Teacher Shortage and Racial Disparity in Illinois Teaching Profession: The Effect of Edtpa
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Executive Summary

The Illinois State Board of Education (ISBE) mandated Teacher Performance Assessment (edTPA), a performance-based assessment to evaluate teaching readiness, as a part of the licensure requirements since July 2015.

The new examination imposed significant monetary ($300-$1,200 per applicant) and time investments, which had a disproportionate affect on minority prospective teacher candidates. The impact of the test exacerbated the problem of teacher shortages and the lack of diversity employment in the Illinois teacher market.

This report provides the first empirical evidence about the effect of edTPA on teacher employment and sheds light on racial disparity in the teaching profession in Illinois.

Main Finding:

- As of 2019, Illinois together with nine other states integrated a performance-based assessment as a necessary requirement for initial teacher licensure.
- edTPA reduced first-year teacher hiring on average by 36%
- edTPA also reduced black representation of new hires by 3.2 percentage points.
- edTPA reduced the number of teacher graduates by 22%.
- The decrease in the supply of new teachers is a statewide phenomenon. 45 out of the 47 Illinois institutions of higher education examined experienced a falling number of teacher graduates in the sample period.

According to the Illinois State Board of Education, Illinois is facing teacher shortage, especially in rural or lower-income areas. The teaching workforce is also predominantly white with teachers of color representing only 14% of the state total. Our findings imply that edTPA exacerbated the existing problems.

This report calls for additional supports and resources to both expand the pool and diversity of new teacher candidates. We also suggest the Illinois State Board of Education reconsider the appropriateness of requiring edTPA as a component for initial teacher licensure.
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Introduction

Teacher licensure is the primary institution to guarantee teacher quality in the U.S. public school system. While teacher licensing is universal in the U.S., the details of training and examination requirements are determined by individual state legislatures and can vary substantially across jurisdictions. In the recent decade, the Education Teacher Performance Assessment (edTPA), a performance-based examination to evaluate teaching readiness, has gained popularity across the nation. As of 2019, edTPA has become a mandatory testing component for initial teacher licensure in eleven states including Illinois.

Different from the traditional one-time written examination, edTPA is a semester-long project involving “performance-based assessments of a beginning teacher’s skill in lesson planning, delivering instruction, creating assignments and instructional materials, and evaluating student learning” covering more than two-dozen different teaching areas (Illinois News Bureau, 2016). It was designed to determine whether a teacher was ready to teach on her first day in the classroom. In the first year of the test’s application, the reported statewide success rate was approximately 94 percent.

Some education scholars contended that the performance-based format reflected the complexity of teaching better than written examinations and prepare teachers to focus on student learning (Darling-Hammond and Hyler, 2013). However, there is qualitative evidence suggesting that edTPA discourages new teachers from entering the teaching profession. For example, the test fee together with miscellaneous expenses adds a significant burden on graduate students who were already struggling financially (Gilbert and Kuo, 2019). In 2016, the edTPA assessment fee was $300 and costs associated with licensure could reach upwards of $1,200.

Also, the time commitment and the uncertainty about passing the exam are associated with increased mental stress on the teacher candidates (Bergstrand Othman et al., 2017). In addition, teacher candidates often found themselves focusing too much on completing the edTPA portfolio of materials and not actually teaching. As much as two weeks of a 16 to 18 week student-teaching experience could be consumed by aspects of the assessment, like teachers video-taping themselves (Greenblatt, 2016; Shin, 2019; Illinois News Bureau, 2016). Additionally, some educators felt that the edTPA assessment “overshadows the expert judgment of instructors and student teachers’ supervisors (Illinois News Bureau, 2016). The portfolio process also raised equity concerns. The negative impacts of the assessment appeared to fall disproportionately on minority and lower-income teacher candidates (Greenblatt and O’Hara, 2015; Goldhaber et al., 2017; Petchauer et al., 2018).¹

¹ The latest official statistics of edTPA (https://secure.aacte.org/apps/rl/res_get.php?fid=3621&ref=rl) shows that the passing rate of ethnic minorities is significantly lower than their white counterparts.
The Illinois State Board of Education (ISBE) integrated edTPA as a part of the licensure requirements in July 2015. To assess the likely impact of edTPA on the Illinois teacher market, we compare first-year teacher employment in Illinois with that in Missouri three years before and after the 2015-2016 school year.

In Illinois edTPA reduced new hires by 36%. For an average Illinois school district with 13 new teachers per school year, the annual effect size is about 5 fewer hires. Regarding the diversity issue, the negative employment effect falls disproportionately on black candidates. Our estimate shows that edTPA on the average reduced black representation of new hires by 3.2 percentage points. The resultant racial disparity is particularly concerning because many educational studies have documented a role-modeling effect of same-race teachers on minority students. We also find that edTPA imposed a long-lasting effect on the supply of teachers by reducing the number of graduates from teacher educational programs by 22% in Illinois.

Our report provides the first quantitative assessment about the effect of edTPA on the teacher market. The findings here are widely applicable to policymakers nationwide who are focusing on educational labor markets, especially in the states, which have integrated or are planning to integrate edTPA as a necessary component for initial teacher licensure. Regarding the evidence of teacher licensing so far, most of the empirical work focuses on its impact on students (Berger and Toma, 1994; Goldhaber, 2007; Kane et al., 2008; Clotfelter et al., 2010). We are among the few to explicitly look at licensure requirements on teacher supply (Hanushek and Pace, 1995; Angrist and Guryan, 2008; Larsen, 2015). This report does not examine the relationship of edTPA to student outcomes or measures of teacher quality.

**Teacher Licensure in Illinois and edTPA**

The earliest development of teacher entry requirements in the US dates back to the 1960s following widespread concern over declining student test scores such as the Scholastic Aptitude Test (SAT) and American College Test (ACT) (Rudner and Adelman, 1987). Media and several educator groups such as the American Association of Colleges for Teacher Education further put pressure on the need for entry testing to assure teacher quality at that time. Following the national teacher certification movement in the 1970s, the Education Reform Act of 1985 in Illinois mandated a certification testing program in 1988 for all prospective public school teachers, covering basic skills (reading, writing, grammar, mathematics) and subject matter areas (Ward, 1986). Later in 2003, the Illinois teacher licensure testing system further required candidates to pass the Assessment of Professional Teaching (APT) to prove teaching effectiveness (Presley, 2003).

Starting in July 2015, Illinois replaced the APT with the edTPA for initial teacher licensure. EdTPA was developed by the Stanford Center for Assessment, Learning and
Equity (SCALE) and the American Association of Colleges for Teacher Education (AACTE) and later administered by Pearson Education, Inc. EdTPA emphasizes performance-based assessment, which requires the candidate to show competency in preparing the class by submitting detailed lesson plans, in delivering instruction effectively by recording the lesson during the student teacher internship, and in properly assessing student performance to guide future instruction by a thorough analysis of student learning outcomes.\(^2\)

As of 2019, 22 states have introduced edTPA to evaluate teaching effectiveness for prospective public school teachers as shown in Figure 1.\(^3\) Illinois along with Georgia, New York, and Washington, are among the earliest wave to mandate edTPA as a necessary component for initial teacher licensure. The mandatory nature of edTPA later expanded to Alabama, New Jersey, Wisconsin, Connecticut, Arkansas, Oregon, and Tennessee, which are all highlighted in a darker color. The rest of the 11 states in a lighter color approved edTPA as an option for teacher performance assessment.

*Figure 1: edTPA Adoption by State*

Source: edTPA official website

Note: As of 2019, eleven states (light blue) have approved edTPA as an option for teacher performance assessment and eleven states (dark blue) have mandated edTPA as a requirement for initial teacher licensure.

Teacher Shortage and Diversity

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\(^2\) Interested readers can refer to the official edTPA document (http://www.edtpa.com/Content/Docs/edTPAMGC.pdf) for a more detailed description on the assessment scheme.

\(^3\) Official document can be found here: https://secure.aacte.org/apps/rl/res_get.php?fid=1014&ref=edtpa.
To evaluate the impact of edTPA on the Illinois teacher market, we need to find appropriate control states, which have never adopted the policy. As in Figure 1, the states in the lightest color, which have not implemented edTPA, are potential candidates. To also take into account geographical differences, we further narrow down the choices to the two neighboring Midwest states of Illinois, namely Missouri and Indiana. As in 2016, Indiana passed a scholarship bill to provide a financial incentive to new teachers.\textsuperscript{4} Using Indiana as a counterfactual, will inflate the negative impact on teacher employment in Illinois brought by edTPA. Therefore, because it has not adopted any notable changes in education policy, we use Missouri as an appropriate comparison state.

In the empirical analysis, we compare the first-year teacher hires in Illinois with that in Missouri before and after the 2015-2016 school year. We do not include teachers who move between schools because the licensure policy affects only new teachers. Annual data from 2012-2013 to 2017-2018 on new hires at the school-district level are obtained from the education department of the two states.

Figure 2 first visualizes the trend of first-year teacher hires in Illinois in the sample period. There was a downward trend in hiring before the implementation of edTPA. Returning teachers represent the largest proportion of Illinois classroom employees. In 2016-17, continuing teachers accounted for 93% of school instructors (ISBE, 2018). New hires however have been drawn from a shrinking pool of candidates. From 2010-2016, there were 53\% fewer graduates from Illinois college teacher preparation programs (ISBE, 2018). The total number of Illinois teachers fell by 3.4\% between 2008-2018. And while student population also dipped during that period teacher staffing levels “outpaced the decrease in student enrollment (ISBE, 2018, p. 3).”

Research from the Illinois Educational Council at the University of Illinois found that only 3.2\% of the state’s post-secondary graduates became Illinois public school teachers. Included among the commonly understood reasons were inadequate pay for teachers, societal disrespect for teachers, failure to acknowledge teaching as a profession, lack of career advancement (e.g., moving to into administrative positions), and the 2011 change in the Illinois pension system (Smith, 2015; Aragon, 2016; Bruno et al, 2009). The implementation of edTPA further exacerbated the existing shortage problem by causing an additional 17\% reduction in new hires in the 2015-2016 school year. The number of new hires then stayed below 7,000, which is substantially lower than the pre-edTPA average of 8,600.

\textsuperscript{4} The initiative is called the Next Generation Hoosier Educators Scholarship.
To estimate a cause-and-effect relationship between edTPA and the teacher outcome, we employ the synthetic control method (Abadie and Gardeazabal, 2003; Abadie et al., 2010). The idea of this statistical technique is to construct a counterfactual for each Illinois district using a weighted average of Missouri school districts, which could then mirror the post-policy hiring in Illinois that would have been observed had edTPA not been implemented. We then obtain the annual policy effect by directly comparing the counterfactual hiring with the observed hiring each year. To ensure the counterfactual offers a valid comparison, we make use of several important indicators that would predict teacher new hires. These include pre-edTPA hiring, school and student characteristics (enrollment, percent of black students, attendance rate, teacher-to-student ratio, total teacher count, percent of teachers with a Master degree, and percent of black teachers). The full panel with non-missing values in all variables consists of 469 and 435 school districts in Illinois and Missouri, respectively.

Figure 3 compares the average new teacher hires in Illinois (solid line) with the average counterfactual constructed using the synthetic control method (dashed line). The values are log-transformed to interpret the policy effect in percentage terms. As reflected from the solid line, there is a clear structural break after the 2015/2016 school year. To obtain annual policy effects, we can directly compare the actual with the counterfactual values for each year. The first-year 23% sudden drop in new hires stands as a sharp
contrast to the counterfactual, which predicts that hiring would have steadily been growing in the absence of edTPA. In the second and third school year following the new policy, we also observe a 51% and 36% reduction in new teacher hires. On average, edTPA was associated with a 36% reduction in teacher new hires in the post-policy period.

Figure 3: edTPA Reduced Teacher New Hires by 36% On Average

Note: The values are log-transformed. The solid line traces average new teacher hires across Illinois school districts, whereas the dashed line represents the average counterfactual constructed using the synthetic control method. The district-level predictors include pre-treatment outcome, enrollment, percent of black students, attendance rate, teacher-to-student ratio, total teacher count, percent of teachers with a Master degree, and percent of black teachers. The annual policy effects on teacher new hires starting from the 2015/2016 school year are -23%, -51%, and -36%, receptively.

The negative impact particularly affects aspiring black teachers. In Figure 4, we compare the average percent of black new hires in Illinois with the average counterfactual. Because the synthetic control method relies on the pre-policy information to predict the post-policy trend, we drop from the analysis the school districts without any new black teachers hired throughout the entire pre-policy period. The revised sample contains 111 Illinois school districts. As shown in the graph, before the edTPA policy was adopted, the percent of black first-year teacher hires was slightly dropping but remained stable at around 8% to 10%. The pre-policy counterfactual also closely mirrors the annual fluctuations. However, in the 2015-2016 school year, the actual black representation among new teacher hires suddenly drops to 7%. The gap between the actual percent of black new hires and the counterfactual reveals that edTPA reduced the representation of black teacher appointments by 3 percentage points. In the two following school years, the percent of black new hires continued to drop by -3.7 and -2.8 percentage points, respectively. Taking the three-year average, the edTPA reduced black representation among new hires by about 3.2 percentage points.
Reducing the Supply of New Teachers

EdTPA not only imposed an immediate hurdle for recent graduates but also caused a long-lasting effect on the teaching profession by reducing enrollment in teacher degree programs. In this section, we pool the degree completion data from the Integrated Postsecondary Education Data System (IPEDS) to examine the effect of edTPA on the choice of undergraduate majors. Our sample covers fresh graduates from 2012 to 2017, comparing the number of teacher degrees awarded three years before and after the implementation of edTPA. We restrict the sample to institutions offering 4-year undergraduate training for prospective PreK-12 teachers.\(^5\)

Figure 5, plots the percentage change in the number of teacher degrees awarded before and after 2015 in Illinois. Reduction in the supply of first-year teachers seems to

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\(^5\) For example, the master degree offered by the University of Chicago Urban Teacher Education Program is not included in our analysis.
be a statewide phenomenon with 45 out of 47 Illinois institutions of higher education experiencing falling numbers of teacher graduates.

Figure 5: Percentage Change of Teacher Graduates by Institution, Before-After 2015

Source: Integrated Postsecondary Education Data System (IPEDS), 2012-2017

Note: Each bar represents the percentage change of teacher graduates before and after 2015 for each Illinois institution. Dropping number of teacher graduates is a statewide phenomenon.

To estimate a cause-and-effect relationship between edTPA and the supply of new teachers, we again employ the synthetic control method. For the control states, we also include colleges and universities in Kansas and Kentucky in addition to Missouri to increase the precision of estimates. The institution-level predictors used to construct the counterfactual for each Illinois university include the pre-policy number of teacher graduates, full-time enrollment, percent of part-time students, number of education degrees awarded to black students, number of graduates in other majors, and capacity of the dormitory.

In Figure 6, the counterfactual closely mirrors the downward trend in Illinois, revealing the fact that other states are also experiencing a stagnated trend in new teacher supply. There is not much deviation between the two lines until the 2017 graduation year, with a 22% gap between the two lines. This indicates that the edTPA reduced the supply of new teachers in Illinois beginning in the third post-policy year. The lagged impact reveals that freshmen and sophomores are more affected by the implementation of edTPA. For example, Greenblatt (2016) find that edTPA significant increases the drop-out rate of teacher programs in New York.
Figure 6: edTPA Reduced Educational Degree Graduates

Note: The solid line traces the actual number of (the log of) education degree awarded (average across Illinois universities), whereas the dashed line represents the average counterfactual constructed using the synthetic control method. The institution-level predictors include pre-treatment outcome, full-time enrollment, percent of part time students, dormitory capacity, number of education degree awarded to black students, and total number of degree (other major) awarded.

Conclusion and Recommendations

This report is the first attempt to provide quantitative evidence about the effect of edTPA on the teacher market. We documented three important impacts in Illinois:

1. Since the passage of edTPA in 2015, the new licensure requirement reduced first-year teacher hires by 36%.

2. Since the passage of edTPA in 2015, the new licensure requirement reduced black representation among new hires by 3.2 percentage points.

3. Since the passage of edTPA in 2015, the new licensure requirement reduced the overall supply of new teachers by 22%.

The impact on diversity hiring is particularly alarming given that many researchers have found that teachers of the same race bring about a role-modeling effect for minority students. The new licensure requirement not only limited the opportunity for black graduates of education programs to find teaching opportunities but also potentially exacerbated the racial inequality for the next generation of minority school-aged children.
**Recommendations**

There are two routes to combat the teacher shortage problem and the lack of diversity hires accentuated by the edTPA.

First, as the 2016 official report of edTPA noted, the passing rate of first-time candidates is roughly 74% to 92% depending on the cut-off score in different fields. It also points out that minority candidates score significantly lower than their white counterparts. Therefore, an intermediate solution is to provide more supports (financial, mental, mentoring) and guidelines to help prospective teachers navigate the demands of, the edTPA process to increase the number of applicants and improve the success rate of teacher candidates (Lachuk and Koellner, 2015; Muth et al., 2018).

A second option would be to eliminate the assessment as a condition of licensure. In a recent development, Georgia is one of the first states to abolish the edTPA requirement for prospective teachers. Although some education researchers pointed out that edTPA can improve teaching effectiveness, additional research is needed to quantify the benefits of the edTPA against the costs documented in this report. In 2018 the Illinois State Board of Education issued a report that included a recommendation to conduct a study to determine the impact of edTPA on student academic outcomes. To our knowledge no such study has yet been conducted.

In a follow-up study, we will assess the effect of edTPA on student test scores.
References


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