

Principal Retention Patterns in Arizona, Nevada, and Utah

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The departure of an effective school leader can influence staff turnover and student achievement for several years. With school systems facing an unprecedented public health crisis due to COVID-19, principal retention is a key area of concern for many local and state education agencies. The Regional Educational Laboratory West undertook this study of principal retention rates to help leaders in Arizona, Nevada, and Utah better understand principal retention patterns in their state, so that their new statewide leadership support initiatives could identify areas where support could be most effective. Findings showed that fewer than half of principals in each of these states remained at the same school from fall 2016 to fall 2020 (four-year retention). The study also found that principals who changed jobs (but remained in the principalship) tended to move to a new school in the same local education agency rather than to a new school in another local education agency. Principal retention patterns varied by state according to grade span, school locale type, and student demographic characteristics. In addition, across the three states, proportionally fewer principals remained at schools with lower average proficiency rates on standardized tests in math and English language arts than at schools with higher average proficiency rates from fall 2016 to fall 2019 (three-year retention).

Why this study?

Principals are both administrators and instructional leaders, working to promote school stability, advance student learning, and engage the local community (Beckett, 2018; Grissom et al., 2021; Miller, 2013). Previous studies have found an association between a principal's departure and both staff turnover and student achievement (Béteille et al., 2012; Blanchard et al., 2019; Grissom, 2011; Henry & Harbatkin, 2019; Hughes et al., 2015; Kearney et al., 2012; Miller, 2013).

Every year in the United States, approximately 6–7 percent of principals change schools, and another 9–12 percent depart the principalship (Goldring & Taie, 2018). Although the reasons that principals leave their jobs vary—and mobility patterns can differ within and across states and regions (Rangel, 2018)—research suggests that a perceived lack of access to on-the-job supports (Clifford et al., 2012; Levin & Bradley, 2019) or of the necessary authority and resources to support staff and students can play a key role (Béteille et al., 2012; Seashore Louis et al., 2010). In short, many principals leave because they do not believe that they have the tools they need to succeed.

Principal mobility has been more common in certain environments in recent years, including urban areas (Beckett, 2018; DeAngelis & White, 2011; Podgursky et al., 2016), areas with high poverty levels, and schools with lower standardized test performance (Beckett, 2018; Blanchard et al., 2019; Levin & Bradley, 2019; Miller, 2013; Rangel, 2018; Yan, 2020).

With some recent national data suggesting an increase in the percentage of principals departing K–12 schools (Yan, 2020) and with school systems facing an unprecedented public health crisis due to COVID-19, principal retention is a key area of concern for many local and state education agencies. Acknowledging the importance of evidence-based supports for school leaders¹ and wishing to improve their retention rates, state education agency officials in Arizona, Nevada,

For additional information, including technical methods, detailed results for principal mobility, and county-level retention rates by state, access the report appendixes at <https://go.usa.gov/xertG>.

1. Officials from the three states participated in a series of regional workshops from 2018 to 2020 to learn from the authors of recent research on evidence-based supports for school leaders.

and Utah are implementing new statewide leadership support initiatives. These three geographically extensive western states each has one or two large metropolitan areas, multiple state universities and administrator preparation programs, and many isolated rural communities that have been working for several years to combat educator shortages. Arizona is home to more than 7 million people (and just over 1 million public school students), while Nevada (450,000 students) and Utah (665,000 students) each has more than 3 million residents. The number of public noncharter local education agencies also varies by state: Nevada has 17 (1 is an independent city district and the other 16 are coterminous with each of the state's counties), Utah has 41 across its 29 counties, and Arizona has more than 230 across its 15 counties.

To inform their statewide capacity-building efforts in mentoring and coaching for principals and expand their understanding of the communities most in need of leadership supports, members of the Educator Effectiveness Alliance in each of these three states partnered with the Regional Educational Laboratory West to better comprehend their principal retention rates and mobility patterns across traditional (noncharter) public schools and local education agencies statewide. Although the state education agencies in all three states systematically collect data on educator assignments each year, the data have not been used to examine retention among school leaders. A prior study of principal mobility in Utah highlighted higher turnover among that state's elementary school principals and urban principals (Ni et al., 2015), but parallel analyses have not been conducted in Arizona or Nevada in recent years. This study examined recent patterns across all three states.

The study used state administrative data to describe principal retention and mobility and the school and local education agency factors associated with these issues. The results provide detailed and practical information for subsequent monitoring, planning, and research and can help the three participating state education agencies target their resources to improve retention in higher-turnover contexts. The results also provide a baseline that can be compared with future principal retention rates in each state to assess whether rates are stabilizing, improving, or worsening. State researchers and others might want to replicate these analyses in future years to monitor retention. Other jurisdictions might want to adopt or adapt the model to address related questions. The results also provide a foundation for discussions among peer state education agency teams at regional events.

Research questions

Using fall data from school years 2016/17 through 2020/21, this study explored the following questions related to principal retention rates in traditional (noncharter) public schools and local education agencies in Arizona, Nevada, and Utah:

1. What are the one-year and four-year principal retention rates in Arizona, Nevada, and Utah? To what extent have the one-year rates varied since fall 2016?
2. How does principal retention differ across schools, depending on grade span, locale type, and student race/ethnicity, poverty level,² and state standardized test performance?
3. How does principal retention differ across local education agencies, depending on locale type and student race/ethnicity and poverty level?

Box 1 summarizes the study data, methods, and limitations; appendix A provides additional detail on the data and methods.

Information on each of these sessions is available online at <https://ies.ed.gov/ncee/edlabs/regions/west/Partner/EducatorEffectiveness> (see *Resources: School Leadership*).

2. For the purposes of this study, poverty is defined as eligibility for the National School Lunch Program. These eligibility determinations are made by local school staff in each of the three states.

Box 1. Data sources, methods, and limitations

Data sources. This study examined administrative data from state staffing databases to calculate one- and four-year mobility rates within each state at the school level and at the local education agency level; three-year mobility rates were calculated by proficiency level on state standardized tests because no tests were administered in 2020 (see appendix A for details). Analyses began by comparing principals' school assignments across years to categorize the principals into mobility types (Goldring & Taie, 2018):

- **School stayer:** remained as a principal in the same school.
- **School mover:** became a principal in a different school in the same local education agency.
- **Local education agency mover:** became a principal in a school in a different local education agency in the same state.
- **Role leaver:** left the principalship (no longer appears as a principal in the statewide dataset).

This study examined retention solely among individuals identified as the lead administrator at their school; it did not include staff working as assistant principals, teachers, or district leaders. Alternative schools, charter schools, virtual schools, and special schools were excluded from the study because of differences in the ways that each state monitors and documents staffing patterns among such schools. As of fall 2018, 18 percent of Arizona's public school students and 11 percent of Nevada and Utah's public school students were enrolled in charter schools.¹

To create a consistent study sample across states, the study also excluded schools lacking demographic data (on grade span, locale, student race/ethnicity, and poverty status). Accordingly, 24 schools (2 percent) in Arizona and 32 schools (4 percent) in Utah were removed for the baseline fall 2016 analysis; no schools in Nevada were removed.

Methods. The data spanned five school years: 2016/17, 2017/18, 2018/19, 2019/20, and 2020/21. Mobility rates were explored for the following characteristics of the schools that the principals led in 2016/17: grade span (elementary, middle, high); locale type (city, suburban, town, rural);² proportions of students of a race/ethnicity other than White; proportions of students eligible for the National School Lunch Program; and performance on statewide standardized tests in math and English language arts. Parallel analyses were carried out at the local education agency level, and the study team also calculated the four-year retention rates for every county (see appendix C) to provide additional context for the local education agency results for stakeholders and support providers in each state. Results at the county level can be helpful for grouping local education agencies by region and can allow for information from smaller areas to be reported and used by stakeholders.

The report's main narrative focuses on stayers. The fall 2016 cohort that served as the basis for the study's multiyear retention rates included 1,188 principals in Arizona, 473 principals in Nevada, and 740 principals in Utah. Because year-to-year principal retention patterns were generally consistent over the study period, the report focuses primarily on patterns observed over the entire four years (from fall 2016 to fall 2020). The analysis of differences based on school performance is an exception; it focuses on three-year retention rates because spring 2020 test data were not available. See appendix B for annual one-year results and detailed four-year results.

The report highlights group differences higher than 3 percentage points and treats differences that exceed this threshold as meaningful.³

Limitations. This study did not examine the causes of principal retention and mobility and thus could not distinguish among reasons for mobility such as principals choosing to leave, being terminated for cause, or having their position eliminated because of budget constraints. Other school and local education agency characteristics not examined by this study could also have influenced principal mobility, such as low levels of resources, less competitive salaries, problematic working conditions, and accountability pressures that might shape principals' job satisfaction. Further information on such influences and on the reasons principals move could allow policy and programmatic responses to better target certain working conditions to increase retention. Such information could be the focus of future research by state education agencies and their partners. The report also did not examine principals' tenure in a given principalship or the turnover frequency in schools. Furthermore, the study's classification of administrators who left the principalship in the state should not be equated with leaving the state or the education field altogether; some of these former principals might return to the principalship in subsequent years or might have moved to a private school or into another education position, such as in district leadership. Finally, the study data did not contain any performance ratings for principals, and thus the study did not address the comparative performance of stayers, movers, and leavers.

Notes

1. See <https://nces.ed.gov/programs/coe/indicator/cgb>.

2. This study relied on the U.S. Census Bureau's geographic classification system to explore regional patterns (see appendix B, including table B3, for details).

3. Similar thresholds were applied in other recent Regional Educational Laboratory reports on educator mobility in West Virginia (Lochmiller et al., 2016) and Texas (Sullivan et al., 2017). Lochmiller et al. pointed out that, although the threshold was "arbitrary," it was "selected on the basis that it would yield the most policy-relevant information" (p. 4).

Findings

The findings describe key recent trends in principal retention across Arizona, Nevada, and Utah and highlight consistencies and differences among states.

Fewer than half of the principals in each of the three states remained at the same school from fall 2016 to fall 2020

From fall 2016 to fall 2020, 30 percent of principals in Utah remained in the same school compared with 43 percent in Nevada and 36 percent in Arizona (figure 1). Across all three states during this period, a majority of principals' departures from their school were exits from the principalship. Principals who changed schools but remained in the principalship during this period tended to move to a new school in the same local education agency rather than to a new school in another local education agency.

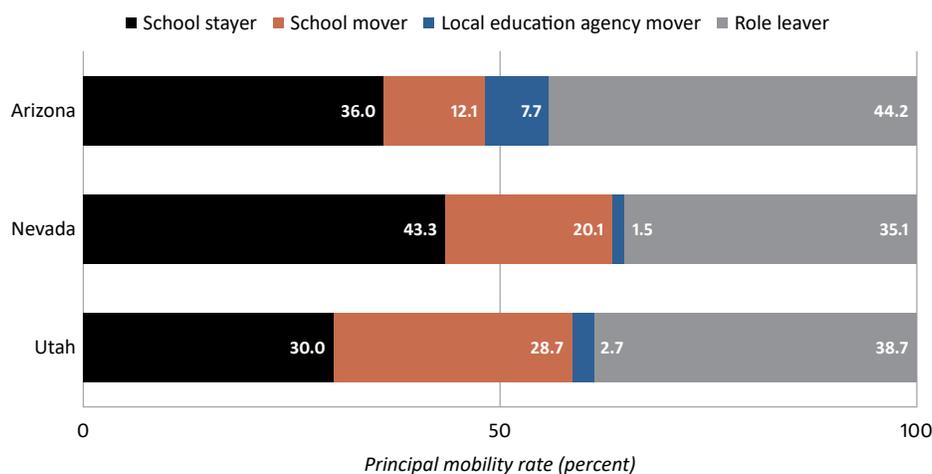
One-year principal retention rates have been relatively stable in in the three states since fall 2016 and did not decline from fall 2019 to fall 2020, during the COVID-19 pandemic

One-year retention (school stayer) rates across states between fall 2016 and fall 2020 were fairly stable, including the most recent year (figure 2). In Utah a higher proportion of principals stayed at their schools from fall 2019 to fall 2020 during a period of COVID-19-related school closures than did so from fall 2018 to fall 2019. The school stayer rates also did not decline during that most recent one-year period in Arizona and Nevada.

Each state experienced its lowest four-year school principal retention rate at a different grade span

In Arizona, where the percentage of principals who stayed at the same school from fall 2016 through fall 2020 (the four-year principal retention rate) was 36 percent, the rate was lower for high schools and middle schools, at 33 percent each, than for elementary schools, at 37 percent (figure 3). In Nevada, where the overall four-year principal retention rate was 43 percent, the rate was lower for elementary school principals, at 39 percent, and higher for middle school principals, at 48 percent, and among high school principals, at 55 percent. In Utah, where

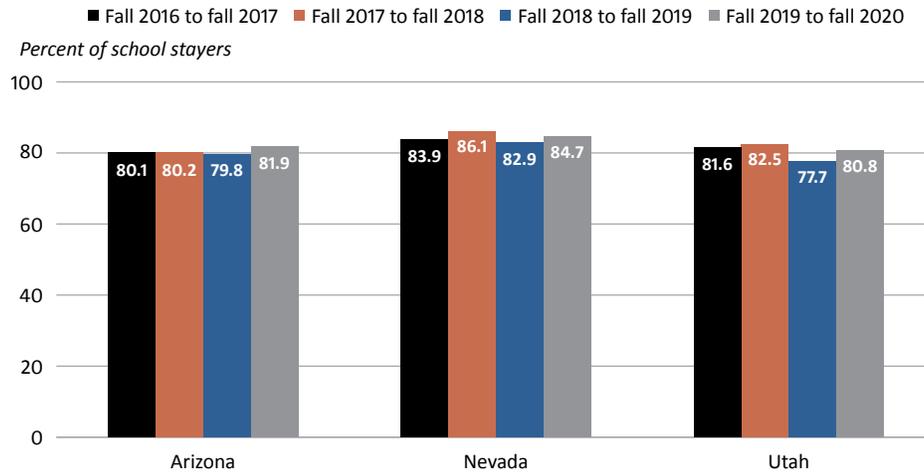
Figure 1. Fewer than half of the principals in Arizona, Nevada, and Utah remained at the same school from fall 2016 through fall 2020 (four-year rates)



Note: $n = 1,188$ principals in Arizona, 473 principals in Nevada, and 740 principals in Utah.

Source: Authors' analysis of data from the Arizona Department of Education, Nevada Department of Education, and Utah State Board of Education in November and December 2020.

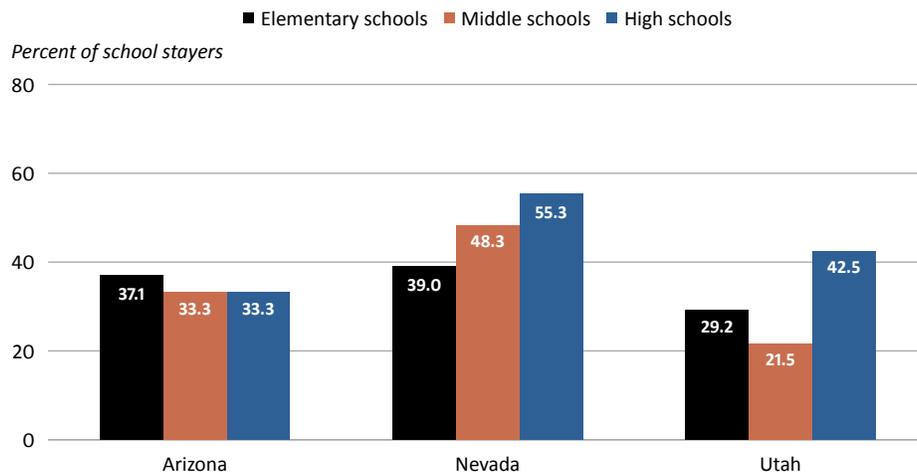
Figure 2. One-year principal retention rates have been stable in recent years in Arizona, Nevada, and Utah, fall 2016 through fall 2020



Note: For Arizona $n = 1,188$ principals for 2016–17, 1,198 for 2017–18, 1,210 for 2018–19, and 1,237 for 2019–20. For Nevada $n = 473$ principals for 2016–17, 476 for 2017–18, 449 for 2018–19, and 498 for 2019–20. For Utah $n = 740$ principals for 2016–17, 770 for 2017–18, 775 for 2018–19, and 802 for 2019–20.

Source: Authors’ analysis of data from the Arizona Department of Education, Nevada Department of Education, and Utah State Board of Education in November and December 2020.

Figure 3. Four-year principal retention rates varied across grade spans in Arizona, Nevada, and Utah, fall 2016 through fall 2020



Note: For Arizona $n = 827$ principals in elementary schools, 162 in middle schools, and 195 in high schools. For Nevada $n = 310$ principals in elementary schools, 87 in middle schools, and 76 in high schools. For Utah $n = 496$ principals in elementary schools, 130 in middle schools, and 113 in high schools. The figure excludes four K–12 schools in Arizona and one in Utah.

Source: Authors’ analysis of data from the Arizona Department of Education, Nevada Department of Education, and Utah State Board of Education in November and December 2020.

the overall four-year retention rate was 30 percent, it was lower for middle school principals, at 22 percent, and elementary school principals, at 29 percent, than for high school principals, at 43 percent.³

3. In all three states the four-year retention rate was 7–12 percentage points higher among high school principals in rural areas than the overall four-year retention rate for high school principals statewide (data not shown).

The three states differed in the types of locales (cities, suburbs, towns, or rural areas) that had the lowest four-year principal retention rates

Of the three states, Arizona had the least variation in principal retention rates across locale types from fall 2016 to fall 2020. Its proportion of school stayers ranged from 32 percent in towns to 38 percent in suburbs (figure 4). Nevada’s four-year principal retention rates were fairly similar across cities, suburbs, and towns, with rates ranging from 43 percent to 48 percent, but the retention rate was much lower in rural areas, at 28 percent. Unlike the other two states, Utah had the highest principal retention rate in rural schools, at 47 percent, with lower rates of 26 percent in city schools and 22 percent in suburban schools.

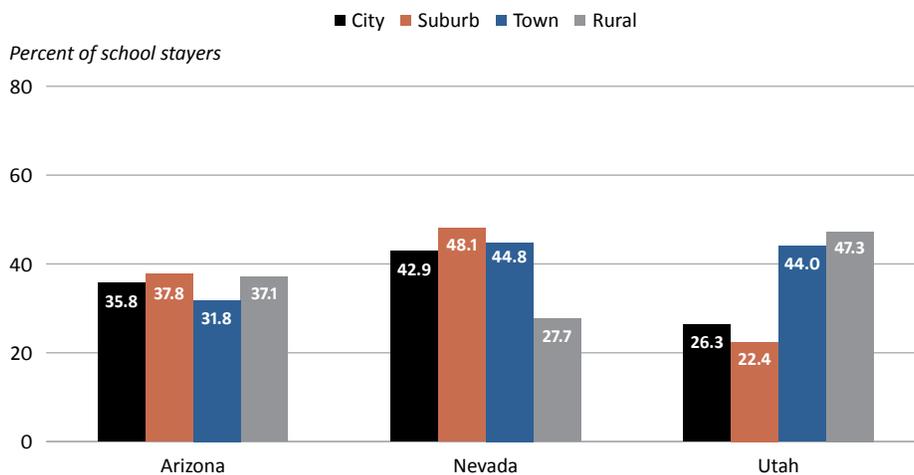
In Arizona and Nevada four-year principal retention rates were higher in schools where more than half of students were White than in schools where fewer than half of students were White, but the converse was true in Utah

The four-year principal retention rates in schools where fewer than half of students were White in fall 2019 ranged from a low of 34 percent in Arizona to a high of 44 percent in Nevada (figure 5). In both Arizona and Nevada these rates were 4–5 percentage points lower than those in schools where more than half of students were White. In Utah the four-year retention rate was approximately 8 percentage points higher in schools where fewer than 50 percent of students were White.

Arizona and Utah had lower four-year principal retention rates among schools where more than half of students were eligible for the National School Lunch Program, while Nevada did not

In Arizona and Utah four-year principal retention rates (school stayers) were lower in schools where more than 50 percent of students were eligible for the National School Lunch Program in fall 2019 (33 percent in Arizona and 26 percent in Utah) than in schools where fewer than 50 percent of students were eligible for the program (41 percent in Arizona and 32 percent in Utah; figure 6). In Nevada four-year principal retention from fall 2016

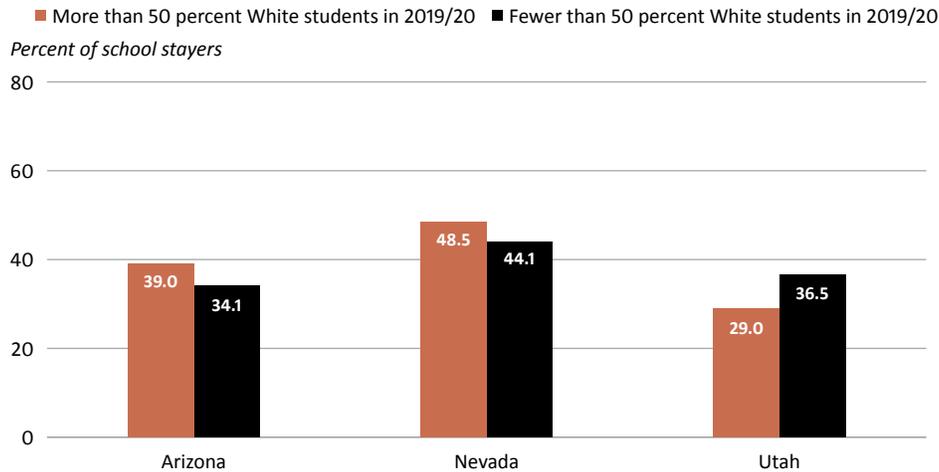
Figure 4. Four-year principal retention rates varied across locale types in Arizona, Nevada, and Utah, fall 2016 through fall 2020



Note: For Arizona $n = 547$ principals in urban schools, 328 in suburban schools, 154 in town schools, and 159 in rural schools. For Nevada $n = 212$ principals in urban schools, 156 in suburban schools, 58 in town schools, and 47 in rural schools. For Utah $n = 118$ principals in urban schools, 402 in suburban schools, 91 in town schools, and 129 in rural schools.

Source: Authors’ analysis of data from the Arizona Department of Education, Nevada Department of Education, and Utah State Board of Education in November and December 2020.

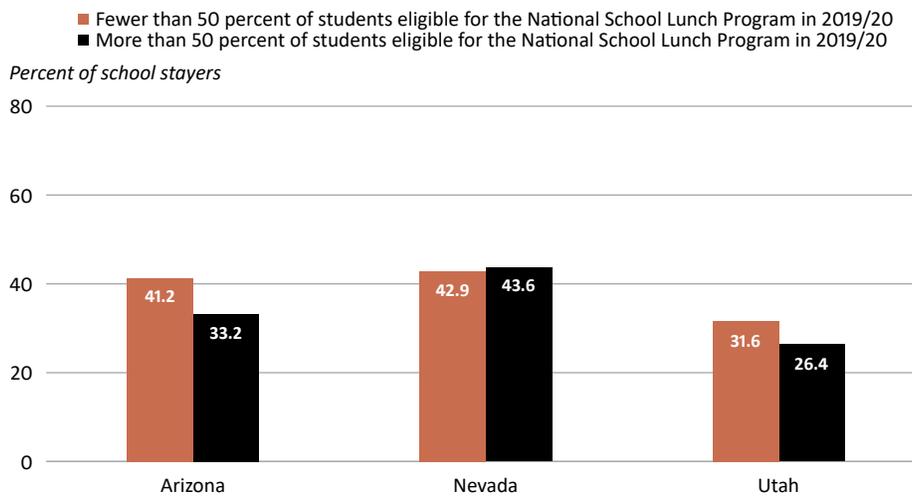
Figure 5. Four-year principal retention rates varied by state according to the proportion of White students enrolled in fall 2019, fall 2016 through fall 2020



Note: The most recent available demographic data were for the 2019/20 school year. For Arizona $n = 469$ principals in schools where more than 50 percent of students were White and 719 principals in schools where fewer than 50 percent of students were White. For Nevada $n = 167$ principals in schools where more than 50 percent of students were White and 306 principals in schools where fewer than 50 percent of students were White. For Utah $n = 644$ principals in schools where more than 50 percent of students were White and 96 principals in schools where fewer than 50 percent of students were White.

Source: Authors' analysis of data from the Arizona Department of Education, Nevada Department of Education, and Utah State Board of Education in November and December 2020.

Figure 6. Four-year principal retention rates varied in Arizona and Utah but not in Nevada according to the proportion of students eligible for the National School Lunch Program in fall 2019, fall 2016 through fall 2020



Note: The most recent available demographic data were from the 2019/20 school year. For Arizona $n = 427$ principals in schools where fewer than 50 percent of students were eligible for the National School Lunch Program and 761 principals in schools where more than 50 percent of students were eligible for the program. For Nevada $n = 170$ principals in schools where fewer than 50 percent of students were eligible for the program and 303 principals in schools where more than 50 percent of students were eligible for the program. For Utah $n = 513$ principals in schools where fewer than 50 percent of students were eligible for the program and 227 principals in schools where more than 50 percent of students were eligible for the program.

Source: Authors' analysis of data from the Arizona Department of Education, Nevada Department of Education, and Utah State Board of Education in November and December 2020.

to fall 2020 was similar across these two groups of schools (44 percent in schools with more than 50 percent of students eligible and 43 percent in schools with fewer than 50 percent eligible).

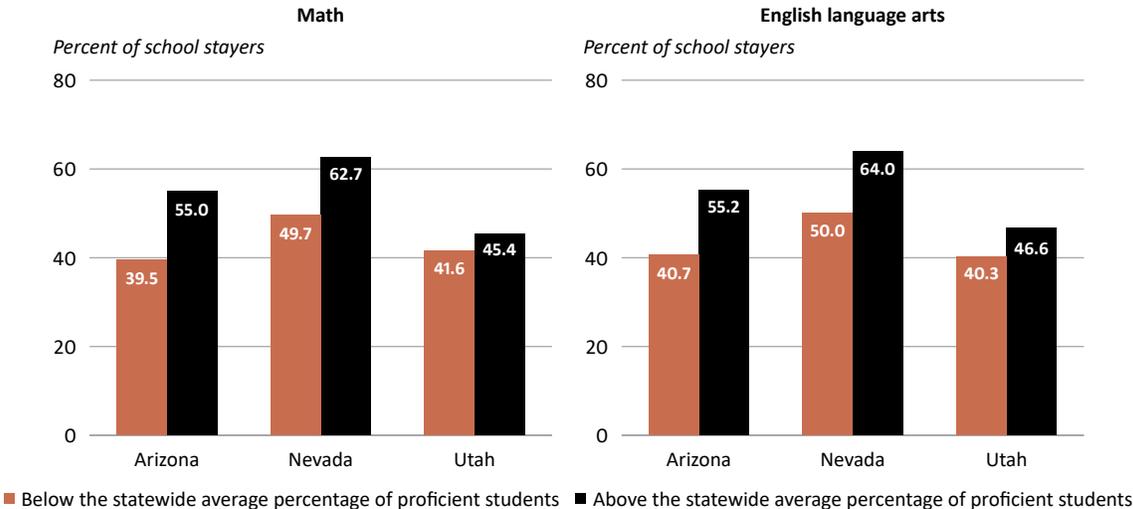
Across the three states, proportionally fewer principals remained at lower-performing schools than at higher-performing schools from fall 2016 to fall 2019 (three-year retention)

Like many states across the country, Arizona, Nevada, and Utah did not administer statewide standardized tests in spring 2020 because of the COVID-19 pandemic, so only three years of standardized test data were available for the study period. All three states had lower three-year principal retention rates (fewer school stayers) from fall 2016 to fall 2019 in schools that had below-average proficiency rates on statewide standardized tests in math and English language arts (figure 7). The difference in three-year principal retention rates between lower- and higher-performing schools was most pronounced in Arizona, where the principal retention rate was approximately 14–16 percentage points lower in schools performing below the statewide average than in schools performing above the statewide average. The difference in three-year principal retention rates was least pronounced in Utah, where the retention rate of principals in schools performing below the statewide average was approximately 4–6 percentage points lower than in schools performing above the statewide average.

Across the three states, four-year principal mobility patterns at the local education agency level were largely similar to those at the school level, with a few exceptions

Although most of the mobility patterns at the local education agency level were similar to those at the school level across the three states, there were some differences. Specifically, in Utah the highest principal retention rate

Figure 7. In Arizona, Nevada, and Utah, schools with below-average proficiency rates on statewide standardized tests in math and English language arts in spring 2019 had lower three-year principal retention rates, fall 2016 through fall 2019



Note: The most recent available statewide test data were for spring 2019. For Arizona $n = 600$ principals in schools that were below the statewide average percentage of students proficient in math and 585 principals in schools that were above the statewide average, and 656 principals in schools that were below the statewide average in percentage of students proficient in English language arts and 529 principals in schools that were above the statewide average. For Nevada $n = 181$ principals in schools that were below the statewide average percentage of students proficient in math and 217 principals in schools that were above the statewide average, and 210 principals in schools that were below the statewide average in percentage of students proficient in English language arts and 189 principals in schools that were above the statewide average. For Utah $n = 322$ principals in schools that were below the statewide average in percentage of students proficient in math and 415 principals in schools that were above the statewide average, and 345 principals in schools that were below the statewide average in percentage of students proficient in English language arts and 393 principals in schools that were above the statewide average. Nevada was missing performance data for many of its high schools.

Source: Authors' analysis of data from the Arizona Department of Education, Nevada Department of Education, and Utah State Board of Education in November and December 2020.

Table 1. Four-year principal retention rates in local education agencies (stayers plus school movers), overall and by subgroup, fall 2016 through fall 2020

Group	Arizona	Nevada	Utah
Statewide overall	48.2	63.4	58.7
Grade span			
Elementary	50.4	59.7	60.1
Middle	43.2	70.1	52.3
High	41.5	71.1	59.3
Locale type			
City	50.1	62.7	55.9
Suburb	50.9	70.5	58.0
Town	44.2	56.9	60.4
Rural	39.6	51.1	62.0
Percentage of White students in 2019/20			
More than 50 percent	48.8	50.3	57.5
Fewer than 50 percent	47.7	70.6	66.7
Percentage of students eligible for the National School Lunch Program in 2019/20			
More than 50 percent	45.3	65.7	49.8
Fewer than 50 percent	53.2	59.4	62.6

Source: Authors' analysis of data from the Arizona Department of Education, Nevada Department of Education, and Utah State Board of Education in November and December 2020.

at the local education agency level was in elementary schools (table 1), whereas the highest retention rate at the school level was in high schools (see figure 3). In addition, Arizona's local education agencies had lower four-year retention rates in rural areas than in other locales, which was not the case at the school level, where the lowest retention rate was in towns (see figure 4). Finally, Nevada's local education agencies with fewer than 50 percent of White students in fall 2019 had a much higher four-year principal retention rate (71 percent) than did local education agencies with more than 50 percent of White students (50 percent), which is the converse of the state's pattern at the school level (see figure 5). This might be related to principals tending to stay in Clark County (by far the state's largest and most diverse local education agency) once they entered the principal workforce there.

Implications

The study findings suggest that state and local education leaders will continue to grapple with longstanding staffing challenges. In the four years from fall 2016 to fall 2020, more than half of the principals in Arizona, Nevada, and Utah left the schools that they had led in fall 2016. Principal turnover can be costly and has been associated with poor outcomes for students (Grissom et al., 2021; Tran et al., 2018).

Research has consistently shown that principals more commonly depart environments with higher proportions of students in poverty, students in racial/ethnic minority groups, and below-average test scores (Levin & Bradley, 2019; Rangel, 2018). Those findings were corroborated by the findings in this study as well, with some variations by state. Certain retention strategies might be explored to reduce principal turnover in these types of environments, along with closer monitoring of school outcomes. For example, preservice preparation could be differentiated based on the administrators' upcoming placements, in-service professional learning opportunities might be better contextualized, or incentives could be offered to encourage effective leaders to remain in certain (traditionally lower-retention) environments.⁴ State and local education leaders could explore the degree to which such

4. See, for example, Levin and Bradley (2019) and Matlach (2015) for further discussion of these strategies and Seashore Louis et al. (2010) for a review of practices that enhance principals' sense of efficacy (Meyer et al., 2019).

strategies are in place in the types of schools where turnover is highest as a way to consider different approaches to support retention. Moreover, in-depth exploration in the environments where turnover is highest might reveal possible causes of this turnover.

The study findings also highlight differences among these three states that could be further explored in state-to-state peer discussions. For example, there could be reasons why Utah had higher principal retention in rural areas than Arizona and Nevada. The three states might also find it worth exploring together why each state had different rates of principal mobility at different grade spans and types of locales in recent years. Such discussions could help leaders in each state better direct resources and supports to where they are most needed.

Beyond this interstate collaboration, workforce leaders in Arizona, Nevada, and Utah could also use the results of this study as a baseline reference for their own continuing research on principal turnover, to understand why principals leave as well as to help target resources to improve retention in their own state context. (County-level retention patterns are presented in appendix C.) The approach used in this study can serve as a model for future research using state administrative data to further inform understandings about principal mobility and incentives or supports at the state or local education agency level that might help retain school leaders.

References

- Beckett, L. O. (2018). Predictors of urban principal turnover. *Urban Education*. <https://doi.org/10.1177/0042085918772629>.
- Béteille, T., Kalogrides, D., & Loeb, S. (2012). Stepping stones: Principal career paths and school outcomes. *Social Science Research*, *41*(4), 904–919. <http://eric.ed.gov/?id=ED522078>.
- Blanchard, A., Chung, Y., Grissom, J., & Bartanen, B. (2019). *Do all students have access to great principals?* Tennessee Education Research Alliance.
- Clifford, M., Behrstock-Sherratt, E., & Fetters, J. (2012). *The ripple effect: A synthesis of research on principal influence to inform performance evaluation design*. American Institutes for Research. <http://eric.ed.gov/?id=ED530748>.
- DeAngelis, K. J., & White, B. R. (2011). *Principal turnover in Illinois public schools, 2001–2008*. Illinois Research Council. <http://eric.ed.gov/?id=ED518191>.
- Goldring, R., & Taie, S. (2018). *Principal attrition and mobility: Results from the 2016–17 Principal Follow-up Survey: First look* (NCES No. 2018–066). National Center for Education Statistics Working Paper. U.S. Department of Education. <http://eric.ed.gov/?id=ED585933>.
- Grissom, J. A. (2011). Can good principals keep teachers in disadvantaged schools? Linking principal effectiveness to teacher satisfaction and turnover in hard-to-staff environments. *Teachers College Record*, *113*(11), 2552–2585. <http://eric.ed.gov/?id=EJ951114>.
- Grissom, J. A., Egalite, A. J., & Lindsay, C. A. (2021). *How principals affect students and schools: A systematic synthesis of two decades of research*. The Wallace Foundation. <http://eric.ed.gov/?id=ED611009>.
- Henry, G. T., & Harbatkin, H. (2019). *Turnover at the top: Estimating the effects of principal turnover on student, teacher, and school outcomes* (Education Working Paper No. 19–95). Annenberg Institute at Brown University. Retrieved July 16, 2019, from <http://www.edworkingpapers.com/ai19-95>.
- Hughes, A. L., Matt, J. J., & O'Reilly, F. L. (2015). Principal support is imperative to the retention of teachers in hard-to-staff schools. *Journal of Education and Training Studies*, *3*(1), 129–134. <http://eric.ed.gov/?id=EJ1054905>.

- Kearney, W. S., Valdez, A., & Garcia, L. (2012). Leadership for the long-haul: The impact of leadership longevity on student achievement. *School Leadership Review*, 7(2), 24–33.
- Levin, S., & Bradley, K. (2019). *Understanding and addressing principal turnover: A review of the literature*. Learning Policy Institute.
- Lochmiller, C. R., Adachi, E., Chesnut, C. E., & Johnson, J. (2016). *Retention, attrition, and mobility among teachers and administrators in West Virginia* (REL 2016–161). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Appalachia. <http://eric.ed.gov/?id=ED568148>.
- Matlach, L. (2015). *Supporting and retaining effective principals*. Center on Great Teachers and Leaders at American Institutes for Research.
- Meyer, S. J., Espel, E. V., Weston-Sementelli, J. L., & Serdiouk, M. (2019). *Teacher retention, mobility, and attrition in Colorado, Missouri, Nebraska, and South Dakota* (REL 2019–001). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central. <http://eric.ed.gov/?id=ED593492>.
- Miller, A. (2013). Principal turnover and student achievement. *Economics of Education Review*, 36(C), 60–72.
- Ni, Y., Sun, M., & Rorrer, A. (2015). Principal turnover: Upheaval and uncertainty in charter schools? *Educational Administration Quarterly*, 51(3), 409–437. <http://eric.ed.gov/?id=EJ1066864>.
- Podgursky, M., Ehlert, M., Lindsay, J., & Wan, Y. (2016). *An examination of the movement of educators within and across three Midwest Region states* (REL 2017–185). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. <http://eric.ed.gov/?id=ED570453>.
- Rangel, V. S. (2018). A review of the literature on principal turnover. *Review of Educational Research*, 88(1), 87–124. <http://eric.ed.gov/?id=EJ1166231>.
- Seashore Louis, K., Leithwood, K., Wahlstrom, K. L., & Anderson, S. E. (2010). *Investigating the links to improved student learning: Final report of research findings*. The Wallace Foundation.
- Sullivan, K., Barkowski, E., Lindsay, J., Lazarev, V., Nguyen, T., Newman, D., & Lin, L. (2017). *Trends in teacher mobility in Texas and associations with teacher, student, and school characteristics* (REL 2018–283). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. <http://eric.ed.gov/?id=ED578907>.
- Tran, H., McCormick, J., & Nguyen, T. (2018). The cost of replacing South Carolina high school principals. *Management in Education*, 32(4), 1–10. <http://eric.ed.gov/?id=EJ1183573>.
- Yan, R. (2020). The influence of working conditions on principal turnover in K–12 public schools. *Educational Administration Quarterly*, 56(1), 89–122. <http://eric.ed.gov/?id=EJ1238699>.

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