# DIFFERENCES IN TEACHER GENDER IN TEXAS TEACHER WORKFORCE AS A FUNCTION OF SCHOOL LEVEL

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## Abstract

The extent to which differences were present in the percentages of male and female teachers as a function of school level (i.e., elementary, middle, and high school) in Texas public schools for the 2002-2003 through the 2012-2013 school years was examined. Statistically significant differences in the percentages of male and female teachers were present as a function of school level for each of the 11 school years in Texas public schools. The average female percentages in Texas public schools across the 11 school year period remained relatively unchanged, with the percentage of female teachers in Texas elementary schools being 91.3% in 2002-2003 and 90.8% in 2012-2013. The percentage of male teachers was highest at the high school level with an average of 43.5% from the 2002-2003 through the 2012-2013 school years. As such, the teaching workforce across the 11 school years in Texas elementary and middle schools continues to be predominantly female. These numbers are indicative of the need for more male teacher representation in Texas public schools.

## INTRODUCTION

In 2013, Goldring, Gray, and Bitterman, authors of a National Center for Education Statistics report, noted that 76% of the national teacher workforce were female. Although the number of males choosing teaching as a profession has increased by 26%, the number of females choosing teaching as a profession has almost tripled that rate (Ingersoll & Merrill, 2012). The male-to-female teacher ratio continues to be disproportionate at the different school levels, with 18.3% of the teacher workforce at elementary and middle schools being male and 42% of the secondary school teacher workforce being male (Men Teach, 2011). Researchers (Medford, Knorr, & Cook, 2013; Men Teach, 2007; Patrick, 2009) attribute gender disparities at the different school levels to career advancement, age and maturity level of students, subject matter, and coaching opportunity.

Along with the disproportionate male-to-female ratio at all three school levels (i.e. elementary, middle, and high school) in U.S. public schools, the teacher workforce has remained overwhelmingly White, 84%. According to a 2007-2008 Schools and Staffing Survey report conducted by the National Center for Education Statistics, only 24.2% of public school teachers in the United States were White males, 24.1% were Hispanic males, 23.5% were Black males, and 22.2% were Asian males. Researchers (e.g., Knight & Moore, 2012; Montecinos & Nielsen, 2004) attribute the shortage of males in the teaching profession to a number of reasons such as, salary, societal views, status, and gender roles (Knight & Moore, 2012; Montecinos & Nielsen, 2004). Cushman (2005) noted that teaching job status, female dominated working environment, physical contact with children, and salary have the potential to influence the decisions of males not to pursue teaching as a profession.

Furthermore, Severiens and ten Dam (2012) discussed that in female dominated programs (e.g., teaching and nursing) males left more often due to a lack of program support, job opportunities, and financial compensation. Because of these factors, male preservice teachers were discouraged from entering the teaching professions by family, peers, and teaching preparation programs (Nelson & Shikwambi, 2010; Weaver-Hightower, 2011). Without strong family, peer, and program support, male preservice teachers felt isolated, resulting in 50% attrition within the first 5 years of teaching at the school level (U.S. Department of Education, 2008). Therefore, teaching programs that provide male preservice teachers with male mentor teachers may reduce the feelings of isolation created by a female dominated environment and may create a more supportive program experience for male preservice teachers (Knight & Moore, 2012; Nelson & Shikwambi, 2010; Smith & Ingersoll, 2004).

Equally as important is the argument that matching teachers and students by gender can be beneficial for students' academic achievement. To support this argument, Dee (2007) used data from the National Education Longitudinal Study of 1988 to examine the consequences of matching teachers and students by gender based on the following factors: (a) test scores, (b) teacher perceptions of student performance, and (c) student engagement. Dee (2007) posited matching teachers and students by gender statistically significantly improved test scores, teacher perceptions of student performance, and student engagement of both boys and girls. Other researchers (e.g., Brown, 2012; Cho,

2012; Krieg, 2005), however, have argued that matching teachers and students by gender has little to no influence on students' academic achievement. These researchers (Brown, 2012; Cho, 2012; Krieg, 2005) agreed that teacher preparation and training, not gender, were factors that influence student academic achievement. Based on these conflicting arguments, the relationship of teacher and student gender with student academic achievement continues to be explored (Bone & Slate, 2012).

## LITERATURE REVIEW

### *Background of the Study*

As a reflection of the shortage of males in the teaching profession and the importance of remediating this situation, U.S. Secretary of Education Arne Duncan initiated the *Black men to the Blackboard* campaign to increase the number of underrepresented male teachers to 80,000 by 2015 (Medford et al., 2013; U.S. Department of Education, 2011). Secretary Duncan (as cited by Bireda & Chait, 2011) commented on the need to increase the number of underrepresented males in the teacher workforce by stating the following:

> I'm very concerned that increasingly, our teachers don't reflect the great diversity of our nation's young peoples, and so making sure we have more teachers of color and particularly more men, more Black and Latino men, coming into education is going to be a significant part of this *Teach* campaign. (p. 1)

Therefore, disparities are present among the concentration of male teachers employed at the secondary level compared to the number of male teachers at the primary levels. This problem becomes more apparent with gender diversity among teachers in Kindergarten through Grade 12 (Medford et al., 2013).

With reference specifically to the state of interest in this investigation, the male-to-female ratio in Texas public schools has remained relatively steady for the 2007-2008 through the 2011-2012 school years. The percentages of female teachers in Texas public schools declined minimally from 77.11% to 76.77%. The percentage of male teachers in Texas public schools increased minimally as well, 22.89% to 23.23% from 2007-2008 to 2011-2012 school years. Therefore, the teaching workforce in Texas public schools continues to be mostly female (Texas Education Agency, 2013).

### *Statement of the Problem*

Retention and recruitment of underrepresented males in the teacher workforce have become a primary focus of school reform efforts across the nation (Fergus, Sciurba, Martin, & Noguera, 2009; Johnson, 2008; Montecinos & Nielsen, 2004). This focus is in response to the need of school districts to serve diverse student populations at all school

levels (Bone & Slate, 2012; Johnson, 2008; Montecinos & Nielsen, 2004; Noguera, 2009). Because these disparities are still present, a need exists for state and local public school officials in Texas to continue to search for ways to increase the number of male teachers at all school levels (Bone & Slate, 2012; Borgemenke, Hinojosa, Bone, & Slate, 2012; Boser, 2011; Cloudt & Stevens, 2009; Fergus et al., 2009; Moses, Brown, & Tackett, 1999; Quiocho & Rios, 2000).

*Purpose of the Study*

The purpose of this research study was to examine the extent to which differences were present in the percentages of male and female teachers by school level in Texas public schools for the 2002-2003 through the 2012-2013 school years. To make this determination, archival data from the Texas Education Agency Public Education Information Management System were utilized. An analysis of teacher gender at each school level across an 11 school-year period assisted in analyzing trends of Texas public school teachers with respect to gender.

Readers may wonder why we conducted this study as the gender disproportionality of the teacher workforce is regarded as common knowledge. Our purpose in conducting this study was to determine the extent to which this common knowledge was congruent with the actual statistics regarding the Texas teacher workforce. The Texas Education Agency and the Texas Higher Education Coordinating Board have encouraged school districts and colleges of education to engage in initiatives to improve teacher diversity, both with respect to ethnicity/race and gender. The extent to which those initiatives have resulted in any actual empirical changes in the Texas teacher workforce is not known. Thus, our analyses of Texas statewide data may serve as an informal program evaluation of the efficacy of any such strategies that were implemented in the past decade.

*Significance of the Study*

Limited research exists in which teacher gender by school level has been examined in Texas public schools. With increasing male teacher representation at all school levels in Texas public schools being a primary focus of state and local school officials (Borgemenke et al., 2012; Ingersoll & Merrill, 2012), results from this investigation could serve to provide information regarding the need for more male teachers at all school levels in Texas public schools. Additionally, analyzing 11 years of archival data aided in understanding the extent to which Texas public schools have narrowed the gender gap among their teacher workforce at the school level. Furthermore, results of this investigation could be used by policymakers in increasing the number of male teachers in Texas public schools.

*Research Questions*

The following research questions were addressed in this research investigation: (a) Of the teachers in Texas elementary, middle, and high schools, what percentage is male? What percentage is female?; (b) What is the difference in the percentage of male teachers

and female teachers as a function of school level?; and (c) What changes, if any, have occurred in the percentages of male and female teachers at each school level from the 2002-2003 through the 2012-2013 school years? The first two research questions were repeated for each of the 11 years of school data analyzed herein. The third research question involved a comparison of results across all 11 years.

## METHODOLOGY

### *Participants*

Participants were all teachers employed in Texas traditional public elementary schools, middle schools, and high schools for the 2002-2003 through the 2012-2013 school years. Data regarding teacher gender and school level were obtained from the Texas Education Agency Public Education Information Management System. Through this extensive education database, information was obtained on all teachers employed in traditional public schools in Texas. The sample size constitutes 100% of the teachers at the elementary, middle, and high school levels in Texas.

### *Instrumentation*

Data were requested and obtained from the Texas Education Agency Public Education Information Management System website. The Public Education Information Management System is a reporting system that collects data from individual school districts regarding student and personnel demographics, academic performance, and financial and organizational information and reports it to the Texas Education Agency (2006). A request for data was presented to the Texas Education Agency. A staff member at the Texas Education Agency provided data regarding teacher gender by school level in Texas public schools for the 11 years of data analyzed herein. The data were then converted into a Statistical Package for the Social Sciences (SPSS) data file for statistical analyses. Data regarding teacher gender in Texas public schools were examined to determine the extent to which differences in teacher gender were present as a function of school level in Texas public schools from the 2002-2003 through the 2012-2013 school years.

## RESULTS

To ascertain whether a difference was present in the percentages of male and female teachers by school level (i.e., elementary school, middle school, and high school) in Texas public schools, Pearson chi-squares were conducted. Research questions one and two were answered together as the inferential statistical procedure used provided the results needed for both questions. A statistically significant result, $\chi^2(2) = 38032.97$, $p <$

.001, was present for the 2002-2003 school year. The effect size for this finding, Cramer's *V,* was moderate, .37 (Cohen, 1988). As can be seen in Table 1, 91.3% of the teachers in elementary schools were female, compared to only 8.7% being male teachers. In 2002-2003, the highest percentage of male teachers was in high schools, 43.6%, with 28.3% of the middle school teachers being male. Thus, as the school level changed from elementary to middle to high school, the percentage of male teachers increased.

Table 1

*Descriptive Statistics for the Percent of Male Teachers and the Percent of Female Teachers in Texas Public Schools as a Function of School Level in the 2002-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007, and 2007-2008 School Years*

| | Female | | Male | |
|---|---|---|---|---|
| Year and School Level | *n* | *M* | *n* | *M* |
| 2002-2003 | | | | |
| Elementary School | 129,379 | 91.3 | 12,333 | 8.7 |
| Middle School | 36,853 | 71.7 | 14,578 | 28.3 |
| High School | 49,083 | 56.4 | 37,982 | 43.6 |
| 2003-2004 | | | | |
| Elementary School | 130,897 | 91.1 | 12,732 | 8.9 |
| Middle School | 48,395 | 70.5 | 20,281 | 29.5 |
| High School | 49,410 | 56.2 | 38,466 | 43.8 |
| 2004-2005 | | | | |
| Elementary School | 133,228 | 90.9 | 13,355 | 9.1 |
| Middle School | 48,798 | 70.3 | 20,575 | 29.7 |
| High School | 49,966 | 55.9 | 39,487 | 44.1 |
| 2005-2006 | | | | |
| Elementary School | 136,997 | 90.8 | 13,889 | 9.2 |
| Middle School | 49,754 | 70.5 | 20,802 | 29.5 |
| High School | 51,384 | 56.0 | 40,453 | 44.0 |
| 2006-2007 | | | | |
| Elementary School | 140,872 | 90.9 | 14,180 | 9.1 |
| Middle School | 51,555 | 70.7 | 21,367 | 29.3 |
| High School | 53,156 | 56.2 | 41,504 | 43.8 |
| 2007-2008 | | | | |
| Elementary School | 144,231 | 90.9 | 14,483 | 9.1 |
| Middle School | 53,106 | 70.7 | 21,990 | 29.3 |
| High School | 54,857 | 56.2 | 42,834 | 43.8 |

With respect to 2003-2004, the percentage of male and female teachers was statistically significantly different by school level, $\chi^2(2) = 38226.93$, $p < .001$, Cramer's $V = .36$, a moderate effect size (Cohen, 1988). A very high percentage, 91.1%, of the teachers in elementary schools were female. The highest percentage of male teachers were in high schools, 43.8%, with middle schools having 29.5% of their teachers being male. Concerning 2004-2005, a statistically significantly difference was present in the percentage of male and female teachers by school level, $\chi^2(2) = 38887.76$, $p < .001$, Cramer's $V = .36$, moderate effect size (Cohen, 1988). A very high percentage, 90.9%, of the teachers in elementary schools were female. The highest percentage of male teachers were in high schools, 44.1%, with middle schools having 29.7% of their teachers being male. Regarding 2005-2006, the percentage of male and female teachers were statistically significantly different by school level, $\chi^2(2) = 39523.60$, $p < .001$, Cramer's $V$ (.36), a moderate effect size. A very high percentage, 90.8%, of the teachers in elementary schools were female. The highest percentage of male teachers was in high schools, 44.0%, with middle schools having 29.5% of their teachers being male.

For 2006-2007, a statistically significantly difference was present in the percentage of male and female teachers by school level, $\chi^2(2) = 40454.25$, $p < .001$, Cramer's $V$ (.36), a moderate effect size. A very high percentage, 90.9%, of the teachers in elementary schools were female. The highest percentage of male teachers was in high schools, 43.8%, with middle schools having 29.3% of their teachers being male. With respect to 2007-2008, a statistically significant difference was again present, $\chi^2(2) = 41586.91$, $p < .001$, Cramer's $V = .35$, a moderate effect size. A very high percentage, 90.9%, of the teachers in elementary schools were female. The highest percentage of male teachers was in high schools, 43.8%, with middle schools having 29.3% of their teachers being male. Concerning 2008-2009, a statistically significantly difference was again revealed, $\chi^2(2) = 42047.50$, $p < .001$, Cramer's $V$ (.36), a moderate effect size. The highest percentage of male teachers were in high schools, 43.7%, with middle schools having 28.9% of their teachers being male.

Table 2

*Descriptive Statistics for the Percent of Male Teachers and the Percent of Female Teachers in Texas Public Schools as a Function of School Level in the 2008-2009, 2009-2010, 2010-2011, 2011-2012, and 2012-2013 School Years*

| | Female | | Male | |
|---|---|---|---|---|
| Year and School Level | *n* | *M* | *n* | *M* |
| 2008-2009 | | | | |
| Elementary School | 145,946 | 90.9 | 14,566 | 9.1 |
| Middle School | 43,797 | 71.1 | 17,792 | 28.9 |
| High School | 55,869 | 56.3 | 43,392 | 43.7 |
| 2009-2010 | | | | |
| Elementary School | 147,739 | 90.8 | 14,919 | 9.2 |
| Middle School | 54,249 | 70.9 | 22,310 | 29.1 |
| High School | 56,293 | 56.9 | 42,663 | 43.1 |

| | | | | |
|---|---|---|---|---|
| 2010-2011 | | | | |
| Elementary School | 147,766 | 90.7 | 15,160 | 9.3 |
| Middle School | 54,842 | 70.6 | 22,884 | 29.4 |
| High School | 56,971 | 56.7 | 43,447 | 43.3 |
| 2011-2012 | | | | |
| Elementary School | 143,033 | 90.7 | 14,603 | 9.3 |
| Middle School | 52,556 | 70.3 | 22,219 | 29.7 |
| High School | 54,857 | 56.2 | 42,277 | 43.5 |
| 2012-2013 | | | | |
| Elementary School | 144,000 | 90.8 | 14,661 | 9.2 |
| Middle School | 43,425 | 70.6 | 18,086 | 29.4 |
| High School | 55,644 | 56.5 | 42,846 | 43.5 |

` Regarding 2009-2010, a statistically significant difference was yielded, $\chi^2(2) = 40950.71$, $p < .001$, Cramer's $V$ (.35), a moderate effect size. A very high percentage, 90.8%, of the teachers in elementary schools were female. The highest percentage of male teachers was in high schools, 56.9%, with middle schools having 29.1% of their teachers being male. For 2010-2011, a statistically significantly difference was present, $\chi^2(2) = 41110.04$, $p < .001$, Cramer's $V$ (.35), a moderate effect size. The highest percentage of male teachers was in high schools, 43.3%, with middle schools having 29.4% of their teachers being male. With respect to 2011-2012, a statistically significant difference was again revealed, $\chi^2(2) = 40381.21$, $p < .001$ Cramer's $V$ (.35), a moderate effect size. The highest percentage of male teachers was in high schools, 56.5%, with middle schools having 29.7% of their teachers being male. Concerning 2012-2013, a statistically significantly difference was again yielded, $\chi^2(2) = 40783.42$, $p < .001$, Cramer's $V$ (.36), a moderate effect size. The highest percentage of male teachers was in high schools, 43.5%, with middle schools having 29.4% of their teachers being male.

To permit a comparison of results across all 11 school years, descriptive statistics were calculated for research question three. Revealed in Table 3 are the sample sizes and the average percentages of female and male teachers at the elementary school level from 2002-2003 through 2012-2013. The average percent of female teachers at the elementary school level in 2002-2003 was 91.3% compared to an average percent of 9.2% of male teachers at the elementary level in 2012-2013. The average percent of female teachers at the elementary school level declined only minimally from 91.3% in 2002-2003 to 90.8% in 2012-2013. As revealed in Table 3.3, a minimal increase was revealed in the average percent of male teachers at the elementary school level from 8.7% in 2002-2003 to 9.2% in 2012-2013, varying by year. As such, the teaching workforce across the 11 school years in Texas elementary public schools continues to be mostly female.

Table 3

*Descriptive Statistics for Elementary School Male and Female Teacher Percentages by School Year*

| | Female | | Male | |
|---|---|---|---|---|
| School Year | *n* | *M %age* | *n* | *M %age* |
| 2002-2003 | 129,379 | 91.3 | 12,333 | 8.7 |
| 2003-2004 | 130,897 | 91.1 | 12,732 | 8.9 |
| 2004-2005 | 133,228 | 90.9 | 13,355 | 9.1 |
| 2005-2006 | 136,997 | 90.8 | 13,889 | 9.2 |
| 2006-2007 | 140,872 | 90.9 | 14,180 | 9.1 |
| 2007-2008 | 144,231 | 90.9 | 14,483 | 9.1 |
| 2008-2009 | 145.946 | 90.9 | 14.566 | 9.1 |
| 2009-2010 | 147,739 | 90.8 | 14,919 | 9.2 |
| 2010-2011 | 147,766 | 90.7 | 15,160 | 9.3 |
| 2011-2012 | 143,033 | 90.7 | 14,603 | 9.3 |
| 2012-2013 | 144,000 | 90.8 | 14,661 | 9.2 |

As evidenced in Table 4, the average percent of female teachers at the middle school level in 2002-2003 was 71.7% compared to the average percent of 29.4% of male teachers at the middle school level in 2012-2013. The average percent of female teachers at the middle school level remained constant from 71.7% in 2002-2003 to 70.6% in 2012-2013. As revealed in Table 4, the average percent of male teachers at the middle school level remained constant from 28.3% in 2002-2003 to 29.4% in 2012-2013, varying by year. Accordingly, the teaching workforce at the middle school level across the 11 school years remained mostly female.

Table 4

*Descriptive Statistics for Middle School Male and Female Teacher Percentages by School Year*

| | Female | | Male | |
|---|---|---|---|---|
| School Year | *n* | *M %age* | *n* | *M %age* |
| 2002-2003 | 36,853 | 71.7 | 14,578 | 28.3 |
| 2003-2004 | 48,395 | 70.5 | 20,281 | 29.5 |
| 2004-2005 | 48,798 | 70.3 | 20,575 | 29.7 |
| 2005-2006 | 49,754 | 70.5 | 20,802 | 29.5 |
| 2006-2007 | 51,555 | 70.7 | 21,367 | 29.3 |
| 2007-2008 | 53,106 | 70.7 | 21,990 | 29.3 |
| 2008-2009 | 43,797 | 71.1 | 17,792 | 28.9 |
| 2009-2010 | 54,249 | 70.9 | 22,310 | 29.1 |
| 2010-2011 | 54,842 | 70.6 | 22,884 | 29.4 |
| 2011-2012 | 52,556 | 70.3 | 22,219 | 29.7 |
| 2012-2013 | 43,425 | 70.6 | 18,086 | 29.4 |

As revealed in Table 5, the average percent of female teachers at the high school level in 2002-2003 was 56.4% compared to the average percent of 43.5% of male teachers at the high school level in 2012-2013. The average percent of female teachers at the high school level remained constant from 56.4% in 2002-2003 to 56.5% in 2012-2013. As evidenced in Table 5, the average percent of male teachers at the high school level remained constant from 43.6% in 2002-2003 to 43.5% in 2012-2013, varying by year. Compared to the 11 school years at the elementary school and middle school levels, the highest percentage of male teachers was in the high schools, 43.5%, compared to 29.4% of male teachers in middle schools and 9.2% of male teachers in elementary schools in 2012-2013 school year. Accordingly, the teaching workforce at the high school level is the most balanced, with respect to school level, of the three school levels analyzed herein.

Table 5

*Descriptive Statistics for High School Male and Female Teacher Percentages by School Year*

| | Female | | Male | |
|---|---|---|---|---|
| School year | *n* | *M %age* | *n* | *M %age* |
| 2002-2003 | 49,083 | 56.4 | 37,982 | 43.6 |
| 2003-2004 | 49,410 | 56.2 | 38,466 | 43.8 |
| 2004-2005 | 49,966 | 55.9 | 39,487 | 44.1 |
| 2005-2006 | 51,384 | 56.0 | 40,453 | 44.0 |
| 2006-2007 | 53,156 | 56.2 | 41,504 | 43.8 |
| 2007-2008 | 54,857 | 56.2 | 42,834 | 43.8 |
| 2008-2009 | 55,869 | 56.3 | 43,392 | 43.7 |
| 2009-2010 | 56,293 | 56.9 | 42,663 | 43.1 |
| 2010-2011 | 56,971 | 56.7 | 43,447 | 43.3 |
| 2011-2012 | 54,857 | 56.2 | 42,277 | 43.5 |
| 2012-2013 | 55,644 | 56.5 | 42,846 | 43.5 |

**DISCUSSION**

The purpose of this research study was to examine the extent to which differences in the percentages of male and female teachers by school level were present in Texas public schools for 2002-2003 through 2012-2013. Archival data from the Texas Education Agency Public Education Information Management System were utilized. This analysis of the percentages of male and female teachers at each school level across an 11 school year period assisted in analyzing trends of Texas public school teachers with respect to gender.

Across the 11 school years of data examined, the average percentages of male-to-female ratio in public schools remained relatively unchanged for the 2002-2003 through the 2012-2013 school years, with the percentage of female teachers in Texas elementary schools at a steady rate of 91.3% to 90.8%. The percentage of male teachers in Texas elementary schools has increased at a minimal rate of 8.7% to 9.2% from 2002-2003 to 2012-2013 school years. Despite efforts to increase male representation in the teaching

workforce in elementary schools, Texas elementary schools continue to be staffed by a predominance of female teachers (Cushman, 2005).

Similar to the 11 school years of data examined at the elementary school level, the average percent of male-to-female ratio in middle schools remained relatively consistent for the 2002-2003 through the 2012-2013 school years, with the percentage of female teachers at the middle school staying at a consistent rate of 71.7% to 70.6%. The percentage of male teachers in Texas middle schools has increased at a minimal rate of 28.4% to 29.4% from 2002-2003 to 2012-2013 school years. As such, the teaching workforce at the middle school level across the 11 school years has remained relatively unchanged.

Concerning male teacher representation in Texas high schools, the percentage of male teachers was highest at the high school level with an average of 43.5% from the 2002-2003 through the 2012-2013 school years. Compared to the 11 school years at the elementary school and middle school levels, the lowest percentage of female teachers was in the high schools, 56.5%, compared to 70.6% in middle schools; and 90.8% in elementary schools in 2012-2013 school year. The average percent of male-to-female ratio at the high school level was the most balanced, with respect to school level, of the three school levels analyzed herein. Readers should note, however, that this relative balance still reflected that more than half of the high school teaching workforce was female. Congruent with the national statistics (Johnson, 2008; Montecinos & Nielsen, 2004), the male-to-female teacher ratio in Texas public schools at the elementary, middle, and high school level continues to be disproportionate.

*Implications for Policy and Practice*

Implications for policy and for practice can be determined by the results from this study. Clearly, whatever efforts or initiatives that have been implemented by Texas to increase the number of males teaching in Texas schools have not been successful in increasing that number over the 11 years of data analyzed herein. Accordingly, current strategies regarding teacher recruitment, specifically the recruitment of male teachers, need to be examined and new strategies generated to encourage more males to teach in Texas schools. In recent years, the male teacher shortage has ignited discussion at the national level in an effort to increase the number of underrepresented males in the teaching force (U.S. Department of Education, 2012). Therefore, state and local education agencies should establish recruitment guidelines that would promote school administrators to recruit, hire, and increase the number of male teachers at all school levels. These guidelines should be measured against previous recruitment efforts to determine effectiveness of implementation.

Furthermore, teacher preparation entities could conduct an evaluation of their teaching preparation programs to determine the effectiveness of the current recruitment efforts of male teacher candidates into these programs. Researchers (Ingersoll & May, 2011; Little & Bartlett, 2010) have suggested that teacher preparation programs in which early recruitment strategies of underrepresented student groups are incorporated establish a pathway to teacher certification. As such, policymakers and school officials

could reexamine current accountability measures of teacher preparation entities to determine recruitment guidelines that might increase male representation in teacher preparation programs.

*Recommendations*

Few studies exist concerning the need to increase the number of male teachers at all school levels in Texas public schools. Future research utilizing qualitative methodology might expand the results of this study. Male teachers in Texas public schools could be interviewed to determine factors instrumental in their decision to choose teaching as a profession at each school level. Results from this examination would be compared with interviews of male teachers who left the teacher workforce to ascertain the reasons why they left the teacher workforce. More specifically, male teachers at all three school levels would be interviewed to determine the reasons why they teach at each school level. The data gathered from these interviews would provide school administrators and education policymakers with an in-depth understanding of school factors that promote or impede male teacher representation at all school levels.

Additionally, this quantitative study could be replicated in other public schools across the United States to determine if the same phenomena is occurring. Because Texas is a majority-minority state, conducting a similar study in other majority-minority states may provide increased benefits for recommendations. Furthermore, comparing the results of quantitative studies of majority-minority states (i.e. Hawaii, the District of Columbia, California, New Mexico, and Texas) with results of studies conducted among non-majority-minority states would provide a broader understanding of the recruitment and hiring trends at all school levels to increase the number of male teachers in the teacher workforce.

Furthermore, future research could be conducted by including other variables (e.g. teacher ethnic/racial backgrounds, gender, and school level) to determine the disparity that exists between the ethnic/racial backgrounds in the public school population and the degree of teacher diversity in the teaching workforce at all school levels. Because a need exists for the teacher workforce to reflect student diversity at the school level, studies in this area would support the rationale for more recruitment of teachers of diverse ethnic/racial and gender backgrounds at all school levels. This study could be expanded to include gender within ethnic/racial backgrounds of teachers at all school levels. Because a need exists for more gender and ethnic/racial diversity in the teacher workforce, further research is necessary to determine the extent to which gender within teacher ethnic/racial backgrounds may impact student achievement. Such research would also provide local education agencies with information regarding the success of recruitment practices to hire a more diverse gender and ethnic/racial teacher workforce at all school levels.

Because females continue to constitute the highest percentage of teachers at all school levels, additional research is needed to examine the number of years of teaching experience held by female teachers compared to the number of years of teaching experience held by male teachers at all school levels. Furthermore, additional school years could be analyzed to determine if male teachers tend to stay or leave the teacher workforce at the same rate as female teachers. The results of this study would provide a broader

perspective for state and local education agencies to implement retention strategies of male teachers at all school levels.

## CONCLUSION

Results from this study may be used as an indication that, across the 11 school years of data examined, the average percentages of male-to-female ratio in public schools remained relatively unchanged. As revealed in Table 3.6, the effect size, Cramer's *V*, from 2002-2003 to 2012-2013 school years was moderate and remained so throughout these school years. Efforts made by state and local education agencies in Texas have not been successful in increasing male representation in the teacher workforce. Therefore, the results from this investigation support that a need still exists to increase male representation at the different school levels in Texas public schools.

## REFERENCES

Bireda, S., & Chait, R. (2011). *Increasing teacher diversity: Strategies to improve the teacher workforce.* Retrieved from http://www.americanprogress.org/issues/education/report/2011/11/09/10636/increasing-teacher-diversity/

Bone, J., & Slate, J. R. (2012). Student ethnicity, teacher ethnicity, and student achievement: On the need for more diverse teacher workforce. *The Journal of Multiculturalism in Education, 7*(1). Retrieved from http://www.wtamu.edu/journal/volume-7-number-1.aspx#bone

Borgemenke, A. J., Hinojosa, M., Bone, J. A., & Slate, J. R. (2012). Teacher and student ethnicity in Texas elementary charter schools: Changes in the past 11 school years. *The Charter Schools Resource Journal, 8*, 1-23.

Boser, U. (2011). *Teacher diversity matters: A state-by-state analysis of teachers of color*. Retrieved from http://www.americanprogress.org/issues/2011/11/pdf/teacher_diversity.pdf

Brown, A. L. (2012). On human kinds and role models: A critical discussion about the African American male teacher. *Educational Studies, 48*, 296-315. doi:10.1080/00131946.2012.660666

Cloudt, C., & Stevens, N. (2009). Texas teacher diversity and recruitment. *Policy Research, 2*(1), 3-25.

Cho, I. (2012). The effect of teacher-student gender matching: Evidence from OECD countries. *Economics of Education Review, 31*(3), 54-67. doi:10.1016/j.econedurev.2012.02.002

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Cushman, P. (2005). Let's hear it from the males: Issues facing male primary school teachers. *Teaching and Teacher Education, 21*, 227-240. doi:10.1016/j.tate.2005.01.012

Dee, T. S. (2007). Teacher and gender gaps in student achievement. *The Journal of Human Resources, 42,* 528-554. Retrieved from http://faculty.smu.edu/millimet/classes/eco7321/papers/dee02.pdf

Fergus, E., Sciurba, K., Martin, M., & Noguera, P. (2009, October 31). Single-sex schools for Black and Latino boys: An intervention in search of theory*. In Motion Magazine*. Retrieved from http://www.inmotionmagazine.com/er/fsmn_09.html

Field, A. (2005). *Discovering statistics using SPSS* (2nd ed.). Thousand Oaks, CA: Sage.

Goldring, R., Gray, L., & Bitterman, A. (2013). *Characteristics of public and private elementary and secondary school teachers in the United States: Results from the 2011–12 Schools and Staffing Survey* (NCES 2013-314). U.S. Department of Education, Washington, DC: National Center for Education Statistics. Retrieved from http://nces.ed.gov/pubs2013/2013314.pdf

Ingersoll, R. M., & May, H. (2011). *Recruitment, retention, and the minority teacher shortage. Consortium for Policy Research in Education* (Research Report No. RR-69). Retrieved from the University of Pennsylvania Scholarly Commons website: http://repository.upenn.edu/gse_pubs/226

Ingersoll, R. M., & Merrill, E. (2012). *Seven trends: The transformation of the teaching force*. CPRE Working Paper (#WP-01). Philadelphia, PA: Consortium for Policy Research in Education, University of Pennsylvania. Retrieved from http://repository.upenn.edu/gse_pubs/241/

Johnson, B., & Christensen, L. (2012). *Educational research: Quantitative, qualitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

Johnson, S. P. (2008). The status of male teachers in public education today. *Education Policy Brief, 6*(4), 1-12. Retrieved from Center for Evaluation & Educational Policy website: http://www.iu.edu/~ceep/projects/PDF/PB_V6N4_Winter_2008_EPB.pdf

Knight, B. A., & Moore, T. (2012). Supporting beginning male teachers as they transform to skilled professionals. *Improving Schools, 15*(1), 61-72. doi:10.1177/1365480211433729

Krieg, J. M. (2005). Student gender and teacher gender: What is the impact on students high stakes testing? *Current Issues in Education, 8*(9). Retrieved from http://cie.ed.asu.edu/volume8/number9/

Little, J. W., & Bartlett, L. (2010). The teacher workforce and problems of educational equity. *Review of Research in Education, 34*, 285-328. doi:10.3102/0091732X09356099

Medford, L., Knorr, R., & Cook, M. (2013). Men missing from the PK-12 classroom: A discussion of research-based explanations. *SRATE Journal, 22*(2), 14-21. Retrieved from http://apbrwww5.apsu.edu/SRATE/JournalEditions/222/Medford.pdf

Men Teach. (2007). *Why don't more men teach in grade school?* Retrieved from http://www.menteach.org/news/why_dont_more_men_teach_in_grade_school

Men Teach. (2011). *Data about men teachers*. Retrieved from http://www.menteach.org/resources/data_about_men_teachers

Montecinos, C., & Nielsen, L. E. (2004). Male elementary preservice teachers' gendering of teaching. *Multicultural Perspectives, 6*(2), 3-9. doi:10.1207/s15327892mcp0602_2

Moses, M., Brown, D., & Tackett, P. (1999). Texas teacher recruitment and retention study. *Texas Center for Educational Research*. Retrieved from http://www.tasb.org/about/related/tcer/documents/20_texas_teacher_full.pdf

National Center for Education Statistics. (2007-2008). *Schools and Staffing Survey*: *Number and percentage distribution of teachers by school type, race/ethnicity, and sex, 2007–08*. Retrieved from http://nces.ed.gov/surveys/SASS/tables/sass0708_029_t12n.asp

Nelson, B. G., & Shikwambi, S. J. (2010). Men in your teacher preparation program: Five strategies to recruit and retain them. *Young Children, 6*(10), 36-41. Retrieved from http://www.naeyc.org/yc/pastissues/2010/may

Noguera, P. (2009). *Identifying the educational needs of Black and Latino males: School staff perceptions driving single-sex theory*. Retrieved from http://www.inmotionmagazine.com/er/fsmn_09.html#Anchor-Identifying-35882

Patrick, M. D. (2009). *Addressing the lack of male elementary school teachers: Factors that influence grade-level preference* (Doctoral dissertation). Retrieved from ERIC database. (ED3379731)

Quiocho, A., & Rios, F. (2000). The power of their presence: Minority group teachers and schooling. *Review of Educational Research, 70*, 485-528. doi:10.3102/00346543070004485

Severiens, S., & ten Dam, G. (2012). Leaving college: A gender comparison in male and female-dominated programs. *Research in Higher Education, 53*, 453-470. doi:10.1007/s11162-011-9237-0

Smith, T. M., & Ingersoll, R. M. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal, 41*, 681-714. doi:10.3102/00028312041003681

Texas Education Agency. (2006). *2006 comprehensive annual report on Texas public schools* (Document No. GE07 601 04). Austin, TX: Author. Retrieved from http://www.tea.state.tx.us/acctres/comp_annual_index.html

Texas Education Agency. (2013). *Employed teacher demographics, 2008-2012*. Retrieved from http://www.tea.state.tx.us/index2.aspx?id=5033&menu_id=886&menu_id2=794

U.S. Department of Education. (2011, February 1). *Secretary calls Black men to the blackboard* [Web blog post]. Retrieved from http://www.ed.gov/blog/2011/02/secretary-calls-black-men-to-the-blackboard

U.S. Department of Education. (2012, April 12). *TEACH: Shaping the future of the teaching profession* [Web blog post]. Retrieved from http://www.ed.gov/blog/2012/04/teach-shaping-the-future-of-the-teaching-profession/

Weaver-Hightower, M. B. (2011). Male preservice teachers and discouragement from teaching. *The Journal of Men's Studies, 19*(2), 97-115. doi:10.3149/jms.1902.97

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