

# Retention, Mobility, and Attrition among School and District Leaders in Colorado, Missouri, and South Dakota

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# Retention, Mobility, and Attrition Among School and District Leaders in Colorado, Missouri, and South Dakota

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Education decisionmakers in Colorado, Missouri, and South Dakota share concerns about and need more information on changes in school and district leadership (principals, assistant principals, superintendents, and assistant superintendents), including mobility (when leaders move to a different school or district within the state public school system) and attrition (when leaders stop serving in a leadership position in the state public school system). In collaboration with educators in those states, the Regional Educational Laboratory Central used administrative data for 2015/16 to 2018/19 to identify the percentages of school and district leaders who remained in a leadership position in the same school or district (stayers), who transferred to a leadership position in a different school or district (movers), and who took a nonleadership position or left the state public school system (leavers) after one year and after three years. The study also examined the characteristics of principals, schools, and districts that were associated with principal mobility and attrition.

Across the three states the percentage of school and district leaders who were stayers ranged from 77 percent to 82 percent after one year and from 51 percent to 56 percent after three years. After three years younger principals were more likely to be a mover than a stayer, and older principals were more likely to be a leaver than a stayer. Principals who identified as a racial/ethnic minority and those who earned a lower salary were also more likely to be a mover or a leaver. In addition, principals were more likely to move from or leave low-performing schools that the state identified as needing additional support for improvement and schools in lower-performing districts (districts with lower average student academic achievement). The findings suggest that decisionmakers may wish to better understand the causes of school leader mobility and attrition and enhance supports for younger principals, principals who identify as a racial/ethnic minority, and principals in low-performing schools.

## Why this study?

Education decisionmakers in Colorado, Missouri, and South Dakota share concerns about mobility and attrition among school and district leaders (see box 1 for definitions of key terms), which have been associated with negative outcomes for students and schools. A recent review of research found that higher rates of principal mobility and attrition were associated with lower student achievement, higher teacher mobility, and a less positive school culture and climate (Snodgrass Rangel, 2018). While fewer studies have examined the association of mobility and attrition among district leaders with school and student outcomes, research suggests that stability of district leadership contributes to positive school outcomes by supporting the efficacy and confidence of principals in their ability to bring about school improvement and enact effective policies and practices associated with instruction (Seashore Louis et al., 2010).

While federally collected data provide a national-level picture of school leader retention, mobility, and attrition, data at the region and state levels are not consistently available. Recent research on retention, mobility, and attrition by the Regional Educational Laboratory (REL) Central in Colorado, Missouri, and South Dakota (Espel et al., 2019; Meyer et al., 2019) and by education agencies in two of these REL Central states (Missouri Department of Elementary and Secondary Education, 2018; South Dakota Department of Education, 2015) focused on teachers. That work and prior research found that teacher retention, mobility,

For additional information, including a literature review, technical methods, additional descriptive analysis results, and results from multinomial logistic regression models, access the report appendixes at <https://go.usa.gov/xfHH7>.

and attrition and related factors vary substantially within and across states (see appendix A). That finding led Colorado, Missouri, and South Dakota decisionmakers to seek a better understanding of these phenomena among school and district leaders, who can also influence school and student outcomes. While state education agencies in all three states systematically collect data about educator assignments from year to year, the data have not been used to examine retention, mobility, and attrition among school and district leaders.

This study responded to the need for more information on these issues by analyzing the rates of retention, mobility, and attrition among school and district leaders in Colorado, Missouri, and South Dakota and the characteristics of principals, schools, and districts that are associated with principal mobility and attrition. The findings on retention, mobility, and attrition rates and the factors associated with mobility and attrition are presented in this report for one-year and three-year periods to provide a more nuanced understanding. For the same reason the rates are disaggregated by leadership position (for example, retention rates for school leaders are presented for those who remained assistant principals and for those who moved from an assistant principal to a principal position in the same school).

Findings on the factors associated with principal retention, mobility, and attrition can help state administrators identify groups of school leaders who are most at risk of moving or leaving and can inform the development of supports or incentives to improve recruitment and retention. The report also presents a model for how to use administrative data from state education agencies to understand education leader retention, mobility, and attrition and examine factors associated with these phenomena. Its findings provide a baseline that enables comparison of each state's rates of education leader retention, mobility, and attrition with rates in future years in order to assess whether rates are improving or worsening. State education agency researchers and others may wish to replicate these analyses in future years in order to monitor retention within the state. Other jurisdictions may wish to adopt or adapt the model to address related questions.

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### Box 1. Key terms

**Attrition.** Leaving a school or district leadership position or the state public school system for any reason. **School attrition** refers to principals or assistant principals who take a nonleadership position in a school within the state public school system, take a district position in the same or a different district within the state public school system, or leave the state public school system. **District attrition** refers to superintendents or assistant superintendents who take a nonleadership position in a district within the state public school system, take a school position within the state public school system, or leave the state public school system. Attrition is based on the number of leavers (defined below). Because the study used administrative data from multiple states that did not share a common personnel identifier, leader movement across study states could not be tracked. Therefore, attrition reflects leaders leaving either the state public school system or the profession.

**District leader.** A staff member designated by a state education agency as a superintendent or assistant superintendent (or deputy superintendent). Some districts employ multiple assistant superintendents.

**District performance.** The percentage of students in a district who scored proficient or better on the state English language arts assessment.

**Employment position.** Employment in the state public school system in a leadership position, classroom teaching position, or other type of school- or district-based position.

**Leadership position.** Employment in the state public school system as a school or district leader, including principal, assistant principal, superintendent, or assistant superintendent. Common definitions were created to combine data across states, even though some leader titles had different meanings in some states. For example, during the period of the study South Dakota had no state certification requirement for assistant principals or assistant superintendents, so people who held those positions might have had different characteristics than people who held those positions in states that required certification.

**Leaver.** A school or district leader who leaves a leadership position in the state public school system. At the school level a leaver is a school leader who takes a nonleadership position in a school within the state public school system, takes a district position within the state public school system (that is, in either the same district or a different district), or leaves the state public school system. At the district level a leaver is a district leader who takes a nonleadership position in a district within the state public school system, takes a school position within the state public school system, or leaves the state public school system. Attrition (defined above) is based on the number of leavers.

**Mobility.** Moving from a leadership position within the state public school system to a leadership position in a different school or district within the state public school system for any reason. Mobility is based on the number of movers (defined below). School mobility refers to school leaders taking a school leadership position in a different school. District mobility refers to district leaders taking a district leadership position in a different district.

**Mover.** A school or district leader who takes a leadership position in a different school or district within the state public school system. At the school level a mover is a school leader who takes a leadership position in a different school within the state public school system. At the district level a mover is a district leader who takes a leadership position in a different district within the state public school system. Mobility (defined above) is based on the number of movers.

**One-year rates.** Rates of school and district leader retention, mobility, and attrition that were calculated to examine the percentages of leaders who remained in a leadership position in the same school or district; who transferred to a leadership position in a different school or district; and who moved from a school leadership position to a district leadership position or vice versa, took a nonleadership position, or left the state public school system. Percentages of stayers, movers, and leavers for one-year analyses were calculated by dividing the number of leaders in each group as of fall 2018 by the total number of leaders in fall 2017. Percentages were disaggregated by state.

**Retention.** Remaining in a leadership position in the same school or district. Retention is based on the number of stayers (defined below). School retention refers to school leaders remaining in a school leadership position in the same school. District retention refers to district leaders remaining in a district leadership position in the same district.

**Rural district.** A district in which the total number of students enrolled in rural schools (defined below) exceeds the number of students enrolled in schools in any of the other three locale categories (city, suburb, or town), based on the National Center for Education Statistics locale framework (Geverdt, 2015).

**Rural school.** A school defined as rural based on the National Center for Education Statistics locale framework (Geverdt, 2015). Rural schools include those in a Census-defined rural territory that have a school locale code of 41 (rural fringe), 42 (rural distant), or 43 (rural remote).

**School identified for improvement.** A low-performing school identified by a state education agency for priority or comprehensive improvement support (state accountability designation).

**School leader.** A staff member designated by a state education agency as a principal or an assistant principal (also known as a vice principal). Some schools employ multiple assistant principals.

**Stayer.** A school or district leader who remains in the same school or district in a leadership position. At the school level a stayer is a school leader who remains a school leader in the same school. At the district level a stayer is a district leader who remains a district leader in the same district. Retention (defined above) is based on the number of stayers.

**Three-year rates.** Rates of school and district leader retention, mobility, and attrition that were calculated to examine the percentages of leaders who remained in a leadership position in the same school or district; who transferred to a leadership position in a different school or district; and who moved from a school leadership position to a district leadership position or vice versa, took a nonleadership position, or left the state public school system. Percentages of stayers, movers, and leavers for three-year analyses were calculated by dividing the number of leaders in each group as of fall 2018 by the total number of leaders as of fall 2015. Percentages were disaggregated by state.

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## Research questions

The study used administrative data from Colorado, Missouri, and South Dakota to address three main research questions in those states over one year (2017/18 to 2018/19) and three years (2015/16 to 2018/19):

1. What percentage of school leaders (principals and assistant principals) remained in a school leadership position in the same school (stayers), what percentage transferred to a school leadership position in a different school (movers), and what percentage left a school leadership position (leavers)?
  - Among school leaders what percentage of stayers changed leadership positions from assistant principal to principal, and what percentage changed leadership positions from principal to assistant principal?
  - Among school leaders what percentage of movers remained within the same district, and what percentage transferred to a different district?
  - Among school leaders what percentage of leavers transferred to a school nonleadership position, what percentage transferred to a district position, and what percentage left the state public school system?
2. What percentage of district leaders (superintendents and assistant superintendents) remained in a district leadership position in the same district (stayers), what percentage transferred to a district leadership position in a different district (movers), and what percentage left a district leadership position (leavers)?
  - Among district leaders what percentage of stayers changed leadership positions from assistant superintendent to superintendent, and what percentage changed leadership positions from superintendent to assistant superintendent?
  - Among district leaders what percentage of leavers transferred to a district nonleadership position, what percentage transferred to a school position, and what percentage left the state public school system?
3. What characteristics of principals, their schools, and their districts were associated with the likelihood of principals moving to a different school or leaving a school leadership position rather than staying in a leadership position in the same school?

Research question 3 focuses on principals because they are the largest group of education leaders, and therefore more data are available to examine factors associated with their mobility and attrition.

A brief literature review, with information about mobility and attrition among school and district leaders and their consequences and about factors associated with retention, mobility, and attrition among school leaders, is in appendix A. The data sources, sample, and methods are summarized in box 2 and discussed in detail in appendix B.

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### Box 2. Data sources, sample, and methods

**Data sources.** The study used administrative data from Colorado, Missouri, and South Dakota. The state education agency data files included data for all school and district leaders employed in the state public school system from 2011/12 through 2018/19, including their employment position, school or district assignment, birthdate, gender, race/ethnicity, highest education degree, and salary. State-specific identifiers enabled examining retention, mobility, and attrition in public school systems within states. It was not possible to track educators across state lines or to educator positions outside of the state public school systems. State education agency data systems also did not distinguish between voluntary and involuntary changes in employment status.

School and district data were also obtained from state education agencies and supplemented with publicly available data, including data from the Elementary/Secondary Information System (<https://nces.ed.gov/ccd/elsi/>). These data included information about school and district rurality, school and district enrollment, school grade span, school and district mean annual teacher salary, school state accountability designation (a designation given to the lowest-performing schools based on the state's accountability system to identify schools in need of improvement), percentage of students who scored proficient or better on the state

English language arts assessment, percentage of racial/ethnic minority students, percentage of students eligible for the national school lunch program, and percentage of English learner students.

**Samples.** The study samples included school and district leaders who were employed in a Colorado, Missouri, or South Dakota public school or district from 2015/16 to 2018/19. To examine education leader retention, mobility, and attrition over one year and three years, each research question focused on two groups of leaders: those employed in 2015/16 and those employed in 2017/18. The primary samples to address research questions 1 and 2 included 7,994 leaders (6,648 school leaders and 1,346 district leaders) for one-year analyses (2017/18 to 2018/19) and 7,661 leaders (6,352 school leaders and 1,309 district leaders) for three-year analyses (2015/16 to 2018/19). The samples to address research question 3 included 3,718 principals for one-year analyses and 3,222 principals for three-year analyses. See appendix B for more information about the samples.

**Methodology.** Education leaders' primary assignment (the assignment in which they spent the most time) to a school, district, and position in the fall of each year was used to determine whether school and district leaders were stayers, movers, or leavers after one year and after three years. Data for 2017/18 and 2018/19 were used for one-year analyses, and data for 2015/16 and 2018/19 were used for three-year analyses. Percentages of stayers, movers, and leavers for one-year analyses were calculated by dividing the number of leaders in each group in fall 2018 by the total number of leaders in fall 2017. Percentages of stayers, movers, and leavers for three-year analyses were calculated by dividing the number of leaders in each group in fall 2018 by the total number of leaders in fall 2015. Subcategories of the groups were also examined, including, for example, the percentage of stayers who remained in the same position and the percentage who transitioned to a different position (for example, from assistant principal to principal). All percentages were disaggregated by state.

For principals, multinomial logistic regression was used to examine whether individual characteristics and characteristics of schools and districts were associated with the likelihood of principals being movers or leavers rather than stayers. A more detailed description of the study data sources, sample, and methodology is in appendix B.

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## Findings

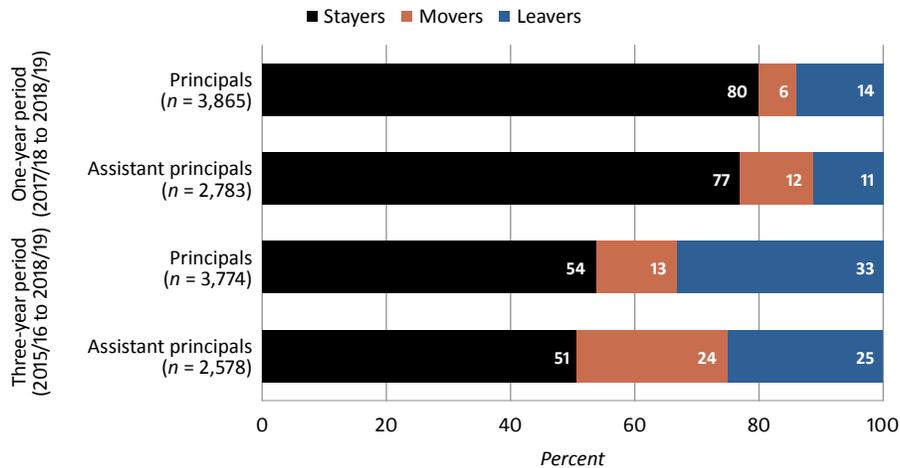
This section includes the results of descriptive analyses of retention, mobility, and attrition among school leaders (research question 1) and district leaders (research question 2). Findings are presented for each group of leaders overall and for specific categories of stayers, movers, and leavers. The section also includes a summary of the factors most strongly associated with principal mobility and attrition (research question 3). Findings for the combined three-state sample are less representative of South Dakota than of Colorado and Missouri because South Dakota has substantially fewer educators. (See appendix B for detailed information about the samples used to address each research question.)

### *Retention, mobility, and attrition among school leaders varied by leadership position and state*

Rates of retention (stayers), mobility (movers), and attrition (leavers) among school principals and assistant principals in Colorado, Missouri, and South Dakota are described below for a one-year period (2017/18 to 2018/19) and a three-year period (2015/16 to 2018/19). More detailed information about retention, mobility, and attrition of principals and assistant principals by state, as well as additional information about employment position changes within groups of stayers, movers, and leavers, is in appendix C.

*Four out of five school leaders remained in a school leadership position in the same school after one year, and about half remained after three years.* Approximately 77–80 percent of school leaders remained in a school leadership position in the same school after one year, and 51–54 percent remained after three years (figure 1). Retention rates varied by state. Principal retention rates were 82 percent in Missouri, 78 percent in Colorado, and 74 percent in South Dakota after one year and 56 percent in Missouri and 51 percent in Colorado and South Dakota after three years (figure 2). The one-year and three-year retention rates for assistant principals were highest in South Dakota, with Missouri second and Colorado third (see table C2 in appendix C).

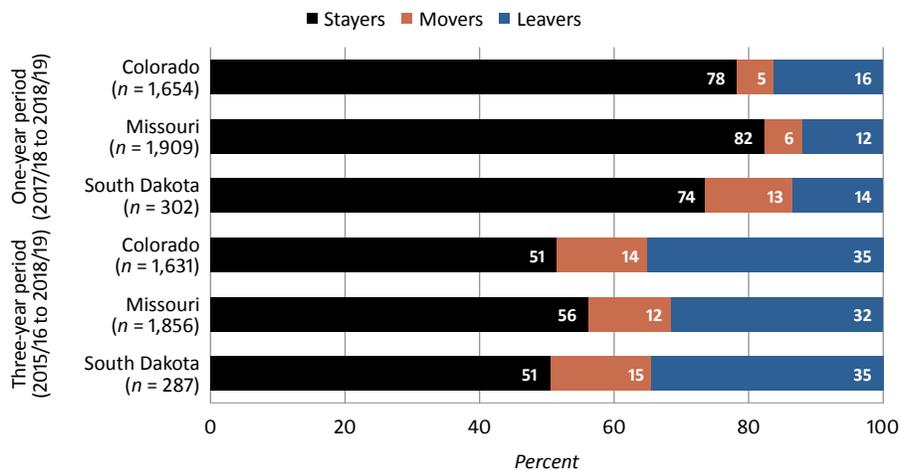
**Figure 1. Retention rates for Colorado, Missouri, and South Dakota school leaders ranged from 77 percent to 80 percent after one year and from 51 percent to 54 percent after three years, for periods ending in 2018/19**



Note: The sample included all school leaders whose primary school or district assignment could be identified (see appendix B).

Source: Authors' analysis of state education agency data from 2015/16 through 2018/19.

**Figure 2. Retention rates for principals were higher in Missouri than in Colorado and South Dakota in both the one-year and three-year periods ending in 2018/19**



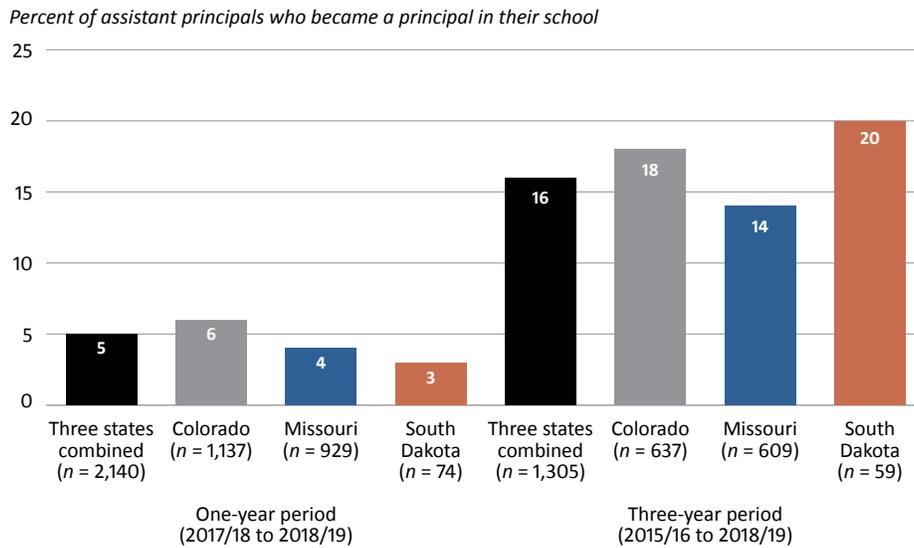
Note: Percentages may not sum to 100 because of rounding. The sample included all principals whose primary school or district assignment could be identified (see appendix B).

Source: Authors' analysis of state education agency data from 2015/16 through 2018/19.

*In the three states combined, about one in six assistant principals who stayed in the same school became a principal in their school after three years.* In the three states combined, 5 percent of assistant principals who were stayers after one year became a principal in their school, and 16 percent who were stayers after three years became a principal in their school (figure 3). The percentage was highest in South Dakota, where 20 percent of assistant principals became a principal in their school after three years.

*About half of principals who changed schools moved to a school in a different district, while fewer assistant principals who changed schools moved to a school in a different district.* Of principals who changed schools after one year, 48 percent moved to a school in a different district, and 52 percent moved to a school in the same district. Of those who changed schools after three years, 55 percent moved to a school in a different district, and 45

**Figure 3. Of the Colorado, Missouri, and South Dakota assistant principals who stayed in the same school, 5 percent became a principal after one year, and 16 percent became a principal after three years, for periods ending in 2018/19**

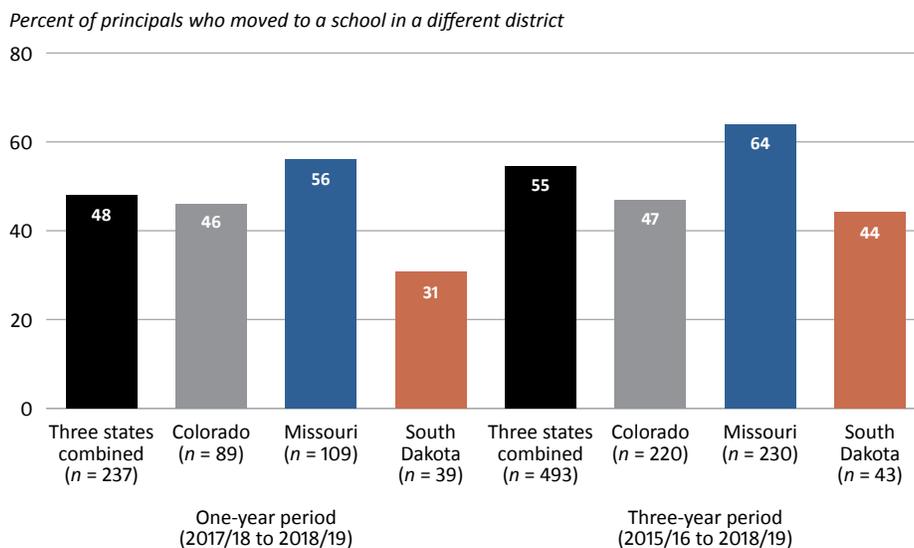


Note: The sample included all assistant principals whose primary school or district assignment could be identified (see appendix B).

Source: Authors' analysis of state education agency data from 2015/16 through 2018/19.

percent moved to a school in the same district (figure 4). Of principals who changed schools after one year, the percentage who moved to a school in a different district was smaller in South Dakota (31 percent) than in the other two states (56 percent in Missouri and 46 percent in Colorado). Of assistant principals who changed schools after one year, 28 percent moved to a school in a different district, and of those who changed schools after three years, 36 percent moved to a school in a different district (see table C4 in appendix C).

**Figure 4. About half of Colorado, Missouri, and South Dakota principals who changed schools moved to a school in a different district in the one-year and three-year periods ending in 2018/19**



Note: The sample included all principals whose primary school or district assignment could be identified (see appendix B).

Source: Authors' analysis of state education agency data from 2015/16 through 2018/19.

About four in five principals who left a school leadership position left the state public school system. Of principals who left a school leadership position after one year, 81 percent left the state public school system, 13 percent moved to a district position, and 6 percent took a school nonleadership position (see table C5 in appendix C).<sup>1</sup> Of principals who left a school leadership position after three years, 79 percent left the state public school system, 15 percent moved to a district position, and 7 percent took a school nonleadership position. Of assistant principals who left a school leadership position after one year, 90 percent left the state public school system, 1 percent moved to a district position, and 9 percent took a school nonleadership position. The pattern was similar after three years.

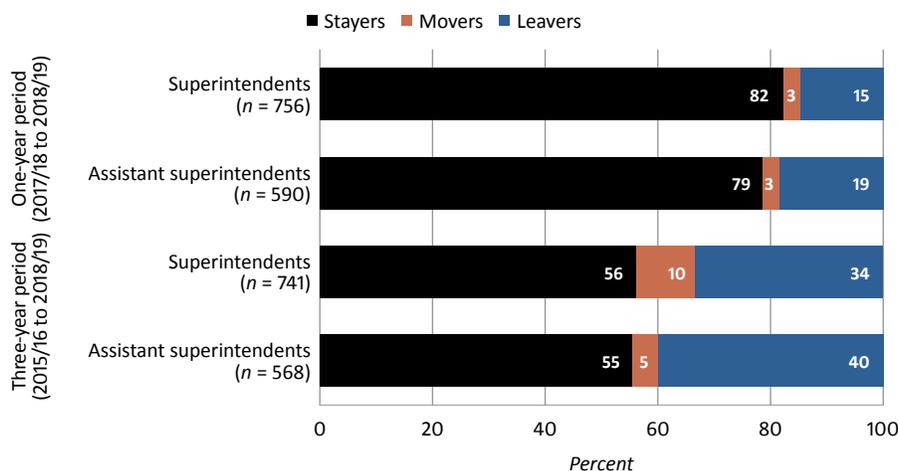
### Retention, mobility, and attrition among district leaders varied by leadership position and state

Rates of district leader retention (stayers), mobility (movers), and attrition (leavers) in Colorado, Missouri, and South Dakota after one year (2017/18 to 2018/19) and after three years (2015/16 to 2018/19) are described below.

More than 75 percent of district leaders remained in a district leadership position in the same district after one year, and more than 50 percent remained after three years. For all three states combined, 79–82 percent of district leaders remained in a district leadership position in the same district after one year, and 55–56 percent remained after three years (figure 5).

Retention rates for district leaders varied by state. Superintendent retention rates were 85 percent in South Dakota, 84 percent in Missouri, and 75 percent in Colorado after one year and 59 percent in South Dakota, 57 percent in Missouri, and 52 percent in Colorado after three years (figure 6). For the three states combined, 2 percent of assistant superintendents who were stayers became a superintendent after one year, and 7 percent became a superintendent after three years (see table C8 in appendix C). Less than 1 percent of superintendents who were stayers became an assistant superintendent after one year or three years. For Missouri and South Dakota combined, most superintendents and assistant superintendents who were leavers after

**Figure 5. Retention rates of Colorado, Missouri, and South Dakota district leaders ranged from 79 percent to 82 percent after one year and from 55 percent to 56 percent after three years, for periods ending in 2018/19**

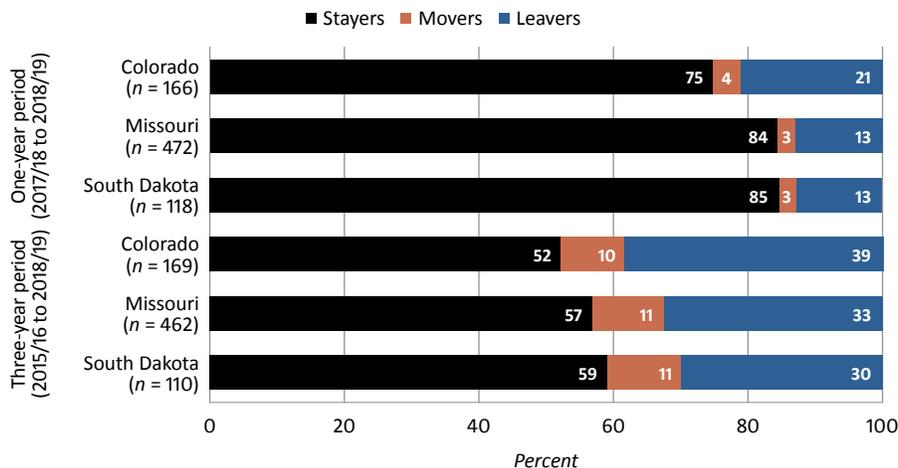


Note: Percentages may not sum to 100 because of rounding. The sample included all district leaders whose primary district or school assignment could be identified (see appendix B).

Source: Authors' analysis of state education agency data from 2015/16 through 2018/19.

1. Detailed information about principals and assistant principals who were leavers was available only for Missouri and South Dakota.

**Figure 6. Superintendent retention rates were higher in South Dakota and Missouri than in Colorado in both the one-year and three-year periods ending in 2018/19**



Note: Percentages may not sum to 100 because of rounding. The sample included all superintendents for whom primary district assignments could be identified (see appendix B).

Source: Authors' analysis of state education agency data from 2015/16 through 2018/19.

one or three years left the state public school system (87–94 percent) rather than taking a school position in the same district (0–9 percent) or a different district (3–9 percent; see table C9 in appendix C).<sup>2</sup> (More information about retention, mobility, and attrition of superintendents and assistant superintendents by state and about employment position changes within groups of stayers, movers, and leavers is in tables C6–C9 in appendix C.)

***Characteristics of principals, schools, and districts were associated with the likelihood that principals were stayers, movers, or leavers after three years***

Findings on the factors most strongly associated with the likelihood of a principal being a mover or leaver rather than a stayer after three years are presented here; findings for the analysis after one year, along with detailed findings after both one year and three years, are in appendix D. The analyses in this section are correlational and do not provide evidence about the causes of mobility and attrition.

*Principals who were younger, principals who identified as a racial/ethnic minority, and principals who earned a lower salary were more likely to be a mover than a stayer after three years.* Compared with principals age 52 or older, principals younger than age 40 were 144 percent more likely (nearly 2.5 times as likely) to be a mover after three years, and principals ages 40–44 were 49 percent more likely to be a mover after three years (table 1). Principals who identified as a racial/ethnic minority were 53 percent more likely to be a mover after three years than were principals who identified as White. Principals who earned a salary of \$88,669–\$105,999 were 45 percent more likely to be a mover after three years than were principals who earned a salary of \$106,000 or higher. Salaries were not adjusted for cost of living, which could have varied substantially across and within the study states.

*Principals who were older, principals who earned a lower salary, and principals who identified as a racial/ethnic minority were more likely to be a leaver than a stayer after three years.* Principals age 52 or older were

2. Detailed information about superintendents and assistant superintendents who were leavers was available only for Missouri and South Dakota.

**Table 1. Characteristics of Colorado, Missouri, and South Dakota principals most strongly associated with the likelihood of being a mover or leaver rather than a stayer after three years, 2015/16 to 2018/19**

Characteristics most strongly associated with being a mover rather than a stayer	Characteristics most strongly associated with being a leaver rather than a stayer
<p><b>Age.</b> Younger principals were more likely to be a mover. Compared with principals age 52 or older:</p> <ul style="list-style-type: none"> <li>Principals younger than age 40 were 144 percent more likely to be a mover.</li> <li>Principals ages 40–44 were 49 percent more likely to be a mover.</li> </ul>	<p><b>Age.</b> Older principals were more likely to be a leaver. Principals age 52 or older:</p> <ul style="list-style-type: none"> <li>Were 61 percent more likely to be a leaver than were principals younger than 40.</li> <li>Were 66 percent more likely to be a leaver than were principals ages 40–44.</li> <li>Were 63 percent more likely to be a leaver than were principals ages 45–51.</li> </ul>
<p><b>Race/ethnicity.</b> Compared with principals who identified as White:</p> <ul style="list-style-type: none"> <li>Principals who identified as a racial/ethnic minority were 53 percent more likely to be a mover.</li> </ul>	<p><b>Salary.</b> Compared with principals who earned a salary of \$106,000 or higher:</p> <ul style="list-style-type: none"> <li>Principals who earned a salary of less than \$75,084 were 40 percent more likely to be a leaver.</li> </ul>
<p><b>Salary.</b> Compared with principals who earned a salary of \$106,000 or higher:</p> <ul style="list-style-type: none"> <li>Principals who earned a salary of \$88,669–\$105,999 were 45 percent more likely to be a mover.</li> </ul>	<p><b>Race/ethnicity.</b> Compared with principals who identified as White:</p> <ul style="list-style-type: none"> <li>Principals who identified as a racial/ethnic minority were 28 percent more likely to be a leaver.</li> </ul>

Note: This table summarizes findings for the three characteristics of principals most strongly associated with moving or leaving, ordered by strength of association. All reported findings are statistically significant. See appendix D for full results.

Source: Authors' analysis of state education agency data from 2015/16 through 2018/19, supplemented with data from the Elementary/Secondary Information System (<https://nces.ed.gov/ccd/elsi/>).

61–66 percent more likely than younger principals to be a leaver rather than a stayer after three years. Principals who earned a salary of less than \$75,084 were 40 percent more likely to be a leaver after three years than were principals who earned a salary of \$106,000 or higher. Principals who identified as a racial/ethnic minority were 28 percent more likely to be a leaver after three years than were principals who identified as White.

*Principals in schools identified for improvement, principals in lower-performing districts, and principals in districts with higher enrollment were more likely to be a mover than a stayer after three years.* Principals in schools identified by state education agencies for priority or comprehensive improvement support were 200 percent more likely (about three times as likely) to be a mover after three years than were principals in schools not identified for improvement (table 2). Principals in lower-performing districts (based on average student academic performance) were 74–100 percent more likely to be a mover after three years than were principals in the highest-performing districts. Principals in districts with 1,339 or more students were 77 percent more likely to be a mover after three years than were principals in districts with fewer than 220 students.

*Principals in schools with lower average teacher salaries, principals in smaller districts, and principals in schools identified for improvement were more likely to be a leaver than a stayer after three years.* Principals in schools with an average teacher salary of less than \$39,139 were 138 percent more likely (more than twice as likely) to be a leaver after three years than were principals in schools with an average teacher salary of \$53,590 or higher (see table 2). Principals in districts with fewer than 220 students were 122 percent more likely (more than twice as likely) to be a leaver after three years than were principals in the largest districts. Principals in schools identified for improvement were 89 percent more likely (nearly twice as likely) to be a leaver after three years than were principals in schools not identified for improvement.

**Table 2. School and district characteristics most strongly associated with the likelihood of Colorado, Missouri, and South Dakota principals being a mover or a leaver rather than a stayer after three years, 2015/16 to 2018/19**

Characteristics most strongly associated with being a mover rather than a stayer	Characteristics most strongly associated with being a leaver rather than a stayer
<p><b>Schools identified for improvement.</b> Principals in schools identified for priority or comprehensive improvement support by state education agencies were more likely to be a mover. Compared with principals in schools that were not identified for improvement:</p> <ul style="list-style-type: none"> <li>Principals in schools identified for improvement were 200 percent more likely to be a mover.</li> </ul>	<p><b>School average teacher salary.</b> Principals in schools with lower average teacher salaries were more likely to be a leaver. Compared with principals in schools with an average teacher salary of \$53,590 or higher:</p> <ul style="list-style-type: none"> <li>Principals in schools with an average salary of less than \$39,139 were 138 percent more likely to be a leaver.</li> <li>Principals in schools with an average salary of \$39,139–\$45,953 were 54 percent more likely to be a leaver.</li> </ul>
<p><b>District performance.</b> Principals in districts with lower academic performance were more likely to be a mover. Compared with principals in districts in which 55 percent or more students scored proficient or better on the state English language arts assessment:</p> <ul style="list-style-type: none"> <li>Principals in districts in which fewer than 39 percent of students scored proficient or better were 100 percent more likely to be a mover.</li> <li>Principals in districts in which 39–47 percent of students scored proficient or better were 76 percent more likely to be a mover.</li> <li>Principals in districts in which 47–55 percent of students scored proficient or better were 74 percent more likely to be a mover.</li> </ul>	<p><b>District enrollment.</b> Principals in smaller districts were more likely to be a leaver. Compared with principals in districts with 1,339 or more students:</p> <ul style="list-style-type: none"> <li>Principals in districts with fewer than 220 students were 122 percent more likely to be a leaver.</li> </ul>
<p><b>District enrollment.</b> Principals in larger districts were more likely to be a mover. Compared with principals in districts with fewer than 220 students:</p> <ul style="list-style-type: none"> <li>Principals in districts with 1,339 or more students were 77 percent more likely to be a mover.</li> </ul>	<p><b>Schools identified for improvement.</b> Principals in low-performing schools identified for priority or comprehensive improvement support by state education agencies were more likely to be a leaver. Compared with principals in schools that were not identified for improvement:</p> <ul style="list-style-type: none"> <li>Principals in schools identified for improvement were 89 percent more likely to be a leaver.</li> </ul>

Note: This table summarizes findings for the three characteristics most strongly associated with moving and leaving, ordered by strength of association. See appendix D for full results.

Source: Authors’ analysis of state education agency data from 2015/16 through 2018/19, supplemented with data from the Elementary/Secondary Information System (<https://nces.ed.gov/ccd/elsi/>).

## Implications

The study found that that nearly half of school and district leaders in Colorado, Missouri, and South Dakota leave their school or district within three years—a phenomenon that is at best disruptive and has been associated with poor outcomes for students. Analyses of school and district leader attrition in Colorado, Missouri, and South Dakota after one year reveal findings consistent with national data showing that about 20 percent of principals leave leadership positions in their school from one year to the next (Goldring & Taie, 2018).

While leader mobility and attrition are not necessarily negative for educators and their students, the high rates of attrition observed here suggest that state and district decisionmakers might want to enhance supports for younger principals, focus recruitment and retention activities on racial/ethnic minority school leaders, and further examine how salary affects principals’ decisions to stay or move. The findings also suggest that supports could be enhanced in lower-performing districts, in schools identified for improvement, and in schools with lower average teacher salaries.

Various evidence-based strategies have been identified to support school leader retention, including providing professional learning opportunities, improving working conditions, ensuring adequate and stable compensation, supporting decisionmaking authority, and ensuring that accountability systems are fair and useful (see, for example, Levin and Bradley, 2019, for discussion of these strategies and Seashore Louis et al., 2010, for practices that enhance principals’ sense of efficacy). State and district decisionmakers may wish to better understand the extent to which these strategies or other supports are present among schools where leader

mobility and attrition rates are highest to prioritize approaches to support retention. Examining settings in which rates of leader mobility and attrition are lowest (particularly among younger principals, racial/ethnic minority principals, and principals in lower-performing schools and schools with lower average teacher salaries) may reveal additional strategies or supports that foster retention.

This study contributes to the knowledge base of information about factors associated with mobility and attrition of education leaders and approaches to support their retention (see, for example, Gates et al., 2019; Levin & Bradley, 2019). The approach used in this study may serve as a model for future research using state administrative data to further inform understanding about school and district leader mobility and attrition and the state-specific or district-specific incentives or supports that might help retain leaders. Additional analyses could explore whether the factors that are associated with mobility and attrition differ across states or districts.

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