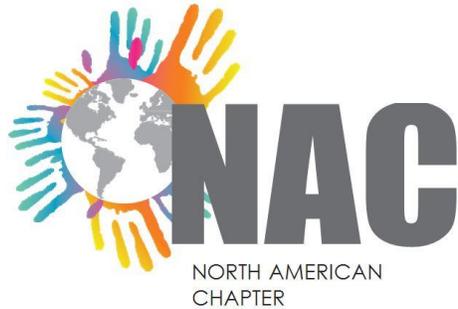


Saving Our Sons: An Investigation of Male and Minority Attrition in Teacher Education and a Model to Recruit, Retain, and Reward

This manuscript has been peer-reviewed, accepted, and endorsed by the North American Chapter.



North American Chapter
Journal of Interdisciplinary Education

Erin Lynch-Alexander, Ed.D., *Austin Peay State University*, Clarksville, TN

John R. McConnell, Ph.D., *Austin Peay State University*, Clarksville, TN

Anthony R. Sanders, Ph.D., *Austin Peay State University*, Clarksville, TN

Lana Haddy, Ed.D. *Arizona State University*, Tempe, AZ

ABSTRACT

A study was conducted with education foundation courses at one state university to consider whether the courses were conducive to the success of students enrolled. Particular examination focused upon males and minorities in the program and how these groups perceived the success toward a degree in education.

Introduction

For over 30 years, educational research experts and policy makers have examined the staffing trends of minorities in public education. The urgency to place males and individuals of color into the changing classrooms of today is no less urgent now than it was over three decades ago. As a result, educational stakeholders like state departments of education (SDOEs), institutions of higher education (IHEs), and colleges of teacher education (CTEs) across the country are recognizing the need to recruit and retain minorities and are implementing a variety of programs and policies that complement traditional teacher recruitment methods based on information from the National Collaborative on Diversity in the Teaching Force (NCDTF, 2004; Ramirez, 2009; Villegas & Lucas, 2004).

Inversely proportional demographic trends exist between classroom populations and the teacher workforce. According to the National Center for Education Statistics (NCES, 2003) in 2001-02, data show that 60% of public school students were White, 17% Black, 17% Hispanic, 4% Asian/Pacific Islander, and 1% American Indian/Alaska Native, a stark difference from 1980 when 79.9 % of the U.S. population was White and 20.1% was comprised of minority groups (Aud, Fox, & KewalRamanai, 2010). In 1980, 12.5% of the national teaching force consisted of teachers of color, 8.9% of which were Black and 2.5% were Hispanic (Dorman, 1990; Justiz & Kameen, 1988). In addition, 66.9% of the approximate 2.5 million teachers in 1980 were female (Ingersoll, Merrill, & Stuckey, 2014). In contrast, a generation later, data reveal that, of the approximate 3.5 million teachers, 90% of those in public education were White, 6% were Black, and less than 5% were of other ethnic classifications (Ingersoll, Merrill, & Stuckey, 2014; NCDTF, 2004). Another decade later, the national workforce of 3.8 million educators has not

only become more female (76.1%) but also less ethnically diverse (Ingersoll, Merrill, & Stuckey, 2014).

While the majority of researchers in the field of policy development argue “statistical projections show...the percentage of students of color in public schools is expected to increase, [and] the percentage of teachers of color is not expected to rise” (NCDTF, 2004, p. 5), some argue that the “dire and pessimistic terms” in which the trends have been described are now unwarranted (Ingersoll, Merrill, & Stuckey, 2014). One source indicates minorities are entering education at rates higher than that of their White counterparts, which may have some validity: however, as examined in this study of a CTE, such trends were not evident. Preservice teacher candidates are not only increasingly White, but they are also increasingly female, which mirrors national trends in enrollment to CTEs. In order to further explore potential interventions in recruitment and retention in an effort to *Save Our Sons*, researchers examined the historical context through which roadblocks may have been developed for male and minority students to enter the classroom as certified and highly qualified teachers. Three components were most evident in the literature regarding preventing male and minority students from completing teacher education programs with licensure; those three components were also evident in data from the current study.

Pre-Collegiate, Collegiate, and Certification Procedures

Lack of diversity in the education field is a growing problem for ethnically varied countries, and there is much agreement that the shortages stem from pipeline issues on the front end that are inhibiting a sufficient supply at the tail-end (Ingersoll & May, 2011; Ross, 2001). Issues begin with the number of students of color entering the college. For years, poor grades as reflected in lower grade point averages and lower college entrance exam scores have reduced the

size of the eligible pool for CTEs (Dorman, 1990; Justiz & Kameen, 1988). Projections as high as 80% of all Black students and 84% of all Hispanic students fail to be college-ready and leave high school with lower average scores on college entrance exams like the SAT and ACT have become roadblocks to college admissions (Deil-Amen & Tevis, 2010; Greene & Foster, 2003; Marchant & Paulson, 2005). Graduating students who are accepted into IHEs with CTEs then face a whole other series of potential roadblocks from licensure completion.

During their collegiate years, minority students have more options than ever before in selecting career fields. As long ago as 1988, researchers indicated that minority students were finding greater promises in career fields other than education (Justiz & Kameen, 1988). This fact still resonates true. According to the Educational Testing Service (ETS, 2014), 2% of U.S. test takers indicated education as their undergraduate major, and 5% indicated education as their intended major in graduate school, compared to 13% in engineering and social sciences, 18% in life sciences as undergraduate majors, and 48% in STEM fields as intended graduate majors. The ETS report supports the findings of Justiz & Kameen (1988) that more college students in general are delving into career fields other than education, not just minority students. The lucrative options in fields other than education are not the only issues faced by minority students in college. The lack of professional and supportive mentors of same gender and color is also indicated as a hindrance to recruitment of minority students into education.

Adjusting to the college environment for many students of color is difficult. Minority college students are more likely to come from lower income households where parental educational attainment is lower than that of their White counterparts; as a result, many minority college students require cultural adaptation mechanisms to adjust to collegiate life (Gonzalez, 2001). Mentorships have been a means through which minority college students receive role

models who can help them to learn cultural adaptation mechanisms. Without mentors, many minority college students are discouraged from persisting in general, not just in CTEs, and the frequency of mentoring contact increases the likelihood of persistence (Crisp & Cruz, 2009). Even if minority college students are able to persevere through the difficulty of college admission, selecting education as a major, and finding a suitable mentor to aid in teaching cultural adaptation skills, one more hurdle exists: passing state mandated certification tests.

The impact of standardized testing is very apparent on the world of education. In 1987, only 44 states required preservice teachers to pass a written or basic skills test for licensure; at the time of this article, 85.3% of all states, including the District of Columbia require basic skills testing for preservice teachers, 100% of all states require content explicit testing for licensure, and the national average number of standardized tests required for licensure is 2.1 (Rudner, 1982; USC-Rossier, 2015). Twenty-five years ago, literature suggested that “minorities are being screened out of teaching “at alarmingly high rates at entrance to teacher education, certification, and retention levels” (Carter, 1987, as cited in Justiz & Kameen, 1988, p. 93), but even today “fewer than 50% of African Americans pass teacher tests” (NCDTF, 2004, p. 8), and numbers of minorities completing the Praxis II© content explicit tests required for licensure are so insufficient in some states that analytical studies cannot be conducted to evaluate year to year trends (Gitomer & Qi, 2010, p. 10). Analysis that can be done has revealed that more minority preservice teachers pass Praxis II© content tests than the Praxis I© basic skills tests, and the minority candidates who took SAT college entrance exams perform better on Praxis I© testing than minority preservice candidates who took the ACT (NCDTF, 2004). The relationship between standardized testing success and program completion is very apparent, as is a final relationship, between GPA and program completion.

Most CTE programs require minimum GPA standards for admission, and states also require minimum GPAs for licensure. The historical context for setting minimum GPA requirements for preservice teacher candidates is rooted in the implicit theory that students with higher GPAs would be more effective teachers. The correlation between teacher effectiveness and GPA is still in need of empirical evidence. From the meta-analytical research of Wilson, Floden, and Ferrini-Mundy, (2002) there is some indication that GPA significantly correlated with teaching success for teachers in Georgia and their success with teacher certification. However, other studies indicate that “GPAs in the [education] major accounted for only small proportions of the variance in teaching performance of prospective secondary teachers” (Ferguson & Womack, 1993 as cited in Wilson, et al., 2002, p. 7), and even when all other factors are mitigated, educational coursework has a higher predictive reliability of teacher success than GPA (Wilson et al., 2002). When all else is equal, research demonstrates a high achieving college student has a greater likelihood of being a high achieving teacher (Kukla-Acevedo, 2009).

The framework for this study derives from the historical context of the general issues faced by minority students entering into CTEs. The purpose of this study was to investigate the attrition of male and minority preservice teachers at a state university in the southeastern United States and to further the knowledge on why male and minority preservice teachers leave the teacher education program. This knowledge should serve to understand how to best increase the number of male and minority preservice teachers who complete their teacher education programs. Accordingly, this study posed the following research questions:

R1: Is there a difference in mean grade point averages (GPAs) and course grades between non-minorities and minorities (including males) at the beginning of their teacher education programs?

R2: Are the reasons for attrition for minorities different than those for non-minorities?

Method

Participants

Participants included all the students from a 2-credit hour introductory education course required for admission into the CTE. Preservice teacher candidates take the course at the beginning of their program, and participants were students enrolled during the Fall 2014, Spring 2015, and Fall 2015 semesters. The gender and race of the 402 sample participants compared favorably to the national population of teachers in 2012 and are shown in Table 1.

Table 1

Demographic Profile of the Sample v. the National Population

Demographic	Sample Frequency	Sample Percentage	National Frequency (in thousands)	National Percentage
Gender				
Male	93	23	802	24
Female	309	77	2584	76
Race				
White	291	72	2773	82
Black	61	15	231	7
Hispanic	20	5	264	8
Asian	8	2	61	2
American Indian or Alaska Native	9	2	17	<1
Native Hawaiian or Pacific Islander	2	1	5	<1
Other	8	2	35	<1

The sample comprised undergraduate students whose ages ranged from 19 to 63 ($M = 23$, $SD = 6$). As per the CTE admission requirements, students were required to have a GPA greater than or equal to 2.5 and pass this introductory course to continue with their programs. The GPA and course fail rates of participants after completing the course are presented in Table 2.

Table 2

GPA and Course Fail Rates of Participants

Demographic	GPA \leq 2.5 Frequency	GPA \leq 2.5 Percentage	Course Fail Frequency	Course Fail Percentage
Gender				
Male	34/93	37	28/93	30
Female	99/309	32	75/309	24
Race				
White	86/291	30	78/291	27
Black	25/61	41	22/61	36
Hispanic	8/20	40	5/20	25
Asian	0/8	0	1/8	13
American Indian or Alaska Native	4/9	44	3/9	33
Native Hawaiian or Pacific Islander	1/2	50	1/2	50
Other	3/8	38	3/8	38

Procedure

This study employed an action research approach that utilized both quantitative and qualitative data. The quantitative data were collected to answer the first research question, while the qualitative data were collected to answer the second research question.

Quantitative data collection. The quantitative data used in this study were historical data collected by the institution on all students and courses. These included the demographic data and

those concerning GPA and course fail rates. A preliminary analysis was first conducted to inspect the data for completeness and accuracy and then to compile the descriptive statistics for the study. The nature of the data determined which inferential analyses would follow.

Qualitative data collection. The qualitative data used in this study were historical data originally collected by faculty for course improvement purposes. For these purposes, participants responded to four Likert-scale items that asked them prior to the withdraw date of the semester, (1) what is your level of interest in being a teacher; (2) how likely will your overall GPA at the end of this semester prevent you from continuing in your program in education; (3) how confident are you in meeting the financial requirements of the course to include purchasing software, the textbook, the background check, and the optional student state education association membership; and (4) how confident are you in meeting the academic requirements of this course to include assignments on the syllabus and your instructor's expectations? Each of these items was based on a 7-point Likert-scale with 1 = extremely interested, unlikely, or confident, 4 = neutral, and 7 = not interested at all, extremely likely, or not confident at all. Participants were also allowed to specify additional factors that might prevent them from completing their program in education.

Results

Quantitative Results

To test the difference in mean GPAs for non-minorities and minorities (including males), independent samples *t*-tests were conducted. In other words, the mean GPAs for non-minorities and minorities were compared to see if a statistically significant difference existed between the two (with an alpha level set at .10). These were compared separately for the 2014-2015 academic

year and the Fall 2015 semester, to examine any trends over time. The distributions for the two groups' GPAs were sufficiently normal for both timeframes to proceed with parametric testing.

GPA differences in 2014-2015. Because the samples were normally distributed and the assumption for homogeneity of variances was met, $F(291) = .317$, $p = .574$, an independent samples t -test was considered appropriate to analyze the data. The analysis indicated that there was a statistically significant difference between the mean GPAs for non-minorities and minorities, $t(291) = 1.720$, $p < .10$. In other words, non-minorities had a statistically significantly higher mean GPA ($M = 2.842$, $SD = .670$) than that of minorities ($M = 2.706$, $SD = .663$). Cohen's d was calculated for an effect size of .21 (small size). Therefore, lower GPA was more likely to keep minority students from becoming teachers than for non-minorities.

GPA differences in Fall 2015. Because the samples were normally distributed and the assumption for homogeneity of variances was met, $F(107) = .444$, $p = .507$, an independent samples t -test was considered appropriate to analyze the data. The analysis indicated that there was a statistically significant difference between the mean GPAs for non-minorities and minorities, $t(107) = 1.711$, $p < .10$. In other words, non-minorities had a statistically significantly higher mean GPA ($M = 3.008$, $SD = .786$) than that of minorities ($M = 2.759$, $SD = .735$). Cohen's d was calculated for an effect size of .33 (small size). Therefore, lower GPA continued to be more likely to keep minority students from becoming teachers than for non-minorities.

Course grade differences in 2014-2015. Because course grades were not normally distributed and were ordinal in nature, a Wilcoxon-Mann-Whitney test was conducted to see if a statistically significant difference existed between the course grades of non-minorities and minorities (including males). Students who failed due to absences (FA), withdrew from the

course (W), and earned an incomplete (I) were all considered as not having passed the class. The analysis indicated that there was a statistically significant difference between the underlying distributions of course grades for non-minorities and the course grades for minorities, $Z = -3.329$, $p < .10$. $Abs(r)$ was calculated for an effect size of .13 (small size). Like GPA, lower course grades were more likely to keep minority students from continuing with their program than for non-minorities.

Course grade differences in Fall 2015. Again, a Wilcoxon-Mann-Whitney test was conducted to see if a statistically significant difference existed between the course grades of non-minorities and minorities (including males). The analysis indicated that there was a statistically significant difference between the underlying distributions of course grades for non-minorities and the course grades for minorities, $Z = -2.186$, $p < .10$. $Abs(r)$ was calculated for an effect size of .15 (small size). Like GPA, lower course grades continued to be more likely to keep minority students from continuing with their program than for non-minorities.

Qualitative Results

Of the 402 students who were sent the survey, 106 provided responses. The first question of the survey asked students what level of interest they had in being a teacher at this point in their educational program. Eighty-eight percent of students responded that they were either extremely interested or very interested in becoming a teacher.

The second question asked students how likely their GPA at the end of the semester would prevent them from continuing in their program of education. Sixty-three percent of students responded that they it would be extremely unlikely or very unlikely that their GPA would prevent them from continuing in their program of education. Thirteen percent responded

that it would be unlikely, 16% were neutral in their response, and only 7% believed that their GPA might prevent them from continuing in the program of education.

In order to determine the students' perception of financial concerns regarding their participation in their program of education students were asked how confident they were in meeting the financial requirements of the course. Students in the introductory education course were required to purchase textbooks, LiveText (electronic portfolio) subscription, a background check for certification, and consider an optional membership in the Student Teacher Education Association. Seventy-five percent of all students believed they could meet the financial requirements of the course. Eleven percent were neutral, and 13% had some concerns meeting the financial requirements of the course.

In order to move into the next milestone of the program in education, students had to pass the introductory education course with a grade of "C" or better. Students were asked how confident they were in meeting the academic requirements of the course. Seventy-one percent of students were either extremely confident or very confident in meeting the academic requirements of the course. Fifteen percent were confident they could meet the requirements of the course, 8% were neutral in their response, and only 6% expressed some concern in meeting the academic requirements of the course.

Overall, students in the introductory education course had very positive outlooks regarding their ability to meet academic and financial requirements for the course. Student perceptions may not align well to the quantitative data presented earlier that suggested nearly 34% of male students, 39% of Black students, and 27% of Hispanic students fail the course and thus cannot continue in their program of education. In order to determine other factors that might influence whether or not a student continues in their program of education, open-ended

comments were collected from students. Open coding (Strauss & Corbin, 1990) was used to create themes or categories for all of the students' responses. In addition, the male and minority students' responses were sorted and compared to the responses of other students to determine any patterns that differed between the two groups.

Several themes emerged from the data, including time management, financial concerns, academic performance, family, self-doubt, and curricular concerns. Students believed that time management was a significant factor influencing whether or not they are successful in their program of education. Many students in the program would be considered "nontraditional" students who balance the demands of working full time, caring for children, and going to school full time. One student responded, "I have a very heavy workload in my personal life, with classes, work. But that has nothing to do with the program itself, it is just the stresses of life." Financial burdens often coincide with time management issues. Another student expressed this very clearly in his response, "Financial stability and trying to go to school full time and work a full time job and help with the schooling of my 3 kids." A central focus emerged from the comments regarding academic performance. Several students responded that failing the Praxis exams could be a contributing factor in preventing their success in teacher education. As mentioned previously, many students are raising children in addition to attending school full time and working. Issues regarding personal health, health and wellness of immediate and extended family, and the possibility of moving due to a spouse's career all were presented as family concerns that could influence a student's ability to be successful in teacher education.

Two interesting themes were presented that had not been previously discussed in the literature review. The first suggests that for some of these students, questions still exist as to whether or not they want to actually become a teacher. A student responded, "I am still deciding

if I really want to be a teacher,” and another stated, “I am waiting until my observation to see how comfortable I am in the classroom.” The second theme centered on curricular concerns. Student responses indicated some frustration with the introductory education course’s content, the relevance of future required courses, and concern whether courses would prepare students for the Praxis exams. In addition, students shared confusion with the many layers, or milestones, required in order to complete a degree in teacher education and receive a teaching certificate. The following quote captures this concern very clearly:

I think the most daunting part of the education program is the fact that there [seem] to be never ending layers of requirements and observations and student teaching and testing – and I still don’t quite understand what’s needed. There are a lot of acronyms thrown around and things about the requirements are mentioned which I’m apparently already supposed to know about, and I suppose I just feel a little lost. At the beginning of the semester I contemplated taking another route with my major/minor because of this feeling of being overwhelmed. I know I have to get an education advisor for my minor and I’m hoping they’ll be able to clarify some stuff for me.

Discussion

There were statistically significant differences in GPA and course grades between non-minorities and minorities, and these differences should continue to be tracked for changes to provide accountability and further data-driven guidance for any teacher education program. The qualitative data indicated that students in this introductory education course presented similar concerns as detailed in the literature review. Students raised concerns regarding academic preparation for standardized tests, the ability to pay for college and living expenses, and frustration in understanding the requirements to licensure completion. There were some

additional findings of relevance to this study. Students presented concerns in curriculum relevance and self-doubt or lack of confidence in whether or not they want to become a teacher. Many of the students in this study were balancing employment, school, and families, making the roadblocks to success slightly different than those for a traditional college student.

Compared with their proportion of the national student population, males and minorities (as a whole) were underrepresented in the undergraduate teacher education program at which this study took place. Steps should be taken to increase enrollment of these particular preservice teacher groups. Greater proportions of males and minorities failed to meet the evaluation criteria for continuing their teacher education programs, as compared to their non-minority counterparts, due to both the minimum GPA requirement and difficulty passing the introductory teacher education course. Intentional efforts to understand exactly why this is the case need to be made and the survey used in this study provides a good first step toward such an investigation. Until more targeted actions can be implemented to counteract these disparities, other steps should be taken to promote the retention and graduation rates of these particular preservice teacher groups.

While a variety of factors impact the underrepresentation of students of color into the education field, one of the most critical, underlying factors is that of “filling the pipeline” which would include ensuring that the achievement and diversity gap is closed at the public school level (Anderson, 2014). It is important and crucial to build a continuous, intentional pipeline of diversity models throughout students’ educational careers. All students need to experience a variety of role models to increase their efficaciousness of becoming successful in life (McLeod, 2011). Public school students must observe this increased level of diversity for them to consider that teaching may be a path to their future success.

References

- Anderson, M. (2014). Sixty years after Brown v. Board, Black teachers are disappearing – again. Retrieved from <http://www.ebony.com/news-views/sixty-years-after-brown-v-board-black-teachers-are-disappearing-again-304#axzz3s9htZBrW>
- Aud, S., Fox, M., & KewalRamani, A. (2010). *Status and trends in the education of racial and ethnic groups* (NCES 2010-015). Washington, DC: U.S. Government Printing Office.
- Crisp, G., & Cruz, I. (2009). Mentoring college students: A critical review of the literature between 1990 and 2007. *Research in Higher Education*, 50(6), 525-545.
- Deil-Amen, R., & Tevis, T. L. (2010). Circumscribed agency: The relevance of standardized college entrance exams for low SES high school students. *The Review of Higher Education*, 33(2), 141-175.
- Dorman, A. (1990). Recruiting and retaining minority teachers: A national perspective. *Policy Briefs*. Retrieved from: <http://files.eric.ed.gov/fulltext/ED329542.pdf>
- Educational Testing Services. (2014). A snapshot of the individuals who took the GRE® revised general test (August 2011-June 2014). Retrieved from: https://www.ets.org/s/gre/pdf/snapshot_test_taker_data_2014.pdf
- Gitomer, D. H., & Qi, Y. (2010). *Recent trends in mean scores and characteristics of test-takers on Praxis II licensure tests* (ED-08-PO-0730). Washington, DC: U.S. Government Printing Office.
- Greene, J. P., & Forster, G. (2003). Public high school graduation and college readiness rates in the United States. Education Working Paper No. 3. *Center for Civic Innovation*.

- Gonzalez, V. (2001). The role of socioeconomic and sociocultural factors in language minority children's development: An ecological research view. *Bilingual Research Journal*, 25(1-2), 1-30.
- Ingersoll, R. M. & May, H. (2011). *Recruitment, retention and the minority teacher shortage* (CPRE Research Report #RR-69). Philadelphia, PA: University of Pennsylvania.
- Ingersoll, R., Merrill, L., & Stuckey, D. (2014). *Seven trends: the transformation of the teaching force, updated April 2014* (CPRE Report #RR-80). Philadelphia, PA: University of Pennsylvania.
- Justiz, M. J., & Kameen, M. C. (1988). Increasing the representation of minorities in the teaching profession. *Peabody Journal of Education*, 66(1), 91-99.
- Kukla-Acevedo, S. (2009). Do teacher characteristics matter? New results on the effects of teacher preparation on student achievement. *Economics of Education Review*, 28(1), 49-57.
- Marchant, G. J., & Paulson, S. E. (2005). The relationship of high school graduation exams to graduation rates and SAT scores. *Education Policy Analysis Archives*, 13(6), 1-17.
- McLeod, S. A. (2011). *Bandura – Social Learning Theory*. Retrieved from www.simplypsychology.org/bandura.html
- National Center for Education Statistics. (2003). *The condition of education 2003*. (NCES 2003-067). Washington, DC: U.S. Government Printing Office.
- National Collaborative on Diversity in the Teaching Force. (2004). *Assessment of diversity in America's teaching force: A call to action*. Washington, DC: Author.
- Ramirez, A. Y. (2009). Ethnic minorities and teaching: An examination of the low numbers in the teaching profession. *Multicultural Education*, 16(4), 19-24.

- Ross, A. (2001, December). *Towards a representative profession: teachers from the ethnic minorities*. Paper presented at the Seminar on the Future of the Teaching Profession, London.
- Rudner, L. M. (Ed.). (1987, August). *What's happening in teacher testing: An analysis of state teacher testing*. Washington, DC: U.S. Government Printing Office.
- Strauss, A. & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications.
- University of Southern California: Rossier. (2015). Where can I teach? [interactive map]. Teach.com. Retrieved from: <http://teach.com/where>
- Villegas, A., & Lucas, T. F. (2004). Diversifying the teacher workforce: A retrospective and prospective analysis. *Yearbook of the National Society for the Study of Education*, 103(1), 70-104.
- Wilson, S. M., Floden, R. E., & Ferrini-Mundy, J. (2002). Teacher preparation research: An insider's view from the outside. *Journal of Teacher Education*, 53(3), 190-204.