Received 20 July 2018
Revised 14 November 2018
22 November 2018
22 January 2019
Accepted 24 January 2019

Insufficient money and inadequate respect

What obstructs the recruitment of college students to teach in hard-to-staff schools

Henry Tran
Department of Educational Leadership and Policies, University of South Carolina, Columbia, South Carolina, USA, and
Doug Smith
University of South Carolina Columbia, Columbia, South Carolina, USA

Abstract

Purpose – The purpose of this paper is to examine the influence of financial factors on motivating college students to consider teaching in hard-to-staff rural schools. The role of perceived respectability of the profession was also explored.

Design/methodology/approach – This work relies on an explanatory sequential mixed-method design, that surveyed college students across all majors at a regional public university, then interviewed a subset of participants to improve understanding. Quantitative and qualitative results were compared and synthesized.

Findings – Results from an ordinal logistic regression demonstrate the importance of base salary, retirement benefits and respondents' view of the respectability of the teaching profession as influential for their willingness to teach in the rural target school district. These findings were validated by the qualitative results that found perceptions of respectability had both a joint and separate influence with salaries. Results also demonstrate that most students were amenable to rural teaching and to lower starting salaries than their current chosen occupation, provided their individual minimum salary threshold was met ($\bar{x} = 36$ percent above the state average beginning teacher salary).

Originality/value – Few empirical studies exist that examine college student recruitment into rural hard-to-staff districts via a multimodal narrative. This study addresses this, focusing on college students across majors to explore both recruitment into the district and into the profession. This work is relevant considering the financial disinvestment in traditional public education and the de-professionalization of the teaching profession that has led to the recent season of teacher strikes in the USA.

Keywords Strategic management, Recruitment, Talent management, Rural, Teacher recruitment

Paper type Research paper

Introduction

In what is now being referred to as the "season of strikes" (Fay, 2018), 2018 saw a wave of teacher walkouts across the USA. The bulk of the movement has been concentrated in traditionally conservative or red states (e.g. Arizona, Oklahoma, West Virginia, Kentucky), characterized by limited collective bargaining presence, low teacher salaries and a state legislative environment that prioritizes lower taxes for big businesses over education investments (Tran, 2018). These activities, in states with large rural areas and populations, have left many principals and district leaders no choice but to shut down their schools during protests, given the amount of teachers involved.

The demands of these strike efforts in the USA have concentrated on monetary matters including increasing education spending, educator salaries, healthcare and retirement benefits (given the rise of healthcare costs and reduction of pension benefits). Many of the striking states have experienced teacher supply challenges due to lower relative compensation than

Funding for this study was provided by the University of South Carolina's Center for Educational Partnerships.

Journal of Educational Administration
Vol. 57 No. 2, 2019
pp. 152-166

0957-8234
DOI 10.1108/JEA-07-2018-0129

teachers in other states or professions altogether (Pearce, 2018), with highly publicized accounts of their teachers having to work multiple jobs to make ends meet (Blair, 2018). Low compensation and decreases in education funding since the recession (Tran, 2016; Poole, 2008) have been perceived as symptoms of a general lack of respect for the teaching profession that has resulted in declining interest for the teaching profession.

While differing in degree, nearly all US states have reported teacher shortages, with some of the most severe shortages occurring in urban and rural high poverty schools (Sutcher *et al.*, 2016). Despite attention being largely focused on the struggles of urban schools, similar problems in rural schools have been largely neglected (Showalter *et al.*, 2017), and "[p]erhaps the greatest problem facing rural schools is attracting and retaining high-quality teachers" (Miller, 2008, p. 187). Rural school administrators often do not have many (or in some cases any) candidates in their pool to select from, let alone quality candidates (Jimerson, 2003).

While there are many known factors impacting teacher recruitment, salary and compensation are at the heart of the "season of strikes" and have received much of the attention of policy makers and district leaders. Financial investment in employees is often perceived as a symbol of worker value and respect. However, not much is known about the financial factors that are used to attract teachers (Kolbe and Strunk, 2012), especially in impoverished rural settings. Operating under finite resources, should districts allocate more funds toward medical benefits or salaries in order to attract potential teachers? What role does respect play in prospective teacher attraction, beyond pay? These types of questions require a better understanding of how prospective teachers might be motivated by various aspects of the traditional teacher compensation package, especially relative to what they expect to earn in other occupations. Consequently, we conducted this mixed-method study to advance research while better informing policy and human resource administration. Specifically we address the following questions:

(1) How much of an increase in starting pay would be necessary to motivate respondents to consider teaching in rural hard-to-staff districts?

(2) How much does this vary by students' salary expectations based on their current career trajectory?

(3) How important are various aspects of traditional teacher compensation for prospective teachers in their consideration to teach rural hard-to-staff districts?

(4) How do participants perceive and describe teacher compensation and related factors in their consideration to teach at rural hard-to-staff districts?

(5) What is the relationship between respect and compensation?

(6) Does the respectability of the teaching profession have any additional influence on prospective teacher employment considerations beyond the influence of compensation?

Background

Teacher demand is a global problem. UNESCO Institute for Statistics (2016) estimates countries like Nigeria and India require over 350,000 teachers to provide universal primary and secondary education by 2030. In the USA, teacher demand is estimated to increase 20 percent (316,000 teachers) from 2015 to 2025 due to a projected enrollment increase of 3m students, push for class size reduction, and an approximately 8 percent annual teacher turnover rate (two-thirds of which leave before retirement age) (Sutcher *et al.*, 2016). This is concerning given the fact that teachers have been found to be the most important school resource for improving student outcomes (Goldhaber, 2015).

Despite this, not everyone agrees that the teacher supply problem is present in the USA For example, some critics argue that the number of teachers is growing proportionate to (if not exceeding) the student population (The Hechinger Report, 2016; Ingersoll and Merrill, 2010). Less controversial are the staffing challenges leaders and organizations face in certain subject matters (e.g. Math, Science, special education) and specific geographic locales (e.g. rural and impoverished communities). The latter issue of scarcity of rural educators in particular is a very under-researched area. The studies that have been conducted highlight the fact that teacher shortages disproportionately exist in rural schools because of their remote locations and higher proportion of underrepresented and economically disadvantaged students (Schaefer *et al.*, 2016). While hiring teachers for hard-to-staff subjects is a problem, data from the National Center for Education Statistics in 2012 suggest that almost 40 percent of remote rural schools struggle with filling positions in every subject matter (Malkus *et al.*, 2015).

Policy proposals aimed at improving teacher staffing most frequently recommend providing financial incentives (Strunk and Zeehandelaar, 2011). These proposals have been supported by research that links higher pay to improved teacher recruitment and retention, both to particular schools and to the teaching profession (Guarino *et al.*, 2006). However, financial incentives can take many forms, ranging from improvement in base pay to signing bonuses. Financial incentives for rural educator recruitment have been utilized by many countries, such as Argentina, Bangladesh, Chile, Philippines, Sierra Leone and Zimbabwe (McEwan, 1999).

There is an abundance of literature that supports that idea that the use of compensation may improve teacher supply efforts. Consistent with the theory of compensating differentials (Milanowski *et al.*, 2009), past studies have supported the use of compensation to overcome the deterrent characteristics associated with hard-to-staff schools (Strunk and Zeehandelaar, 2011). For example, Horng (2009) found that an additional $8,000 in annual salary was considered more important for teachers' employment preferences than students' achievement, socioeconomic status or ethnicity. Steele *et al.* (2010) found that California's financial policy offering $5,000 per year for four years to attract new teachers to the state's lowest performing school increased the likelihood of teachers working in the schools by 28 percent, with three-fourths of teachers who received the incentive staying for at least four years.

However, limited-duration financial incentives (e.g. signing bonus, targeted enhanced pay by subject) are often individualized and only apply to districts and schools that offer them. Examining the issue of limited duration financial incentives to address the teacher supply problem is informative, however, states and districts have been found to rely less on such means to address geographic specific teacher shortages (Strunk and Zeehandelaar, 2011; Jimerson, 2003). In contrast, the traditional compensation package elements of salary, medical and retirement benefits apply to nearly all school districts. This fact warrants that we improve our understanding of the use of these traditional financial incentives already embedded in teacher compensation for teacher supply management.

Limited-duration financial bonuses (particularly small ones) are unlikely to substantively influence retention and recruitment for teachers, especially when coupled with the fact that signing bonuses may attract teachers to schools but offer less incentive for them to stay (Clotfelter *et al.*, 2008). Moreover, many school districts may not be able to utilize special incentives because most districts pay by a single salary schedule that standardizes pay of teachers according to their education and experience. Special incentives are controversial, as some stakeholders perceive them as representing a lack of internal equity and "fairness" when only select teachers can receive the incentives.

In addition, all districts operate in a labor market, where they must vie against non-education occupations for the employment interest of potential teachers. Consequently, teacher salaries relative to non-education career salaries for potential teachers are a critical consideration. Milanowski (2003) provided some indication of the potential size of the

increase in beginning salary that would be necessary to attract freshmen and sophomore college students to teach in the areas of math and science. In his exploratory study he found that a salary increase of 20 percent beyond what students would be earning in their current occupation of choice would interest 53 percent of respondents in the teaching profession and a 50 percent increase would increase that interest by 15 more percentage points. Their results support the use of pay policy or compensating differentials to increase the teacher labor supply. However, his study was conducted over 15 years ago and his focus was not on remote rural teaching, which is often perceived to be even less attractive than teaching in general due to professional and social isolation and difficult living conditions (Showalter *et al.*, 2017). Our study addresses these points.

Methods

While improving compensation is often recommended as a potential solution to address teacher attraction barriers, it is unclear which compensation strategy should hold priority. This study advances the literature on several fronts. First, it looks at variation in stated salary requirements to consider teaching at a rural hard-to-staff setting for college students across majors. Second, it examines how different components of traditional teacher compensation and the perception of respectability in the profession influences that consideration. Third, it shares the results of a qualitative case study featuring follow-up interviews with survey participants that provide richness and deeper understanding of the quantitative results. Overall, we utilized an explanatory sequential mixed methods strategy (Creswell and Creswell, 2017) to build on the teacher recruitment literature. This mixed method strategy included: quantitative data collection, quantitative data analysis, using quantitative results to inform qualitative design, qualitative data collection, qualitative data analysis and integrating quantitative and qualitative results (Creswell and Plano Clark, 2017).

We focus on the state of South Carolina because it mirrors many characteristics of states that have recently experienced teacher walkout and strikes (i.e. lower teacher salary than the national average, decreasing inflation-adjusted salary, inadequate education funding, a politically conservative state) and because the state is suffering from major teacher shortages (CERRA, 2018). Approximately half of the rural students in the South Carolina are underrepresented minority students and 68.5 percent of them are from low-income families (one of the highest percentages for rural populations in the nation), being taught by rural educators whose salaries are substantially below the national average (Showalter *et al.*, 2017).

Theoretical framework

The paper relies on the framework of the economic theory of compensating wage differentials that suggests prospective teachers are willing to trade-off higher wages to counteract unfavorable non-pecuniary aspects of their work (e.g. remote rural geographic location) (McEwan, 1999). The theory is based on the premise that individuals will make employment and career decisions based on what will maximize their overall utility or satisfaction. In this study, we seek to better understand what mix and level of compensation are needed to attract individuals to rural hard-to-staff schools.

Quantitative method and sample

To ascertain the preferences of respondents, we used vignettes (Horng, 2009) by creating a sample profile describing the rural school district identified by the state as having the most severe teacher staffing issues. Specifically, the district is within the top 10 percentile, a cut off used by the state accountability system, of districts with the highest percentage of teachers that are not designated as "highly qualified" under the federal No Child's Left Behind Act (i.e. teacher possesses a Bachelor's degree, full state certification and

demonstration of subject matter knowledge in area taught) and teacher vacancies of nine weeks or more. It is also the district with the highest average teacher turnover in the state. The district is comprised of primarily students from impoverished (approximately 95 percent on free/reduced lunch) and underrepresented minority backgrounds (approximately 98 percent, with 94 percent being African American).

Study respondents were provided with the sample district profile that highlighted district demographic information (i.e. number of schools, teachers, student-teacher ratio, percent of students in poverty and with disabilities, four-year student graduation rates, students' ACT performance, the racial demographics of teachers and students, percent of teachers with advanced degrees, on continuing contract and returned from the previous year and per pupil spending) obtained from the state department of education, disaggregated by elementary, middle and high school. Further, we included information such as city population, median household income, median rent cost, median home value and pictures for a sample median-priced home obtained from a local community real estate listing to account for cost of living. Given that research has suggested the importance of amenities such as distance from the district to the nearest college, metropolitan city, hospital, Walmart, as well as other major grocery shopping outlets in town (Handal *et al.*, 2013), we also provided that information in the district profile. By including the aforementioned data in the district profile, we hold constant the district's demographic variables to assess only respondent's preferences relative to their employment in the sample rural hard-to-staff district. Respondents were asked to thoroughly review the district profile before responding to the survey questions.

Survey and district profile validation

The profile was content validated by a panel of experts comprising of active teachers currently employed by South Carolina school districts. The panel was split between 57 teachers, who were either employed in a state identified hard-to-staff (i.e. with an average of five-year > 11 percent teacher turnover) rural districts ($n = 13$) or not ($n = 44$). Based on results of our independent sample *t*-test, we found that the self-reported representativeness of the sample profile district to respondent's own district was greater ($M = 3.38$, SD = 1.19) for those from high needs rural districts than those not ($M = 1.90$, SD = 0.88), $t(-4.14) = p < 0.001$. This suggests that our sample district is a viable representation of the state's rural hard-to-staff districts.

We content validated the survey with two rounds of smaller (i.e. 5–9 college students) pilot studies. The aim was to obtain feedback on the content, language and format of the survey. The survey administrator asked probing questions to ensure students accurately interpreted the survey. Some questions, instructions and formatting were modified as a result of the focus groups. Once the survey was validated and deemed understandable by our pilot groups, it was prepared for distribution.

Survey sample

The electronic surveys and sample rural district profile were sent to a random sample of college students from a mid-size (approximately 5,800 students) regional public university in South Carolina. Student contact information was obtained from the institution. Respondents were offered the opportunity to win a $50 gift card for their study participation.

The state of South Carolina has been experiencing a decline in teacher education graduates (a 30 percent drop from four years prior) (CERRA, 2018). This waning interest is also reflected in the industry at large (Allegretto and Mishel, 2016), demonstrating a need to capture more interest in teaching. Accordingly, our study collected data from college students across all majors in the sample university. Survey responses were obtained for 403 students. Due to differences that can exist between sample and population data for reasons

including nonresponse, we obtained population data to adjust case sampling weights to corresponding totals in the population. This procedure is known as iterative proportional fitting or raking (Battaglia *et al.*, 2013) and was used to increase the representativeness of our sample's findings. Weighting procedures have been found to be effective at reducing nonresponse bias (Dey, 1997).

The choices of weights were deliberately selected based on the literature as characteristics that would likely link survey variables to nonresponse (Pike, 2008). For certain categories of students, our sample data already mirrored population (e.g. international students). For others, such as gender, race, residency and class standing (Freshmen, Sophomore, Junior, Senior, Graduate Student, Post-Graduate), population demographics were used in the raking process to sequentially balance the sample one variable at a time. The selection of these weights is supported by research on college students that have reported characteristics such as age and gender are related to survey response (Porter and Umbach, 2006) and teacher employment decisions (Taie and Goldring, 2017). Residency and class standing were also weighted because past studies have found teachers tend to apply and choose to teach in close proximity to their hometown (Engel *et al.*, 2014) and because class standing reflects differences in how close respondents are to actually making employment decisions.

Most respondents were female (80 percent), Caucasian (60 percent), seniors in college (48 percent), from non-rural areas (82 percent), had zero dependents under 18 (89 percent), with their most educated parent earned a bachelor's degree (27 percent). Approximately half (i.e. 49 percent) of the respondents were on Pell Grant (a proxy for low-income based on financial aid eligibility), with their average parent income at $68,670. Participants averaged 23.5 years old, 3.48 college GPA and 3.69 high school GPA.

For our main quantitative model, we estimated an ordinal logistic regression regressing respondents' stated likelihood of working at a district similar to sample rural school district on different financial components of compensation and perceived respectability of the profession, controlling for relevant non-pecuniary factors (full variable list in Table II). Collinearity issues were not detected for the predictors. Ordinal logistic regression was used because the dependent variable is a Likert scale response set with a lack of equal distance between each response category (O'Connell, 2006).

Qualitative method and sample

In the second phase of this explanatory sequential mixed method study, a semi-structured interview protocol was developed to further refine, explain, and extend the quantitative findings (Creswell and Plano Clark, 2017). Our case study approach (Merriam and Tisdell, 2015) to qualitative data collection and analysis included a sampling of survey respondents using a random number generator to select 10 participants for 60–90 min semi-structured interviews. Participants were offered a $50 gift card for their participation and all invitees accepted. The random selection resulted in qualitative interview participants that were 50 percent female, 80 percent Caucasian, 80 percent in-state, 60 percent grew up in rural areas with a population less than 50,000, 40 percent community college transfer, 70 percent seniors, with an average age of 24 and parent income of $54,000. Majors included business, criminal justice, biology, physical education exercise science, commercial music, elementary education, computer science, and communications. Interview participants expected an average income of $58,722 in their current or intended major and needed an average of $41,222 to seriously consider a teaching career in a district similar to sample profiled district.

The interview protocol was developed following initial data analysis of the quantitative results and focused questions on providing additional explanation to the quantitative findings. Interview transcripts were transcribed and qualitative analysis followed Creswell's (2009) steps of: organizing and preparing the data, reading through the data, coding the

data, description and theme development, interrelating themes, interpreting results. This analysis specifically utilized an open coding strategy (Strauss and Corbin, 1990) to break down, examine and categorize the data. Two researchers independently coded the data and compared codes to develop short terms and descriptions that emerged and were used to segment the data. This strategy provided intercoder reliability and allowed for similar and related codes developed across the researchers to be merged by reviewing the data together for clarified understanding. These resulting terms and descriptions provided meaning and a single list of characterizing categories that were reconstructed to provide relevant and meaningful concepts. These characterizing categories, or themes, then formed the basis of organizing and describing the qualitative results of this study.

Results

In accordance with the explanatory sequential mixed method design, the quantitative research findings are presented first, followed by the qualitative findings, then by integrating both.

Quantitative results

There was much variation in respondents' likelihood of considering employment at the sample rural school district by respondents, which was measured on a five-point Likert scale ranging from unlikely to very likely. Despite this, the average was 2.62 (SD = 0.068), with most (31 percent) neutral on the matter. This is promising because it suggests that a large percentage of prospective teachers may be potentially swayed into the rural teaching profession with the proper incentives.

The proper incentives may be an increase in base teacher salary. Specifically, the average reported annual salary minimum needed for respondents to seriously consider teaching at the rural sample district reported to be $47,606.60 (SD = $52,923.84), compared to the average of $33,057.00 beginning teacher salary offered by South Carolina public school districts at the time of the study. This represents a $14,549.60 (36.07 percent) gap and a statistically significant difference, $t(453) = 2.53$, $p = 0.012$. The percentage difference between respondents' minimum salary requirement with the beginning teacher salary offered by the sample rural district is even wider at 40.36 percent. Taken together, this suggests that present salary levels will need to be improved substantially in order to attract many into teaching at rural hard-to-staff schools.

Respondents' minimum salary requirements and the subsequent difference between that and the actual beginning salary offerings by the sample rural hard-to-staff district varied by major. Specifically the percentage difference was largest for those who majored in computer sciences/engineering (63.76 percent) and smallest for those who are undeclared or have not yet selected a major (5.78 percent). Table I displays those differences. This finding aligns with the theory that individuals on different career paths face different opportunity costs should they transition to a teaching career and therefore have different thresholds for what it would take for them to make that transition.

When considering using financial incentives to attract prospective teachers, Milanowski (2003) suggested that there might be two types of individuals. The first type could be attracted to the teaching profession by paying them lower salary than they would expect to receive in their current occupation of choice, and the other type can only be attracted by offering them a higher salary than they would expect in their current career trajectory. Our findings offer hopeful insight in that the majority (73 percent) of our sample fell in the former category, whereas the minority (27 percent) occupied the latter. Specifically, those in the former group included students who majored in the physical sciences, exercise sciences, business administration, communication and public relations, interdisciplinary major and unidentified. Those willing to only consider teaching for a higher salary than what they expect included those who majored in the liberal arts, computer sciences/engineering, social

sciences, political science and interestingly, education majors. The latter group comprised of many respondents who although planned to be teachers, required a higher salary to be teachers in a rural hard-to-staff school.

As anticipated, respondents' expected salary from the occupation based on their current academic major was negatively correlated with respondents' likelihood of working at a district like the sample rural school district ($r = -1.96$, $p < 0.0001$). This suggests that higher salaries offered by other professions likely plays a large part in attracting individuals away from rural teaching. Overwhelmingly, respondents that indicated that they were not very likely to consider employment in the sample district expected significantly higher average beginning salaries ($\bar{x} = \$59{,}897.79$) than those indicating they were neutral ($\bar{x} = \$47{,}655.56$) or very likely ($\bar{x} = 40{,}551.02$) to consider employment in the sample district.

Finally, Table II displays the results of the regression coefficients and their corresponding proportional odds ratio. Odds ratios are often more straightforward to interpret because the coefficients address changes in log odds, which are less intuitive than proportional odds. Of the variables tested, expected beginning public teacher salary at the sample rural district mattered most for whether respondents would consider working there. Specifically, a 1 percentage change in the beginning public teacher salary at the rural sample school district increases the odds of a respondent's higher likelihood of teaching at the district by 7.92 relative to the combined lower categories of likelihood, holding all other variables in the model constant ($p < 0.0001$). Other significant pecuniary predictors included respondents' expected salary, "better" retirement benefits and their own minimum requirement salary threshold. The direction of the coefficient is as expected, with more attractive offers by competing occupations resulting in respondents' lower likelihood of considering a rural teaching job at the sample district and more attractive offers by the rural school district resulting in higher interest by respondents.

Statistically significant non-pecuniary factors included the perceived respectability of the profession and number of dependents as found to be positively associated to the dependent variable, and respondents' high school being home schooled or taught online as less likely to predict the dependent variable than those who grew up in a rural environment. The latter finding lends partial support for "grow your own" initiatives that seek to recruit individuals from rural communities into rural teaching professions based on the theory that they are more likely to be familiar with the living conditions in such communities and accept employment there.

Major	Minimum required annual salary	Percentage difference between minimum required and actual salary	Minimum required minus expected salary
Liberal arts (English, History, Art, Music, Math)	56,000	55.65	12,687
Physical sciences (Biology, Chemistry, Nursing, Pharmacy)	47,610	40.37	−17,387
Computer sciences/engineering (CIS, HIMS, CS)	61,217	63.76	5,296
Social sciences (PSYC, SOC, Social work, Criminal justice)	46,873	38.87	4,547
Political science	40,000	23.40	5,333
Exercise science	43,967	32.67	−468
Business administration	43,973	32.69	−2,729
Education	44,870	34.65	10,107
Communication/PR	40,765	25.27	−4,470
Interdisciplinary	36,692	14.85	−1,833
Undeclared/unknown	33,500	5.78	−12,900
Overall	45,043	35.02	−165

Table I. Reported annual salary minimum needed for respondents to seriously consider teaching at rural sample districts by major and percentage gap from actual beginning salary from sample district

	Coefficient	Odds ratio
Expected salary (ln)	−1.19 (0.32)****	0.3 (0.10)****
Expected beginning public teacher salary in sample rural district (ln)	2.07 (0.42)****	7.92 (3.31)****
Expected beginning teacher salary for those with BA across SC (ln)	0.49 (0.33)	1.64 (0.54)
Minimum salary needed to consider working in rural district (ln)	−1.5 (0.40)****	0.22 (0.09)****
Better retirement in the sample rural school district	0.8 (0.32)**	2.23 (0.72)**
Better medical benefits in the sample rural school district	−0.29 (0.29)	0.75 (0.22)
First generation in college	−0.31 (0.22)	0.73 (0.16)
Number of dependents	0.28 (0.08)****	1.32 (0.1)****
Perceived respectability of the profession	0.37 (0.16)**	1.45 (0.23)**
High school located in rural area[a]		
Rural over non-rural	−0.62 (0.37)	0.54 (0.23)
Online or home school over non-rural	−1.6 (0.46)****	0.12 (0.09)****
College GPA	−0.08 (2.3)	0.93 (0.21)
Gender	0.08 (0.23)	1.08 (0.25)
Racial Background[b]		
Black or African American	0.05 (0.27)	1.05 (0.28)
Asian	−0.21 (0.39)	0.81 (0.32)
Bi racial/multicultural	0.25 (0.63)	1.28 (0.81)
Hispanic	−0.76 (0.60)	0.47 (0.28)
Refused to State	0.15 (0.58)	1.16 (0.68)

Notes: Ln = Log. Standard error in parentheses. [a]Reference group is Non-Rural. [b]Reference group is Caucasian/White. **$p < 0.05$; ****$p < 0.001$

Table II.
Ordinal regression results of likelihood of teaching at rural sample district on compensation factors

Finally, the lack of significance for college GPA is a bit reassuring, as it does not suggest teachers of differing potential quality (at least by this rough proxy) vary in their potential interest for a rural teaching position in the hard-to-staff school.

Qualitative results

Given the quantitative findings, and the study state's policy discussions and attention placed on salary, we conducted an in-depth qualitative explanatory examination of our quantitative findings. Three major themes emerged from the resulting analysis: teacher beginning salary and other working conditions compounding as a "deal breaker," beginning teacher salary as a representation of the teaching profession's respectability and public sector retirement and medical benefits are perceived to be generally important, but misunderstood.

First, teacher beginning salary and other working conditions compounding as a "deal breaker" stemmed from participants regularly describing a combination of factors important to their employment decision making. For nearly all participants this included salary and at least one additional variable (e.g. community amenities, administrative support). For example, a female communications major explained that salary and location were barriers to her considering employment as a teacher in a rural high-needs district. Specifically, she said:

> The most important factors are pay and location. The place I choose to teach at is also going to be where I choose to live. I want to be comfortable. I always hear that teachers don't get paid a lot, but they are the ones teaching people – so I don't understand why they don't get paid a lot.

Second, while respectability of the teaching profession can be understood as an influencing factor outside of compensation, base salary and respectability of the teaching profession emerged as the most significant combination of barriers in our interviews to seeking teaching as a profession. Although these can be thought of as two separate recruitment

challenges, our participants described these as heavily interrelated. For example, a male military veteran participant majoring in business management and marketing explained:

> Traditionally it is perceived that teachers are not paid enough […] they feel undervalued and underpaid. I looked into teaching as a career pretty strongly […] and every person I talked to, be it a grade school teacher or college professor, told me the same thing – that it was a lot of work, it was an unstable work environment, and the pay was very poor for the amount of work that you put in.

Another participant that had been a teachers aid in high school examined the disproportionate compensation relative to teacher input as an issue of value and respect and noted:

> When I was working at the elementary school, I think it was actually one of the computer teachers, they sat down and came up with all the hours that they had put into the school the last year and what they actually came out making hourly and it was like a dollar and something an hour. Because it's all the extra things that they put in that they don't necessarily have to, but they do. It's all the additional meetings, the bus duties, lunch duties, all of those things that are kind of the hidden workload in the teaching profession.

A female majoring in biology with the dream of going to veterinarian school explained she has considered teaching high school biology as a back-up plan and added "The thing that is keeping me out of teaching is how little they are paid and how undervalued they are." It was clear participants viewed respectability of the teaching profession heavily from a monetary lens. This low perception of respectability was aligned with the state of teaching salaries being generally lower than participant's non-education career options.

Lastly, qualitative data revealed a general lack of understanding of public teacher retirement benefits compared to those typically received in by other professions. For example, one participant explained, "[…] we get better benefits (biology majors) because we have better career paths and teachers are underpaid, so medical benefits are a major factor in that." But in a follow up asking her to compare and describe differences in public sector teaching medical and retirement benefits to private sector benefits she explained:

> I don't know what kind of benefits they get for K-12, but I was a teacher cadet for a first grade class and [the teacher] never explained any health benefits, but I don't think that she has very good health benefits compared to what a veterinarian might get because they would get a 401 K and all of those kinds of great benefits and good dental insurance and everything.

Overall, participants perceived retirement and medical benefits to be important but struggled to consistently articulate any known differences between these benefits (e.g. defined benefit vs defined contribution, employee premiums). While it is not a great surprise that undergraduate students did not understand nuanced details of employee benefits, it does speak to the larger respectability of public teacher employment that most participants blindly perceived employee benefits for other professions to be better than public teacher benefits.

Integration of quantitative and qualitative results

The quantitative and qualitative findings both support the notion that college students are willing to take less starting salary to enter the teaching profession compared to their anticipated salary in their current or anticipated non-education majors, but this difference must be in a reasonable range from the non-education field. Thus, we can infer that students majoring in high salary fields would be more difficult to recruit into the teaching profession. For example, a participant majoring in biology with the goal of attending dental school anticipated his post-college earnings to be $70,000–$90,000 per year and described the minimum annual salary needed to seriously consider teaching to be $50,000 per year. While survey participants indicated that retirement benefits would be important in the decision to teach in a high-need rural district from the quantitative results, the follow-up interviews revealed that participants generally lacked an understanding of how public sector and

private sector benefits vary. Most participants operated on the broad assumption that public benefits would not be as good as private sector benefits without understanding how either operate.

Salary was described by several participants as being representative of respect in the profession as it relates to factors in their teacher employment decisions. However, our quantitative findings suggest that general respect for the profession itself, beyond compensation, is a significant barrier for college students to consider teaching as a profession. Our qualitative findings support this finding. For a Canadian student explained:

> Teaching is generally a really good profession in Canada. They get really good benefits, and they're paid really well. It's just a really highly respected position. I notice in the states, it is not quite as respected I would say. So honestly, unless a lot of those factors shifted, I probably wouldn't consider teaching in South Carolina […]. In Canada, it's a pretty prestigious job, so it's four years of undergrad, and then two years of teacher's college. To get into teacher's college, it's pretty competitive. Also then, getting a job after you're out of teacher's college, there's a huge wait list. So most people are supply teachers for about five years before they become a full time teacher.

Discussion and conclusion

The states involved in the "season of strikes" have been largely successful with bringing pressure to respond to their demands. As a result of the movement, many states have conceded to increasing teacher pay and education spending in much more expedient timeframe than through the traditional legislative channels (Fay, 2018). This is promising as teachers are the most important school resource for student learning (Goldhaber, 2015), but high turnover and recruitment challenges threaten their potential positive impact, especially in rural areas. Economic incentives have been often proposed and used as strategy to attract teachers to work in less desirable districts and schools based on the theory of compensating differential, which suggests that there is some wage level which is sufficiently high enough to compensate an individual for the deterrent aspects of rural teaching (McEwan, 1999). According to our study, that wage is $47,606.60 for our rural sample school district, but the amount varies by major.

Our research is important for several reasons. First, the potential for financial incentives is not universally agreed upon because some argue that teachers are not motivated by money (e.g. Morice and Murray, 2003). While this may be true for some altruistic individuals, our study supports the importance of monetary incentives to bring additional teachers into the profession. The findings of this study build on the literature of the importance of base salaries for teachers (Tran and Buckman, 2017; Tran, 2017), as it was found to be the most important financial incentive of the traditional compensation package for rural teaching interest. "Better" benefits are often suggested to offset lower teacher wages. However, focusing on benefits in lieu of wage increases does not appear to be particularly effective strategy. The results of our study suggest that potential teachers are more influenced by higher wages than benefits when considering teaching at a rural hard-to-staff district. This may be related to the fact that younger college students often are less motivated by benefits given that may view them as less of a necessity than older adults with families. That said, retirement benefits were a statistically significant predictor of the dependent variable in the quantitative analysis.

Second, this study explored the topic of the opportunity cost of becoming a teacher (Allegretto and Mishel, 2016). As supported by our study's findings, the majority of students expected to earn more in their current career trajectory than in the rural sample school district. The significance of the expected salary offerings of students' occupation based on current academic major after graduation is aligned with findings from past research concerning the importance of relative earnings outside of teaching for individuals' decision to teach (Bacolod, 2007). While most respondents were willing to consider a rural teaching,

they often stated a requirement of a higher minimum salary than offered by the rural hard-to-staff sample district or districts across the state. While teacher salaries are already low relative to other professional occupations (Ramirez, 2011), teacher salaries at many impoverished rural schools are even lower (Showalter *et al.*, 2017). One positive finding from this study is that for most respondents (73 percent), the salaries offered may not need to exceed students' expected salaries from their current career trajectory in order to attract individuals into rural teaching, but it must be more comparable.

Low salaries represent one of the largest barriers to rural teacher recruitment. While limited duration financial incentives such as signing bonuses or loan reimbursement may be helpful, they attack the peripheral of the problem and do not address the core issue of low wages. School funding mechanisms exacerbate the problem. For instance, in the USA, a large proportion of school funding is derived from property and income taxes that often disadvantaged rural locations given their lower property values and salaries (Tran, 2016). In addition, funding is provided by the government on a per-pupil basis in rural regions that often have fewer numbers of students spreading across larger geographic areas (Miller, 2008). Reforming teacher compensation to improve the equity for neglected rural students is imperative because these students deserve to reap the full benefits of public education as much as any other student and should not be deprived based on where they are located. Moreover, while this study addressed starting salaries, it is equally if not more important to also assess pay increases over time. Tran and Smith (2018), for example, found that potential teachers ranked pay raise as more important for their employment consideration than starting pay.

Beyond issues of pay, our mixed-method results support the view that elevating the respect for the teaching profession to nurture a positive teacher identity appears to be critical for teacher recruitment. After decades of being villianized as part of the "problem" in public education (Tran, 2016), the "season of strikes" represented educators stand against education funding disinvestment and support for the field. In fact, the movement has inspired many teachers to run for political office to have more control over their profession (Greenblatt, 2018). The environment that gave rise to the strikes and political activism represents a philosophy of change. The teaching profession need not continue to be viewed through a punitive "blame the teacher" lens, even within the context of accountability.

Given the significant influence of the respectability of the profession as evidenced in our data, the positive conception of the teaching profession will positively influence the teacher supply. Other areas that can improve the respect for the teaching profession include how administrators interact with teachers and improvements in other aspects of the working environment, whereas the teaching profession in the USA was once associated with discretion, autonomy and held in higher regard, the wave of accountability reform (Tran, 2016) has rendered the profession into a largely automated process that has not been found to be to the benefit of student learning (Poole, 2008).

Despite the contributions of this study to the literature, much more work needs to be done. Future qualitative research should consider using a purposeful sampling method and to survey more respondents to better understand attractors and detractors for entering the teaching profession. Additional study is needed to better understand the relationship between teacher recruitment and lagging respectability of the teaching profession, perceptions of working employment conditions, and misunderstanding of public teacher benefits. In addition, this study only focused on potential employment in a rural hard-to-staff school. Therefore, future research should examine whether its findings hold up in comparison to non-rural settings (e.g. an urban or suburban school district). By examining this, we can gain a better understanding the relative influence of financial and respect factors across different context for college students from different majors. In the end, the confluence of events that have given rise to the "season of strikes" such as declining teacher salaries relative to other

professions, declining inflation-adjusted salaries within the profession, and reduction of education spending is likely avoidable in other contexts if states and countries proactively address issues related to the respect of the teaching profession and all that this encompasses (including improving educator compensation). Critics may argue this requires substantial financial investment that the government and school district employers do not have. However, considering the economic value of great teachers on student lifetime earnings (Hanushek, 2011), the $2.2bn annual cost in teacher replacement (Haynes, 2014), plus the financial loss associated with teacher strikes, society may be paying more already.

References

Allegretto, S.A. and Mishel, L. (2016), *The Teacher Pay Gap is Wider Than Ever. Teachers' Pay Continues to Fall Further Behind Pay of Comparable Workers*, Economic Policy Institute, Washington, DC, available at: www.epi.org/publication/the-teacher-pay-gap-is-wider-than-ever-teachers-pay-continues-to-fall-further-behind-pay-of-comparable-workers/#epi-toc-21 (accessed July 9, 2018).

Bacolod, M. (2007), "Do alternative opportunities matter? The role of female labor markets in the decline of teacher quality", *The Review of Economics and Statistics*, Vol. 89 No. 4, pp. 737-751.

Battaglia, M.P., Hoaglin, D.C. and Frankel, M.R. (2013), "Practical considerations in raking survey data", *Survey Practice*, Vol. 2 No. 5, pp. 1-10.

Blair, E.J. (Ed.) (2018), *By the Light of the Silvery Moon: Teacher Moonlighting and the Dark Side of Teachers' Work*, Stylus Publishing, LLC.

CERRA (2018), "South Carolina annual educator supply and demand report", Center for Educator Recruitment, Retention and Advancement, available at: www.cerra.org/uploads/1/7/6/8/17684955/2017-18_supply_demand_report.pdf (accessed July 11, 2018).

Clotfelter, C., Glennie, E., Ladd, H. and Vigdor, J. (2008), "Would higher salaries keep teachers in high-poverty schools? Evidence form policy intervention in North Carolina", *Journal of Public Economics*, Vol. 92 Nos 5/6, pp. 1352-1370.

Creswell, J.W. (2009), *Research Design. Qualitative, Quantitative, and Mixed Methods Approaches*, Sage Publications, Thousand Oaks, CA.

Creswell, J.W. and Creswell, J.D. (2017), *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, Sage Publications, Thousand Oaks, CA.

Creswell, J.W. and Plano Clark, V.L. (2017), *Designing and Conducting Mixed Methods Research*, Sage Publications, Thousand Oaks, CA.

Dey, E.L. (1997), "Working with low survey response rates: the efficacy of weighting adjustments", *Research in Higher Education*, Vol. 38 No. 2, pp. 215-227.

Engel, M., Jacob, B.A. and Curran, C.F. (2014), "New evidence on teacher labor supply", *American Educational Research Journal*, Vol. 51 No. 1, pp. 36-72.

Fay, L. (2018), "With North Carolina teachers rallying this week, a look back at a season of strikes: what teachers asked for and what they received", available at: www.the74million.org/with-north-carolina-teachers-rallying-this-week-a-look-back-at-a-season-of-strikes-what-teachers-asked-for-and-what-they-received/ (accessed July 9, 2018).

Goldhaber, D. (2015), "Teachers clearly matter, but finding effective teacher policies has proven challenging", in Ladd, H. and Goertz, M. (Eds), *Handbook of Research in Education Finance and Policy*, Routledge, New York, NY, pp. 146-165.

Greenblatt, A. (2018), *Teachers Aren't Just Striking, They're Running for Office*, Governing the States and Localities, March 15, Folsom, CA, available at: www.governing.com/topics/politics/gov-teachers-running-election-office-strike.html (accessed July 11, 2018).

Guarino, C.M., Santinbanez, L.M. and Daley, G.A. (2006), "Teacher recruitment and retention: a review of the recent empirical literature", *Review of Educational Research*, Vol. 76 No. 2, pp. 173-208.

Handal, B., Watson, K., Petocz, P. and Maher, M. (2013), "Retaining mathematics and science teachers in rural and remote schools", *Australian and International Journal of Rural Education*, Vol. 23 No. 3, pp. 13-27.

Hanushek, E.A. (2011), "The economic value of higher teacher quality", *Economics of Education Review*, Vol. 30 No. 3, pp. 466-479.

Haynes, M. (2014), *On the Path to Equity: Improving the Effectiveness of Beginning Teachers*, Alliance for Excellent Education, Washington, DC, available at: http://all4ed.org/reports-factsheets/path-toequity/ (accessed July 11, 2018).

Horng, E.A. (2009), "Teacher tradeoffs: disentangling teachers' preferences for working conditions and student demographics", *American Educational Research Journal*, Vol. 46 No. 3, pp. 690-717.

Ingersoll, R. and Merrill, L. (2010), "Who's teaching our children?", *Educational Leadership*, Vol. 67 No. 8, pp. 14-20.

Jimerson, L. (2003), *The Competitive Disadvantage: Teacher Compensation in Rural America*, Rural School and Community Trust, Washington, DC.

Kolbe, T. and Strunk, K.O. (2012), "Economic incentives as a strategy for responding to teacher staffing problems: a typology of policies and practices", *Education Administration Quarterly*, Vol. 48 No. 5, pp. 779-813.

McEwan, P.J. (1999), "Recruitment of rural teachers in developing countries: an economic analysis", *Teaching and Teacher Education*, Vol. 15 No. 8, pp. 849-859.

Malkus, N., Hoyer, K.M. and Sparks, D. (2015), *Teaching Vacancies and Difficult-To-Staff Teaching Positions in Public Schools*, Stats in Brief (NCES 2015-065), National Center for Education Statistics, Washington, DC.

Merriam, S.B. and Tisdell, E.J. (2015), *Qualitative Research: A Guide to Design and Implementation*, John Wiley & Sons, Hoboken, NJ.

Milanowski, A. (2003), "An exploration of the pay levels needed to attract students with mathematics, science and technology skills to a career in K-12 teaching", *Education Policy Analysis Archives*, Vol. 11 No. 50, pp. 1-27.

Milanowski, A.T., Longwell-Grice, H., Saffold, F., Jones, J., Schomisch, K. and Odden, A. (2009), "Recruiting new teachers to urban school districts: what incentives will work?", *International Journal of Education Policy and Leadership*, Vol. 4 No. 8, pp. 1-13.

Miller, A. (2008), "Rural schools struggle to attract highly qualified teachers", *Public Interest Law Reporter*, Vol. 13 No. 2, pp. 186-193.

Morice, L.C. and Murray, J.E. (2003), "Compensation and teacher retention: a success story", *Educational Leadership*, Vol. 60 No. 8, pp. 40-43.

O'Connell, A.A. (2006), *Logistic Regression Models for Ordinal Response Variables*, Sage Publications, Thousand Oaks, CA.

Pearce, M. (2018), "Red-state revolt continues: teachers strike in Oklahoma and protest in Kentucky", *Los Angeles Times*, April 2, available at: www.latimes.com/nation/la-na-teachers-spending-20180402-story.html (accessed July 9, 2018).

Pike, G.R. (2008), "Using weighting adjustments to compensate for survey nonresponse", *Research in Higher Education*, Vol. 49 No. 2, pp. 153-171.

Poole, W. (2008), "Intersection of organizational justice and identity under the new policy direction. Important understandings for educational leaders", *International Journal of Leadership in Education*, Vol. 11 No. 1, pp. 23-42.

Porter, S.R. and Umbach, P.D. (2006), "Student survey response rates across institutions: why do they vary?", *Research in Higher Education*, Vol. 47 No. 2, pp. 229-247.

Ramirez, A. (2011), "Merit pay misfires", *Educational Leadership*, Vol. 68 No. 4, pp. 55-58.

Schaefer, A., Mattingly, M.J. and Johnson, K.M. (2016), "Child poverty higher and more persistent in rural America", Report No. 97, University of New Hampshire Carsey School of Public Health, Durham, NH, available at: https://carsey.unh.edu/publication/rural-child-poverty-higher (accessed July 11, 2018).

Showalter, D., Klein, R., Johnson, J. and Hartman, S. (2017), *Why Rural Matters 2015-2016: Understanding the Changing Landscape*, The Rural School and Community Trust, Washington, DC, available at: www.ruraledu.org/user_uploads/file/WRM-2015-16.pdf (accessed July 11, 2018).

Steele, J.L., Murnane, R.J. and Willet, J.B. (2010), "Do financial incentives help low-performing schools attract and keep academically talented teachers? Evidence from California", *Journal of Policy Analysis and Management*, Vol. 29 No. 3, pp. 451-478.

Strauss, A. and Corbin, J.M. (1990), *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, Sage Publications, Thousand Oaks, CA.

Strunk, K.O. and Zeehandelaar, D. (2011), "Differentiated compensation: how California school districts use economic incentives to target teachers", *Journal of Education Finance*, Vol. 36 No. 3, pp. 268-293.

Sutcher, L., Darling-Hammond, L. and Carver-Thomas, D. (2016), *A Coming Crisis in Teaching? Teacher Supply, Demand, and Shortages in the US*, Learning Policy Institute, Palo Alto, CA, available at: https://learningpolicyinstitute.org/product/coming-crisis-teaching-brief (accessed July 11, 2018).

Taie, S. and Goldring, R. (2017), *Characteristics of Public Elementary and Secondary School Teachers in the United States: Results from the 2015-16 National Teacher and Principal Survey. First Look*, National Center for Education Statistics, Washington, DC, available at: https://nces.ed.gov/pubs2017/2017072.pdf (accessed July 11, 2018).

The Hechinger Report (2016), "Cries about national teacher shortages might be overblown", available at: www.usnews.com/news/articles/2016-04-26/cries-about-national-teacher-shortages-might-be-overblown (accessed July 11, 2018).

Tran, H. (2016), "Understanding efficiency and the teacher quality movement through the lens of institutional theory", *Journal of Ethical Educational Leadership*, Vol. 3 No. 7, pp. 1-15.

Tran, H. (2017), "Does the pay stance of South Carolina public school districts influence their math and science achievement scores?", *Journal of Education Finance*, Vol. 43 No. 2, pp. 105-122.

Tran, H. (2018), *Taking the Mystery Out of South Carolina School Finance*, ICPEL Publications, Ypsilanti, MI.

Tran, H. and Buckman, D. (2017), "Pay for progress: the relationship between Florida districts' teacher salary offerings and their high school dropout rates", *Journal of School Public Relations*, Vol. 37 No. 3, pp. 320-346.

Tran, H. and Smith, D. (2018), "Perspectives of potential and current teachers for rural teacher recruitment and retention", Center for Innovation in Higher Education report, available at: www.usccihe.org/s/SC-Teacher-Perspectives-on-RRI-Final-Draft-rev2.pdf

UNESCO Institute for Statistics (2016), "The world needs almost 69 million new teachers to reach the 2030 education goals", October, available at: http://uis.unesco.org/sites/default/files/documents/fs39-the-world-needs-almost-69-million-new-teachers-to-reach-the-2030-education-goals-2016-en.pdf

Corresponding author
Henry Tran can be contacted at: tranhe@mailbox.sc.edu