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Who Leads Turnaround Schools? Characteristics of Principals in Tennessee's Achievement School District and Innovation Zones

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Abstract

Purpose: While previous research has examined the impact of school turnaround models, less is known about the principals who lead these turnaround schools. This study examines the personal demographics, experience, educational background, prior school performance, salaries, and turnover of principals who led two turnaround models in Tennessee's lowest performing schools: a state-run Achievement School District (ASD) that has not yielded positive nor negative effects and local Innovation Zones (iZones) that averaged positive effects on student achievement over six years. **Methods:** We analyze

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longitudinal, administrative data from the Tennessee Department of Education from 2006–2007 to 2017–2018 to compare pre- and post-reform means and trends in principal characteristics between ASD, iZone, and similarly low-performing comparison schools. **Results:** ASD schools had higher principal turnover rates and lost principals whose schools performed higher while iZone schools retained more principals and lost principals whose schools performed lower. Moreover, iZone schools employed more experienced principals, more Black principals, and principals with higher graduate degree attainment and paid their principals more than ASD schools. Salary differences between ASD and iZone schools were not explained by principals' characteristics, such as years of experience. **Implications:** Our findings reveal differences in leadership characteristics between iZone and ASD schools that were consistent with differences in the effectiveness of the two turnaround approaches.

Keywords
school improvement, school turnaround, leadership, principal turnover, talent management, whole-school reform

Introduction

School turnaround has become a prevalent whole-school reform approach to improve low-performing schools (Dragoset et al., 2016, 2017; Kutash et al., 2010). The theory of change behind this model is a disruption of the status quo, often including a restructuring of school governance and management, a renewed focus on talent management, and improvements to school climate (Redding & Nguyen, 2020; Zimmer et al., 2017). Specific turnaround strategies have included strengthening teacher effectiveness, curriculum changes, expanded learning time, and flexibility and support for school operators (Kutash et al., 2010; Schueler et al., 2020). Another common turnaround strategy is for the state or local education agency to replace the current school principal (Hurlburt et al., 2012; Kutash et al., 2010; Zimmer et al., 2017). While this staff replacement practice is common, little is known about how different turnaround models recruit and retain principals, the characteristics of principals who are hired to lead turnaround schools (e.g., race, gender, age, educational attainment, experience, and effectiveness), and the role of these principal characteristics in the effectiveness of turnaround interventions.

On average, school turnaround has shown little evidence of producing sustained school improvement (Dragoset et al., 2016, 2017; Pham et al., 2020). Furthermore, research finds that different approaches to school turnaround vary in their effectiveness (Redding & Nguyen, 2020; Schueler et al.,

2020). For example, one set of studies found that a turnaround model maintaining local governance with increased autonomy outperformed a state takeover model in which school management was largely turned over to charter management organizations (CMOs) (Henry et al., 2020, Pham et al., 2020). Schueler and Bleiberg's (2021) recent analysis of national data found substantial heterogeneity in the effectiveness of state takeovers between 2011 and 2016, with no impact, on average, on student achievement. Moreover, they show that state takeovers since the 1980s have disproportionately affected Black students and displaced Black educators from their roles in neighborhood schools. If school turnaround continues to be a school reform strategy, educational leaders and researchers need to better understand the varied implementation of school turnaround, specifically with respect to school leadership.

Tennessee is one state that presents a unique opportunity to fill this gap. Since 2012, Tennessee has implemented two distinct long-running school turnaround models, each involving the restructuring of local school governance and staff changes in low-performing schools with majority-Black student enrollment (Center for Research on Education Outcomes, 2018; Pham et al., 2020; Zimmer et al., 2017). In 2010, Tennessee passed its First to the Top Act. The law's most salient components involved overhauling the educator evaluation system, requiring value-added measures of student achievement in principal and teacher evaluations, permitting the Tennessee Department of Education (TDOE) to take over local governance and management of the lowest-performing schools, and giving local school districts more authority over educator salaries (U.S. Department of Education, 2015).

The following year, Tennessee applied for federal Race to the Top (RttT) funds alongside its application for a waiver from the No Child Left Behind Act, receiving $500 million in the first round of competition—the third highest award of the program (Dragoset et al., 2016). One goal for the funds was to move 83 Title I schools from the bottom 5% of schools in the state, known as priority schools, to the top 25% of schools by the fifth year of whole-school reform (ESEA Flexibility Request, 2013). The state-run Achievement School District (ASD) and local district Innovation Zones (iZones) were created as Tennessee's two primary models for achieving this goal.

The ASD is a statewide school district that removes priority schools from local district governance, placing them under the direct management of either the TDOE or a CMO. Upon joining the ASD, priority schools were required to replace the principal, replace at least half of the current teachers, and essentially restart as a new school in a new statewide district. As a part of the reform, school leadership was given nearly complete autonomy over the

operation of the school. ASD schools could adopt new curricula, change the schedule, extend the school day, provide performance-based pay incentives to teachers and principals, or make any other comprehensive change needed to pursue improvement. However, ASD schools did not uniformly implement interventions such as salary incentives for teachers and principals.

In contrast, local iZones operate as a district-within-a-district in which schools remain under the governance of the local district but have greater autonomy and additional support and resources. iZone schools were not removed from their local district but implemented a *fresh start* approach similar to the ASD by replacing the principal and more than 50% of teachers in the first year of reform. Additional resources and support were provided through a designated district office tasked solely with supporting iZones, and iZone schools could use the additional resources to provide salary incentives to recruit and retain teachers and principals. During the period of our study, iZones were formed in four districts: Shelby County Schools (SCS), Metro Nashville Public Schools (MNPS), Knox County Schools, and Hamilton County Schools.

A series of studies have compared the effects of the ASD and iZones on student achievement to comparison priority schools receiving no turnaround interventions for up to six years post-implementation. The results show that ASD schools performed no better nor worse than comparison priority schools, whereas the iZones exhibited positive effects on student achievement (Zimmer et al., 2017; Pham et al., 2020). Previous research also found that a part of the positive iZone effects can be explained by greater recruitment and retention of effective teachers in the iZone, as compared to ASD schools (Henry et al., 2020). Since salary incentives for teacher recruitment and retention were a prominent strategy in iZone schools (but not in the ASD), they may have played an important role in the model's success. Performance bonuses were also offered to school leaders in iZone schools, but less is known about their efficacy.

Another study about the ASD highlights the potential importance of racial congruence in staffing turnaround schools. In SCS, a majority-Black school district in Memphis, Glazer and Egan (2016) found that community members perceived the ASD as displacing Black teachers with younger White teachers who had no experience in the district. This concern was not raised about the iZone, which replaced staff from within the district. While this perception about the ASD was rooted in the history of race and education in the state (Glazer & Egan, 2018), the contemporary reality was that state takeover of the lowest-performing schools in Tennessee disproportionately occurred in schools serving mostly historically disadvantaged students—that is, Black students and students eligible for free- and reduced-priced meals (Glazer

& Egan, 2018; Pham et al., 2020). For example, before and after turnaround intervention, more than 90% of students in ASD schools were Black and mostly economically disadvantaged (Pham et al., 2020). Additionally, consistent with community perceptions, the percentage of Black teachers in ASD schools decreased from 71% before reform to 58% after, whereas in the iZones, the percentage of Black teachers increased (Pham et al., 2020).

Displacing Black teachers in low-performing schools serving primarily Black students matters because prior research suggests that racial congruence between students and their educators can have positive effects on student achievement (Egalite et al., 2015; Joshi et al., 2018). To date, however, no peer-reviewed study has examined the recruitment and retention patterns of principals in turnaround schools nor presented the extent to which Black principals are displaced annually by non-Black principals in majority-Black schools undergoing turnaround. Moreover, little is known about the characteristics of principals recruited to turnaround schools. To the extent that principals with more experience tend to be more effective (Béteille et al., 2012; Grissom et al., 2019b) and principals with certain racial, gender, and educational background characteristics are more likely to turnover (Rangel, 2018), differences in principal characteristics across the two school turnaround models in Tennessee could help explain their differential effectiveness.

Current Study

In this paper, we describe the characteristics of turnaround principals in Tennessee, contrasting the effective local iZone model with the less effective state-run ASD model. Specifically, we use state longitudinal data from 2006–2007 through 2017–2018 to ask the following research questions:

1. How does principal race and other principal characteristics (i.e., gender, age, prior school performance, experience, and educational attainment) vary between ASD, iZone, and comparison schools before and after the reforms began and between ASD and iZone schools during the reform period?
2. To what extent did principal retention differ, on average, between ASD, iZone, and comparison schools before and during the reform period? Are differences in principal turnover explained by experience, educational attainment, gender, or race?
3. How do principal salaries differ, on average, between ASD, iZone, and comparison schools before and during the reform period? Are

differences in principal salaries explained by experience, educational attainment, gender, or race?

4. To what extent are the differences in principal characteristics between ASD and iZone schools consistent with differences in the effectiveness of these two reform models?

The answers to these questions not only contribute to our understanding of the effectiveness of different approaches to school turnaround, but also fill gaps in the literature on school leadership in turnaround schools. For example, we find the iZone schools—the more effective model—lost principals whose schools had lower prior year performance and hired school principals with higher credentials, more experience, and a racial identity congruent with the majority of students enrolled at their schools, relative to the ASD. Furthermore, iZone principals, on average, earned higher salaries than similar principals in ASD schools. These results suggest that strategic hiring of school leaders, racial congruence, and salary incentives may have been the effective components of the iZone school turnaround reform. In the next section, we present more background on the two turnaround models in Tennessee. Then, we review relevant literature and describe a conceptual framework that guides our analysis.

School Turnaround in Tennessee

Starting in 2012–2013, Tennessee used the ASD and iZone models to target priority schools for turnaround. In the reform's first six years, 116 schools were identified as priority schools from an original list of 83 released in 2012, with 33 additional priority schools added in 2014 (TDOE, 2012). By 2017–2018, 26 of these 116 priority schools were turned over to the ASD, and 42 were placed into a local iZone. The rest of the schools received no turnaround interventions, although 22 of the remaining schools were closed.

The majority of priority schools (75%) were located in SCS, the district serving primarily Memphis, though there were also priority schools located in MNPS, Knox County, Hamilton County, Hardeman County, and Jackson-Madison County. Each year, a new cohort of between four and six priority schools was chosen to join the ASD, relative to between three and 13 schools chosen for each iZone cohort. To date, five cohorts of priority schools have entered the ASD or an iZone.

The ASD and iZones implemented some similar interventions (e.g., replacing the principal), but also differed because the ASD model gave the new school leadership considerable autonomy over daily operations, whereas the iZone model focused on giving the new leaders increased district

support and autonomy from the operations of other schools in the district. Below, we further describe how schools were selected for each reform model, and how the ASD's governance model compares with the iZone. We pay particular attention to how these two models explain differences in the way principals were identified, recruited, and retained.

While all priority schools were eligible for school turnaround, not all were selected, and no formal rule was used to assign schools to one model or the other. Rather, priority schools were selected for the ASD or an iZone through discussions between the TDOE, CMOs, and local school districts. ASD schools were primarily chosen from the priority list based on school feeder patterns and whether a CMO could be matched with the school. The matching process required CMOs to choose a priority school and then write and submit a proposal for how they would reform and manage the school. A committee of local stakeholders and ASD leaders then decided whether the CMO would be allowed to manage the school. The ASD also prioritized schools within the same feeder pattern, with the ASD first taking over elementary schools and then later targeting middle and high schools receiving students from these elementary schools. In contrast, local district leaders had full authority to choose priority schools to join their iZone, though the districts generally also targeted priority schools within the same feeder pattern. Beyond prioritizing schools within the same feeder patterns, our interviews with district leaders found no other systematic criteria used to select iZone schools. Once chosen to join either the ASD or an iZone, priority schools could not opt out, and as of the latest year in our data, no school had yet exited either the ASD or an iZone.

Figure 1 presents a diagram of the theory of change for both the ASD and local iZones, and the remainder of this section compares the theory of change for the two models.

ASD

After Tennessee formed the ASD, the state offered CMOs federal Investing in Innovation (i3) grant funds for start-up costs and administered $22 million of the state's RttT funds and local per pupil allocations for implementation. Implementation funds were used for TDOE to directly manage no more than 10 priority schools, assign the management of 35 priority schools to CMOs, and pay salaries for 38 ASD central office staff with a long-term goal to serve 85 schools (Nardo, 2013). Some of the key strategies of the ASD included autonomy and a supportive environment for operators, resources for operations, an emphasis on outcomes and accountability, and the replacement of all principals and nearly all teachers in the first year of the intervention (Glazer et al., 2015; Zimmer et al., 2017).

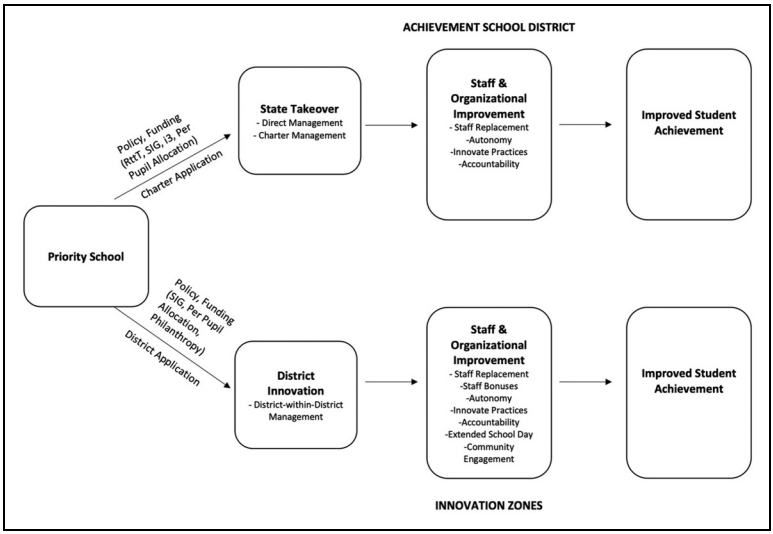


Figure 1. Turnaround model selection and theory of change.
Note. Charter application refers to the requirement for a charter management organization to submit an application for the Achievement School District (ASD) to the Tennessee Department of Education (TDOE). District application refers to the requirement for a district to submit an application to TDOE to request permission to establish an iZone.

The emphasis on removing priority schools from local district governance and placing them under the management of a new operator was intended to be a bold disruption of the status quo that would comprehensively address barriers to school improvement. TDOE planned for any school directly managed by the state to eventually be turned over to a CMO. After reviewing and approving the operator's initial reform plan and facilitating staff replacements in the first year of reform, the ASD would serve only to monitor school performance. As the ASD theory of change emphasizes autonomy for school leaders, specific interventions varied widely across schools. For example, some ASD schools offered pay incentives for teachers and principals while others focused on changing the curriculum.

The ASD portfolio grew from six schools in 2013, all located in SCS, to 26 schools in 2018, with 24 located in SCS. Over time, research and local media coverage revealed the ASD was experiencing high turnover among teachers, principals, and even among the district's superintendents (Boucher, 2015; Henry et al., 2020; Pham et al., 2020; TDOE, 2018). Since 2018, the TDOE has not added any new schools to the ASD and is

currently determining how to return ASD schools to local districts (Kebede & Aldrich, 2020).

iZones

In contrast to the ASD, some priority schools underwent a district-led improvement approach. These schools all received additional resources from the local district to pursue school improvement as a part of a local iZone. In the first year of Tennessee's school turnaround reforms, iZones were only created in the two largest districts, SCS and MNPS (Zimmer et al., 2017). During the 2013–2014 school year, an iZone was added in Chattanooga (Hamilton County Schools). Subsequently, the number of iZones in the state grew to five, but the three largest iZones resided in Memphis, Nashville, and Chattanooga, where the iZone schools comprised mostly Black students and students from lower socioeconomic backgrounds. Similar to the ASD, iZone schools replaced the principal and the majority of teachers in the first year of reform (TDOE, 2012). Local iZones across Tennessee were structured similarly, so as an example of the iZone theory of change, we describe the one envisioned by SCS in the next paragraph.

When the SCS iZone began with seven schools in 2012–2013, the district focused on principal and teacher replacement, professional development, extended school days, community engagement, signing and retention bonuses, and educator evaluations (TDOE, 2012). The mechanisms for staff replacement and talent management began with the hiring of an iZone director with at least a master's degree and no less than five years of experience leading school improvement (TDOE, 2012). The iZone director received guidance on best practices for hiring new principals from a partnership with the Virginia School Turnaround Specialist (STS) program. Newly hired iZone principals were given autonomy to hire teachers and were directed to replace no less than 50% of existing teachers. One strategy for staff replacement in the Memphis iZone was to recruit higher-performing teachers and principals in the district to the iZone schools. Using mostly School Improvement Grant funds in the first year and philanthropic support in subsequent years, the iZone offered signing and retention bonuses for newly hired teachers and principals (TDOE, 2012).

Strategic talent management emerges as an important difference in how the two models were implemented. For example, the ASD paid salaries to create a central office staff, while the iZones, such as in Memphis, had a small, dedicated staff within the district and distributed signing and retention bonuses to teachers and principals hired into iZone schools. Additionally, the iZones

focused on within-district recruitment while many ASD schools were run by CMOs that were new to the community. While the autonomy given to school leaders was intended to give them flexibility in addressing specific school needs, the lack of a systematic approach for supporting principal and teacher recruitment and retention created barriers for the ASD to implement its plan of hiring the most effective educators to work in its turnaround schools. The local iZones focused more on providing their iZone schools with resources (e.g., salary incentives and support from Virginia's STS program), and these additional supports likely made iZone schools more attractive options for effective principals willing to work in turnaround schools. To connect Tennessee's context with the broader literature, in the next section, we give an overview of characteristics that research suggests are significant to the effectiveness of principals in school turnaround contexts.

Conceptual Framework

Strategic talent management in education, which is rooted in human capital theory and strategic human resource management, refers to the purposeful cultivation of an effective team of educators through recruitment, hiring (selection and placement), induction of novice educators, mentoring, professional development, retention, evaluation, work conditions, compensation (salary, rewards, and incentives), tenure, promotion, dismissal, and performance management (Behrstock, 2010; Lawler, 2008; Odden & Kelly, 2008, 2013). Owing to the important role talent management (e.g., principal replacement, compensation) has played in school turnaround efforts in Tennessee, we were interested in how principal characteristics associate with principal turnover, retention, and effectiveness in turnaround schools (Osborne-Lampkin et al., 2015; Rangel, 2018). In this study, we build on the conceptual perspective of strategic talent management by examining factors related to the recruitment and retention of principals in turnaround schools. By juxtaposing a less effective turnaround model focused on state takeover of local governance and management with principal autonomy (the ASD) against a more effective localized turnaround model focused on principal autonomy and support (the iZone), we document how these overarching approaches to talent management lead to differences in the characteristics of principals recruited to lead low-performing schools. We also provide empirical evidence to support the conceptual perspective that principal salary incentives can be useful to recruiting and retaining effective school leaders. For the remainder of this section, we describe the literature on principal turnover and principal characteristics relevant to student achievement that guide this study's research questions, measures, and analysis.

Principal Turnover and Effectiveness

The intentional replacement of ineffective principals in the first year of school reform has been a prominent component in the theory of change for school turnaround (Kutash et al., 2010; Redding & Nguyen, 2020; Zimmer et al., 2017). This approach has been grounded in evidence that school leaders are instrumental for student achievement (Leithwood et al., 2004). At the same time, researchers have found principal turnover can adversely affect student achievement (Bartanen et al., 2019; Branch et al., 2013; Corcoran et al., 2012; Miller, 2003). These negative effects can manifest as early as the first six months on the job for the new principal (Branch et al., 2013). Moreover, although turnover among ineffective principals may have positive effects, student achievement may not return to pre-turnover levels until after an effective principal has worked in the school for five years (Bartanen et al., 2019), which, in some cases, is the amount of time it takes to sustain whole-school reform (Borman et al., 2003; Mascall & Leithwood, 2010). As such, we differentiate principal turnover in the first year of school turnaround (when the change in leadership is the result of an intentional effort to hire a more effective principal) from unintended principal turnover after the first year of reform (which could have a negative effect on turnaround schools through instability created by the change in leadership).

Research finds that principal turnover tends to be higher, in general, in the contexts in which school turnaround is a goal. For example, principals are more likely to turn over in lower-performing schools (Loeb et al., 2010), high-poverty and urban school contexts (Beckett, 2021; Béteille et al., 2012; Burkhauser et al., 2012; Goldring & Taie, 2018; Loeb et al., 2010; McFarland et al., 2019; Papa & Baxter, 2008), and charter schools (Goldring & Taie, 2018; Ni et al., 2015). At the same time, principals are less likely to turnover if they have more experience as a teacher (Baker et al., 2010; Gates et al., 2006; Goldring & Taie, 2018; Papa & Baxter, 2008), are generally more satisfied (Boyce & Bowers, 2016; Goldring & Taie, 2018; Johnson, 2005), and have more favorable work conditions (Farley-Ripple et al., 2012; Goldring & Taie, 2018). Less effective principals have been found to turn over more frequently due to an exit or demotion (Grissom & Bartanen, 2019). Additionally, research suggests White principals may be more likely to leave their position than Black principals (Gates et al., 2006; Solano et al., 2010), but the racial congruence between a principal and his or her school may make a Black principal less likely to depart (Gates et al., 2006). Male principals are less likely to turn over than female principals (Gates et al., 2006; Ni et al., 2015; Solano et al., 2010; Sun & Ni, 2016; Tekleselassie & Villarreal, 2011), and older principals are more likely to

turnover than younger principals (Ni et al., 2015; Tekleselassie & Villarreal, 2011). Given these systematic differences in turnover rates by principal characteristics, it is important to understand how these characteristics relate to effectiveness. In the remaining sections of this literature review, we describe principal characteristics that research suggests are associated with student achievement and turnover.

Educational Background

Principals receive training to become school leaders through multiple pathways: universities, education talent organizations, CMOs, or local education agencies (Corcoran et al., 2012; Grissom et al., 2019a; Ni et al., 2019). Quantitative studies that have compared non-university preparation program completers to university preparation program completers have reported mixed results (Clark et al., 2009; Corcoran et al., 2012; Henry & Viano, 2018; Vanderhaar et al., 2006). In the only existing principal preparation study based in Tennessee, Grissom et al. (2019a) reported that principal preparation program quality is associated with the initial effectiveness of a program completer after she or he enters the principalship. Unfortunately, the researchers could not differentiate between university or non-university programs. In all, this existing research suggests program preparation matters but varies by the type of educational preparation program.

Many studies include educational degree attainment as a proxy for principal preparation since a master's degree is, traditionally, the pathway to licensure for educational leadership. If a principal lacks a master's degree, researchers frequently assume the principal likely was trained by a non-university program. The most recent data from the National Center for Education Statistics demonstrates 98.2% of public school principals held at least a master's degree in 2017–2018, and 36.4% of those principals had an educational attainment level higher than a master's degree (Tai & Goldring, 2019). Educational attainment or principal preparation may also be important for principal stability, as research suggests a principal with a master's degree is less likely to turn over than principals without a master's degree (Gates et al., 2006; Ni et al., 2015).

Experience

Multiple measures of principal experience have been used in prior studies of principal effectiveness and turnover. In general, research finds that the total number of years of experience as a principal is positively related to school effectiveness. For example, Bowers and White (2014) found that,

among the non-Chicago schools in the Illinois sample in their study, having two to five years of principal experience was associated with greater school achievement growth than zero to one year or more than five years. With a sample from Florida, Grissom and Loeb (2011) determined that years of experience as a principal is associated with growth in student achievement, and in North Carolina, Dhuey and Smith (2018) found that novice principals met fewer school performance goals than more experienced principals.

Other experience characteristics to compare beyond years of principal experience are time since degree completion, years of teaching experience, and years of assistant principal experience. For example, in Tennessee, most principal preparation program completers do not acquire their first principal position until five years after completing their preparation program (Grissom et al., 2019b). This time elapsed between degree completion and principal placement does not unnecessarily put a program completer at risk of learning loss or skill attainment because the time may be spent in an "apprenticeship"—the assistant principal position (Bastian & Henry, 2015) or acquiring more teaching experience (Hitt & Player, 2019).

Additional teaching experience and ongoing principal preparation within the assistant principal role can make a principal more effective and less likely to turnover. For example, Bastian and Henry (2015) found principals who had served as assistant principals in more effective (higher value-added) schools were more effective, on average. Hitt and Player (2019) found that years working as an assistant principal and years of teaching experience are significantly associated with effective leadership practices, above and beyond years as principal at the current school and total years of experience as a principal. A few other studies support Hitt and Player's findings. For example, Vanderhaar et al. (2006) found principals with 9–17 years of teaching experience led higher-performing schools than principals without this experience. Clark et al. (2009) reported that, among novice principals in New York, the number of years served as an assistant principal significantly influenced growth in student achievement. Bowers and White (2014) showed, among a sample of schools in Illinois, that one of the largest effects of a principal's professional experience on a school's achievement growth in majority-Black Chicago schools was teaching experience in the same school. Additionally, among the non-Chicago schools in the Illinois sample, school achievement growth was significantly associated with assistant principal experience (Bowers & White, 2014).

Years of experience in prior roles is also related to principal turnover. For instance, Ni et al. (2015) found, in an analysis of national data, that principals

with more teaching experience are less likely to leave their position, and more years of administrative experience increase principals' likelihood of leaving their position. In studies using state data, researchers have noted that principals with more teaching experience are less likely to leave a school (Baker et al., 2010; Gates et al., 2006; Papa & Baxter, 2008). Researchers also have shown that years of principal experience is associated with principal turnover, but the relationship between turnover and experience depends on the type of turnover (i.e., exit the system, transfer in the district) (Baker et al., 2010; Gates et al., 2006). Taken together, these studies suggest years of experience in prior educator roles (i.e., teacher, assistant principal, principal) are important both to a principal's effectiveness and his or her retention. They also suggest that a principal's prior work experience should be an important consideration for the talent management strategy of school turnaround reforms.

Personal Demographics

Beyond degree attainment and experience, which are proxies for professional expertise, scholars have identified personal demographics related to principal effectiveness and turnover. For example, as noted earlier, researchers have found older principals are more likely to turnover (Ni et al., 2015; Tekleselassie & Villarreal, 2011), which is of little surprise as retirement eligibility increases with age and promotion eligibility increases with years of experience. Research also shows that female principals are more likely to leave their position than male principals (Gates et al., 2006; Ni et al., 2015; Solano et al., 2010; Sun & Ni, 2016; Tekleselassie & Villarreal, 2011), but it is unclear whether factors such as salary differentials or gender discrimination influence this likelihood. There is some limited evidence that principal race is related to both effectiveness and likelihood of turnover. For example, a statewide study of Tennessee indicates that having a Black principal positively impacts Black students' math achievement (Grissom & Bartanen, 2019). In a study of North Carolina, Gates and colleagues (2006) found that the racial match between a principal and the racial composition of his or her school decreases the likelihood of principal departure. Gates et al. (2006) also found White principals were more likely to leave their position than principals of color, but other scholars have found principals of color are more likely to leave their position than White principals (Baker et al., 2010). Other research suggests a principal of color may be more adept at helping a school acquire the cultural and community engagement necessary to successfully implement school turnaround reforms with local buy-in or support when the school is mostly composed of students of color (CREDO,

2018; Glazer & Egan, 2016; McAlister, 2013). Taken together, the personal demographic of a prospective principal in school turnaround is also likely to be important.

Salary

When a district identifies a prospective principal, one resource for attracting and retaining the principal is compensation as earning a higher principal salary may be related to increases in student achievement (Baker et al., 2010). Salaries may be even more important to strategic talent management in school turnaround, given the challenges associated with working in a low-performing school in a high-poverty context. Several studies have found that principal turnover is more likely among principals who earn lower salaries (Baker et al., 2010; Tekleselassie & Choi, 2019; Yan, 2020) and who lack job satisfaction (Boyce & Bowers, 2016; Goldring & Taie, 2018; Tekleselassie & Villarreal, 2011). Others have found that principals with higher salaries are less likely to report a desire to leave (Tekleselassie & Villarreal, 2011) and are more likely to view his or her work conditions favorably (Farley-Ripple et al., 2012; Goldring & Taie, 2018). Notably, Boyce and Bowers (2016) report that the majority of principals who turn over are satisfied with their job, satisfied with their salaries, and tend to turn over for lateral career moves or promotions. Taken together, salary may explain not only the strategic talent management of principal retention in school turnaround but also voluntary departure in school turnaround models with high principal turnover.

Methods

Data Source and Sample

Through the Tennessee Education Research Alliance (TERA), we accessed statewide administrative data from TDOE for each year from 2006–2007 to 2017–2018. Our descriptive analysis compares administrator characteristics in ASD and iZone schools to those in priority schools receiving no turnaround interventions, which we call comparison schools. Our unit of observation is a school and year, and we summarize administrator characteristics for iZone, ASD, and other comparison schools. The sample sizes of ASD and iZone schools vary somewhat from year to year, given additions of new schools to these turnaround reforms. By the sixth year of reform, the total number of schools that had ever been a part of the ASD, iZone, and comparison group with all available data was 25, 40, and 48, respectively. Across the

six years of reform, there were 51 principals in the ASD, 72 principals in the iZone, and 88 principals in the comparison schools. In Appendix Table 1, we present descriptive statistics about students, teachers, and principals in these schools.

Measures

From the state administrative data, we extracted several principal characteristics of interest derived from the literature on principal turnover (Rangel, 2018) and principal effectiveness (Béteille et al., 2012; Osborne-Lampkin et al., 2015), as summarized above. Principal turnover in a school is defined as having a principal who was new to the current school at the beginning of the school year. Note that our data do not allow for an analysis of within-year principal turnover, so we are limited to measuring annual turnover rates.

As measures of experience, we utilize total years of experience in education, years of experience as a principal, tenure in the current school in any role, and years since master's degree completion. For educational attainment, we use an indicator for completing a master's degree or higher. For personal demographics, we consider principal age, gender/sex as female, and race/ethnicity as Black. (Principals in ASD and iZone schools predominately identify as either White or Black; the sample sizes of other race/ethnic groups were too small to consider separately.) We note that principal race serves as a proxy for racial congruence between the principals who led Tennessee turnaround schools and the majority-Black student enrollment in these schools.

As a measure of principal effectiveness, we use a value-added measure of school performance at the school led by the principal during the prior year. We were unable to use principals' own evaluation scores due to the extensive number of missing evaluation scores for principals of turnaround schools. This missingness may be due to principals leaving a school before an evaluation was administered or lack of district or school compliance in posting the evaluation scores. The prior year's school performance measure is therefore the next best alternative. This prior school performance measure is a standardized measure of a school's score on the Tennessee Value-Added Assessment System (TVAAS), which reflects gains in student test scores on state assessments in one year. The school TVAAS score has some limitations since school leadership has an indirect relationship with student achievement. However, in the context of school improvement, the school TVAAS

score is the best available measure of principal effectiveness in the absence of principal evaluation scores.

Finally, we utilize a measure of principals' annual salary, measured in increments of $1,000. Considered together, these measures provide an in-depth analysis of the principals who led turnaround schools in Tennessee during its first six years of reform and the extent to which strategic talent management may have been used to attract and retain these leaders.

Analysis

We provide the descriptive comparisons of principal characteristics, turnover rates, and salaries in ASD, iZone, and comparison schools for the years before and after turnaround. "Before turnaround" is defined as all years from 2006–2007 through the year just prior to the school entering the ASD or iZone. With the exception of principal turnover, we define "after turnaround" as years one through six of the reform. Importantly, the first year of turnaround reform depends on the school, since not all schools entered the iZone or ASD in the same year. For principal turnover, we define years after turnaround as year two through year six to account for the interventions' requirement to replace all principals in the first year of reform. (In year one, all, or virtually all principals turned over, by design.) In addition to overall before-and-after comparisons, we also describe the characteristics and turnover rates of school administrators in each year, where we define the baseline year (year zero) to be the year just prior to a school's entry into the ASD or iZone. Thus, for the first cohort of ASD or iZone schools, year zero is 2011–2012, and year one is 2012–2013. For the second cohort, year zero is 2012–2013, year one is 2013–2014, and so on. Most iZone and ASD schools were in SCS, although some were not. Our conclusions do not change when we limit our analysis to schools in SCS; therefore, we report results using data from all districts in the sample.

Given the necessity of conducting school-level analyses and the limited number of schools, we decided to conduct multiple linear regression analysis of principal characteristics in ASD, iZone, and comparison schools rather than plausibly causal analysis such as difference-in-differences. More specifically, we use regression analysis to examine the relationship between administrator characteristics, turnover, and salary to answer the second and third research questions of this study. Using data from 2012–2013 through

2017–2018 school years, we estimate the following linear probability model describing the association between turnover and principal characteristics, pooling the three types of schools:

$$Y_{it} = \beta_0 + \beta_1 Female_{it} + \beta_2 Black_{it} + \beta_3 Masters_{it} + \beta_4 Salary_{it} + \beta_5 Experience_{it} + \beta_6 (Female_{it} * Black_{it}) + \varepsilon_{it}, \quad (1)$$

where Y_{it} is a binary indicator of turnover for principal i in year t, and the five covariates include educational attainment, years of principal experience, salary, principal gender, and principal race. We included gender and race as covariates in the model because women and people of color tend to be more likely to face wage discrimination than their counterparts. We also included an interaction between principal race and gender, to allow for the possibility that Black females may be more likely to be marginalized professionally and turn over if their work conditions are negatively influenced by their race and gender. With this coding and interaction, the constant represents the turnover rate for White male principals; the coefficient on Black represents the difference in turnover rates between White males and Black males; the coefficient on Female represents the difference between White males and White females; and the coefficient on Female*Black represents the difference between White males and Black females.

A second regression estimates differences in principal salaries across ASD, iZone, and comparison schools, conditional on the same principal covariates as included in the turnover model[1]:

$$Y_{it} = \beta_0 + \beta_1 ASD_{it} + \beta_2 iZone_{it} + \beta_3 Female_{it} + \beta_4 Black_{it} + \beta_5 Masters_{it} + \beta_6 Experience_{it} + \beta_7 (Female_{it} * Black_{it}) + \varepsilon_{it}, \quad (2)$$

where Y_{it} is the annual salary of principal i in year t.

Results

Table 1 reports average principal characteristics in ASD, iZone, and comparison schools, before and after the turnaround reform. Figures 2–5 and Appendix Figures 1 and 2 report school averages separately by year, allowing us to identify any trends. Table 2 reports the regression results relating principal turnover and salary to principal characteristics and school turnaround type.

Table 1. Descriptive Statistics of Principal Characteristics by Priority School Type.

	ASD		iZone		Comparison	
Principal Characteristics	Before	After	Before	After	Before	After
Turnover						
Proportion New to school	0.24 (0.43)	0.64 (0.48)	0.30 (0.46)	0.39 (0.49)	0.28 (0.45)	0.34 (0.48)
Tenure as the principal in current school (in years)	2.95 (2.08)	1.49 (0.75)	2.56 (1.69)	2.41 (1.44)	2.87 (2.07)	3.25 (2.52)
Effectiveness—Prior school performance						
Standardized school rating (TVAAS) in prior year	−0.28 (1.08)	−0.12 (1.16)	−0.54 (0.94)	0.14 (1.31)	−0.36 (0.94)	−0.36 (1.18)
Salary						
Annual salary (in $1,000)	83.3 (10.5)	75.0 (18.0)	83.7 (11.6)	99.6 (15.7)	80.7 (12.6)	93.1 (19.6)
Educational background						
Proportion with master's degree or higher	0.99 (0.088)	0.86 (0.35)	1.00 (0)	0.99 (0.086)	0.96 (0.20)	0.94 (0.23)
Experience						
Years since master's degree	5.79 (2.38)	6.33 (4.14)	6.86 (2.78)	11.3 (2.56)	5.50 (2.70)	9.68 (2.88)
Years of experience in education	21.2 (8.60)	9.47 (9.02)	23.2 (8.82)	16.0 (6.67)	21.3 (10.7)	16.9 (8.42)
Years of experience as a principal	3.47 (2.31)	2.07 (2.07)	3.78 (2.63)	4.30 (3.18)	3.34 (2.19)	4.24 (3.28)
Tenure in any role in the current school (in years)	3.17 (2.18)	2.21 (1.43)	3.08 (2.11)	3.26 (1.99)	3.17 (2.17)	4.57 (3.46)
Personal demographics						
Proportion female	0.69 (0.46)	0.80 (0.40)	0.59 (0.49)	0.62 (0.49)	0.65 (0.48)	0.54 (0.50)

(continued)

Table 1. (continued)

	ASD		iZone		Comparison	
Principal Characteristics	Before	After	Before	After	Before	After
Average age	48.7 (8.51)	43.3 (9.82)	50.6 (7.60)	44.9 (6.84)	48.5 (10.1)	45.4 (8.59)
Proportion Black	0.76 (0.43)	0.72 (0.45)	0.78 (0.42)	0.78 (0.42)	0.79 (0.40)	0.85 (0.36)
N principals	78	51	154	72	134	88
N schools	25	25	40	40	50	48

Note. Standard deviation in parentheses. The values under "After" show the average for year two to year six of the reform for principal turnover and years one to six for all other principal characteristics.
ASD = Achievement School District.

Experience

Mean years of experience as a principal was low for all three groups of priority schools, before and after the turnaround reform, at only 3–4 years. Notably, following the reform, mean principal experience *declined* in ASD schools (to 2.1 years) and *increased* in iZone and comparison schools (to 4.3 and 4.2 years, respectively). When taking into account all educational experience (as a principal and in other roles), principals in all three groups were less experienced in the post-reform years than in the pre-reform years. Here again, ASD principals had the least experience, an average of 9.5 years of experience in education, as compared with iZone and comparison schools (16.0 and 16.9 years, respectively).

Another characteristic that points to differences in experience between principals in the priority schools is time since master's degree completion. Less time had passed since ASD principals completed their master's degree relative to principals in comparison schools and iZone schools. For example, in the year immediately following implementation (year two), ASD principals had accrued 2.5 years since completing their master's degrees, sharply lower than the 8.1 years and 10.7 years since comparison school principals and iZone principals, respectively, completed their master's degrees (not shown in figures). Throughout six years of reform, ASD principals averaged 6.33 years since completing their master's degree while iZone and comparison principals averaged 11.3 and 9.68 years, respectively, since completing their

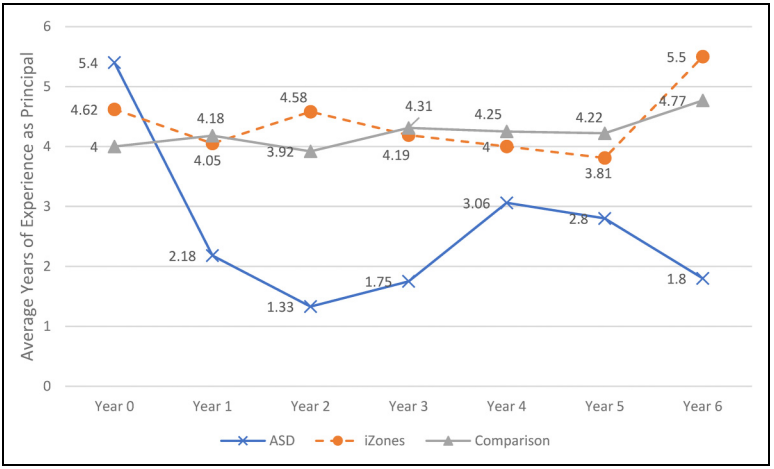


Figure 2. Average years of experience as principal, by year, during school turnaround.

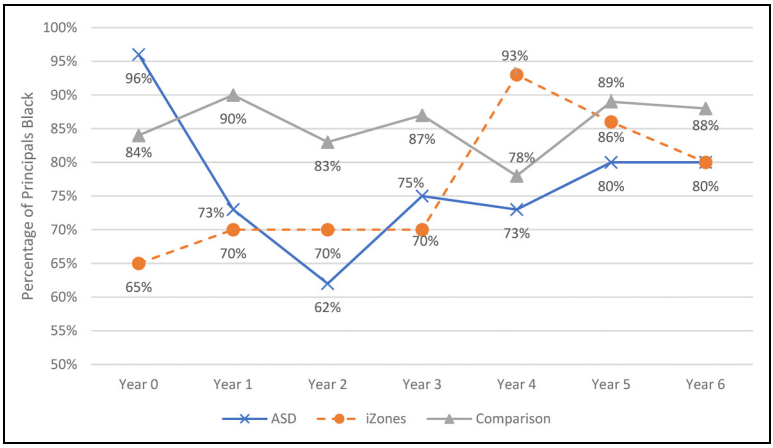


Figure 3. Percentage of principals who were black, by year, during school turnaround.

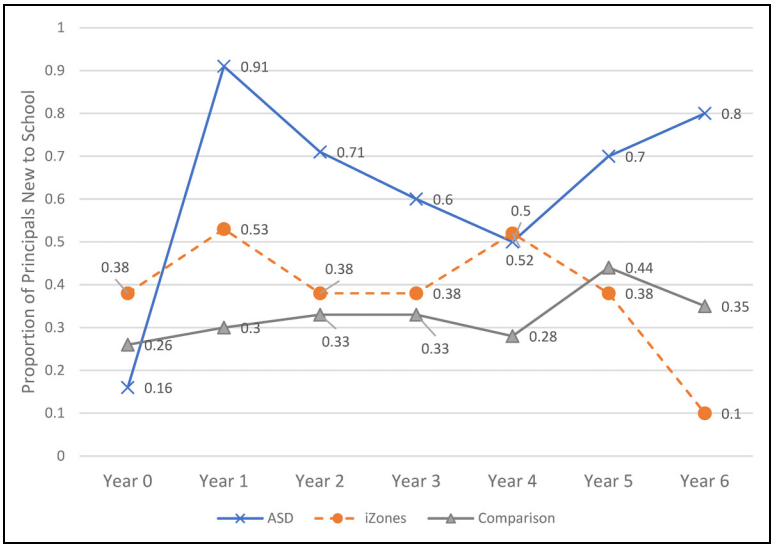


Figure 4. Proportion of principals new to the school at beginning of year, by year, during school turnaround.

master's degree. These differences suggest ASD schools may have hired principals with less on-the-job administrator training afforded by an assistant principalship relative to comparison schools and iZone schools.

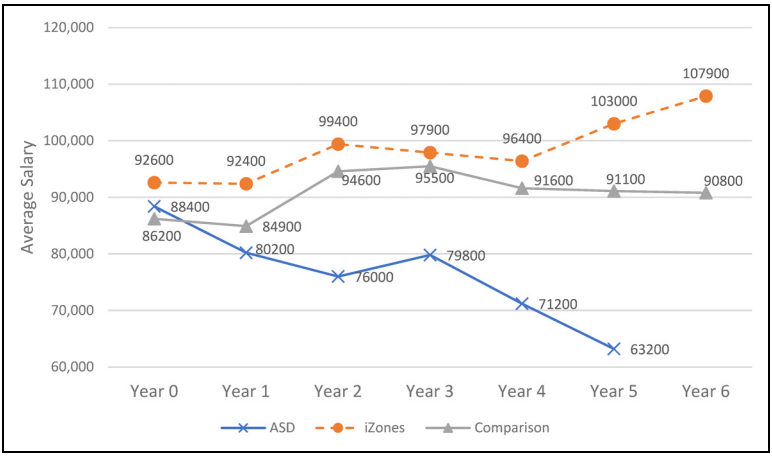


Figure 5. Average principal salary, by year, during school turnaround.
Note. Achievement School District (ASD) data were unavailable for year six.

Figure 2 shows the trend in average principal experience by year for these three groups of schools. This figure shows the sharp drop in mean years of experience as a principal in ASD schools, from 5.4 years in the year before turnaround to 2.2 years in the year following reform. Throughout the reform period, the average years of principal experience in ASD schools was consistently below 3.1 years. For three of those years, principals averaged fewer than 2.0 years of experience as a principal, and by year six, ASD school principals averaged only 1.8 years of experience as a principal, which indicates a persistent reliance by the ASD on inexperienced principals.

In contrast, the average years of experience as a principal in iZone schools increased in the years following reform. In the baseline year, iZone school principals had an average of 4.6 years of experience as a principal. Throughout the reform period, iZone school principals averaged 4–4.5 years of experience each year, with the exception of a jump in year six to 5.5 years.

A part of the difference in average years of experience as a principal in ASD and iZone schools may be explained by how often these schools hired principals with no prior experience as a principal, according to other analysis not shown in the figures. Before reform, only 8% of principals in ASD schools had no experience as a principal. Following the reforms, about 41% of principals in ASD schools had no prior experience as a principal. By comparison, the percentage of iZone principals with no experience as

Table 2. School Level Regressions for Principal Turnover and Salary.

	(1) Outcome: Principal New to School	(2) Outcome: Salary
ASD		−7.28**
		(2.78)
iZone		6.07***
		(1.66)
Master's degree or higher	−0.19**	19.7***
	(0.072)	(3.80)
Principal salary	−0.0020*	
	(0.00084)	
Female	0.032	−5.05
	(0.050)	(3.47)
Black	0.0032	−3.55
	(0.045)	(2.91)
Female*Black	−0.056	6.03
	(0.056)	(3.89)
Years of principal experience	−0.064***	2.09***
	(0.0046)	(0.25)
Constant	0.92***	66.2***
	(0.095)	(4.33)
Observations	1483	474
Adjusted R^2	0.17	0.26

Note. Sample only includes 2012–2013 through 2017–2018 and only principals in ASD, iZone, and comparison schools. Standard errors in parentheses.
ASD = Achievement School District.
* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

a principal decreased from 23% before the reforms to 19% after. Taken together, ASD principals were less experienced than iZone principals, which is also consistent with the pattern of average positive effects in the iZone schools and neither positive nor negative average effects in ASD schools.

Educational Background. Pre-reform, virtually all principals in ASD, iZone, and comparison schools had earned a master's degree or higher (99%, 100%, and 96%, respectively). During the six years of turnaround reform, the percentage of ASD principals with this level of educational attainment dropped to 86%, while remaining roughly constant in iZone and comparison schools (99% and 94%, respectively). All iZone principals held a graduate

degree in every year except the fifth year of reform when 95% of iZone principals had a master's degree or higher (see Appendix Figure 1). By contrast, the percentage of ASD principals with a master's degree or higher dropped to as low as 76% in the second year of reform. The lower percentage of principals with a master's degree or higher suggests some ASD and comparison schools were led by principals who lacked university preparation program credentials. If non-university preparation programs were not aligned to professional standards for principal preparation, ASD leaders may not have been sufficiently prepared to effectively lead turnaround efforts in the lowest-performing schools in Tennessee.

Personal Demographics

During our study period, ASD, iZone, and other priority schools in Tennessee were predominantly led by female and Black principals and, on average, principals in their early 40s. However, there were some notable differences between the three groups of schools and between the pre- and post-reform periods. Turnaround principals of ASD schools, for example, were much more likely to be female (80%) than were iZone and comparison school principals (62% and 54%, respectively), and the share of female principals increased for both ASD and iZone schools. Consistent with our findings on experience, the average age of principals during the reform period declined in all three groups, but especially in ASD and iZone schools. The percentage of teachers who identified as Black remained roughly constant in iZone schools, increased in comparison schools, and decreased by 4% points in ASD schools.

Figure 3 and Appendix Figure 2 show annual means for the percent of principals in each school group who were Black and female, respectively. With implications for reform model effectiveness in the majority-Black school turnaround context in Tennessee, we find a higher percentage of Black principals in ASD schools were replaced with non-Black principals in the first two years relative to comparison schools and iZone schools (Figure 3). In the year prior to turnaround reform, 96% of ASD principals were Black; this dropped to 73% in the first year of the reform and remained at or near that level in subsequent years. By contrast, in iZone schools, the percentage of Black principals increased from 65% to 70% from the baseline year to the first year of turnaround reform. On average during reform, Black principals comprised 78% of the iZone principals. In comparison schools, the percentage of Black principals decreased from 64% to 62% in the first year of school turnaround. On average during reform, Black principals comprised 85% of the comparison principals in Tennessee.

The demographic shift in principals in ASD, iZone, and comparison schools is notable when juxtaposed against the racial makeup of these schools. During the post-reform period, 93% of students in ASD schools were Black, 87% of iZone students were Black, and 89% of comparison school students were Black. Our findings are consistent with extant research from Tennessee and other states, which finds state-run or state takeover reforms tend to displace Black educators in school contexts where they are most critical to student achievement (Glazer & Egan, 2016; Grissom & Bartanen, 2019; Schueler & Bleiberg, 2021). The locally controlled iZone schools, in contrast, recruited well-qualified school turnaround leaders that were racially congruent with the schools they led.

Prior School Performance

As a core feature of the school turnaround theory of change is the replacement of an existing principal with a more effective principal, we examine a principal's prior school performance as a measure of principal effectiveness. Table 1 shows that, on average, principals who led ASD and iZone schools before turnaround had lower prior school performance than principals who led the comparison schools before turnaround reforms began in Tennessee. After reforms began, both ASD and iZone schools, on average, hired principals who previously led schools with higher test score gains in the previous year. However, when we examine the prior year school performance of principals who *exited* these schools before and after reform, we find that, on average, ASD schools lost principals whose schools registered higher than average test score gains the previous year ($+0.21$ standard deviations), while iZone schools lost principals whose schools had below average test score gains in the previous year (–0.07 standard deviations). That is, in iZone schools, principals who were either dismissed or left voluntarily, on average, led lower-performing iZone schools. In contrast, on average, principals in ASD schools, who were either dismissed or left voluntarily, led higher-performing ASD schools. This pattern in departing leaders' prior school effectiveness also is consistent with the comparatively worse outcomes for ASD schools and overall better performance in iZone schools.

Principal Turnover

Table 1 shows that, in the years preceding turnaround reform, annual principal turnover rates were high in all three groups of schools, ranging from 24% in ASD schools to 30% in iZone schools. These rates increased, however, in the post-reform period. (Recall that we exclude the first year of reform in the

"after" period since most principals were to be replaced.) The proportion of principals new to the school increased substantially more for ASD schools, rising from 24% pre-reform to 64% during the reform period. By comparison, the annual turnover rate for iZone schools rose to only 39% during the reform period, not much higher than the 34% rate in comparison schools.

Figure 4 shows the proportion of principals who were new to the school in each group separately for each year of the turnaround reform. In the year prior to the reform, this proportion was 16% for ASD schools, 38% for iZone schools, and 26% for comparison schools. In the first year of reform, the percentage of principals new to the school increased to 91% in ASD schools, 53% in iZone schools, and 30% for comparison schools. After the first year, annual turnover rates were 64% in ASD schools, 39% in iZone schools, and 34% in comparison schools (the values reported in Table 1).

Interestingly, Figure 4 shows that the ASD replaced nearly all principals during the year that principal replacement was required, while the iZones retained nearly half of principals during that first year. Annual turnover rates remained much higher, however, for ASD schools. For example, the principal turnover rate in the ASD fell below 50% only in a single year, and in both the fifth and sixth years of reform, over 70% of ASD principals were new to their school. In comparison, the iZone principal turnover rate was below 40% in four of the six years. These findings suggest that the iZones struck a balance between disrupting the status quo and maintaining leadership stability. Lower year-to-year principal turnover in the iZones also indicates these schools implemented more successful principal retention strategies or hired principals who were less likely to turn over.

Closely related to turnover rates is the average tenure as the principal. Here again, the average tenure as principal in the current school dropped in both ASD and iZone schools but dropped much more in ASD schools. (Average tenure increased by half a year in comparison schools.) From year two through year six of the reform, principals who left ASD schools averaged only 1.5 years serving as a principal in the school compared to principals who left iZone schools who had accumulated an average of 2.4 years serving as a principal in the school (not shown in figures). As our analysis of principal turnover, which focuses on the percentage of principals new to a school at the beginning of the year, is consistent with the results on tenure at the school, the lower principal turnover rate in iZone schools suggests that the iZones implemented less initial principal replacement than the ASD.

We used regression analysis to identify principal characteristics systematically related to turnover in the ASD, iZone, and comparison schools (Table 2). Of the principal characteristics in our model, only two variables

had a statistically significant association with turnover: years of experience and salary. The regression coefficient on salary suggests that a $1,000 higher salary is associated with a 0.2 percentage point reduction in turnover, a relatively small effect. We explore these associations more—and differences in salary across the different reform models—in the next section.

Principal Salary

In the pre-reform period, mean principal salaries ranged from $80,700 in comparison schools to $83,700 in iZone schools. Mean salaries fell precipitously in ASD schools in the turnaround period, to $75,000, while increasing to $99,600 in iZone schools and $93,100 in comparison schools. The time trend in principal salaries is shown more clearly in Figure 5, where annual salaries in ASD dropped in the first year of the reform and then remained steady or dropped further in later years of the reform, with larger reductions after the third year. By comparison, salaries in comparison schools remained flat, and increased over time in iZone schools. By years five and six, iZone principals were earning an average of $103,000–$107,900.

Of course, administrator salaries are driven to a significant degree by accumulated work experience and educational attainment as the ASD schools hiring less experienced principals (who receive lower salaries) and fewer master's degree holders. At the same time, as described earlier in the introduction, the iZone used salary incentives to attract and retain quality principals to its schools. To test for differences in mean salaries after adjusting for experience and degree attainment, we estimated the regression model shown in Equation 2 for priority schools during the reform years. The results, depicted in Table 2, show that even after adjusting for experience, graduate degree attainment, gender, and race, iZone schools paid higher principal salaries than the ASD, a difference of more than $13,000 per year. Using the results from column 1, this salary premium translates into a 2.7 percentage point lower annual turnover rate, which would explain some (though not all) of the mean gaps in annual turnover rates between ASD and iZone schools. While these results on salary and its association with turnover are correlational (and not necessarily causal), they lend some support to the utility of increased principal compensation in the iZone schools, a strategy not adopted by the ASD.

Discussion

Low-performing schools tend to experience more principal turnover than higher-performing schools, yet principal turnover in the first year of reform is a major component of the theory of change in school turnaround. Owing

to this disruption, the school must be stabilized with a new principal who will have a tenure long enough to sustain the reform—generally accepted to be five years (Bartanen et al., 2019; Borman et al., 2003; Mascall & Leithwood, 2010). In the current study, we examined the characteristics of principals in two school turnaround models in Tennessee after six years of implementation. By examining these long-running turnaround models in Tennessee, we provide the field of educational leadership more insight into the role of strategic talent management in school turnaround of the lowest-performing schools. More specifically, we showed how prevalent principal turnover was in each year of the reform, what role salary might have played in retention, and the extent to which principal race, gender, age, prior school performance, experience, and educational attainment may explain differences in model effectiveness, principal turnover, and principal salaries.

Effectiveness

Prior studies of school turnaround in Tennessee report that over six years of reform the local district-led iZone model improved student outcomes and had lower teacher turnover, while the state-run ASD model produced higher teacher turnover and no effect on student outcomes (Henry et al., 2020; Pham et al., 2020). The results in the current study show that, on multiple dimensions associated with effective leadership, ASD principals compare less favorably to principals in other priority schools and principals in the same schools prior to the reform. For instance, ASD schools lost principals whose schools registered higher than average test score gains in the previous year while the iZone schools lost lower performing principals. We also find ASD schools continued to experience high rates of principal turnover after the first year, hired less experienced administrators, and hired fewer principals who had attained at least a master's degree than did iZone schools.

Experience and Educational Background

The ASD school portfolio comprising mostly neighborhood schools run by CMOs may explain some of the characteristics of its principals. For example, in an analysis of national data, Sun and Ni (2016) show that charter school principals are more likely to turn over than principals at traditional public schools. Charter school principals also tend to have less preservice training, have less teaching and leadership experience, and are less likely to hold a master's degree in education administration than principals in traditional schools (Sun & Ni, 2016). To the extent that educational preparation influences principal effectiveness and turnover, ASD principals in

charter-managed schools may have lacked adequate preparation to improve low-performing schools and persist in their schools. A limitation to this conjecture is that our sample size was too small to distinguish charter schools from traditional schools in turnaround or to directly compare ASD traditional schools to iZone traditional schools. The latter comparison would allow for a better estimation of the role of localization in the reform effects and the strategic talent management of principals.

Race

A principal characteristic of interest to this study was principal race. We used the principal race measure as a proxy for racial congruence between principals and the majority of students at the schools because racially congruent principals may be less likely to turn over (Gates et al., 2006). The results showed that, during the first year of reforms, the ASD hired fewer Black principals than were employed in the same schools in the year prior. Moreover, the percentage of Black principals decreased further in the next year. On the other hand, iZone schools maintained a higher percentage of Black principals than before the reform. This finding suggests the iZones may have been more attentive to the significance of a Black principal in local school reform contexts serving schools that enroll mostly Black students. Furthermore, this result shows that it is possible for local education agencies to recruit and retain experienced and highly credentialed administrators in low-performing schools while matching the racial/ethnic demographics of administrators to the student demographics in low-performing schools. While we believe any principal can be trained to lead school turnaround for all students, future interventions may want to consider the racial match between administrators and lower-performing schools they are hired to lead (Grissom & Bartanen, 2019). Future research could examine the significance of racial match on student achievement, teacher quality, school culture, and family and community engagement in low-performing schools (Glazer & Egan, 2016; Grissom & Bartanen, 2019).

Salaries and Turnover

To the extent that higher principal turnover can negatively affect student achievement and increase teacher turnover (Bartanen et al., 2019; Grissom & Bartanen, 2019; Henry & Harbatkin, 2019), differences in principal characteristics help the field understand different outcomes in school turnaround models (Pham et al., 2020). For example, we find less principal stability in ASD schools is consistent with the lack of positive effects in these schools. Additionally, lower principal turnover in the iZones means iZone schools

hired principals who were less likely to turn over or implemented more successful principal retention strategies.

Higher salaries may be an important strategic talent management component in a successful turnaround model such as the iZone. We find higher salaries to be associated with lower principal turnover in the study's sample of low-performing schools, and ASD schools—the less effective reform model—had lower salaries and higher principal turnover. At the same time, higher salaries offered by iZone schools appear to explain only a portion of the gap in annual turnover rates between ASD and iZone schools. More research is needed on the role of other factors—including working conditions, prior preparation, and racial congruence—that might explain the higher retention of iZone principals.

Conclusion

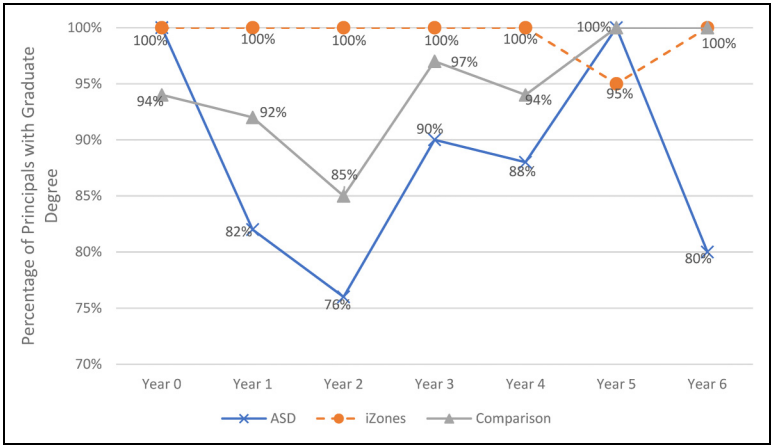
A decade of attempting to improve the lowest-performing Title I schools in the nation has increased the recognition that school leadership is key to improving these schools. In the current study, we show researchers, practitioners, and policymakers some of the ways that leadership in successful turnaround approaches differs from leadership in ineffective turnaround approaches. Our findings strongly suggest the ways in which strategic talent management of principals in school reform efforts can be mobilized for hiring and retaining principals most likely to effectively lead these reforms. Based on our study and prior research on school turnaround in Tennessee, principal leadership may be one reason state-takeover reforms have not been effective given the critical role of leadership in increasing student achievement and reducing teacher turnover, especially of higher performing teachers. Our study, alongside the causal analysis of the state-run ASD and local district iZones (Henry et al., 2020; Pham et al., 2020; Zimmer et al., 2017), suggests future reforms need more emphasis on school leadership and talent management more generally. The research on Tennessee shows districts with historically low-performing schools improved schools when they recruited and retained experienced, highly credentialed administrators with racial congruence between the principal and the majority of students enrolled in the school. These racially matched principals may not only help retain teachers but, if given the authority to recruit both within and beyond the district, are more likely to be able to hire more effective teachers in schools serving historically marginalized and disadvantaged students.

We do not view this work of strategic talent management and school improvement through rose-colored glasses. In fact, we acknowledge that there are real challenges to attracting and retaining principals to work in

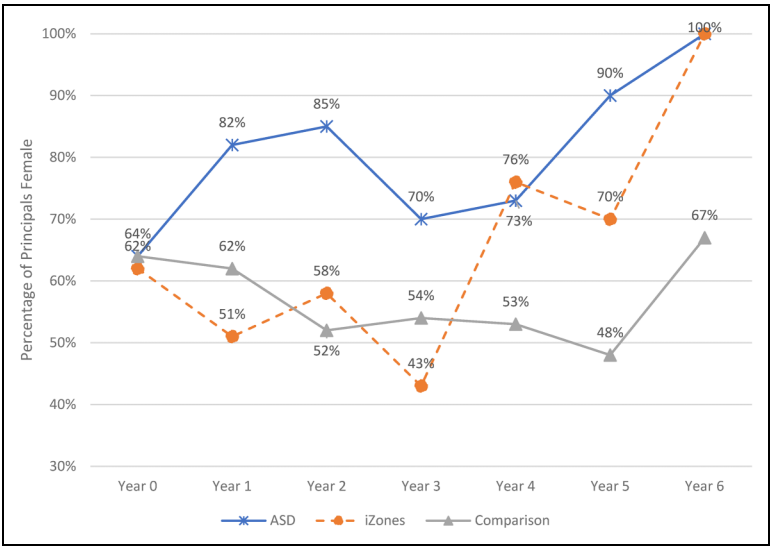
low-performing schools undergoing reform whether the reform is state-ran or locally-managed. This is where our study produces new knowledge that paying higher salaries may be associated with effective school turnaround reforms of the lowest-performing Title I schools. In sum, we conclude that the strategic talent management of principals should be an important component in the effective whole-school reform of low-performing schools.

As we examined school turnaround interventions under the RttT policy environment, we believe future research should aim to examine the strategic talent management of principals within the three categories of low-performing schools under the Every Student Succeeds Act policy environment (i.e., comprehensive support and improvement schools, targeted support and improvement schools, and additional targeted support and improvement schools) and determine the significance of salary in the talent management of principals within each low-performing school category. If studies of strategic talent management interventions focused on leaders and if financial incentives for school leaders can be designed, implemented, and rigorously evaluated in these school improvement contexts, education stakeholders can acquire a better understanding of the ways leaders with the characteristics associated with more effective reform in this study can be recruited and retained in the schools in which the students need them the most.

Appendix



Appendix Figure 1. Percentage of principals holding a master's degree or higher, by year, during school turnaround.



Appendix Figure 2. Percentage of principals who were female, by year, during school turnaround.

Appendix Table 1. Descriptive Characteristics of ASD Schools; iZone Schools; Non-ASD, Non-iZone Priority Schools; and All Other, Non-Priority Schools in Tennessee.

	ASD		iZone		Non-ASD, Non-iZone Priority Schools		All Other, Non-Priority Schools	
	Before	After	Before	After	Before	After	Before	After
Student characteristics								
Female	0.5	0.48	0.5	0.48	0.5	0.5	0.5	0.49
Black	0.92	0.93	0.87	0.87	0.94	0.89	0.2	0.21
Hispanic	0.057	0.049	0.066	0.082	0.048	0.054	0.06	0.085
Asian	0.0043	0.0035	0.0061	0.0052	0.003	0.0032	0.018	0.021
White	0.02	0.019	0.057	0.044	0.0078	0.012	0.72	0.68
FRPM	0.92	0.83	0.89	0.89	0.87	0.86	0.51	0.5
ELL	0.026	0.032	0.033	0.049	0.025	0.045	0.02	0.029
SpED	0.12	0.14	0.12	0.15	0.1	0.12	0.081	0.12
Attendance rate	0.94	0.92	0.93	0.92	0.94	0.93	0.95	0.95
Proportion new to school	0.33	0.31	0.28	0.29	0.31	0.31	0.15	0.15
Teacher characteristics								
Female	0.79	0.82	0.77	0.78	0.76	0.77	0.79	0.78
Black	0.71	0.58	0.54	0.59	0.68	0.65	0.1	0.11
White	0.28	0.4	0.45	0.4	0.32	0.34	0.89	0.88
Proportion new to school	0.24	0.51	0.29	0.36	0.27	0.29	0.17	0.18
TVAAS score (1-5)	2.5	2.7	2.5	3.1	2.6	2.8	3.3	3.2

(continued)

Years of experience	12	5.2	11	8.7	11	10	13	12
Master's degree or higher	0.67	0.56	0.63	0.65	0.6	0.65	0.59	0.61
Principal characteristics								
Female	0.65	0.8	0.56	0.6	0.64	0.56	0.55	0.57
Black	0.93	0.67	0.68	0.76	0.84	0.86	0.14	0.15
White	0.069	0.33	0.31	0.23	0.16	0.14	0.86	0.84
Proportion new to school	0.25	0.67	0.36	0.42	0.34	0.33	0.22	0.25
Observation score (1–5)	3.5	3.1	3.5	3.7	3.7	3.6	3.8	3.9
Years of experience	5.4	2.1	5	4.2	3.9	4.2	5.8	6.2
Master's degree or higher	1	0.76	1	0.99	0.92	0.93	0.98	0.98

Source. Pham, L. D., Henry, G. T., Kho, A., & Zimmer, R. (2020). Sustainability and maturation of school turnaround: A multiyear evaluation of Tennessee's Achievement School District and local Innovation Zones. *AERA Open*, *6*(2).

Note. Attendance rate is the proportion of school days attended. The proportion of students new to a school does not include students who make structural moves. Principal years of experience only include the years in which the individual was a principal, not all years of experience as an educator. The teacher TVAAS and principal observation scores range from 1 (significantly individual was a principal, not all years of experience as an educator). The teacher TVAAS and principal observation scores range from 1 (significantly below expectations) to 5 (significantly above expectations).

ELL = English language learner; FRPM = eligibility for free or reduced priced meals; SpED = special education status; TVAAS = Tennessee Value-Added Assessment System.

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Data Statement

As this study utilized restricted administrative data from the TDOE, the authors are not authorized to release the data.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Supplementary Material

Supplemental material for this article is available online.

Note

1. The goodness-of-fit measure for the models is the standard adjusted r^2.

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