PENN STATE
CENTER FOR EDUCATION EVALUATION & POLICY ANALYSIS

Research Brief 2023 – 4:

Did Principal Attrition Increase After the Pandemic? The Cases of Pennsylvania, Texas, and Nebraska

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Introduction

Headlines abound that decry an increase in teacher shortages and post-pandemic teacher turnover. Little attention, however, has focused on a shortage of principals or post-pandemic principal turnover. This inattention has occurred despite principals having rather substantial impacts on teacher turnover, school climate, and student outcomes.

While states typically don't collect data that helps estimate the shortage of principals[1], state administrative data can accurately document principal attrition and turnover. Further, surveys can be used to estimate principal attrition and turnover.

Most recently, RAND Education conducted a survey of district leaders which asked them to estimate principal attrition pre-pandemic, in 2020-21, and 2021-22. They found that principal attrition increased markedly from 3% in pre-pandemic years to 6% for 2020-21 and then to 16% in 2021-22. The authors caution, however, that district leaders may be under- or over-estimating these rates

To check the veracity of these survey results, we report prior national rates of principal attrition and turnover and use state administrative data to examine principal attrition and turnover rates from pre-pandemic years through 2021-22 for three states: Texas, Pennsylvania, and Nebraska.

We believe the estimates in the RAND report that were based on responses from district leaders likely under-estimated pre-pandemic principal attrition and over-estimated principal attrition in recent years. First, we found that the National Center for Education Statistics (NCES) reported a much greater principal attrition rate in 2016-17

With respect to our three states under study, we found their principal attrition rates either remained constant or declined in 2019-2020 and 2020-21, then increased to varying degrees in 2021-22. Only Texas had a 2021-22 principal attrition rate that was greater than their pre-pandemic principal attrition rate. While our evidence suggests that principal attrition rates have risen post-pandemic, we perceive that they did not increase substantially in Pennsylvania and Nebraska. We do find, however, that principal attrition rates are extremely high and should be a major area of concern for district- and state- policymakers.

We clearly need data from additional states to fully understand the relationship between the pandemic and principal attrition.

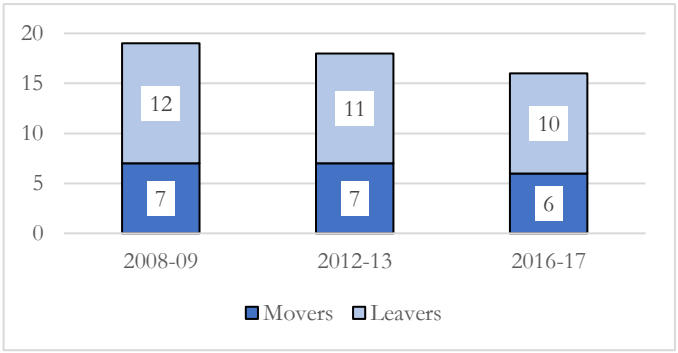
Importance of Principal Attrition and Turnover

There is general consensus in the research community that principal attrition and turnover usually have a negative effect on teachers and students. Specifically, greater principal attrition and turnover are linked to greater teacher attrition and turnover. Further, greater principal attrition and turnover tend to have a negative effect on school climate as well as a variety of student outcomes such as achievement. Thus, principal attrition and turnover are important issues to address because of their impact on the effectiveness of schools.

Prior Research

Prior research on principal attrition suggests that the annual principal attrition rate is between 10% and 12% while another 6% to 8% of principals leave their school to become principals in another school. NCES has administered principal follow-up surveys in 2008, 2012, and 2016 to estimate principal attrition and turnover across the US. As shown in Figure 1, The attrition rate fell from around 12% in 2008-09 to 10% in 2016-17 while the mobility rate remained constant at around 6 or 7%. The total turnover rate (leavers plus movers) declined from 19% in 2008-98 to 16% in 2016-17.

Figure 1: Estimates of Principal Attrition and Turnover Across the United States



Data from NCES Principal Turnover: Stayers, Movers, and Leavers

Unfortunately, finding data from individual states is quite difficult and most studies focus on school-level turnover rather than attrition. For example, a study from North Carolina found principal attrition declined from about 12%

[1] Colorado is an exception: see https://www.cde.state.co.us/educatortalent/edshortage-

in 2017 to less than 10% in 2020. Another study from Tennessee examined attrition and turnover from 2002 to 2017 and found a 7% attrition rate. Researchers in Washington State found annual principal attrition rates of 5 to 6%. Studies from prior years generally reached similar findings—annual attrition rates of between 5% and 12%, depending on the year and the state.

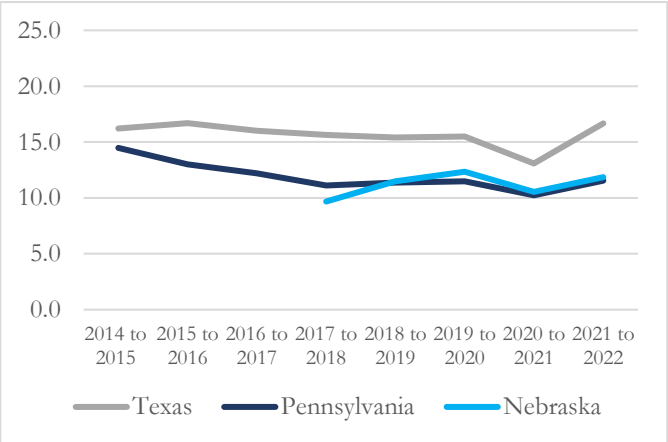
Data from Pennsylvania, Texas, and Nebraska

We acquired state administrative data from Pennsylvania, Texas, and Nebraska that includes pre- and post-pandemic academic years. As shown in **Figure 2**, principal attrition (the percentage of principals no longer employed as a principal in a public school in the state) differed across the three states. Texas had the greatest principal attrition rate across all years while Nebraska had marginally greater principal attrition rates than Pennsylvania from 2018 onward.

In Texas, the principal attrition rate slowly declined from 2915 to 2019. Across the 2020 to 2021 school years (the first opportunity to leave the principalship after the pandemic, the principal attrition rate declined by 2.3 percentage points (15.5% to 13.2%). From 2021 to 2022, the principal attrition rate increased by 3.5 percentage point-from 13.2% to 16.7%. This was a substantial increase over a one year time period. Moreover, this attrition rate was the greatest principal attrition rate across the eight transition periods.

In Pennsylvania, there was a steady decline in the principal attrition rate from 2014-2015 to 2017-2018, then a constant level of attrition from 2017-2018 to 2019-2020. For the first opportunity to leave the principalship after the beginning of the pandemic, there was a 1.5 percentage point decline during the first opportunity to quit after the pandemic (2020-2021), then a 1.5 percentage point increase in the principal attrition rate during the second opportunity to quit after the pandemic. The most recent principal attrition rate was not different than prior attrition rates.

Figure 1: Annual Principal Attrition for Three States



Data source: authors' analyses of state administrative data

Finally, in Nebraska, the principal attrition rate increased from just under 10% in 2017 to 12.3% in 2019. After the pandemic, the principal attrition rate declined 1.8 percentage points to 10.5%. For the next transition period, the attrition rate increased 1.4 percentage points to 11.9%. As with Pennsylvania, the most recent principal attrition rate for Nebraska was not different than prior attrition rates.

Principal Attrition Rates by School Level

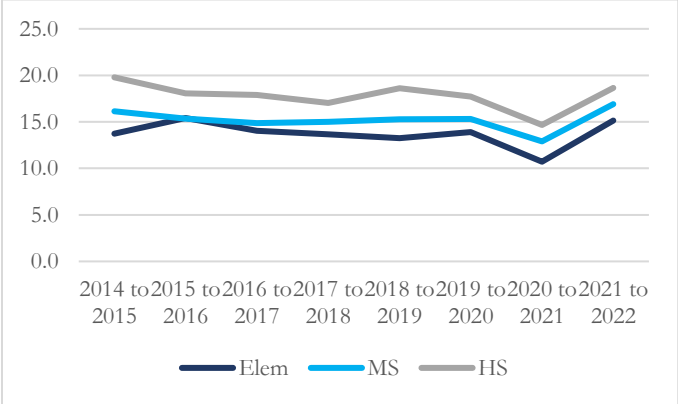
The overall principal attrition rates porttrayed in Figure 1 mask differences in principal attrition rates by school level. Prior research has suggested pricipal attrition rates are greater for secondary schools than for elementary schools.

Below, we present the principal attrition rates by school level for each of the three states.

Texas

In Texas, elementary schools had the lowest porincipal attrition rate and high schools had the greatest principal attrition rate. Middle schools had a principal attrition rate greater than elementary schools biut lower than high schools. Relative to the pandemic, the principal attrition rates for all three schools declined across the first transition opportunity after the pandemic and then increased for the next transition opportunity. The declines and increases were very similar for each of the three school levels.

Figure 2: Principal Attrition in Texas by School Level



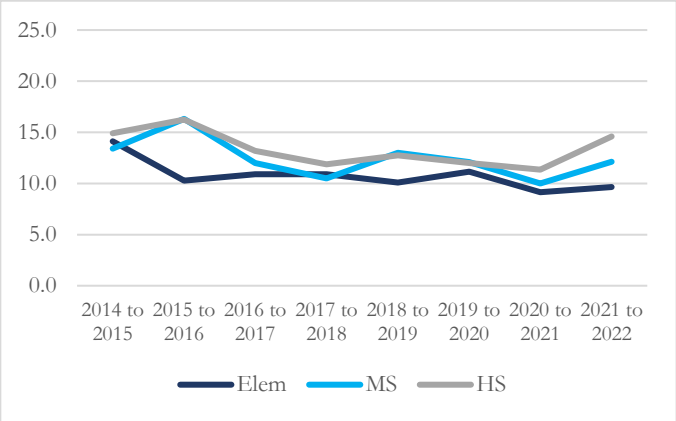
Data source: authors' analyses of state administrative data

Pennsylvania

In Pennsylvania, the principal attrition rates for elementary schools were lower than the rates for high schools, but the differences varied across years. For example, for two transition periods (2014 and 2019), the differences were less than one percentage point. However, the difference was greater than five percentage points in 2018. In their first tansition year after the pandemic, the principal attrition rates declined for all three school levels. Howver, the decline for high schools ws smaller than the declines for either middle- or elementary- schools. In the second transition opportunity after the pandemic, the attrition rate

increased for all three school levels. Unlike Texas, the rates of increase differed by school level. Specifically, high schools had the greatest increase (2.2 percentage points) while elementary schools had the smallest increase (0.5 percentage points). The increase for middle schools was greater than for elementary schools, but less than for high schools (2.1 percentage points).

Figure 3: Principal Attrition in Pennsylvania by School Level

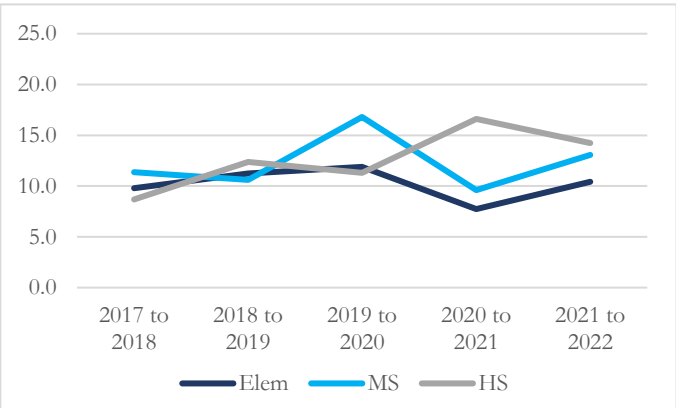


Data source: authors' analyses of state administrative data

Nebraska

Interestingly, in Nebraska, the principal attrition rates were essentially the same for 2017 and 2018 at just over 10%. In 2019, the rate increased dramatically for middle school principals to nearly 17% while the rates for elementary schools and high schools remained largely unchanged. During the first transition opportunity after the pandemic, the principal attrition rates declined for middle schools and elementary schools, but increased substantially for high schools. Specifically, the attrition rate for high school principals increased by 5.3 percentage points to 16.6%. For the second transition opportunity after the pandemic, the principal attrition rates for elementary schols and middle schools increased by 2.5 and 3.5 percentage points, respectively. Alternatively, the attrition rate for high schools decreased by 2.4 percentage points.

Figure 3: Principal Attrition in Nebraska by School Level



Data source: authors' analyses of state administrative data

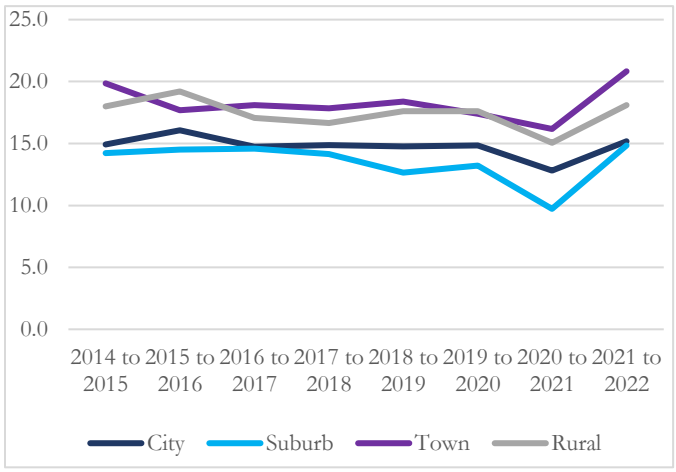
Principal Attrition Rates by Geographic Locale

The overall attrition rates may mask differences across geographic locale as well. Thus, we used NCES data on geographic locale to examine the principal attrition rates for four locales in each state: city, suburb, town, and rural.

Texas

In Texas, town and rural schools had greater principal attrition rates than city and suburban school. With respect to changes in the principal attrition rate, there were declines in principal attrition for all four locales during the first pandemic transition opportunity. The rate of declines were fairly similar across all locales. For the second transition opportunity, there were increases in the principal attrition rate for all four locales. The increases for suburban schools (5.7%) and town schools 4.7%) were the greatest.

Figure 4: Principal Attrition in Texas by Geographic Locale



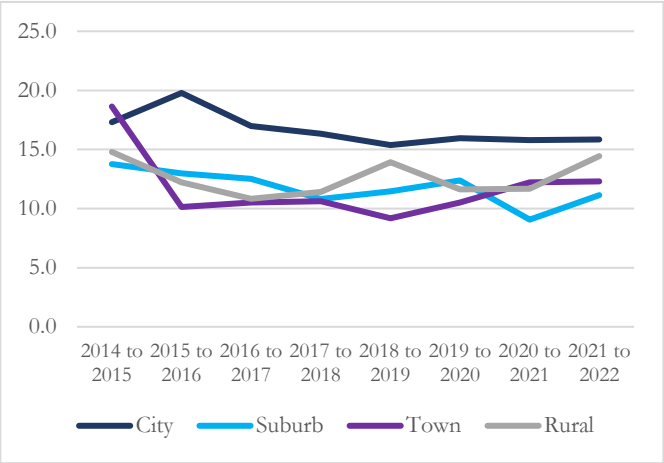
Data source: authors' analyses of state administrative data

Pennsylvania

In Pennsylvania, city schools had the greatest principal attrition rate while the rates for the other three locales were generally relatively close to each other. The changes in principal attrition by locale in Pennsylvania were much more complicated than in Texas. The principal attrition rate in city schools remained constant throughout the pandemic years at just under 16%. In fact, the attrition rate was just under 16% for the six transition opportunities from 2017-2018 through 2021-2022. For rural schools, the principal attrition rate immediately before the pandemic (2019-2020) was the same as during the first transition opportunity after the pandemic (2020-2021).

Specifically, the rate was 11.6% for 2019-220 and 11.7% for 2020-2021. The rate then increased by 2.8 percentage points to 14.4%. For town schools, the attrition rate increased slightly from 2019-2020 to 2020-2021. The rate then remained steady from 2020-2021 to 2021-2022. Finally, the rate for suburban schools declined by more than three percentage points in the first transition period after the pandemic and then rebounded by nearly three percentage points during the second transition period after the pandemic.

Figure 5: Principal Attrition in Pennsylvania by Geographic Locale

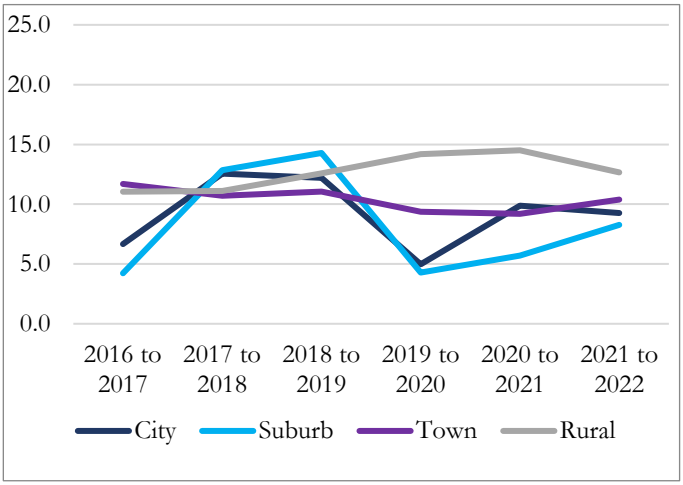


Data source: authors' analyses of state administrative data

Nebraska

In Nebraska, schools rural and town schools had the greatest principal attrition rates in 2016-2017, then suburban schools had the greatest attrition rates for 2017-2018 and 2018-2019. For the 2019-2020, 2020-2021, and 2021-2022 transition opportunities, rural schools had the greatest attrition rates and suburban schools had the lowest attrition rates. With respect to changes in attrition rates before and after the pandemic, there were only marginal changes from 2019-2020 to 2020-21 for rural and town schools while there was a modest increase for suburban schools and a large increase of nearly five percentage points for city schools. For the second transition opportunity, rural and city school attrition rates declined slightly while town and suburban school attrition rates increased slightly.

Figure 5: Principal Attrition in Nebraska by Geographic Locale



Data source: authors' analyses of state administrative data

Conclusions

Based on our analysis of principal attrition rates before and after the pandemic year of 2020, we reach several occlusions.

First, we believe the RAND survey results of district leaders likely under-estimated the pre-pandemic principal attrition rate as well as the principal attrition rate during the first transition opportunity of the pandemic (2020-2021), but more accurately estimated the principal attrition rate from 2021 to 2022. Specifically, the RAND study reported principal attrition rates of 3% pre-pandemic, 6% for 2020-2021, and 16% for 2021-2022. We believe the pre-pandemic and 2020-2021 percentages are closer to 11% or 13% while the 2021-2022 attrition rate is likely between 13% and 16%.

Second, principal attrition does appear to have increased in the most recent years after the pandemic. However, only in one of our three states did the latest attrition rate exceed prior attrition rates.

Third, principal attrition rates can vary fairly dramatically across states. Thus, national estimates regarding principal attrition likely mask variation in such rates across states.

Fourth, principal attrition rates can vary substantially within states by school level and school characteristics. Based on our own past research and our review of research of others, we typically find that principal attrition rates are greater for secondary schools—particularly high schools—than for elementary schools. This is partially a function of high school principals having greater years of experience. Not included in this analysis is our finding that principals with 30 or greater years of experience have substantially greater attrition rates than those with fewer years of experience.

Finally, we contend principal attrition (and turnover) has been extraordinarily high for over a decade, yet policymakers and leaders have focused far too little attention on this issue. The average tenure of a principal is leas than five years—and less than four years for high school principals. Importantly, attrition and turnover rates tend to be the greatest for schools serving high percentages of students living in poverty, students of color, and lower-performing students. These groups of students are not being served well by a system that allows these high attrition and turnover rates to continue.

Suggested Citation
Fuller, E.J. & Pendola, A. (2023, March). **Did Principal Attrition and Turnover Increase After the Pandemic? Examining Pennsylvania, Texas, and Nebraska;** University Park, PA. Center for Education Evaluation and Policy Analysis.

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Center for Education Evaluation and Policy Analysis

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