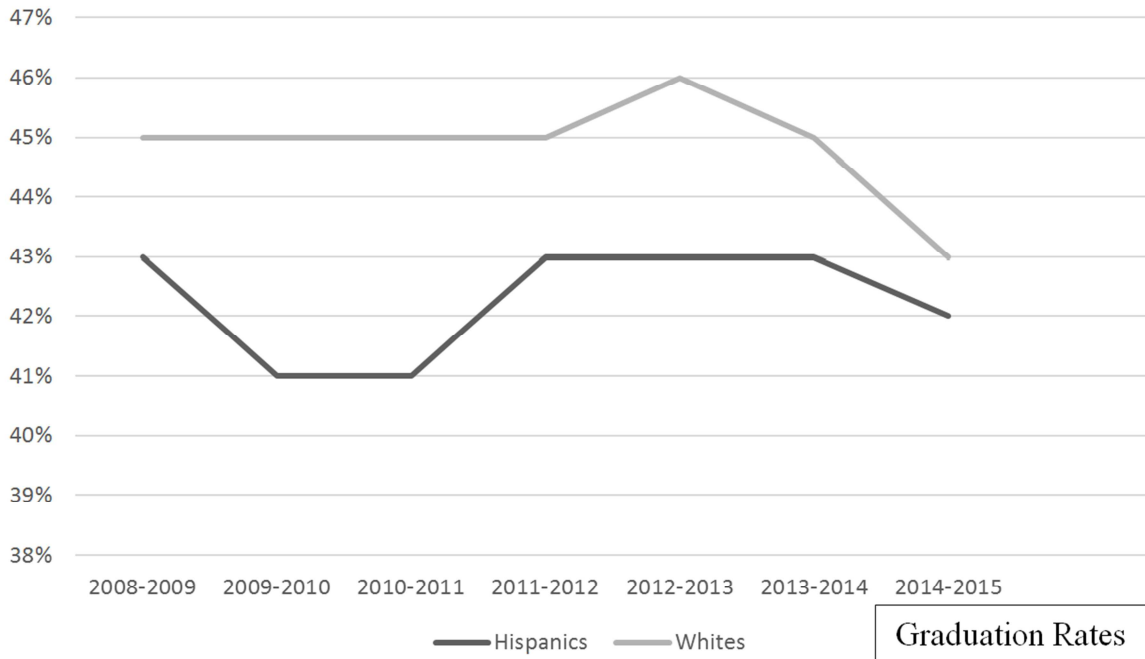
#### 4. Discussion

In this investigation, the degree to which differences were present in the graduation rates by student ethnicity (i.e., Hispanic or White) was addressed for students in Texas community colleges. Seven years of archival data from the Texas Higher Education Coordinating Board Interactive Accountability System were obtained and examined. In this investigation, 69 Texas community colleges provided data that were analyzed in the 2008-2009 through the 2011-2012 academic year and 70 Texas community colleges provided data that were analyzed in the 2012-2013 through the 2013-2014 academic year. Lastly, for the 2014-2015 academic year, 71 Texas community colleges provided data that were analyzed.

For the seven years of academic data that were analyzed, statistically significant differences were present in the 2008-2009, 2009-2010, 2010-2011, 2011-2012, and the 2012-2013 academic year. Only in the 2013-2014 and the 2014-2015 academic years was a statistically significant difference not present in the graduation rates between Hispanic and White students at Texas community colleges. Although a statistically significant difference was not present in the 2013-2014 through the 2014-2015 academic years, the graduation rates of Hispanic students were consistently lower than the graduation rates of White students. The graduation rates of Hispanic students at Texas community colleges ranged from a low of 41% to a high of 43%. In comparison, the graduation rates of White students at Texas community colleges ranged from a low of 43% to a high of 46%. Presented in Table 8 is a summary of the results for the graduation rates of Hispanic and White students in Texas community colleges across all seven academic years. Depicted in Figure 1 are the trends in graduation rates for Hispanic and White Texas community college students over the academic years of data that were analyzed herein.

**Table 8.** Summary of Results for Graduation Rates for Hispanic and White Texas Community College Students in the 2008-2009 Academic Year Through the 2014-2015 Academic Year.

Academic Year	Effect Size	Higher Graduation Rate
2008-2009	Small	White Students
2009-2010	Moderate	White Students
2010-2011	Moderate	White Students
2011-2012	Small	White Students
2012-2013	Small	White Students
2013-2014	N/A	White Students
2014-2015	N/A	White Students



*Figure 1. Trends in the graduation rates of Hispanic and White Texas community college students in the 2008-2009 through the 2014-2015 academic years.*

#### 4.1. Connections with Existing Literature

In a previous Texas investigation, [10] analyzed the graduation rates of community college students by ethnicity/race. Spangler and Slate [10] established that the graduation rate for each ethnic/racial group (i.e., Blacks, Hispanic, Whites, and Asians) increased between the 2000 and 2010 academic years. Spangler and Slate [10] noted an increase from 36.30% to 44.75% for White students between the 2000 and 2010 academic years. During the same 10-year period, the graduation rates for Hispanic students increased from 31.52% to 41.30%. In comparison to [10], the graduation rates for Hispanic students were lower than the graduation rates for White students for all seven years of data analyzed in this study.

#### 4.2. Implications for Policy and Practice

Spangler and Slate [10] contended that success measures need to be developed in which the concerns of community colleges are addressed. In this empirical multiyear investigation, the graduation rates of Hispanic and White students at Texas community colleges was less than 50%. Moreover, the graduation rates for Hispanic students was lower than the graduation rates for White students. To improve graduation rates, community college leaders need to examine the programs they have in place designed to help students persist and graduate. They are encouraged to audit the graduation rates of all of their students and to examine these rates separately by student demographic characteristic. After determining their students' graduation rates, community colleges with low graduation rates may consider adopting practices and programs from community colleges with high graduation rates. Community colleges with high

graduation rates should share successful programs and initiatives with other community college leaders. It is impertinent for community college counselors and academic advisors to ensure that students are on the right program track and understand what courses are needed to complete their degree. As noted by [10], Texas legislators should continue to examine higher education policies and propose new programs to assist community college students in graduating.

#### 4.3. Recommendations for Future Research

In this multiyear, statewide investigation, the graduation rates of only Hispanic and White students at Texas community colleges were examined. As such, researchers are encouraged to extend this study to the graduation rates of other ethnic/racial groups of students, as well as to analyze the graduation rates by student gender. Given that this study was restricted to Texas students, researchers are encouraged to replicate this investigation in other states. The degree to which the results delineated herein generalize to Hispanic and White community college students in other states is not known. Research should also be conducted into the graduation rates of students at 4-year universities. Are the graduation rates of students at 4-year universities similar to the graduation rates of students at community colleges? Research is warranted into identifying Texas community colleges that have the highest graduation rates for their students, as well as those Texas community colleges with the lowest graduation rates for their students. Efforts to identify specific programs and measures related to success, as well as non-success, are encouraged. Finally, qualitative and/or mixed method research studies into the reasons why students graduate and why students fail to graduate from community colleges need to be conducted.

## 5. Conclusion

In this investigation, the graduation rates of Hispanic and White community college students in Texas were compared. Texas statewide data were analyzed for the 2008-2009 through the 2015-2016 academic years. Statistically significant differences were present in five of the seven years analyzed. In each year analyzed, graduation rates were higher for White students than for Hispanic students at Texas community colleges. Readers should note, however, that the graduation rates for both White and Hispanic community college students were less than 50%. As such, concerns are warranted regarding community college graduation rates.

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