

Teacher Labor Market Trends

Insights from Tennessee and Kentucky

Abstract

Education leaders were concerned about looming teacher shortages prior to the COVID-19 pandemic, but the pandemic, coupled with legislation related to teaching and school safety concerns, has heightened these worries. This study uses statewide educator data from Kentucky and Tennessee to better understand how the teacher workforce may have changed over the past seven years. We focus on changes to teacher demographics and preparation backgrounds, retention and commitment to teaching, and early career teacher experiences. We find that the teacher workforce has not experienced dramatic changes in terms of composition, but that pathways to entry have been expanded, which is likely necessary given potential increases in teacher turnover. While Tennessee and Kentucky have many similar trends like unchanging teacher populations, we find differences in retention patterns.

Acknowledgements

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WORKING PAPER
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This is a working paper. Working papers are preliminary versions meant for discussion purposes only in order to contribute to ongoing conversations about research and practice. Working papers have not undergone external peer review

Introduction

Teacher shortages, high teacher turnover rates, and declines in satisfaction and interest in the teaching profession have received national attention (Carver-Thomas & Darling-Hammond, 2019; Schmitt & DeCourcy, 2022, Kraft & Lyon, 2024). Education leaders were worried about looming shortages prior to the COVID-19 pandemic, but the pandemic, coupled with legislation related to teaching and school safety concerns, has heightened these concerns (Southern Regional Education Board, 2023; The National Center for Education Statistics, 2022). Many states have attempted to address these challenges via policies and programs such as Grow Your Own program investments, certification policy changes, and campaigns to invoke interest in the teaching profession (Edwards & Kraft, 2024). Policymakers and practitioners need more information about the landscape of the teaching profession and how it has changed to fully address the shortages going forward.

The Southern Regional Education Board and researchers at Vanderbilt University's Peabody College of Education formed a research partnership to further study the teacher labor market trends of the last several years. We used statewide data from Kentucky and Tennessee to deepen our understanding of teacher shortages, vacancies, retention, and quality to support education leaders and policymakers in making evidence-based decisions.

Specifically, this study aimed to gain insight into how the workforce may have shifted in terms of preparation, certification, demographic and background characteristics, and teachers' plans to continue teaching, as well as actual retention rates over the past seven years. We also investigated whether changes to the teacher workforce varied by school or district urbanicity, size, or background of students served. Using rich teacher workforce data from Kentucky and Tennessee, we addressed the following questions:

1. How have the **characteristics of the teacher workforce** changed from 2016-17 to 2022-23?
2. How have teacher **retention and commitment** to teaching changed from 2016-17 to 2022-23?
3. How have **early-career teachers' preparation experiences and supports** changed from 2016-17 to 2022-23?

Research Overview

Prior to engaging in an analysis of Kentucky and Tennessee data, we conducted a [synthesis](#) (Booker et al., 2023) of published surveys and research studies exploring national teacher labor market trends right before, during, and after the COVID-19 pandemic. A summary of findings is reported below.

Teacher Vacancies

- The overall number of K-12 education workers decreased at the start of the pandemic and has remained low. Reports of teacher vacancies have increased in recent years.
- Teacher shortages remain highly localized with schools serving more students of color, more economically disadvantaged students, and students in highly rural and urban locations facing greater teacher shortages.
- Both pre- and post-pandemic, teacher vacancies were more prominent in certain subject areas, including special education, world languages, math, and science.
- Teacher shortages hinder schools' ability to deliver key services.

Teacher Hiring Trends

- Applicant pools to fill open teaching positions have decreased.
- In the wake of increased shortages, districts increasingly hired less qualified candidates to fill positions.

Teacher Retention

- Teachers were more likely to stay in their positions during the height of the pandemic, but teacher retention declined post-pandemic.
- Teachers are less certain they plan to remain in teaching and are unlikely to advise their “younger selves” to enter teaching.
- Black teachers, teachers working in southern states, younger teachers and those with less experience, and teachers in low-income schools were significantly more likely to express plans to leave teaching.

Teacher Job Satisfaction and Morale

- The pandemic elevated teacher stress and dissatisfaction levels that were already on the rise. However, teaching-related stress appears to have returned to pre-pandemic levels. Black and female teachers report higher stress.
- Teachers cite lower self-efficacy, lack of respect, low salaries, long work hours and stress, mental health and wellness, and political interference as reasons for why they are dissatisfied with their jobs.

Data

We obtained access to teacher preparation and licensure data and school staffing data for both Tennessee and Kentucky through the Kentucky Center for Statistics (KYSTATS) and the Tennessee Education Research Alliance (TERA). KYSTATS collects and links data to evaluation education and workforce efforts in the state and TERA serves as a data warehouse for K-12 education in Tennessee. These data cover the 2016-17 to 2022-23 school years.

For Tennessee, we also used longitudinal data from the annual Tennessee Educator Survey (TES) for the 2016-17 to the 2022-23 school years. The TES is administered by the Tennessee Department of Education (TDOE) and TERA. The TES uses a core set of items that are administered to teachers each spring, though frequently items are updated or changed to correspond to state needs. For this project, we focused on items that were administered for multiple years to track changes in teacher perceptions over time. Overall, about half of teachers and school leaders responded to the survey each year. To account for differential response rates across school type, region, and economically disadvantaged students served, we use analytic weighting to produce results that are representative of public-school teachers and school leaders in Tennessee.

We analyzed responses taken from the Teacher Core and Administrator Core (sections of the survey given to all teachers and school leaders, respectively), as well as responses from the Early-Career Branch (sections of the survey given to teachers in their first three years of teaching and the Educators Module (one of three sets of randomly assigned survey items).

Context

Tennessee public schools serve approximately 970,000 students in over 1,800 schools across 147 school districts. Most school districts serve fewer than 5,000 students, with the largest 10 urban and suburban districts serving about half of the state's public-school students. Across the state, roughly 60% of students identify as White, 24% identify as Black or African American, 13% identify as Hispanic or Latino, and 3% identify as Asian. About 30% of students are categorized as economically disadvantaged.

TDOE's [Best for All Strategic Plan](#) includes a focus on Educators, which has included TDOE's support and investment in Grow Your Own pathways and in Reading 360 trainings. Tennessee's [Grow Your Own](#) work fosters partnerships between educator preparation providers (EPPs) and school districts to provide pathways to the teaching profession and pipelines of qualified teachers. In January 2022, TDOE was the first state to be approved by the U.S. Department of Labor to establish a permanent Grow Your Own model (includes federally registered apprenticeship in teaching) with a partnership between Clarksville-Montgomery County School System and Austin Peay State University. TDOE also partnered with the University of Tennessee System in starting a statewide [Grow Your Own Center](#). Additionally, TDOE launched a new [Teaching as a Profession \(TAP\)](#) state-certified pre-apprenticeship pilot program to provide high school students with hands on teaching experience in their local communities.

Kentucky public schools serve approximately 630,000 students in over 1,400 schools across 171 school districts. A majority of the state's school districts are rural. Across the state, roughly 74% of students identify as White, 11% identify as Black or African American, 9% identify as Hispanic or Latino, and 7% identify as another ethnic or racial group. About 60% percent of students are categorized as economically disadvantaged.¹

Kentucky engages in a range of partnerships and programs to address significant teacher shortages and expand teacher workforce diversity in the state. Kentucky's [Grow Your Own](#) programs focus on the early recruitment of future teachers, featuring a comprehensive school program to give high school students a solid foundation of career preparation. [Educator tuition](#)

¹ According to a [2021 Urban Institute report](#), each state can determine how it will define economic disadvantage, as long as the data used can individually identify students to link them to test scores. All states use a direct certification process by which they use administrative data to link a student's household participation in the Supplemental Nutrition Assistance Program (SNAP) that then informs their definition of economic disadvantage. Additional measures can be used to programs used to supplement the SNAP link measure if states choose, such as FRPL identification through an application process. Only three states—Delaware, Massachusetts, and Tennessee, plus the District of Columbia—rely solely on direct certification for economic disadvantage identification.

[assistance opportunities](#) provide financial aid to recruit qualified Kentucky residents pursuing teacher certification in Kentucky.

Key Finding 1: From 2017 to 2023, the racial and gender composition of teachers stayed the same, while the proportion of teachers over age 50 increased.

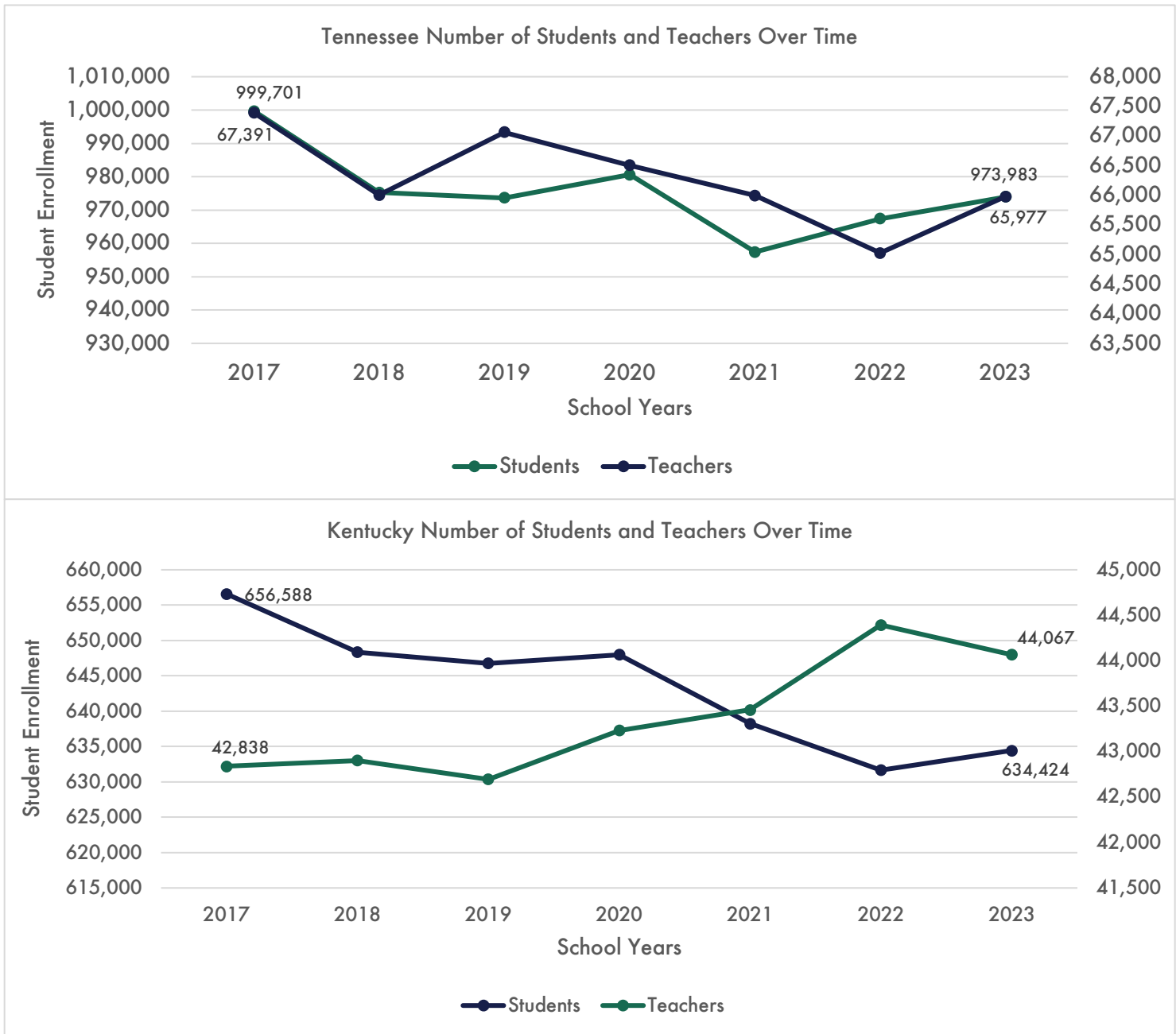
Total student enrollment in both states has declined since the 2016-17 school year. In Tennessee, student enrollment fell from nearly one million students in 2016-17 to about 974,000 students in 2022-23 (2.5% decline). Similarly, in Kentucky, student enrollment fell from roughly 657,000 students in 2016-17 to about 634,000 in 2022-23 (3% decline). Both states did see increases in the 2022-23 school year compared to 2021-22.²

Although student populations in both states declined during this period, KY saw their teacher workforce grow by 1,200 (3%). By contrast, TN's teacher workforce decreased by 1,400 (2%).³ In Kentucky, the total number of teachers remained stable from the 2016-17 through 2020-21 school years before jumping by more than 1,200 teachers in 2021-22. This may be attributable to districts' spending of federal emergency relief funds (ESSER) issued in response to the pandemic.

² Data on state demographics are pulled from the [Tennessee Department of Education Report Card website](#).

³ The counts of teachers can fluctuate from year to year with changing definitions of who counts as a teacher in state data systems. We defined teachers as those responsible for being the "teacher of record" for a group of students. Therefore, our numbers may not align with publicly reported data because public reports may include a more inclusive definition of who counts as a teacher. For example, in state data, teachers who teach in multiple schools may get counted multiple times.

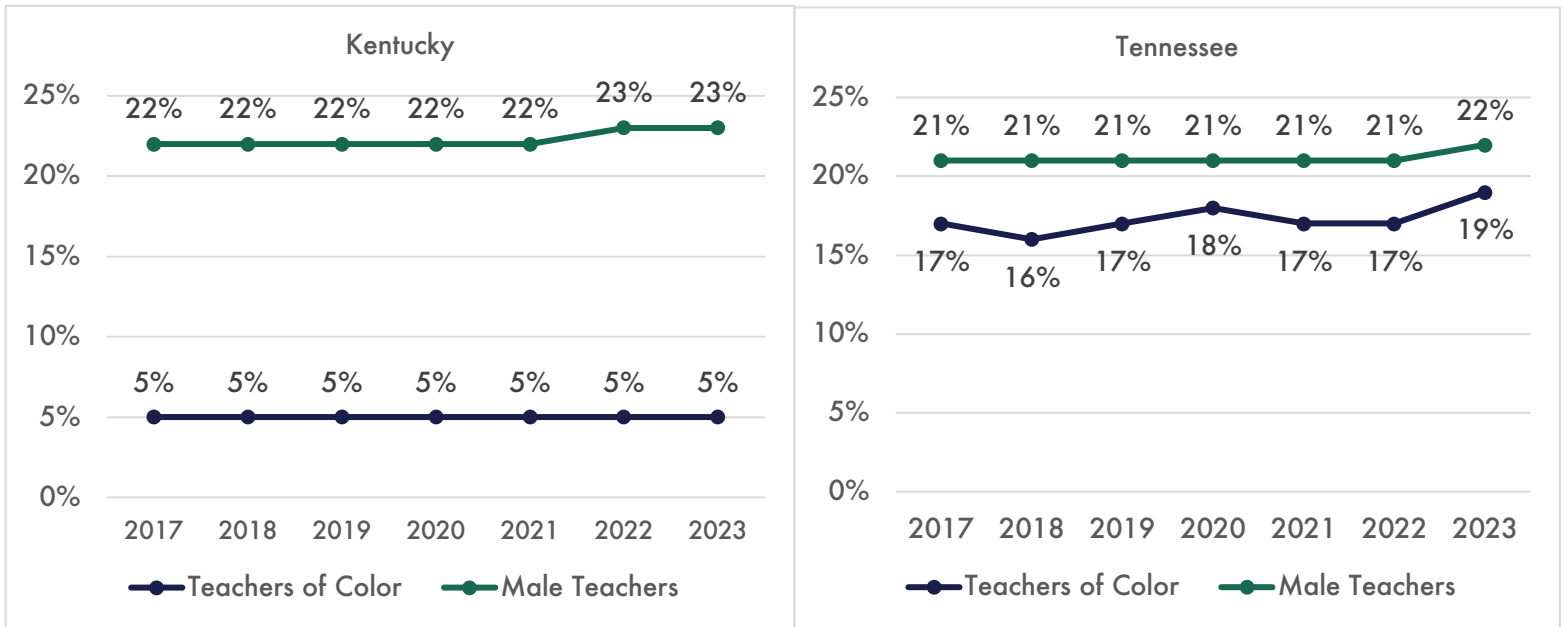
Figure 1: In both states, student enrollment has slightly declined since 2016-17. Kentucky's teacher workforce has slightly increased, while Tennessee's teacher count has slightly decreased over the same period.



Note. All figures in this report use the lagging school year. For example, 2017 indicates the 2016-17 school year.

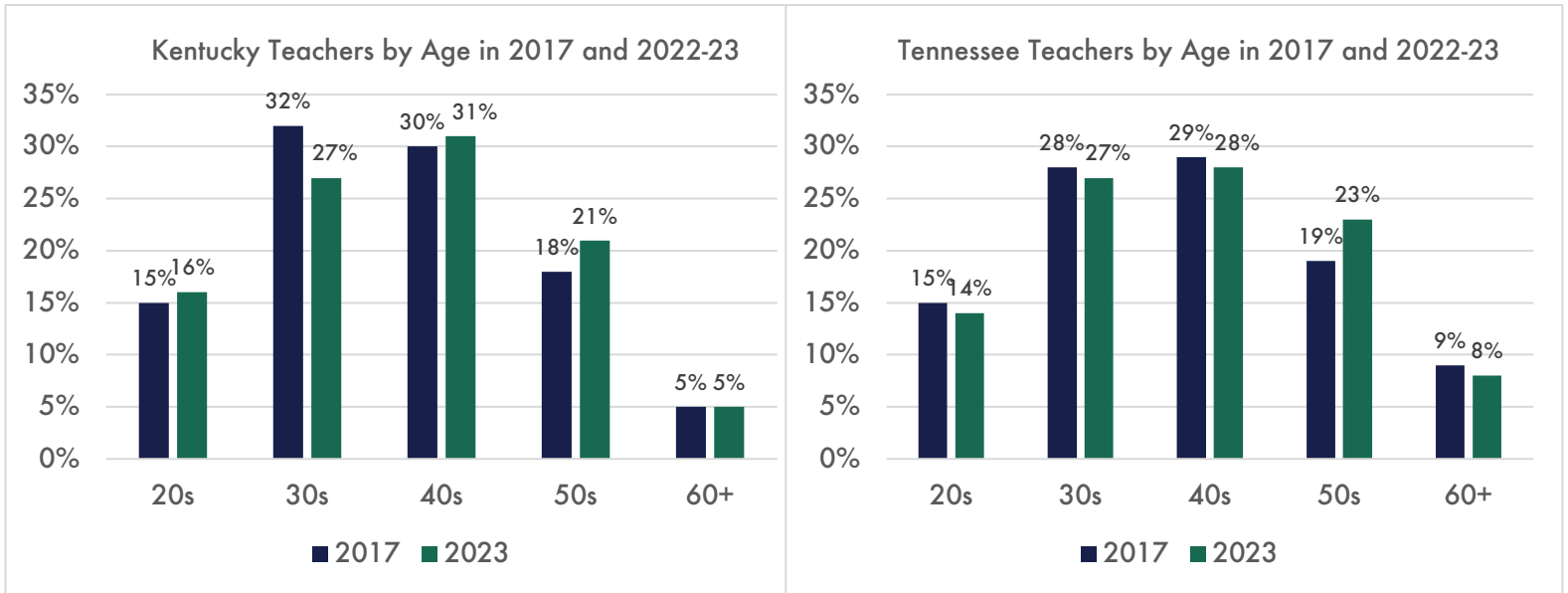
From 2016-17 to 2022-23, teachers who entered the workforce were demographically similar to those already in the profession. Despite changes to the number of teachers overall (including teachers of color and male teachers), the proportion of male teachers and teachers of color stayed the same.

Figure 2: Overall racial and gender composition of teachers stayed mostly stable over time.



Teacher age did trend older with the influx of new teachers during this time. Since the 2016-17 school year, the proportion of teachers over 50 has increased in both Kentucky and Tennessee, with teachers over 50 counting for 26% of the teacher workforce in Kentucky in 2022-23 and 31% of the workforce in Tennessee the same year. This may be due to the fact that more people are entering the teaching profession a little bit later in life with a career change and expanded pathways into teaching (Ingersoll et al., 2021).

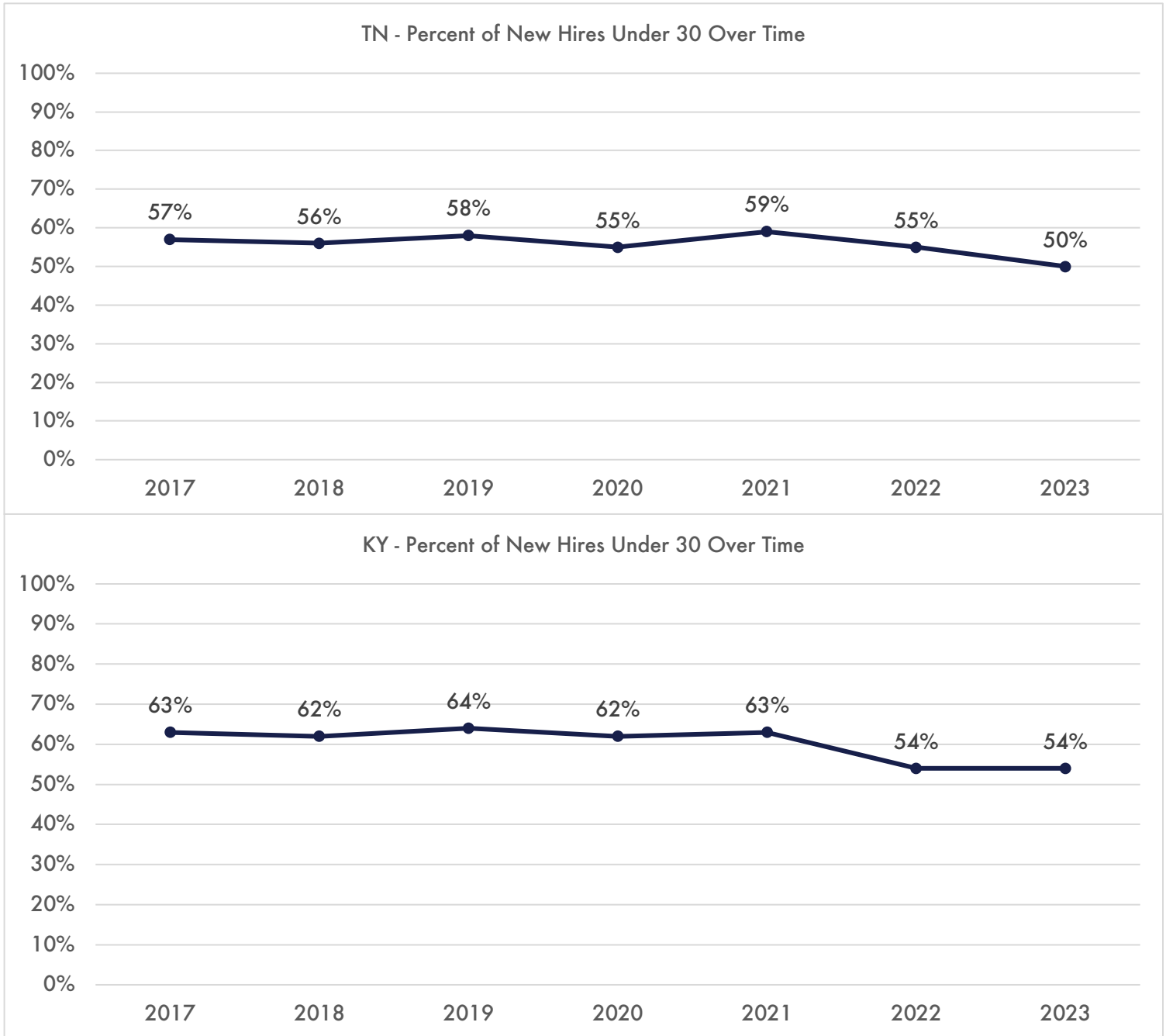
Figure 3: More teachers were over age 50 in 2023 compared to 2017.



To better understand the changing teacher age trends, we also looked at how the age of new hires has changed over time. In Tennessee, 2023 marked the first year in which professionals under the age of 30 accounted for only half of all new hires⁴ in the state, decreasing from previous years. The age composition of new hires followed a similar trend in Kentucky, where the proportion of new hires under 30 years of age fell from 63% to 54% between 2017 and 2023. These older new teachers could be those who left and then returned to the classroom, those coming from out of state, or those who switched careers altogether and are entering the profession for the first time.

⁴ In this study, we define new hires as those who did not appear as a teacher in the state data from the prior school year.

Figure 4: New hires under 30 made up less of the “new” teaching population in both states in 2023 than in previous years.



Key Finding 2: Newly hired teachers of color and newly hired teachers over 30 are more likely to enter the teaching profession through non-traditional preparation and certification pathways.

Given declining interest in the teaching profession from high school and college students, most states are seeking opportunities to diversify pathways into teaching (Ellison & Smith, 2024). In Tennessee, non-traditional pathways tend to be job-embedded or residency programs. Kentucky has numerous routes to teacher certification that include both traditional and non-traditional pathways. The state has eight options for alternative teacher certification under state law.

In both Tennessee and Kentucky, Black and Hispanic teachers who are new hires are more likely to have entered the profession through alternative pathways to certification⁵ than their White colleagues certified in the same year. Male teachers (compared to female teachers) and Black teachers (compared to White teachers) enter teaching through alternative pathways at higher rates. For example, 17% of newly hired female teachers completed an alternative route compared to 29% of male teachers in KY in 2017. For both Kentucky and Tennessee, we only have data on educator preparation through 2022 as this data report is lagged. Therefore, this analysis on preparation pathways only goes through 2022.

In the 2022-23 school year in Tennessee, there were 3,944 newly hired White teachers, 1,123 newly hired Black teachers, and 245 newly hired Hispanic teachers. 4,508 newly hired teachers were female compared to 1,352 newly hired male teachers. In Kentucky, there were 2,753 newly hired White teachers, 173 newly hired Black teachers, and 98 newly hired Hispanic teachers. 2,321 newly hired teachers were female and 730 newly hired teachers were male.

⁵ Kentucky's alternative program completion is calculated from the state's definition of alternative routes to certification. Tennessee's alternative program completion is calculated from counts of the following programs/routes: Teach For America, The New Teacher Project, district residency programs, programs identified as alternative, and students who completed job-embedded training.

Figure 5: In both states, a larger proportion of new hires who are teachers of color enter through non-traditional routes.

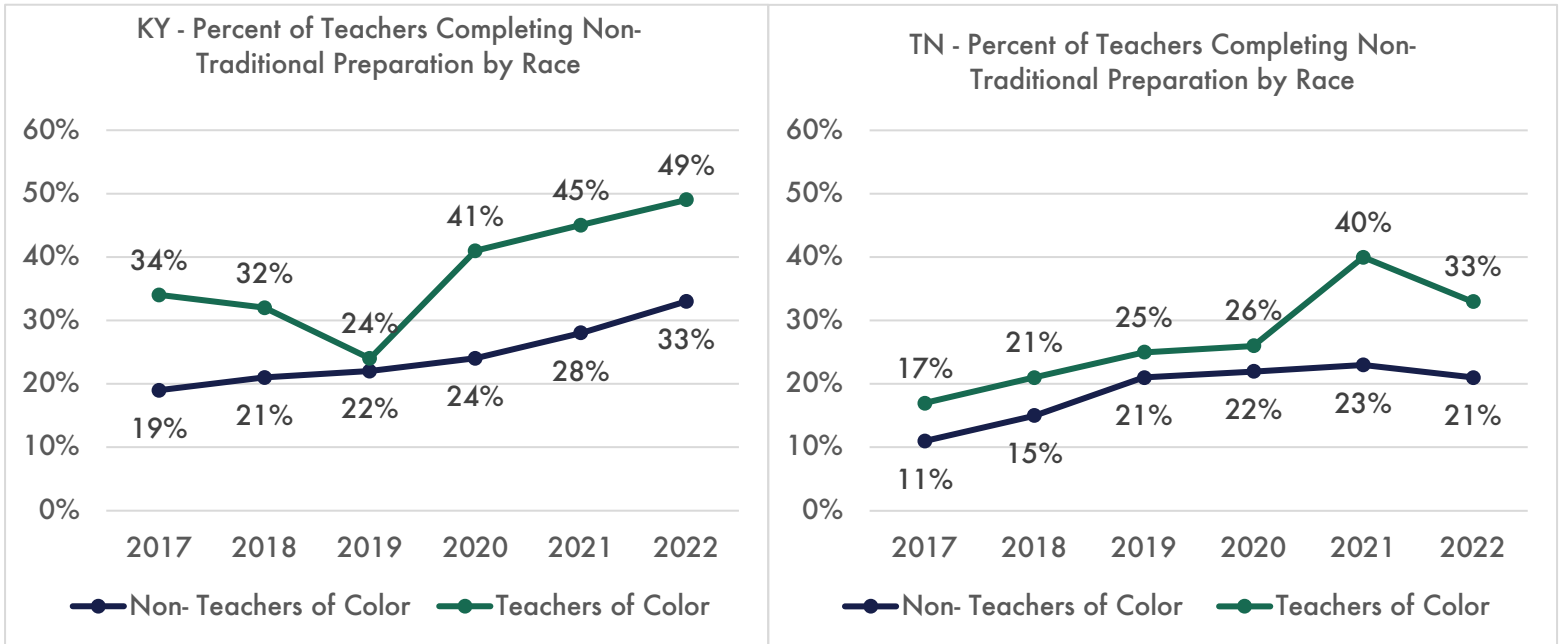
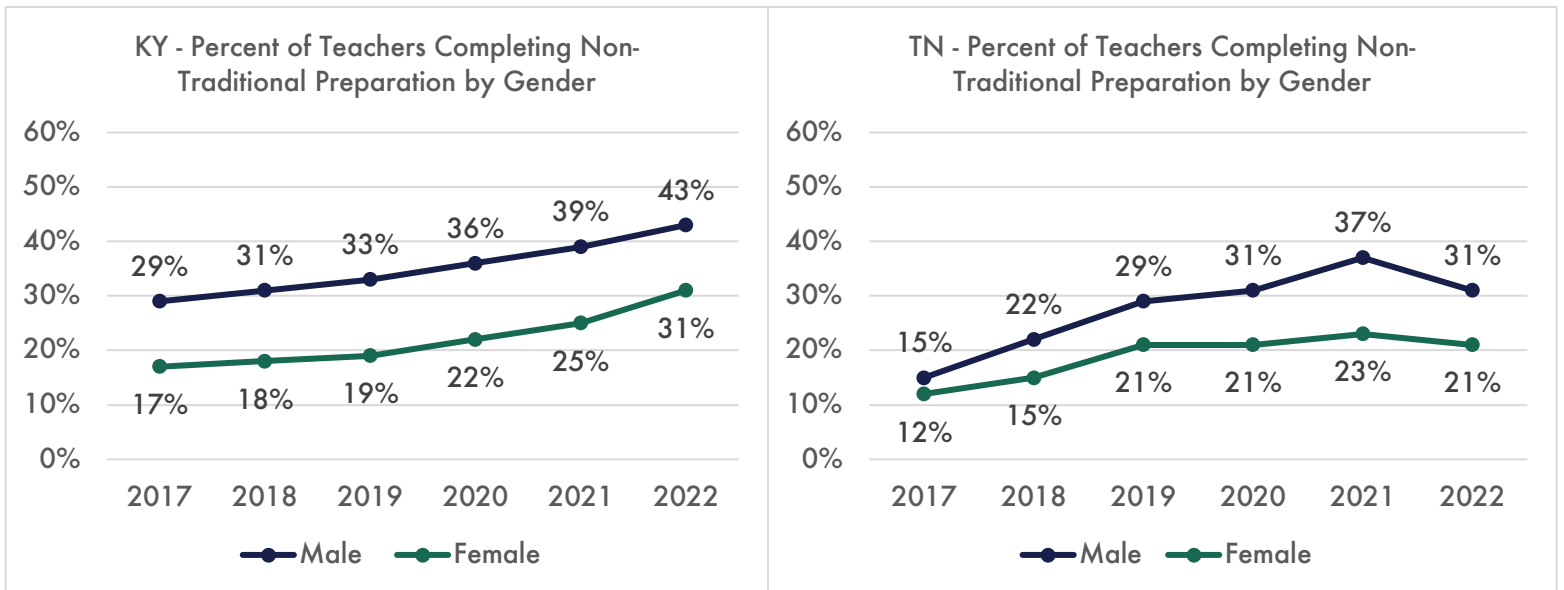
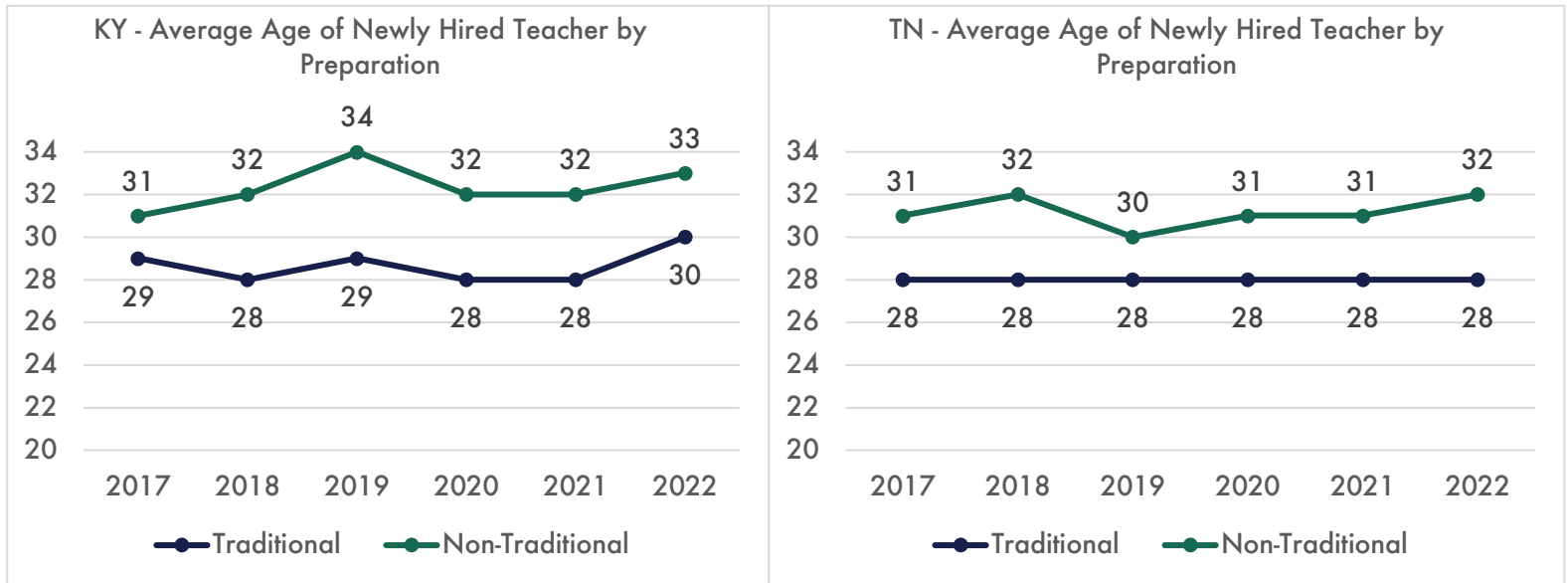


Figure 6: In both states, a larger proportion of newly hired male teachers enter through non-traditional routes than newly hired female teachers.



In both states, new teachers entering through non-traditional routes are consistently older than new teachers certified through traditional pathways.⁶ In Tennessee, the average age of teachers from non-traditional pathways was 32 in 2022 and the average age of teachers coming from traditional pathways was 28. In Kentucky, the average ages were 33 and 30, respectively. In both cases, the trends suggest that non-traditional pathways may be increasingly popular with more veteran professionals transitioning into the teaching profession.

Figure 7: In both states, new hires from non-traditional preparation pathways are older on average than new hires from traditional pathways.

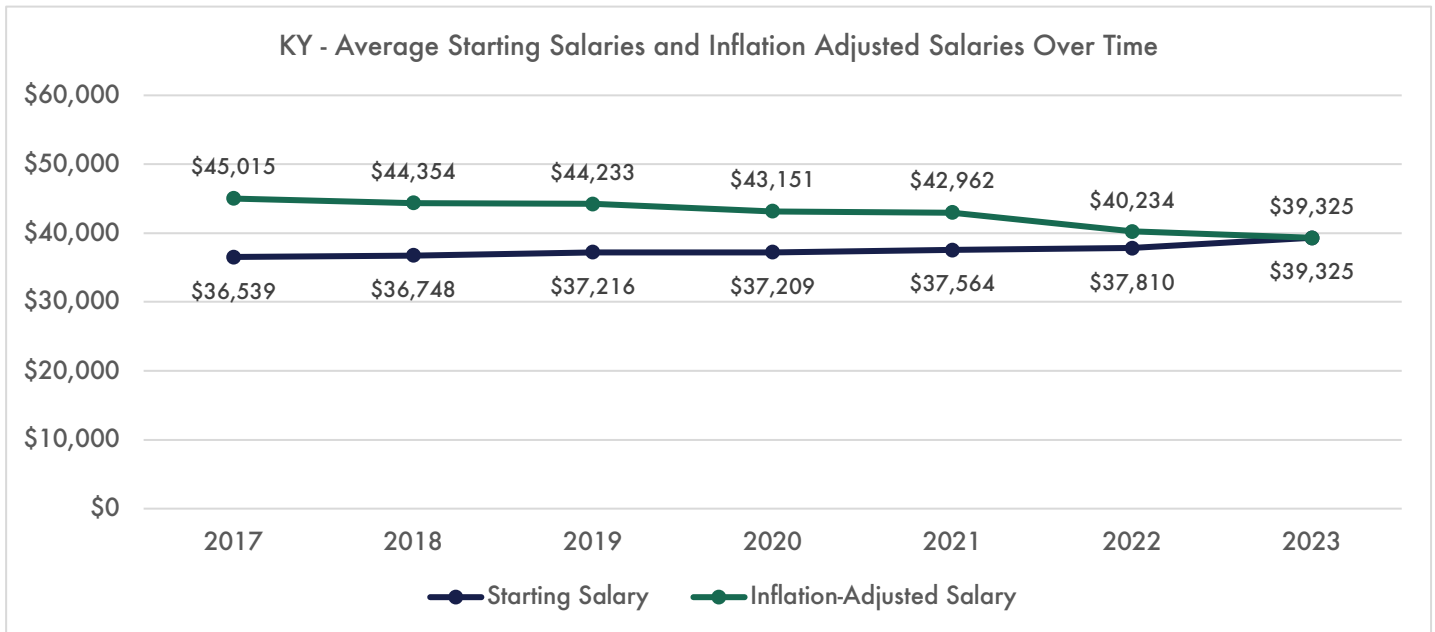
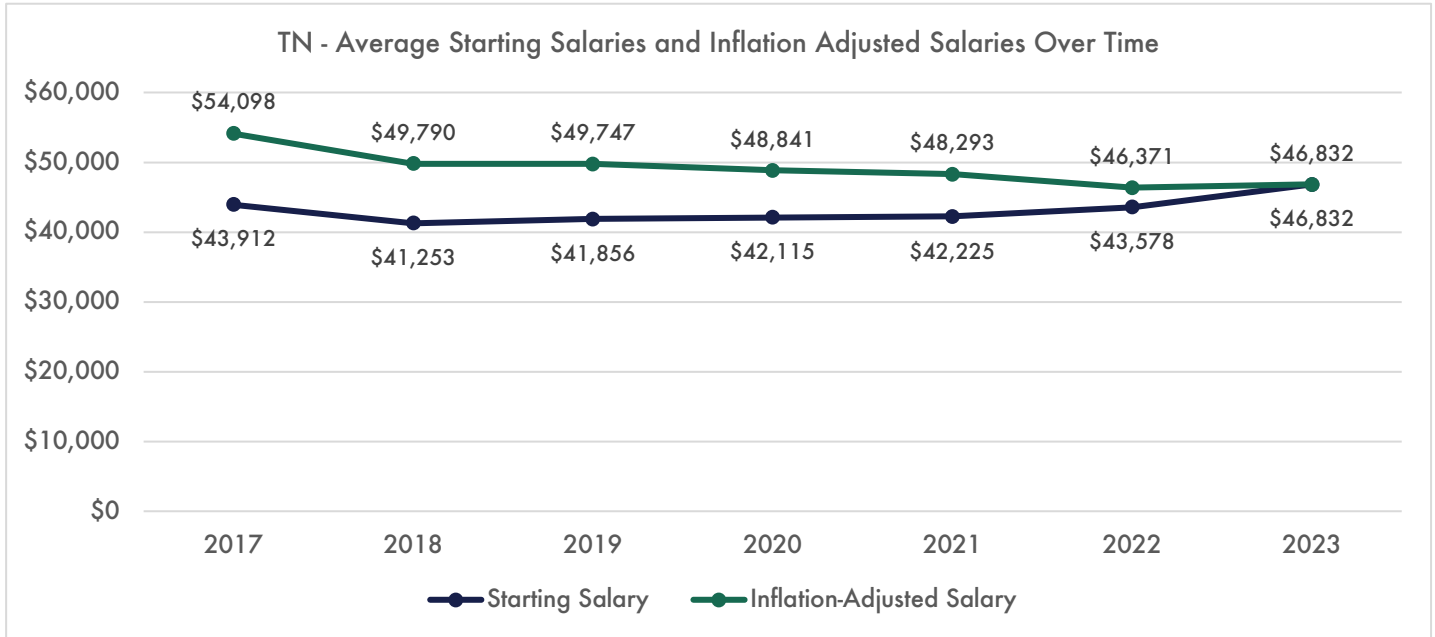


Key Finding 3: While starting teacher salary has increased in both states, the increases have been outpaced by inflation.

Though average starting salaries have increased for teachers in both Tennessee and Kentucky and Tennessee has invested heavily in increasing starting salaries in recent years, salary growth has not kept pace with inflation. While average starting salaries increased by about \$1,000 in Kentucky and about \$3,000 in Tennessee, when average salaries are adjusted for inflation over time, they appear to have actually declined.

⁶ Newly hired teachers are categorized as those with no prior years of experience teaching in public education in the state. These numbers include educators that could have retired and returned to the profession, educators who transitioned into public education from the private sector, and educators with prior teaching experience out-of-state.

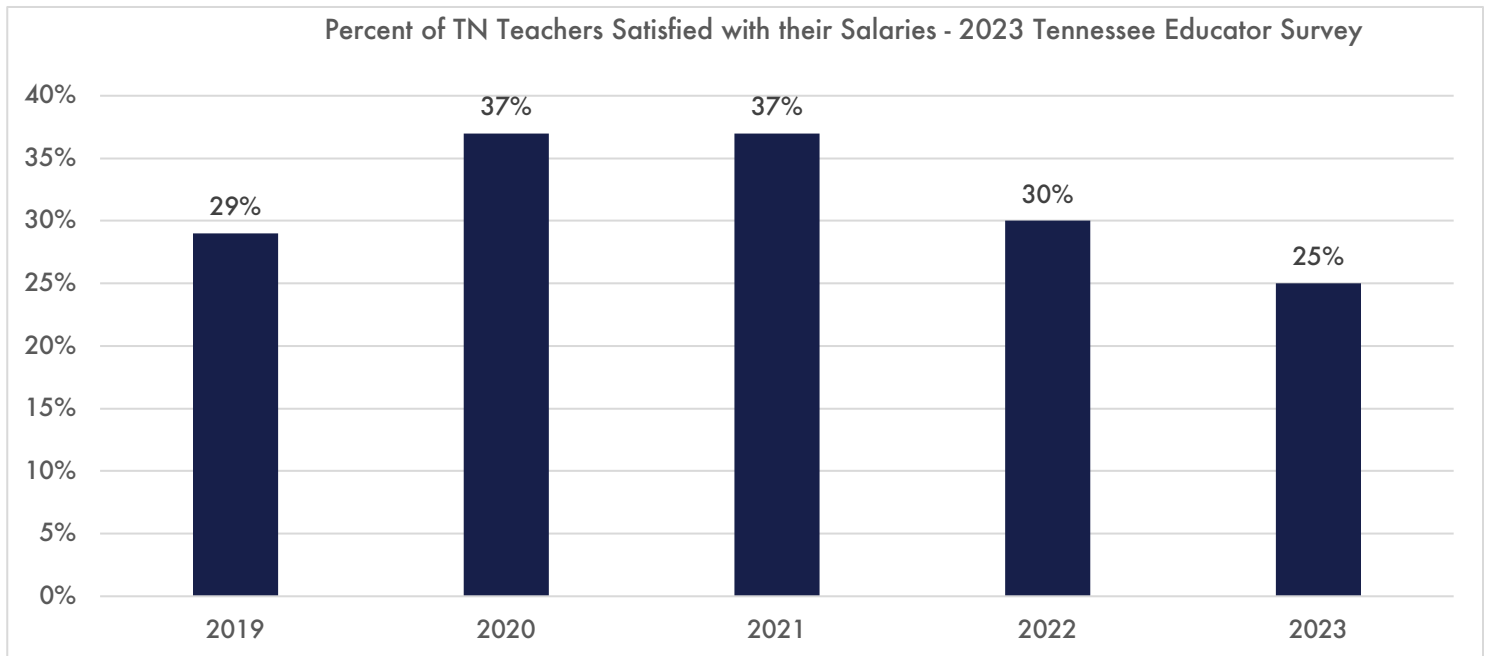
Figure 8: Average Starting salaries have increased but have not kept pace with the rate of inflation.



Note: Salary data from TDOE administrative staff lies. They are rounded to the nearest hundred. CPI inflation-adjusted values show 2023 buying power.

The Tennessee Educator Survey asks teachers about their satisfaction with their salaries since 2019. During the height of the COVID-19 pandemic in 2019-20, 37% of teachers reported that they were satisfied with their salary - an increase from 2019 - but this percentage declined to below pre-pandemic levels in 2022-23 (25%). This satisfaction is lower than teacher salary satisfaction in a nationally representative survey of teachers, where one-third of teachers said they were satisfied with their base salary in 2022 (Steiner et al., 2022).

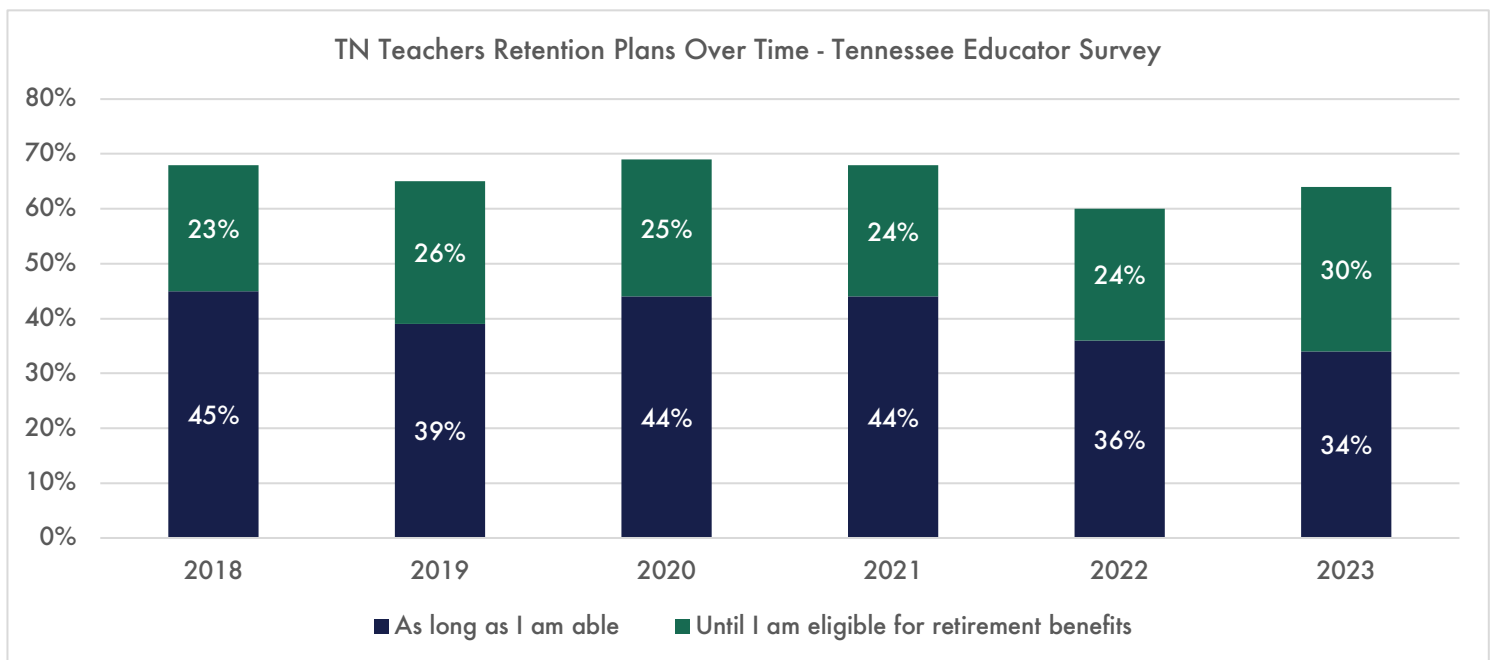
Figure 9: Just one-quarter of Tennessee teachers reported that they were satisfied with their salary on the 2023 Tennessee Educator Survey.



Key Finding 4: Fewer Tennessee teachers report that they plan to continue teaching, and teachers who say they plan to exit the profession identify leadership as a primary reason for their decision.

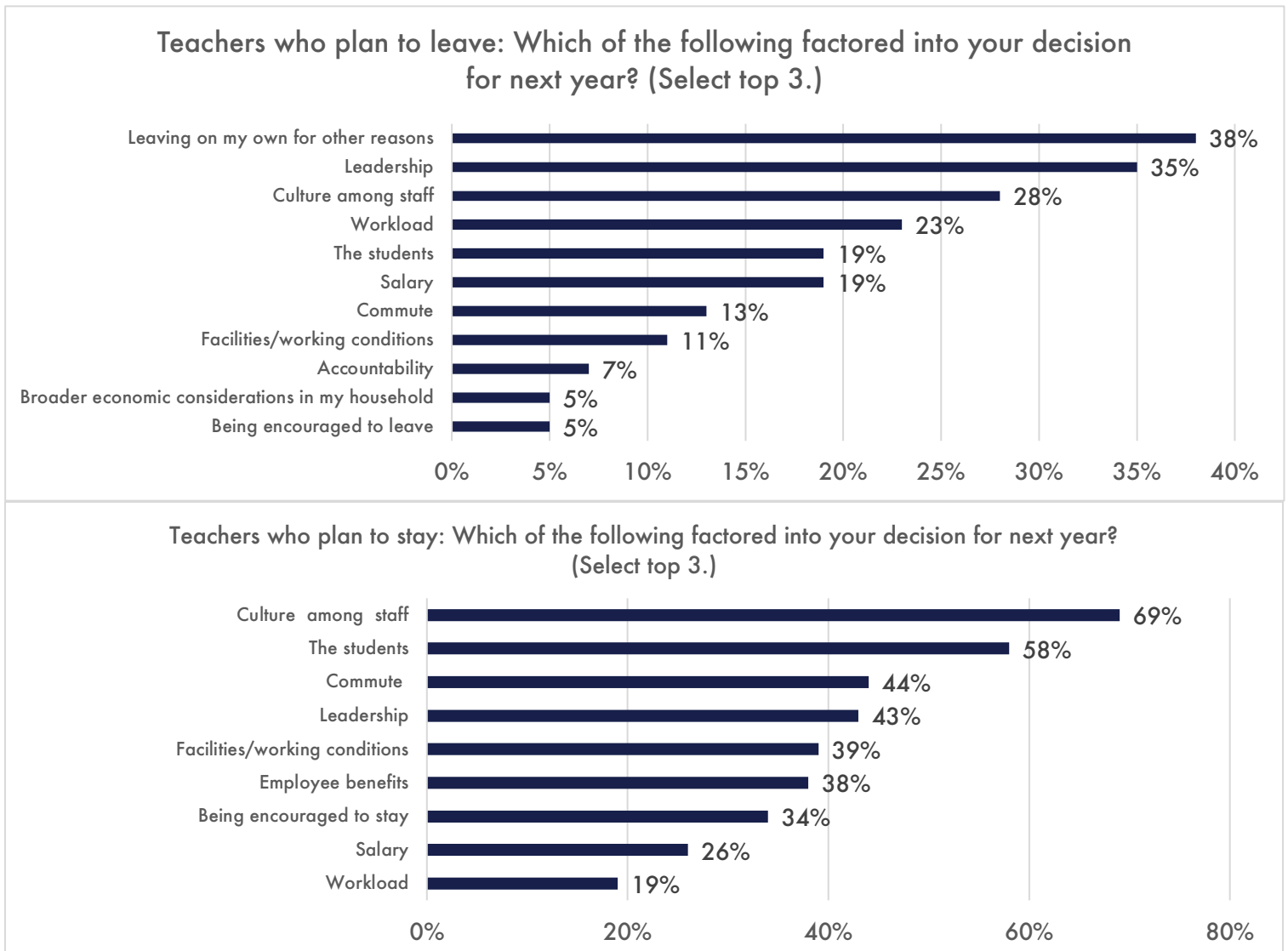
Nearly half of teachers (45%) reported that they plan to stay in teaching as long as they are able on the 2018 Tennessee Educator Survey, but this percentage dropped to 34% in 2023. Declines in intent to stay in teaching are consistent across teachers of varying experience levels. Notably, early-career teachers’ (those in their first three years of teaching) intentions to stay as long as possible dropped from 49% in 2019 to 42% in 2023. However, the decline is mostly due to an increase in teachers indicating that their plans to stay teaching are uncertain, rather than that they are determined to leave. While more teachers are undecided about their future in the teaching profession, the percentage of teachers who are considering switching schools did not change between 2018 and 2023.

Figure 10: The percentage of Tennessee teachers indicating plans to stay in teaching either as long as they can or until retirement eligibility slightly declined on the 2022 and 2023 Tennessee Educator Surveys.



Among teachers who said they plan to leave their school on each survey from 2020-2023, leadership was the main reason given for their decision other than personal reasons, with 35% of teachers saying leadership most influenced their decision to leave in 2023. In contrast, 69% of teachers who said they plan to stay indicated that culture among staff was their top influence in 2023.

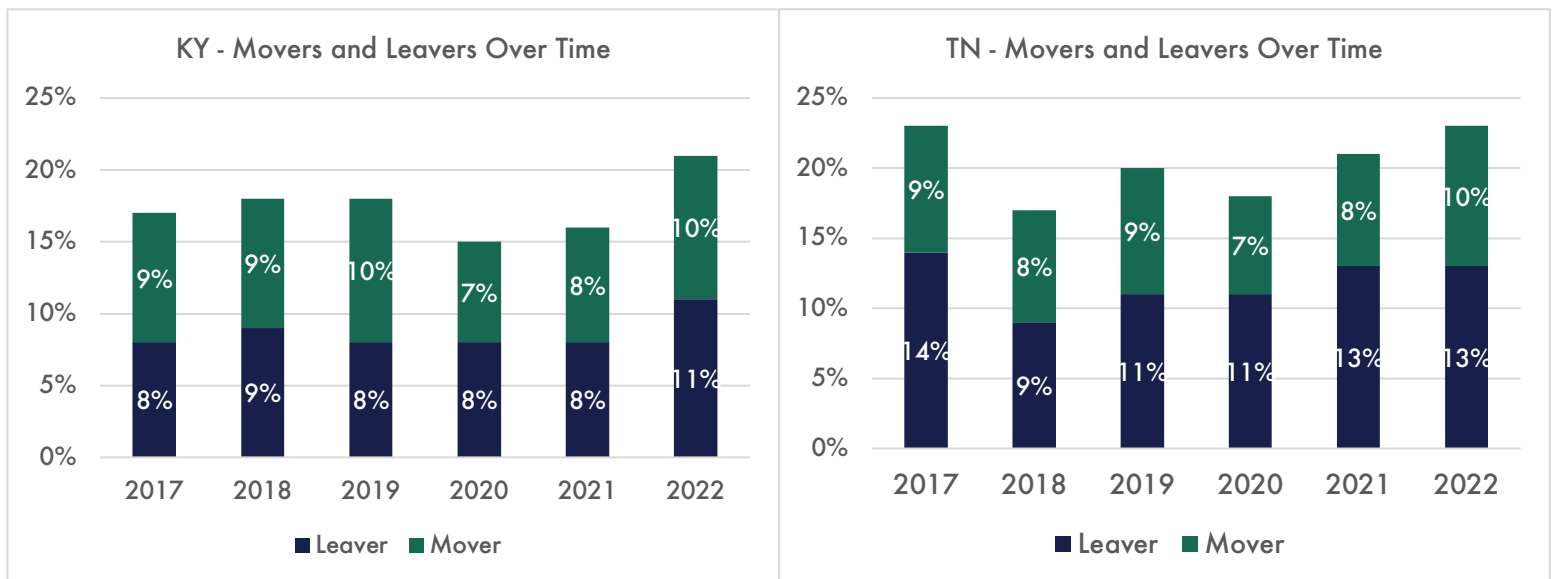
Figure 11: On the 2023 Tennessee Educator Survey, teachers who plan to stay at their schools list culture and climate among educators as a top driver; teachers who plan to leave list personal reasons and leadership as top motivators.



Key Finding 5: From 2017 to 2022, teacher turnover rates in Kentucky largely held steady while turnover rates in Tennessee dipped and then increased.

Teacher turnover is defined as teachers not returning to their teaching position in the following school year. Turnover includes both leaving teaching in the state public school system or moving to a new position in another school in their district or another district within the state but remained in a teaching position. As in any profession, some turnover is expected, given retirement, moves for personal reasons, or transitions into leadership roles. In Kentucky, leaving rates increased from 8% to 11% from 2017 to 2022. An additional 7% to 10% of teachers moved schools over those years. In Tennessee, the leaving rate dipped from 14% to 9% and then returned to 13% in 2022 and 7% to 10% of teachers moved schools during that same time period. In both states, teacher turnover rates dipped during the pandemic and then returned back to pre-pandemic levels in the 2021-22 school year.

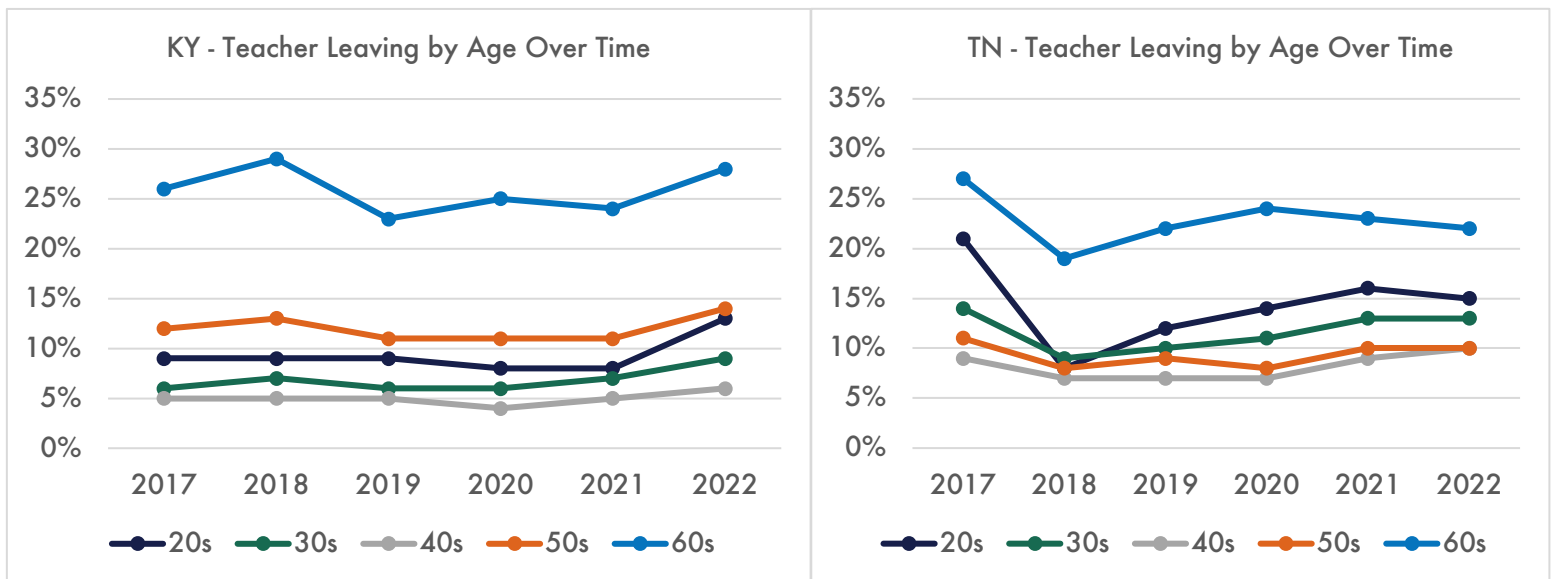
Figure 12: On average, one in five teachers in Kentucky either left or moved schools at the end of the 2021-22 school year, which is higher than the 2016-17 school year, and similar to the 2021-22 school year in Tennessee.



Note: Leaver = position change and/or exits the data; Mover = moves schools/districts but stays in a teacher role

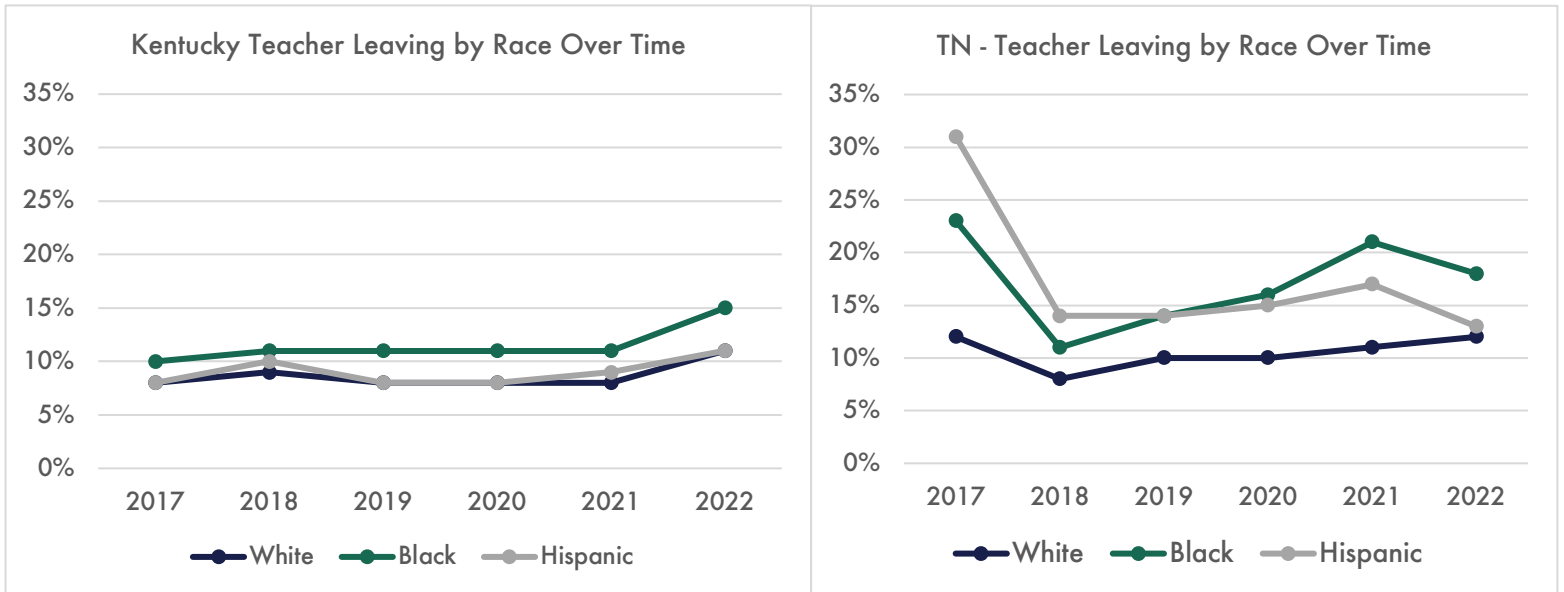
Unsurprisingly, teacher leaving rates are highest among older teachers in Tennessee and Kentucky, likely due to retirement. However, teachers in their 20s leave teaching at greater rates than the other age groups in Tennessee and this trend may also be picking up in Kentucky as of 2021. Specifically, leaving rates among teachers in their 20s were at a low of 8% in 2017, and they rose to 15% by 2021. While all age groups follow this same trend in Tennessee, this may indicate a need to better prepare early-career teachers for the demands of the job.

Figure 13: In both states, leaving rates are consistently highest among youngest and the oldest teachers.



White teachers make up most of the teachers in both Tennessee and Kentucky. The leaving rates of White teachers across both states have remained slightly lower than that of Black and Hispanic teachers over time. In both states, Black teachers tend to leave teaching at greater rates than both White and Hispanic teachers.

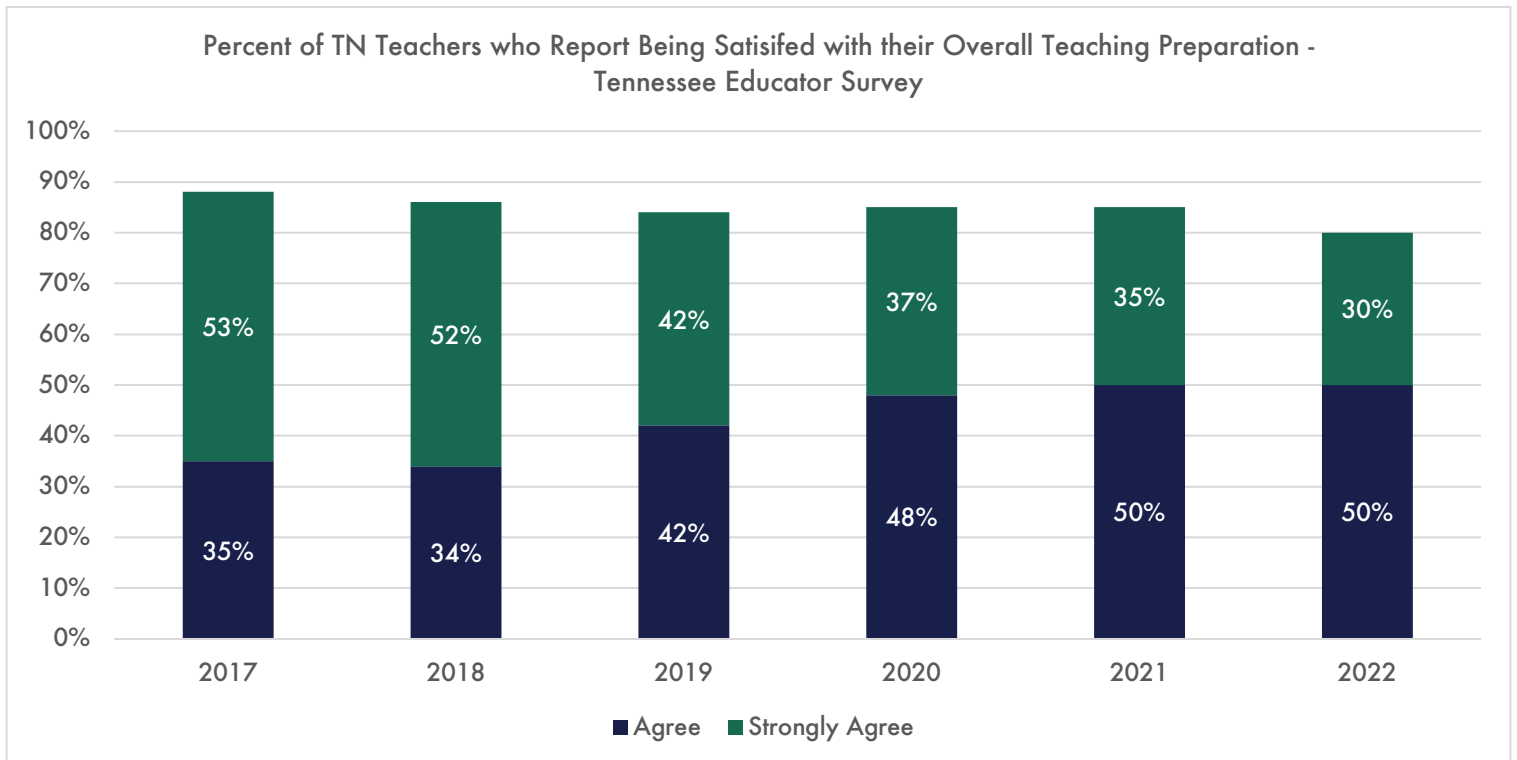
Figure 14: In both states, teachers of color generally leave at higher rates than White teachers.



Key Finding 6: On the 2022 Tennessee Educator Survey, early-career teachers reported feeling less prepared and having less support than they did on the 2017 Tennessee Educator Survey.

On the Tennessee Educator Survey, early-career teachers in their first three years on the job report on how well their educator prep program prepared them for their current teaching role. In 2022, roughly 30% early-career teachers strongly agreed that they were satisfied with their educator preparation programs - a decline from 53% who strongly agreed that they were satisfied with their prep program in 2017.

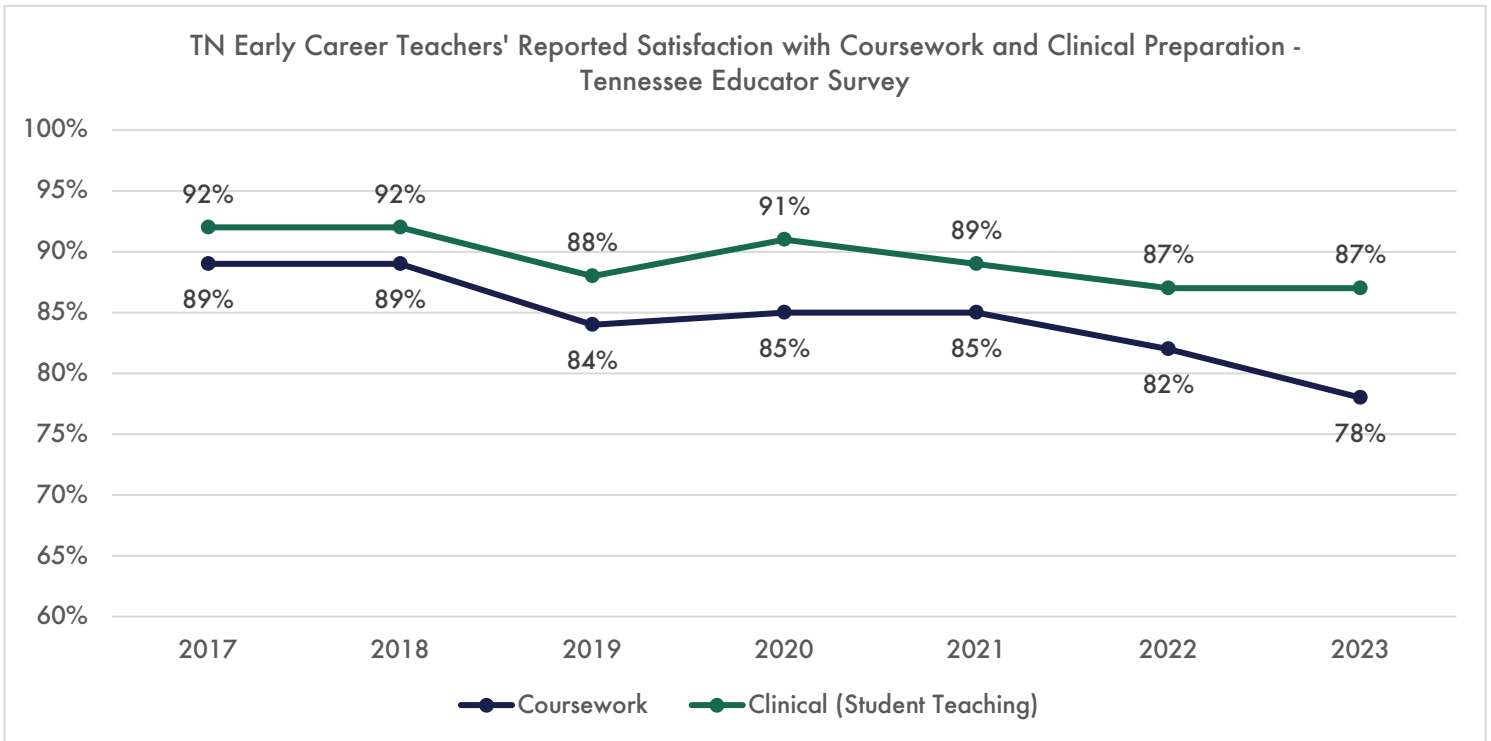
Figure 15: From 2017 to 2022, the percentage of early-career teachers in Tennessee who strongly agreed that their preparation program prepared them to teach declined. Still, 8 in 10 early-career teachers agreed they are prepared to teach.⁷



In particular, satisfaction with preparation coursework (e.g., readings, lectures, projects) declined from 89% to 78% from 2017 to 2023. However, most (87%) early-career teachers reported feeling prepared by their clinical placement experiences (e.g., student teaching, classroom observations, residency).

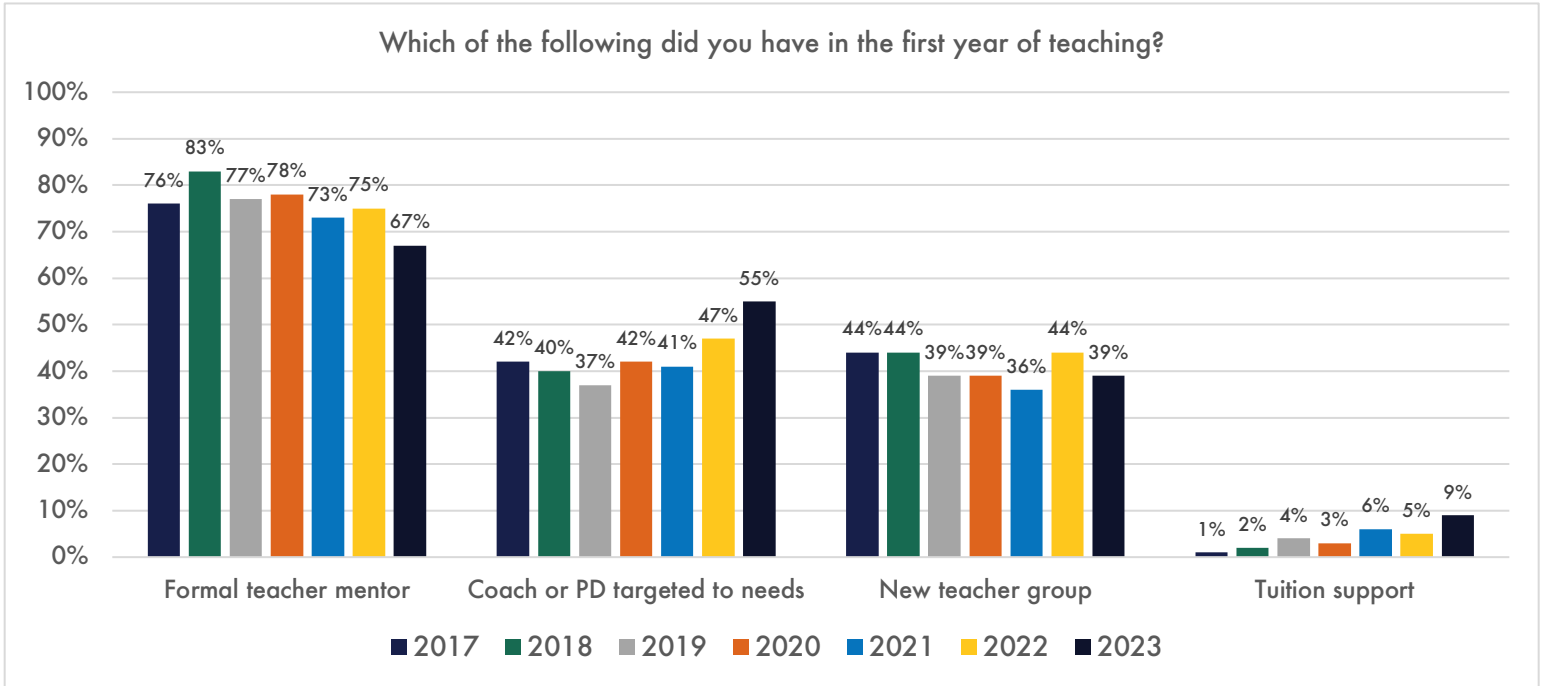
⁷ The survey item about overall preparation to teach was dropped from the 2023 Tennessee Educator Survey. Several survey items were added asking about preparation in specific areas. Visit the [Tennessee Educator Survey website](#) to see versions of the survey over time.

Figure 16: Early-career teachers in Tennessee are more satisfied with their clinical preparation than their coursework with almost 90% reporting that they were satisfied with their clinical preparation on the 2023 Tennessee Educator Survey.



When asked about support provided in the first year of teaching, early-career teachers were less likely to report having a mentor teacher in their first year of teaching in 2023 (67%) than in 2020 (78%). This is potentially concerning because research using Tennessee Educator Survey found that teachers with mentors are more likely to report that they plan to stay teaching at their schools the following year (Binsted, 2023). More early-career teachers than in previous years reported having coaching or professional development targeted to their needs. Additionally, an increasing number of teachers reported that they received tuition support during their first year, likely a reflection of increasing efforts in Tennessee to expand job-embedded teaching pathways.

Figure 17: On the 2023 Tennessee Educator Survey, fewer early-career teachers reported having a mentor in their first year, but more reported having coaching or PD targeted to their needs than in previous years.

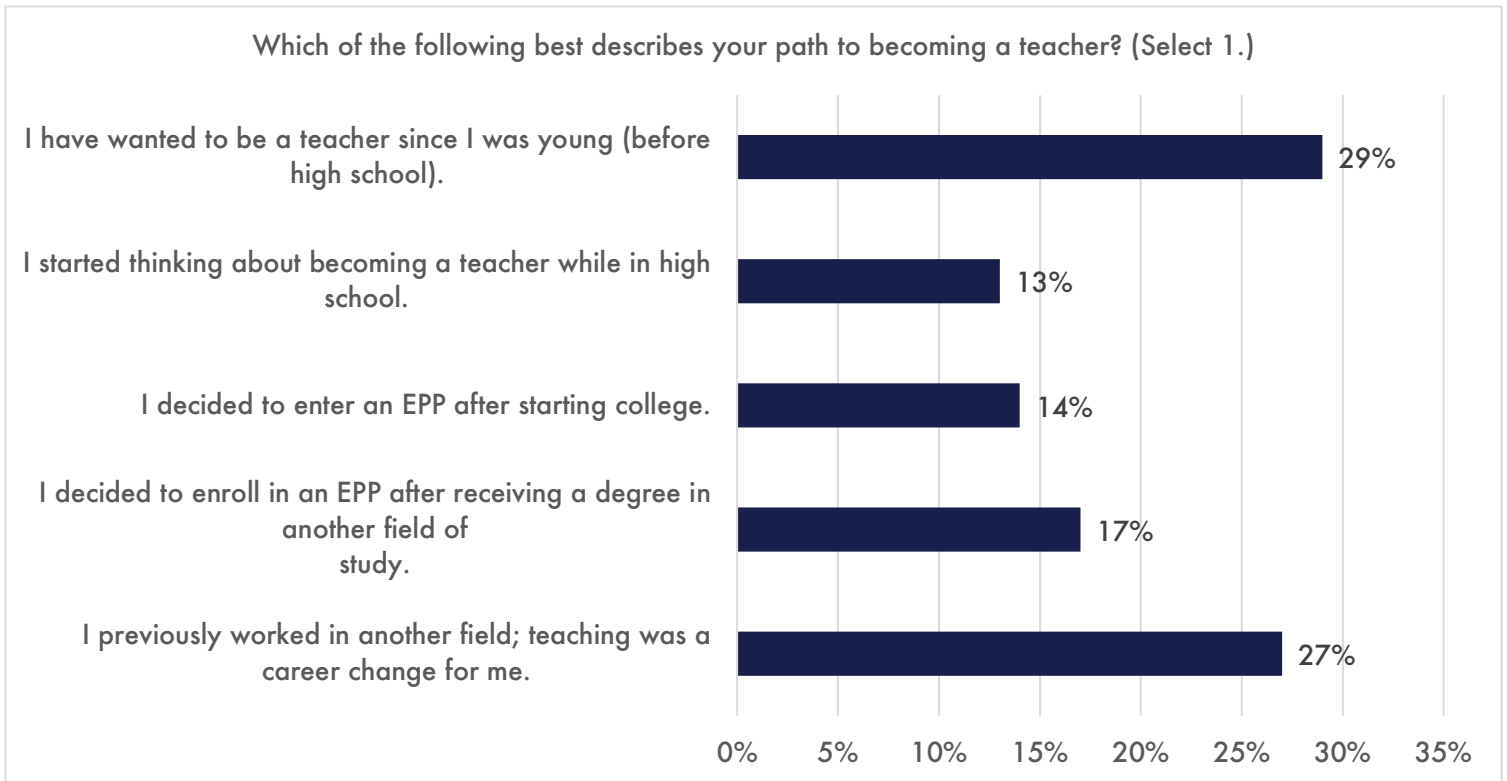


Key Finding 7: Less than half of early-career teachers in Tennessee formed aspirations to become educators before college.

Sparking interest in teaching among high school students is an important component of building a pool of future educators. As reported in a TERA brief detailing results from the 2023 Tennessee Educator Survey, many current teachers formed aspirations to pursue a career in education before college. Roughly 29% of current Tennessee early-career teachers entered high school already aspiring to become a teacher, and another 13% started thinking about becoming a teacher while in high school. These data suggest that early exposure to teaching as a career could have a positive influence on putting a middle or high school student on the teacher-educator pipeline.

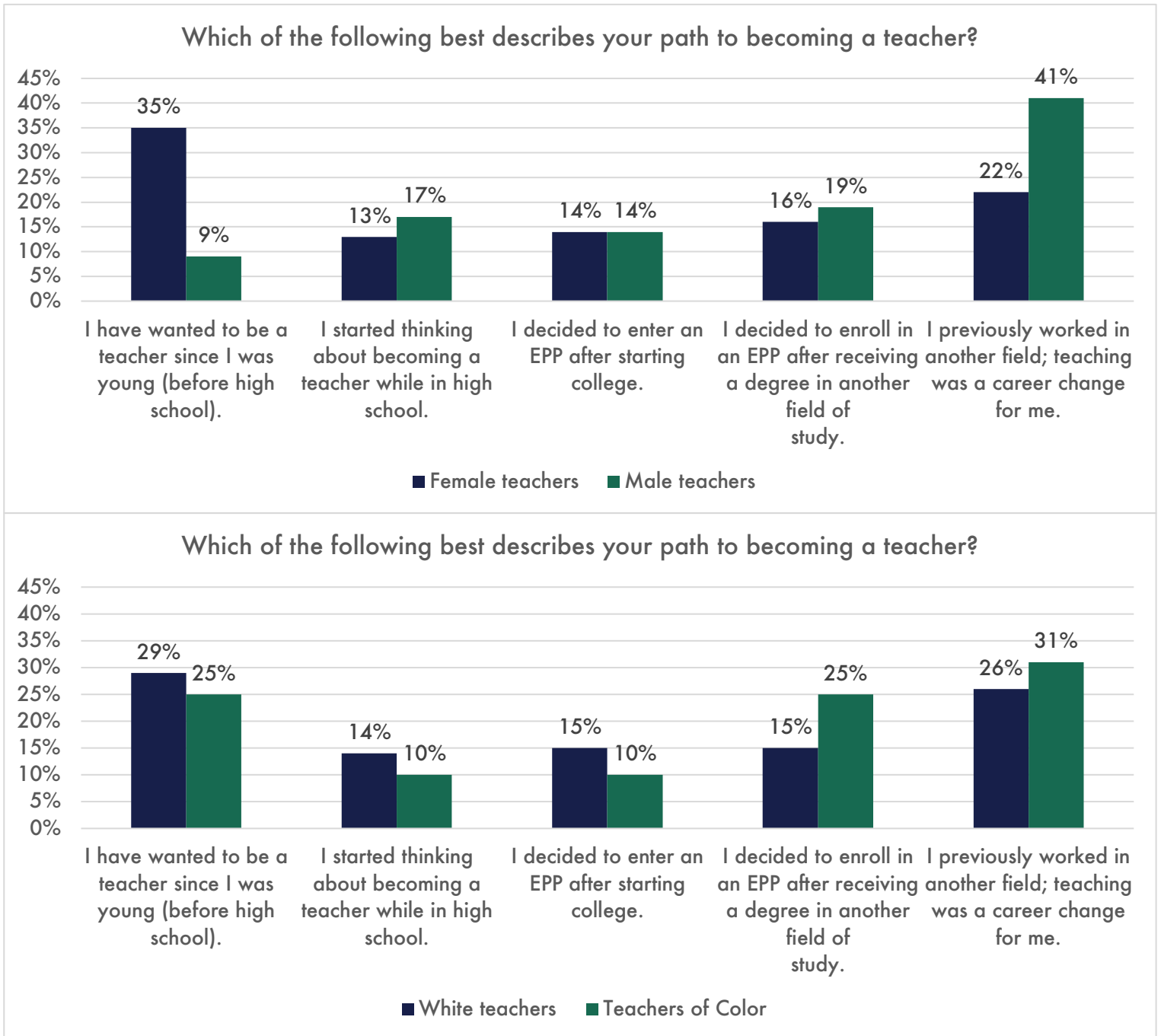
Many early-career teachers, however, decided on their career path after college — 17% after receiving a degree in another field and 27% after working in another field. This suggests a continuing role for graduate-level credential programs and alternative pathways in growing the teaching pool.

Figure 18: On the 2023 Tennessee Educator Survey, about 3 in 10 early-career teachers thought about becoming a teacher before starting high school.



Additionally, key differences emerge when we look at motivations for entering teaching by race and gender. Male teachers and teachers of color were more likely to report that they entered teaching through a non-traditional pathway (i.e., a career change or after receiving a degree in another field of study) than their respective female and White peers.

Figure 19: On the 2023 Tennessee Educator Survey, male teachers and teachers of color were more likely to report that they entered teaching through non-traditional pathways.



Discussion

The public schools in Tennessee and Kentucky serve over 1.5 million students each year and over 100,000 teachers work in those schools. With around one-tenth of these teachers leaving each year, ensuring a consistent pipeline of new teachers requires constant attention. This pipeline includes traditional routes to teaching via educator preparation programs and non-traditional pipelines through job-embedded pathways. Tennessee has had a decline of about 500 educator preparation program completers from 2017 to 2022 mirroring national trends (Tennessee State Board of Education, 2023). This decline and potential increases in teacher turnover indicate a need to expand pathways into teaching while also working to decrease teacher turnover.

Expanding pipelines into teaching has the added advantage of diversifying the workforce. Over the past seven years, the current teacher workforce in Tennessee and Kentucky has remained similar in race and gender composition, though average teacher age has slightly increased as new entrants into the profession are older than in the years before the pandemic. Evidence from these two states indicate that expanding non-traditional pathways of preparation and certification for teaching is a likely route for diversifying the profession in terms of race, gender, and age.

These pathways and programs must prepare and support teachers for the demands of the job. In both states, teachers of color exit at higher rates. We also find that more teachers feel less prepared to lead their own classrooms than in previous years, with greater satisfaction with clinical preparation or student teaching than coursework.

Greater uncertainty in teachers' reported plans and decreasing satisfaction with salaries as they fail to keep up with inflation indicate that calls to increase teacher salaries should be continued. Although, this is challenging amidst competing resource demands for additional school staff and student learning supports at a time when federal pandemic recovery dollars are ending.

Increased turnover among teachers of all experience levels in Tennessee post-pandemic mimics a common trend observed across the southeastern region. Furthermore, teacher turnover of early-career teachers is at the highest levels in the southeastern region (SREB, 2023). As teachers have identified in our data sources and other surveys across the nation, the primary reason for leaving the profession is the influence of the leaders in their building. Leaders play an important role in instructional leadership and development, goal setting, climate setting, resource, and personnel management (Grissom et al., 2021).

It is our hope that awareness of trends in the teacher labor market can help stakeholders and decision-makers better understand the problems we are facing regarding ensuring a well-supplied pool of teachers for all students. Furthermore, we should look for and learn from promising practices. Kentucky as an outlier has not seen as large of an increase in turnover. More research should be done to study states with less turnover to find out if certain policy or practice changes perhaps contributed to this result.

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