Raising the Bar or Locking the Door? The Effects of Increasing GPA Admission Requirements on Teacher Preparation

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ABSTRACT

Recently, policymakers have called for increased grade point average (GPA) requirements and many state education agencies are implementing "highly selective criteria" for teacher preparation program admission. These changes attempt to increase the quality of future teachers despite the inconclusive research base for such practices. Using a large sample, we examine who would be denied admission to a teacher preparation program and to the teaching profession if admission criterion had been increased. We perform descriptive and inferential analyses to determine if particular groups of students were negatively impacted by increased GPA criteria. Findings suggest that not only would it reduce the number of high quality teachers, but students of color and male students would be negatively impacted to a much greater degree. Moreover, increasing the GPA admission criterion to 2.75 resulted in no improvements in six outcomes examined, and increasing it to 3.0 resulted in mixed outcomes. Thus, policies to increase GPA for admittance to teacher preparation programs have the potential to dramatically reduce the number of future teachers with no consistent positive impact on the profession and, instead, would likely hurt the very students these policies are designed to help.

All students deserve high-quality teachers. Unfortunately, there is little consensus on what constitutes a high-quality teacher, how to measure a teacher's quality, and how to select and train future high-quality teachers. Many politicians and policymakers believe that a high grade point average is a hallmark of a high-quality teacher, but there is little scientific research to support this ideology. Despite the lack of evidence that high grade point averages result in better candidates, 25 state education agencies agreed to implement "highly selective criteria" for teacher preparation program (TPP) admission (Council of Chief State School Officers, 2012, p. 10) to help remedy the supposedly low-quality candidates entering U.S. programs. State legislatures, the U.S. Department of Education, the national Council for the Accreditation of Educator Preparation (CAEP), and the American Federation of Teachers (AFT) have all called for or implemented policies to increase grade-point average (GPA) requirements for admission to teacher preparation programs (AFT, 2012; CAEP, 2016b) under the belief that higher quality teachers naturally earn higher GPAs. As appealing as this simple notion is, the scientific evidence showing a positive relationship between GPA and teaching quality is limited. The purpose of the present research is to directly inform this discussion and examine this relationship more closely.

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Although the concept of grade point average (GPA) is simple to understand, the reality is that not all GPAs are created equally. Many studies of the relationship between GPA and employment, teaching, or teacher preparation program success have defined GPA in qualitatively different ways. Grade point averages have been based on all high school coursework, all coursework taken for an undergraduate degree (UGPA), all coursework in a major, all coursework in Education, idiosyncratic subsets of courses, and all coursework completed by the end of the sophomore year (SGPA). When examining the validity of GPA to predict student or teacher success, these differences matter because the majority of students who seek to become teachers nationwide do so as undergraduates, typically around the end of the sophomore year (AFT, 2012; Kane, Rockoff, & Staiger, 2008; Staklis & Matthews, 2012). The SGPA is therefore the only cumulative GPA *available* at the time of the admission application that could be used to predict success. Undergraduate grade point average is meaningless as a predictor variable because it will not be available for another two years—when the student graduates with a bachelor's degree from a traditional teacher preparation program.

The next question is to determine whether grade point averages predict employment success, in general, or teaching success, in particular. For a very long time, researchers have attempted to find the answer to this question, examining the correlation between GPA and workforce success since at least the early twentieth century (Gambrill, 1922), through the mid-twentieth Century (Cole, 1961; Erickson, 1954; Hoyt, 1965), and into the twenty-first century (Glass, 2002; Zumwalt & Craig, 2005). Despite this long history of scientific study, there is scant evidence indicating any GPA is a good predictor of high-quality employees or of high-quality teachers. Bretz and Judge (1992) conducted a meta-analysis of 31 studies published between 1917 and 1983 that examined the relationship between grade point average and success in various employment fields. They found no relationship between GPA and employment success overall, but a moderate, positive relationship within the fields of business and teaching. Unfortunately, GPA was defined in numerous ways across the teaching studies cited, which makes drawing general conclusions about the predictive validity of GPA for teaching success problematic. More recent studies that specifically examine UGPA have found it does not predict how well teachers will perform (Demetrulias, Chiodo, & Diekman, 1990; Ronfeldt, Reininger, & Kwok, 2013), nor can it foresee the academic growth experienced in students (Kane et al., 2008).

Further, we sought to understand if grade point average fails to predict teaching success, can any kind of GPA predict success in a teacher preparation program in general? A recent study found a moderate, positive relationship between undergraduate grade point average and first-year graduate GPA (Evans, 2017), but an earlier study did not (Galguera, 1998). A few studies have found only a weak, positive correlation between GPA and success during a teacher preparation program as measured by faculty ratings and by ratings during student teaching (Casey & Childs, 2011; Caskey, Peterson, & Temple, 2001). However, the measures to calculate GPA were different. Casey and Childs (2011) calculated it based on the "best fifteen courses from the applicant's undergraduate degree" (p. 9) and Caskey et al. (2001) used cumulative UGPA.

Each of the grade point average studies cited above is based on UGPA or GPA calculated from a subset of undergraduate coursework and involved post-baccalaureate preparation programs. None of these studies examined success within traditional undergraduate programs. We identified only one study that used SGPA. Pigge and Marso (1992) examined persistence in teacher preparation programs and found that students who persisted had a higher SGPA than those who dropped out. However, other factors could account for the differences in persistence between higher and lower SGPA students. Specifically, much research on undergraduate students in general has found systematic differences in SGPA between male and female students, and between students of color and white students. In a large national sample of college students (not limited to preservice teachers), Fischer (2007) found black and Latinx students had lower SGPAs than white and Asian students, and male students had lower SGPAs than female students. These

differences in GPA were found to persist during the senior year. Roth and Bobko (2000) examined the potential impacts of using GPA as a selection criterion by human resource recruiters. They found a black-white difference in cumulative grade point average during the senior year of −0.78 points, and screening students by minimum GPAs of 3.0, 3.25, and 3.5 each revealed adverse employment impacts for black students. One study of teacher preparation candidates specifically found that male students had lower SGPAs than female students, and black students had lower SGPAs than white and Latinx students (American Association of Colleges for Teacher Education (AACTE), 1992).

In the discussion of grade point averages, it is important to note that race and academic achievement have been linked for centuries (Ladson-Billings, 2012). Scholars have attempted to understand this inextricable connection and results are inconclusive, but most point to the need to contextualize studies in sociohistorical and sociopolitical ways in order to understand the complexities and intersectionality of race, gender, and academic achievement. Studies addressing race, gender, and achievement have focused on socioeconomic status (Ainsworth-Darnell & Downey, 1998), segregation (Massey & Denton, 1993), identities, and attitudes, (Cook & Ludwig, 1998; Ogbu, 2003) as well as the ways educational institutions have been built on whiteness, which in turn privilege white students (Picower, 2009; Sleeter, 2017).

Moreover, the differences in preservice teacher persistence could be unrelated to SGPA. Family income varies in the same way as SGPA (Van Overschelde & Burgard, 2018). Van Overschelde and Burgard found that male students who applied to a teacher preparation program had lower family incomes, on average, than female students, and students of color had lower family incomes, on average, than white students. They also found that family income was the strongest factor for predicting who would not complete the program. It is therefore possible that lower family incomes are causing students to leave teacher preparation programs because of the unpaid nature of the student teaching experience (Van Overschelde & Burgard, 2018) and not because of the lower SGPA.

Recently, policy makers and accrediting organizations have implemented changes to attempt to answer the call for improving the education of our nation's children. The Council for the Accreditation of Educator Preparation Standards for teacher preparation programs include two policies that are relevant to these topics of increasing preservice teacher admission standards and the impact on teacher diversity. Specifically, Standard 3.1 suggests programs recruit and support diverse candidates so that future teachers reflect the diversity of PK-12 students (CAEP, 2016a). In addition, Standard 3.2 requires programs to admit students so that the average grade point average for all students in a cohort is at least 3.0. The reviewed literature implies these two standards are in direct conflict, but the evidence to date is circumstantial at best and limited in the outcomes examined. Our present study is designed to address the limitations of prior studies and to inform the broader policy discussions around GPA admission criteria for teacher preparation programs as well as the issue of diversity in preservice programs and the teaching field. The following research questions guided this study:

> If sophomore grade point average criterion for undergraduate teacher preparation program admission is increased, who would be denied admission?

> What would be the short- and long-term outcomes for students who would have been denied admission to the teacher preparation program if a higher sophomore grade point average admission criterion was in place in the past?

Methods

Students selected for inclusion in this study were enrolled at a Latinx-serving institution in Texas with a large, traditional teacher preparation program that maintains a detailed, longitudinal

database that allowed teacher candidate outcomes to be assessed as these students matriculated through the program and for up to five years post-graduation.

Data

Undergraduate preservice teachers were selected from the university's student information system who met the following criteria: (1) had a GPA record for any semester between the fall of 2003–2004 and the spring of 2012–2013, (2) were classified as sophomores at this university at the start of a particular semester and classified as juniors at the end of that semester (hereafter, SGPA semester), (3) took at least one course during the SGPA semester, and (4) were enrolled at the university for at least two semesters following the SGPA semester. The last semester of the sophomore year was used for this study for two reasons, even though all students did not apply for admission at that time. First, the program admits undergraduate students only after they acquired junior status and second, a single, consistent operational definition of GPA was needed that included all coursework and that could represent an important piece of information available to the teacher preparation program when making admission decisions.

For each student selected above, the following data were added: ethnicity, gender, the cumulative GPA for all coursework completed by the end of the last sophomore semester (cf. Guyton & Farokhi, 1987), the teacher certification being sought, the GPA at completion of the student's undergraduate degree (hereafter, UGPA), and the semester when graduation occurred. Financial aid status was available only for a small subset of students and was therefore not added. Ethnicity was recoded such that American Indian/Alaskan Native, Asian, Native Hawaiian or Pacific Islander, Multi-Race, Unassigned, and Unknown were combined into one group labeled Other. The final student teaching observational assessment scores also were added.

Teacher certification data from the Texas State Board of Educator Certification from 2003 to 2014 also were merged into the dataset, and only standard teacher certificates were considered for the purposes of this study; emergency permits and probationary certificates were excluded. Also merged into the dataset were employment data for the school years from 2003–2004 to 2012–2013 that were purchased from the state. Graduates of the program who earn teacher certification can take on many different roles within a public school, especially during the five years of employment examined by this study, so the following roles were considered "employed" for the purposes of this study: teacher, teacher facilitator, teacher supervisor, special duty teacher, executive director, instructional officer, vocational education coordinator, assistant principal, principal, librarian, and athletic trainer. Employment data for teachers who leave Texas are not available and as a result, a teacher who left the teaching profession and remained employed in Texas would be indistinguishable from a teacher who was teaching in another state. Finally, principal survey data were purchased from the state for students who were in their first year of teaching during the 2010–2011 to 2013–2014 school years.

Sample

In 2010–2011, this teacher preparation program increased its GPA requirement for admission from 2.50 to 2.75. Therefore, we selected students enrolled during the two years prior to this increase (i.e., 2008–2009 and 2009–2010) for inclusion in this study. This restriction resulted in a sample of 1,314 undergraduate students. Table 1 shows the demographic characteristics for these students. The vast majority of the students were female (81%), and the ethnicity of these students was predominately non-Latinx white (74%) and Latinx (18%).

Table 1. Demographic characteristics of sampled TPP students.

Description	Number (Percentage)
Gender	
Male	248 (18.9%)
Female	1,066 (81.1%)
Ethnicity	
Black	55 (4.2%)
Latin@	233 (17.7%)
Other	54 (4.1%)
White	972 (74.0%)
Certification Sought	
Early Childhood–Grade 6	600 (45.7%)
Grades 4–8	114 (8.7%)
PE & Health	122 (9.3%)
Secondary Education	325 (24.7%)
Special Education	64 (4.9%)
Other	89 (6.8%)
Teacher Prep Cohort Size	
2008–2009	656
2009–2010	658

Measures

The student teaching final evaluation is a locally developed instrument that is based on the four domains of the Danielson Framework for Teaching (Danielson, 2013). This final evaluation is completed at the end of the semester-long student teaching experience by the university faculty member who supervised and mentored the student. The overall student teaching final evaluation score is based on the average of 27 competencies within the 4 domains, and scores for each competency are: 1 (Doesn't meet standard), 2 (Acceptable), 3 (Effective), and 4 (Advanced).

The principal's new teacher survey is the standard instrument used in Texas for all new teachers. Only the overall rating of quality and effectiveness was used in this study, which was on a 10-point scale where 1 meant *The teacher is unacceptable*, 5 meant *The teacher is below average but will likely improve in time*, and 10 meant *The teacher is exceptional, in the top 2% of teachers I've supervised*.

RQ1: If the sophomore grade point average (SGPA) criterion for teacher preparation program (TPP) admission is increased, who would be denied admission?

This set of analyses involves examining who would have been lost from the TPP and from the teaching profession if the SGPA admission criterion had been increased. Two different simulations were conducted: One scenario involved an increase of the SGPA criterion from 2.5 to 2.75 and the second scenario involved an increase of SGPA from 2.5 to 3.0. The SGPA of 2.75 was selected because the Texas Legislature passed House Bill 2012 in 2013, which required a 2.75 admission GPA. The SGPA of 3.0 was selected because CAEP's (2016a) original accreditation standards and Texas' rules (Texas Administrative Code §227.19) both required a minimum admission cohort GPA of 3.0 and we believed programs might require each student to have a minimum GPA of 3.0 in order to ensure the program met these standards. Despite the CAEP accreditation standard changes in 2016 to a 3.0 post-admission standard, Texas still requires the 3.0 admission standard. The technical details of the models for RQ1 and RQ2 are included in the Appendix.

We start each simulation with simple descriptive statistics (e.g., counts, percentages) to provide some data regarding how many students were enrolled and what their demographics were. We then perform inferential analyses to determine if one group of students was negatively impacted by the SGPA increase to a greater degree than another group. We can do this by going back in

Table 2. Characteristics of teacher candidates by SGPA group.

	Applicants n (%)	SGPA: < 2.75 n (%)	SGPA: 2.75–2.99 n (%)	SGPA: 3.0+ n (%)
Black	55 (4%)	20 (36%)	11 (20%)	24 (44%)
Latinx	233 (18%)	54 (23%)	57 (25%)	122 (52%)
Other	54 (4%)	10 (19%)	7 (13%)	37 (69%)
White	972 (74%)	210 (22%)	212 (22%)	550 (57%)
Female	1,066 (81%)	225 (21%)	227 (21%)	614 (58%)
Male	248 (19%)	69 (28%)	60 (24%)	119 (48%)
Total	1,314	294 (22%)	287 (22%)	733 (56%)

SGPA: sophomore grade-point average

time before the GPA policy change was put into place and eliminating any students who had a lower GPA than what is now required. We then looked at the descriptive statistics and demographic data of the participants in the different groups to see who would have been impacted in a negative way (i.e., kept out of the teacher preparation program) by the changes made to admission criteria (higher GPA required) due to national (CAEP) and state policy changes. The outcome measure was whether the student would have been admitted or denied under each simulated scenario. Because the Admission status dependent variable (DV) is a dichotomous variable with only two possible outcomes (Yes/No), we used a logistic regression model (Stevens, 2009) with independent variables of: school year (2009 and 2010), gender (female = 1, male = 0), and black, Latinx, and white. The ethnicity variables were coded 1 for Yes and 0 for No, and the *Other* ethnicity was the reference group. An alpha of 0.05 was used for all analyses.

SGPA = 2.75. The demographic characteristics of students admitted versus denied admission under the first scenario are summarized in Table 2. With a SGPA admission criterion of 2.75, instead of 2.50, 294 (22%) out of the 1,314 undergraduate students would have been denied admission.

The logistic regression results indicate that the ethnic and gender variables were statistically significant. Black students were 2.5 times more likely to be denied admission than *Other* students, Wald = 4.14, $p = 0.04$. Male students were negatively impacted more than female students, Wald = 4.96, $p = 0.03$, with males 1.4 times more likely to be denied admission than female students.

SGPA = 3.0. Had the SGPA admission criterion been increased from 2.5 to 3.0 then 581 students (44%) would have been denied admission. The logistic regression results indicate that the black, Latinx, and gender variables were significant. Black students were 2.8 times more likely to be denied admission, Wald = 6.70, $p = 0.01$, and Latinx students were 2.0 time more likely to be denied admission than *Other* students, Wald = 4.48, $p = 0.03$. Male students were denied admission at a higher rate than female students, Wald = 7.32, $p = 0.007$, with male students being 1.47 times more likely to be denied admission than female students.

RQ2: to what degree do the short- and long-term outcomes differ between denied and admitted students?

The same two SGPA simulations were performed, and the short- and long-term outcomes were the dependent variables (DV). The short-term outcomes included the student teaching final evaluation rating of quality, graduation status, and certification status. The long-term outcomes included employment status in Years 1 and 2 following graduation, and principal ratings of quality and effectiveness during the first year teaching. We start by presenting descriptive statistics for each scenario (see Table 3) and then the results of inferential analyses to determine if admission status was significantly associated with the particular outcome. Logistic regression models similar to the one used for research question 1 were used for dichotomous dependent variables (graduation status, certification status, employment status), and similar ordinary least-squares (OLS)

Table 3. Outcomes for students by SGPA group.

	SGPA: < 2.75		SGPA: 2.75 to 2.99		SGPA: 3.0 +	
	n	Outcome (SEM)	n	Outcome (SEM)	n	Outcome (SEM)
Student Teaching	108	3.53 (0.04)	107	3.48 (0.04)	244	3.62 (0.02)
Graduated	294	99% (0.01)	287	98% (0.01)	733	99% (0.00)
Certified to Teach	290	87% (0.02)	281	83% (0.02)	728	90% (0.01)
Employed Year 1	159	55% (0.04)	154	42% (0.04)	506	54% (0.02)
Employed Year 2	52	63% (0.07)	67	49% (0.06)	229	64% (0.03)
Principal Rating	57	7.49 (0.18)	37	7.49 (0.23)	207	7.86 (0.10)

Employed Year 1 students graduated before the fall of 2012–2013, and *Employed Year 2* students graduated before the fall of 2011–2012.
SGPA: sophomore grade-point average

regression models were used for the dependent variables that are continuous in nature (student teaching final evaluation scores, principal ratings; Stevens, 2009).

Student Teaching Final Evaluation. We compared the student teaching final evaluation rating (range 0–4) for admitted and denied students, under both scenarios. For the 2.75 scenario, there was no significant difference in student teaching ratings between admitted and denied students ($t < 1$). For the 3.0 scenario, there was a significant difference in scores between admitted and denied students ($t = 3.16$, $p = 0.002$), indicating admitted students had higher ratings than denied students. Bonferroni post-hoc tests revealed that the mean for the < 2.75 group (3.53) did not differ significantly from the mean for the 3.0+ group (3.62; $p = 0.10$), but the mean for the 2.75–2.99 group (3.48) was significantly lower than for the 3.0+ group ($p = 0.003$).

Graduation Status. Overall, 14 students did not graduate out of the 1,314 students analyzed. Because the graduation rate was almost 100% for all SGPA groups the two logistic regression models would not resolve when the ethnicity variables were included. Therefore, the models for the two scenarios were rerun with the Admission group, gender, and school year included as independent variables. For the 2.75 scenario, there was no significant difference in graduation rate between admitted and denied students (Wald < 1). For the 3.0 scenario, there was a marginally significant difference between admitted and denied students (Wald = 3.75, $p = 0.053$) with admitted students 3.17 times more likely to graduate than denied students. Bonferroni post-hoc tests revealed that the graduation rate did not differ between the < 2.75 group (99%) and the 3.0+ group (99%; $p = 0.75$), but the 2.75--.99 group graduated at a marginally lower rate (98%) than the 3.0+ group ($p = 0.09$).

Certification Status. Only students who graduated from the TPP were included in this analysis because graduation was a requirement for being recommended to the state to be certified as a teacher. Therefore, the 14 students who did not graduate were excluded.

For the 2.75 scenario, there was no significant difference in certification rates between admitted and denied students (Wald < 1). For the 3.0 scenario, there was a significant difference between admitted and denied students (Wald = 7.11, $p = 0.008$) with admitted students 1.58 times more likely to get certified than denied students. Bonferroni post-hoc tests revealed that the certification rate did not differ between the < 2.75 group (87%) and the 3.0+ group (90%; $p = 0.51$), but the 2.75–2.99 group was certified at a significantly lower rate (83%) than the 3.0+ group ($p = 0.006$).

Year 1 Employment. Students who graduated before the fall of 2012 were included in this analysis. For the 2.75 scenario, there was no significant difference in Year 1 employment rate between admitted and denied students (Wald < 1). For the 3.0 scenario, there was no significant difference in Year 1 employment rate between admitted and denied students (Wald = 2.76, $p = 0.10$), although the 2.75–2.99 group was employed at a nominally lower rate (42%) than the <2.75 group (55%) and the 3.0+ group (54%).

Year 2 Employment. Students who graduated before the fall of 2011 were included in this analysis. For the 2.75 scenario, there was no significant difference in Year 1 employment rate

between admitted and denied students (Wald < 1). For the 3.0 scenario, there was no significant difference in Year 1 employment rate between admitted and denied students (Wald $= 2.21$, $p > 0.10$), although the 2.75–2.99 group was employed at a nominally lower rate (49%) than the < 2.75 group (63%) and the 3.0+ group (64%).

Principal Ratings. Students who graduated before the fall of 2012 and who were certified to teach were included in this analysis. For the 2.75 scenario, there was no significant difference in principal ratings of quality and effectiveness between admitted and denied students ($t = 1.35$, $p > 0.10$). For the 3.0 scenario, there was a significant difference in principal ratings of quality and effectiveness between admitted and denied students ($t = 2.24$, $p = 0.03$) with admitted students earning a higher principal rating (7.86) than denied students (7.49). Bonferroni post-hoc tests reveal no simple differences among the three groups.

Discussion of results

Most undergraduate students applying to a traditional university-based teacher preparation program do so at the end of their sophomore year. We conducted two simulations to examine what would have happened had the SGPA criterion for admission to this large traditional program been increased from 2.5 to either 2.75 or 3.0. Analyses were performed to determine who would have been denied admission under each scenario, and to compare the short- and long-term outcomes of the denied versus admitted students.

In answer to our first research question about who would be denied admission under the two SGPA scenarios, we found the following results. First, implementing a 2.75 SGPA admission criterion would have denied admission to 22% of the students, and black and male students would have been denied admission at higher rates than their peers. Second, under the 3.0 scenario, 44% of the students would have been denied admission, and black, Latinx, and male students would have been denied admission at significantly higher rates than white female students.

In answer to our second research question about differences in short- and long-term outcomes between admitted and denied students, we found the following results. First, implementing a 2.75 SGPA admission criterion resulted in no significant differences in any of the short- or long-term outcomes between admitted and denied students. In other words, the outcomes for the denied students and the admitted students were statistically equal.

Second, under the 3.0 SGPA the outcome differences between admitted and denied students were mixed. For the short-term outcomes of student teaching final evaluation rating and obtaining a teaching certification, admitted students had higher outcomes than denied students. However, the outcomes occurred because the students with SGPAs between 2.75 and 2.99 performed at lower levels than students in both the below 2.75 group and the above 3.0 group. For the short-term outcome of graduating from the TPP, admitted students graduated at a marginally higher rate than denied students, but again this was because the 2.75–2.99 group graduated at a marginally lower rate than the other two groups. For the long-term outcome of principal ratings, admitted students were rated significantly higher than denied students. No differences in the long-term employment outcomes were observed for Year 1 employment and Year 2 employment. We worked to determine why students in the 2.75–2.99 group showed the lowest performance of the three groups of students across several outcomes. Given the large sample sizes, the results are very unlikely to be due to chance. We examined differences in the distribution of students across the independent variables and found no significant differences by certification type and ethnicity, but we did find significant differences by gender with male students overrepresented in the lower two SGPA groups. We remain perplexed as none of these findings account for the outcome patterns observed.

In short, our findings for Research Question 1 are clear. Increasing the SGPA criterion would significantly and dramatically reduce the number of teachers of color and male teachers admitted.

Our findings for Research Question 2 are mixed. Although the 3.0+ SGPA students showed higher performance than the lower SGPA students on four of six outcomes (and equal results on two outcomes), the differences in performance on three of the four outcomes occurred because the students with SGPAs between 2.75–2.99 performed lower than the students in the higher and lower SGPA groups.

Negative consequences of higher SGPA criterion

Policymakers, state and national accrediting bodies, scholars, school districts, colleges of education, and communities generally agree that we need high quality teachers and that we need to increase the diversity of the teaching force (CAEP, 2016b; Cochran-Smith, 2004). Policymakers and accrediting organizations have assumed that admitting only high SGPA teacher candidates would make it possible to meet these goals. The present results provide evidence that this assumption is largely invalid.

First, the higher SGPA admission criterion would dramatically reduce the number of qualified teachers entering the profession when rapidly growing states like Texas are facing teacher shortages (Van Overschelde & Wiggins, 2018). A 2.75 SGPA criterion would reduce the number of new teachers by 22% and a 3.0 SGPA criterion would reduce the number by 44%. In addition, the shortage of teachers is more likely to negatively impact schools with large numbers of students of color because there are more challenges to staffing these schools with qualified teachers (Boyd, Lankford, Loeb, & Wyckoff, 2005; Clotfelter, Ladd, & Vigdor, 2005; Feng, 2009). Moreover, the diversity of the student population is increasing at high rates in many states and students of color make up almost half the student body in public schools nationwide. Over the next decade, students in the United States will have no one clear racial or ethnic majority (Boser, 2014; Hussar & Bailey, 2013) and currently in 13 states, including Texas, the majority of students enrolled in public school are students of color (Boser, 2014). For example, in a recent report performed by the Schools and Staffing Survey (SASS), the Texas public school population of approximately 69% students of color is taught by only 35% teachers of color—a gap of 34 percentage points. This large gap is not uncommon. In an analysis reported by Boser (2014), 27 states have differences of 25 percentage points or more between their diverse teacher and student populations. As our students become more diverse, it is imperative that the teacher population increases in diversity as well, for the reasons described below. While there is a demographic imperative (Banks, 1995) for teacher preparation programs to include more preservice teachers of color, there is diminishing attention to ensure our nation's teaching force represents the racial, ethnic, and linguistic demographics of our students (Dilworth & Coleman, 2014) and new mandates and policies from accreditation and state agencies give the false impression that they are raising the bar for high quality teacher candidates, when in reality these policies are locking the door and keeping out the diverse teachers this country needs.

Second, the higher SGPA admission criteria would negatively impact black and Latinx students who are seeking to become teachers because they would be disproportionately denied admission to teacher preparation programs. Students of color already face structural inequalities in their educational careers (Howard, Flennaugh, & Terry, 2012) and the higher SGPA criterion would exacerbate these inequalities. The present results also reflect a core fallacy in the current Council for the Accreditation of Educator Preparation standards for educator preparation programs (CAEP, 2016a). Specifically, Standard 3.2 is designed to force preparation programs to increase their GPA criterion for admission, whereas Standard 3.1 requires recruiting teachers who reflect the diversity of the P-12 students they teach. The present results clearly indicate these standards are antithetical to one another. Teacher preparation programs can increase the GPA criterion for admissions without increasing the quality of the teaching force substantially, or programs can increase the gender and ethnic diversity of the teaching force, but they cannot do both. Teacher

preparation programs that have a goal of equity and excellence in their educator preparation programs can use the present results as evidence against complying with CAEP's GPA standard.

Reducing the diversity of the teaching force would further disadvantage P-12 students of color in many ways. One, they may be denied the opportunity to be taught by teachers of color. While race matching is not a guarantee of student success and can lead to essentializing black or Latinx teachers (Carrington & Tomlin, 2000; Rezai-Rashti & Martino, 2010), in various studies of teacher effectiveness, teacher and student race matching had a positive impact on the outcomes of students of color (Clotfelter, Ladd, & Vigdor, 2006; Dee, 2005; Goldhaber & Hansen, 2010). Another study reported race matching benefits were even more salient for low performing students (Egalite, Kisida, & Winters, 2015). Several studies have found that students of color are more likely to be viewed as capable and treated fairly if they have teachers who were similar to them in ethnicity, race, and gender (Ehrenberg, Goldhaber, & Brewer, 1995; Noguera, 2003). Other studies have found that when the gender or ethnicity of teachers match their students, students perform better. For example, students of color were rated as more capable and given higher grades by teachers of color as well as socialized into cultural practices and mentored more often (Lara & Franquiz, 2015; Su, 1997). Taken together, these studies strongly suggest that a lack of diverse teachers would negatively impact students of color in a variety of significant ways. Furthermore, all students benefit from diverse teachers because a diverse teacher workforce has the potential to offer new and varied perspectives for children in US public schools, regardless of the student background (Anderson, 2015).

Third, the higher SGPA admission criteria would limit access to men who are seeking to become teachers because they would be denied admission to teacher preparation programs at significantly higher rates than women. The teaching profession in the United States is overwhelmingly female (76% in 2011–2012 according to National Center for Education Statistics, 2016) and reducing the number of males entering the profession would exacerbate this gender imbalance. While there are often calls for more male teachers in education reform efforts, the issue is quite complex and the literature is mixed on how teachers of either gender impact students and student achievement (e.g., Dee, 2005). In some studies, girls were rated higher by women teachers (Ehrenberg et al., 1995), boys were less severely punished and disciplined by male teachers (Monroe, 2005), and many studies point to the intersectionality of gender and race (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008; Noguera, 2003; Rezai-Rashti & Martino, 2010) as crtical factors in understanding gender relations and student achievement. More research is needed in this area, and current literature suggests there are differences that need to be teased out regarding content area (math and science, for example) and age (primary vs. adolescence) to understand the effects of gender on student success (Antecol, Eren, & Ozbeklik, 2012).

Fourth, the higher SGPA criteria could negatively impact students in high-needs or high-minority schools because teachers of color are more likely to teach in these schools than white teachers (Boyd et al., 2005; Lankford, Loeb, & Wyckoff, 2002; Villegas & Irvine, 2010). Dramatically reducing the number of teachers who are willing to teach in high-needs schools could further negatively impact the students in these schools if principals resort to hiring less qualified teachers to fill these classrooms.

Fifth, a higher SGPA admission criterion could negatively impact teacher preparation programs and the admitted teacher candidates by reducing the overall diversity of students in undergraduate preservice education. Several studies indicate that when there are fewer students of color in teacher preparation programs, the topic of diversity becomes separated from the curriculum and there is less focus on preparing teachers for diverse students (Hollins & Guzman, 2005; Picower, 2009). In addition, preservice teachers of color who have had experiences in the communities and cultures of their students are able to draw upon those experiences and build upon and extend those experiences in their teacher preparation (Hollins, 2011). Further, when there are few teachers of color in both teacher preparation programs and PK-12 classrooms, the students

of color can feel silenced by the white majority (Haddix, 2016; Sleeter, 2001). In short, a diverse preservice teacher population benefits all students by providing rich opportunities for cross dialog and learning about race, culture, gender, and diversity, which, in turn, benefits all public school students (Gay, 2005).

In addition, the focus of teacher preparation programs on a single criterion such as sophomore grade point average essentializes the teacher education process, similar to the ways that a focus on high stakes standardized tests reduce students to a test score. Instead of viewing teaching as the complex, multidimensional process that it is (Hollins, 2011), reducing entrance criteria to a grade point average deemphasizes the important ways sociohistorical contexts along with experiences, background knowledge, perceptions, and values of learners impacts preservice teachers' abilities to become responsive teachers.

Finally, the 2.75 sophomore grade point average admission criterion would have no positive impact on any of the six short- or long-term outcomes we examined despite eliminating more than a fifth of the preservice teacher candidates. The students with less than 2.75 SGPA had statistically similar scores on these important variables: student teaching final evaluations, principal ratings of quality and effectiveness, graduation rates, and employment rates two years post-graduation. The students who were admitted with the 3.0 SGPA criterion also resulted in no statistical differences in employment patterns during the two years post-graduation.

Positive consequences of higher SGPA criterion

It is important that these negative consequences be weighed against the few positive consequences of increasing the SGPA criterion. Under the 3.0 SGPA admission criterion, the admitted students performed slightly better statistically on their student teaching final evaluation. Note the difference is very small, 0.1 points on a 4-point scale. In addition, the admitted students were more likely to become certified to teach by passing their certification exams required by the state. Finally, the admitted students would earn statistically higher marks from their principal during their first year teaching, but again the difference is small, of 0.4 on a 10-point scale.

However, these positive results must be qualified. Except for the results for principal ratings, the students with SGPAs between 2.75 and 2.99 performed at statistically lower levels than the under 2.75 group and the under 2.75 group performed statistically similarly to the 3.0+ group. Additional post-hoc analyses were unable to determine a clear explanation for these results and future research will be necessary to examine this issue further.

Conclusion and implications

Teacher preparation programs are increasingly pressured and even forced by state, federal, and national policies to increase the grade point average admission criterion under the invalid assumption that preservice teachers with higher GPAs make better teachers. Our research found that higher GPA criteria for undergraduate preservice teachers would significantly and dramatically decrease the gender and ethnic diversity of the teaching population as well as the overall number of teachers prepared in the United States. The higher GPA criteria would also have minimal impact on the quality of our nation's teachers. The only case where the short- or long-term outcomes for students with higher sophomore GPA (SGPA) was consistently different from lower SGPA students was for the overall rating of quality and effectiveness by their principal—0.4 points on a 10-point scale—and only after eliminating large percentages of black, Latinx, and male teachers. This also could be impacted by various other factors (such as race and gender matching or lack thereof) as discussed earlier. In general, the students with an SGPA below 2.75 performed equally to students with an SGPA of over 3.0. In short, there is a lack of scientific evidence for increasing GPA for admittance to teacher preparation programs.

Admittance policies such as increasing GPA are presented as impartial and neutral, based solely on the aim of increasing teacher quality. Yet these policies fail to account for how race, ethnicity, and gender are tied to academic achievement in complex and nuanced ways. These kind of admittance policies are based in whiteness and white supremacy and continue to privilege white students while eliminating students of color from the possibility of becoming teachers (Sleeter, 2017). Policy makers such as CAEP, state legislatures, the US Department of Education, and others should review the results of this study in light of their desire to simultaneously increase GPA admission criteria and increase the diversity of teachers. We hope they recognize not only the lack of scientific evidence for such practice but the ideological underpinnings centered on whiteness that run counter to their own calls for more diverse teacher candidates. Instead of shutting out diverse candidates from the field, teacher preparation programs must focus on supports for students of all backgrounds who choose to become educators for our nation's children.

There are several implications of the present results for state and federal policy and for accrediting bodies. First, the CAEP requires teacher preparation programs to both increase their GPA criteria (i.e., admission or graduation) and to increase the diversity (gender, ethnicity) of the teacher candidates in their program. However, increasing the SGPA criterion to either 2.75 or 3.0 to meet the first requirement will make the second requirement essentially impossible because the higher criteria will negatively impact students of color more than white students, and male students more than female students.

Second, many states are facing teacher shortages. A Commissioner of Education in Texas stated that the teacher shortage was the "biggest threat" facing its public schools (Daniel, 2015). Moreover, the Nevada president of the State Board of Education warned that the state's teacher shortage was "horrific" (Milliard, 2015). At the same time, dramatically fewer high school students are reporting a desire to become teachers with a 32% reduction in just five years (ACT, 2015). Therefore, increasing the SGPA admission criterion would exacerbate teacher shortages, especially in states like Texas that are seeing consistent, large increases in student population, particularly among students of color.

Third, because the imposition of a higher SGPA criterion would negatively impact students of color disproportionately, the policy could be challenged legally as a violation of Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race or color. The US Department of Education's Office for Civil Rights works to ensure "students of every race, color, and national origin [have] equal access to high-rigor academic courses and programs" (Office for Civil Rights, 2016). Furthermore, the US Equal Employment Opportunity Commission (EEOC) defines as discriminatory an employment policy or practice if it applies to everyone, regardless of race or color, but has a negative impact on people of a particular race or color and is not job-related (Equal Employment Opportunity Commission, 2016). Therefore, denying teacher preparation program admission to students of color by enforcing a higher SGPA criterion when the higher criterion has no impact on teacher quality or only minimal impact could be interpreted as discriminatory under the Civil Rights Act.

Third, eliminating diverse students from overwhelmingly white and "whitewashed" teacher preparation programs (Sleeter, 2017) would likely negatively impact the overall quality of the preparation program. A more diverse preservice student body increases the possibility of providing more robust, responsive, and effective environments to prepare all teachers to meet the pedagogical, cultural, and linguistic needs of all our public school students.

It is important to note that we are not purporting that students of color are less successful or qualified to teach if they have a lower grade point average. On the surface, these data could be misconstrued as implying that students of color are not as intelligent as their peers or less capable. Instead, we believe there needs to be a more critical analysis of structural inequalities, including perceptions of teachers/professors of students of color and how the intersections of various factors (e.g., race, ethnicity, gender, SES) have contributed to the experiences of preservice

teachers of color in education, including in some cases a lower GPA. We agree and stand with our colleagues who call for "appropriate scrutiny on institutional practices, structural arrangements, cultural practices, and ideologies which create the conditions that may stifle the intellectual, academic, and social growth and development of Black males" (Howard et al., 2012, p. 88) and other students of color.

Based on the results from this study, we suggest that sophomore grade point average (SGPA) as a primary, gatekeeping admission standard is counterproductive, as it will deny students and particularly students of color the opportunity to teach. Our research does not allow us to draw conclusions about what SGPA criterion would be best from the standpoint of increasing the diversity of teacher candidates while also maintaining some minimum admission criterion. Providing more academic, institutional, structural, and ideological supports for lower-SGPA students so that all students are more likely to successfully complete their teacher preparation program and to pass their teacher certification tests, and creating supportive employment environments that help teachers be successful (Johnson, Kraft, & Papay, 2012; Kraft & Papay, 2014) would be in the long-term best interests of the federal government, states, school districts, teachers, parents, and students. The newest US Department of Education regulations appear to reflect the idea of maintaining some minimum entrance criterion and increasing the rigor of the exit criterion, thereby enabling high quality teacher preparation programs to prepare **all students** to be effective educators. The national push to increase the SGPA admission standard for undergraduate preservice teachers will ultimately hurt the students most in need of effective teachers—the students that the policy changes are purported to help.

Limitations

The university that houses this teacher preparation program is located in the state with the largest increase in student population with the US Census. Texas grew by almost 1,000,000 children between 2000 and 2010. Projections show Texas is likely to increase by 900,000 more children by the 2020 census. Given the rapid growth rate, the teacher employment rates in Texas are likely to be much higher and possibly less selective than in other states. In a state with a lower student growth rate, schools may be more selective with principals hiring only higher GPA students under the assumption that they will make better teachers (Kane et al., 2008).

Also, the university that houses this large program is a Latinx-serving institution that currently educates an undergraduate student body that is 30% Latinx and 46% students of color. Therefore, the results might not generalize to teacher preparation programs with less diverse undergraduate student populations, to alternative or post-baccalaureate programs that make admission decisions on UGPA, or to those programs with much smaller cohorts of teacher candidates.

Finally, we acknowledge that the nature of our data do not account for different life experiences, backgrounds, and dispositions of our participants—these intersectionalities. While the data reported here do give us information about structural inequalities and help us undertand patterns, we recognize the danger of the "homogenizing impulse" that can be an outcome of research that uses data about particular groups (West, 2005). These data are often used to essentialize the experiences and characteristics of people of color or of particular genders and this is not the aim of our scholarship. Instead, we encourage teacher preparation programs and policymakers to recognize and address the faulty logic behind structures that may harm the very students and teachers we need most in our classrooms.

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Appendix A

Table A1. Logistic Regression Results for Admission Status under 2.75 and 3.0 SGPA scenarios

	B	S.E.	Wald	df	Sig.	Exp(B)
SGPA = 2.75						
Gender	0.359	0.161	4.958	1	0.026	1.432
Latinx	−0.274	0.384	0.509	1	0.476	0.760
Black	−0.915	0.450	4.137	1	0.042	0.400
White	−0.196	0.360	0.297	1	0.586	0.822
syear	0.012	0.133	0.008	1	0.930	1.012
Constant	−22.295	267.952	0.007	1	0.934	0.000
SGPA = 3.0						
Gender	0.385	0.142	7.321	1	0.007	1.469
Latinx	−0.681	0.322	4.478	1	0.034	0.506
Black	−1.038	0.401	6.698	1	0.010	0.354
White	−0.525	0.301	3.035	1	0.081	0.592
syear	0.074	0.112	0.442	1	0.506	1.077
Constant	−149.126	225.108	0.439	1	0.508	0.000

Table A2. OLS Regression Results for Student Teaching Final Evaluation Ratings under 2.75 and 3.0 SGPA scenarios

Scenario	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
SGPA = 2.75				
(Constant)	−11.924	77.496	−0.154	0.878
SGPA Group	0.040	0.042	0.959	0.338
Gender	0.157	0.044	3.583	0.000
Latinx	0.018	0.100	0.177	0.859
Black	−0.104	0.125	−0.839	0.402
White	0.063	0.095	0.664	0.507
syear	0.008	0.039	0.197	0.844
SGPA = 3.0				
(Constant)	−8.007	76.620	−0.105	0.917
SGPA Group	0.112	0.035	3.163	0.002
Gender	0.151	0.043	3.477	0.001
Latinx	0.028	0.099	0.281	0.779
Black	−0.094	0.123	−0.767	0.444
White	0.068	0.094	0.727	0.467
syear	0.006	0.038	0.148	0.882

Table A3. Logistic Regression Results for Graduation Status under 2.75 and 3.0 SGPA scenarios

	B	S.E.	Wald	df	Sig.	Exp(B)
SGPA = 2.75						
SGPA Group	0.323	0.597	0.294	1	0.588	1.382
Gender	0.359	0.161	4.958	1	0.026	1.432
syear	0.012	0.133	0.008	1	0.930	1.012
Constant	−22.295	267.952	0.007	1	0.934	0.000
SGPA = 3.0						
SGPA Group	1.153	0.595	3.747	1	0.053	3.167
Gender	0.385	0.142	7.321	1	0.007	1.469
syear	0.074	0.112	0.442	1	0.506	1.077
Constant	−149.126	225.108	0.439	1	0.508	0.000

Table A4. Logistic Regression Results for Teacher Certification Status under 2.75 and 3.0 SGPA scenarios

	B	S.E.	Wald	df	Sig.	Exp(B)
SGPA = 2.75						
SGPA Group	0.076	0.199	0.145	1	0.703	1.079
Gender	0.450	0.197	5.219	1	0.022	1.568
Latinx	0.544	0.367	2.201	1	0.138	1.724
Black	0.668	0.502	1.774	1	0.183	1.951
White	0.958	0.336	8.114	1	0.004	2.607
syear	−0.068	0.169	0.160	1	0.689	0.935
Constant	136.807	340.019	0.162	1	0.687	2E + 59
SGPA = 3.0						
SGPA Group	0.455	0.171	7.105	1	0.008	1.576
Gender	0.416	0.197	4.444	1	0.035	1.516
Latinx	0.616	0.370	2.780	1	0.095	1.852
Black	0.768	0.504	2.329	1	0.127	2.156
White	1.017	0.339	9.018	1	0.003	2.766
syear	−0.071	0.170	0.174	1	0.677	0.932
Constant	142.538	340.936	0.175	1	0.676	8E + 61

Table A5. Logistic Regression Results for Employment in Year 1 under 2.75 and 3.0 SGPA Scenarios

	B	S.E.	Wald	df	Sig.	Exp(B)
SGPA = 2.75						
SGPA Group	−0.145	0.180	0.649	1	0.421	0.865
Gender	−0.156	0.199	0.613	1	0.434	0.856
Latinx	0.841	0.430	3.822	1	0.051	2.319
Black	0.955	0.536	3.182	1	0.074	2.599
White	0.672	0.402	2.796	1	0.094	1.958
syear	0.466	0.147	10.021	1	0.002	1.594
Constant	−937.356	295.981	10.030	1	0.002	0.000
SGPA = 3.0						
SGPA Group	0.244	0.147	2.758	1	0.097	1.276
Gender	−0.193	0.200	0.939	1	0.332	0.824
Latinx	0.864	0.431	4.025	1	0.045	2.373
Black	1.027	0.537	3.652	1	0.056	2.793
White	0.676	0.402	2.832	1	0.092	1.966
syear	0.442	0.148	8.981	1	0.003	1.556
Constant	−889.415	296.564	8.994	1	0.003	0.000

Table A6. Logistic Regression Results for Employment in Year 2 under 2.75 and 3.0 SGPA scenarios

	B	S.E.	Wald	df	Sig.	Exp(B)
SGPA = 2.75						
SGPA Group	−0.076	0.317	0.057	1	0.812	0.927
Gender	−0.384	0.329	1.364	1	0.243	0.681
Latinx	0.185	0.617	0.090	1	0.764	1.204
Black	−0.096	0.848	0.013	1	0.910	0.909
White	0.389	0.573	0.461	1	0.497	1.476
syear	−0.614	0.413	2.212	1	0.137	0.541
Constant	1234.242	829.473	2.214	1	0.137	
SGPA = 3.0						
SGPA Group	0.349	0.235	2.210	1	0.137	1.418
Gender	−0.419	0.330	1.618	1	0.203	0.658
Latinx	0.216	0.620	0.121	1	0.728	1.241
Black	−0.012	0.855	0.000	1	0.988	0.988
White	0.366	0.576	0.403	1	0.526	1.441
syear	−0.638	0.412	2.392	1	0.122	0.529
Constant	1281.458	828.422	2.393	1	0.122	

Table A7. OLS Regression results for Year 1 Principal Ratings under 2.75 and 3.0 SGPA Scenarios

	Unstandardized Coefficients			
	B	Std. Error	t	Sig.
SGPA = 2.75				
(Constant)	620.719	334.553	1.855	0.065
SGPA Group	0.291	0.215	1.352	0.177
Gender	0.287	0.242	1.188	0.236
Latinx	0.386	0.548	0.704	0.482
Black	0.018	0.655	0.027	0.978
White	0.380	0.514	0.739	0.460
syear	−0.305	0.167	−1.835	0.068
SGPA = 3.0				
(Constant)	703.665	335.956	2.095	0.037
SGPA Group	0.404	0.180	2.239	0.026
Gender	0.289	0.238	1.214	0.226
Latinx	0.391	0.545	0.718	0.473
Black	0.047	0.650	0.073	0.942
White	0.407	0.511	0.797	0.426
syear	−0.347	0.167	−2.074	0.039