Risk of Turnover among U.S. Principals Based on Personal and School Characteristics

Abdulaziz S. Alenezi

Virginia Tech

Author Note

Correspondence concerning this article should be addressed to Abdulaziz Alenezi, School of Education, Virginia Tech, Blacksburg, VA 24061. E-mail: azizkw2@vt.edu

Abstract

This study sought to predict U.S. public-school principals' risk of turnover using nationally representative data. After screening several personal and school characteristics that might predict the likelihood of principals leaving their jobs, a logistic regression analysis was employed using 15 significant predictors out of 37 variables identified to predict the outcome variable (low or high risk of turnover). The findings revealed that principals were more likely to leave their position when they did not participate in aspiring principal programs, had a doctorate, were male, were a minority, or worked at schools that lacked controlled access to school buildings.

Keywords: principal, turnover, attrition, retention, logistic regression analysis

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Schools require long-term commitment and persistent effort from all stakeholders, including school leaders, to improve learning outcomes. In a study of 180 schools in nine states, Seashore, Leithwood, Wahlstrom, and Anderson (2010) found no instances of "a school improving its student achievement record in the absence of talented leadership" (p. 9). To face the numerous challenges confronting schools today, smart, effective, and stable school leadership is needed, especially when the average time required to significantly reform a school is 5 years (Fullan, 2001, 2007). Although previous research has documented the impact of leadership on student and school outcomes, this impact is more likely to be minimized when those who lead these efforts within schools are leaving the profession at a rapid rate.

A national follow-up survey conducted in 2012–2013 found that 12% of 114,330 public and private school principals in 2011–2012 had left their position to find a different type of job, and an additional 5% of principals had left but their occupational status was unknown (Goldring & Taie, 2014). Another recent report, *The High Cost of Principal Turnover*, found that approximately 25% of principals left their schools every year and 50% of new principals quit their jobs during the third year (School Leaders Network, 2014).

The Difficulty of Principal Recruitment and Retention

Due to rapid principal turnover, recruiting and retaining highly qualified administrators has become a national and international challenge (Cooley & Shen, 2000; Hancock, Black, & Bird, 2006; Hancock & Müller, 2009; Hickman, 2011; MacBeath, 2009). One reason for the rising turnover rate are the complexities involved in administrating today's schools. Research has shown that principal turnover occurs at all school levels and across different settings. However, it was found to be more common in high schools than middle schools (Wilson & Heim, 1985) and

in urban and rural schools than suburban ones (Partlow & Ridenour, 2008). Moreover, rural schools are at a greater disadvantage when recruiting school administrators than urban and suburban schools (Pijanowski, Hewitt, & Brady, 2009; Wood, Finch, & Mirecki, 2013).

The Effects of School Instability

When schools consistently fail to improve, changing school leadership may be suggested as a remedy. However, rotating school principals regularly can produce more problems than solutions (Fink & Brayman, 2004) because high administrative turnover can result in organizational instability (Partlow & Ridenour, 2008). In fact, principal turnover has been found to be positively linked to teacher turnover (Fuller, Young, & Baker, 2007) and rising financial costs (Fuller & Young, 2009), and negatively related to test scores, school order, and parent involvement in school activities (Griffith, 1999). For instance, in relation to teacher turnover, Strauss (2013) presented the opinions of a teacher who had six principals in six years. When she left her teaching position for one at another school, she cited a desire for stable leadership as her main reason for leaving. This instability has other consequences as well. As Wasley (1992) argued, “When influential leaders leave, for whatever reason, it is not uncommon for all change efforts in progress to slip into a state of suspended animation” (p. 64). Thus, changing school leadership too often can undermine attempts to make improvements.

Why Principals Leave Their Jobs

Principal turnover has a heavy financial cost. Norton (2002) pointed out that “the cost of replacing only six school principals is an estimated $150,000; over a ten-year period replacement costs could easily reach $1,500,000” (p. 51). A recent report found U.S. school districts could save $163 million annually if principal retention increased (School Leaders Network, 2014).

The principal's role has changed for many reasons. For example, federal and state mandates and standardized test movements, such as No Child Left Behind, have placed more pressure on school administrators. The resulting stress that comes with the enormous responsibilities of being a principal could lead some principals to leave their jobs (Sorapuru, 2012). It has therefore become harder to recruit and retain qualified principals when the accountability movement has led to an atmosphere of mistrust (Cooley & Shen, 2000), and principals feel frustrated by heavy workloads (Ewington et al., 2008).

Why Principals Remain in Their Jobs

It is expected that when a job is attractive, more applicants will apply for it and fewer employees will resign from it. In other words, the job market will experience more supply and less demand. While the job of principal is not always attractive, for the abovementioned reasons, research has found many factors help retain principals. These factors include effective principal preparation programs (Hickman, 2011), positive working conditions, high-quality professional development (Wood et al., 2013), clear role expectations and sufficient support (Durow & Brock, 2004).

How Teachers Decide Whether to Apply to Principal Positions

Research on school administration programs has extended the literature on principal turnover by examining teachers' perceptions of factors affecting their desire to become a principal. Hancock et al. (2006) surveyed 329 student teachers who participated in a school administration preparation program. Insufficient personal and professional gain, personal issues, and increased risk were important factors inhibiting these student teachers from wanting to become principals. The desire for influence, altruism, and personal and professional benefit were important factors encouraging them to pursue the position. A cross-national study by Hancock

and Müller (2009) found that U.S. and German students perceived bureaucracy, risk of litigation, and lack of autonomy as inhibiters to seeking administrative positions. They also found U.S. students were more concerned with standardized tests than German students. In another study, Cooley and Shen (2000) surveyed superintendents, principals, and teachers about the factors that played a role in applying for administrative positions. The relationships between the school board, administration, and teachers were a key factor affecting teachers' decisions to apply.

Research Problem and Significance

Due to the issues cited above, a growing body of literature seeks to predict principals' intent to leave or remain in the profession. The goal is to determine which personal and school characteristics are significant predictors of principal turnover. For example, Partlow (2007) found principals were more likely to leave their jobs when students had low academic achievement, while Sheppard (2010) found principals were more likely to remain when their salaries were perceived as satisfactory. In Sorapuru's (2012) study, principals who attended effective professional development were more likely to remain. Gates et al. (2006) found that principals who worked in a school with a large proportion of minority students were more likely to change schools, while Baker, Punswick, and Belt (2010) found that when student general enrollment increased, the likelihood of principals leaving likewise increased.

Unlike the literature on teacher turnover, research on principal turnover is still in the earlier stages (Sheppard, 2010), and most studies' results cannot be generalized and have failed to provide policy implications (Papa, 2007). More research on identifying which predictors are related to principals' intent to leave or remain is needed (Baker et al., 2010). Any large-scale efforts to increase principal retention rates will be arbitrary when factors that may lead principals to leave the profession are not identified. Consequently, this study sought to extend the literature

through a nationally representative sample of public-school principals in order to predict who is more likely to leave based on various personal and school characteristics.

Method

Data Source

This study used a subset of the School and Staffing Survey (SASS) 2011–2012, a comprehensive national survey of districts, schools, principals, teachers, and staff produced by the National Center for Educational Statistics (NCES). The SASS has been administrated every four years since 1988. This survey offers researchers extensive information from representative samples about the status of U.S. public and private schools. The sample in this study included about 7,500 public-school principals who were surveyed in 2011–2012 (Goldring & Taie, 2014).

Data Analysis

In light of the relevant literature, all personal and school variables collected from SASS's 2011–2012 principal survey that might predict the outcome variable—risk of principal turnover—were first identified. This screening process resulted in 37 predictor variables. As shown in Appendix A, these variables include personal characteristics (e.g., gender, age, minority status, years served as principal, salary, credentials). They also include school characteristics (e.g., total student enrollment, school setting, safety measures, frequency of violent incidents).

The outcome variable, risk of turnover, was then categorized into a binary outcome, namely *low risk of turnover* and *high risk of turnover*, based on principals' answers to the survey question about how long they planned to remain as principals. For example, the answer "As long as I am able" was classified as low turnover risk, and the answer "Definitely plan to leave as soon as I can" was classified as high turnover risk.

After preparing the dependent and independent variables, a logistic regression analysis was used to predict the dichotomous dependent variable of interest (low or high risk) based on the independent predictor variables. This statistical procedure yields an odds ratio for each predictor variable, which can be interpreted as the likelihood of principals being classified as having a low or high risk of turnover based on whether they had X attribute.

Per common practice (e.g., Hancock & Scherff, 2010), the logistic regression analysis was conducted in two stages. In the first stage, using univariate analysis, each predictor variable was correlated with the outcome variable, and only significant variables that achieved an alpha level of .15 were retained for inclusion in the final logistic regression model. This alpha level was chosen as a criterion to decrease the possibility of failing to reject the null when it should be rejected (Type II error). Of these 37 predictors, only 15 met the criterion. In the second stage, all 15 significant predictors were entered simultaneously into one logistic regression model to examine their contribution to predicting a principal's risk of turnover.

All data analyses were performed using PowerStats web-based statistical software provided by NCES that used appropriate sampling weights from the SASS dataset to ensure accuracy in the reported results.

Results and Discussion

The univariate analysis in the first stage showed that only 15 predictor variables out of 37 were significantly related to a principal's risk of turnover at alpha level .15, while 22 predictor variables were not statistically significant. Accordingly, significant predictors were included in the final model and nonsignificant predictors were excluded (see Appendix A).

These results were preliminary but were interesting in several respects. Although professional development was identified as a good principal retention strategy (Sorapuru, 2012;

Wood et al., 2013), surprisingly this study found no significant relationship between attending professional development and risk of turnover. Another interesting finding was that salary was not significantly related to risk of turnover, in contrast to Sheppard's (2010) findings. In addition, total student enrollment was not significantly related to risk of turnover, contradicting Baker et al. (2010). Furthermore, the percentage of minority students at schools was not significantly related to risk of principal turnover, which went against the findings of Gates et al. (2006).

In the second stage of the analysis, the 15 significant predictors were entered into the final logistic regression using low/high risk of turnover as the outcome variable. The full model was tested against a constant-only model and was statistically significant, adjusted Wald $F(15, 74) = 8.1131$, $p < .00001$, indicating that the variables as a set improved prediction accuracy of principals being classified as having a low or high turnover risk. Table 1 shows the final model with regression coefficients and the odds ratio for each predictor.

As shown in Table 1, several variables were statistically significant factors, holding other factors constant, in predicting whether a principal intended to leave the profession. The odds ratio represents the relationship between each predictor and the outcome. An odds ratio greater than 1 indicates the predictor increases the likelihood of principals being classified as having a high risk of turnover, while an odds ratio of less than 1 indicates the predictor increases the likelihood of principals being classified as having a low risk of turnover.

Out of the 15 predictors included in the final model, when entered at once, eight were statistically significant in predicting risk of turnover. The most statistically significant predictor was whether principals had participated in a program for aspiring principals, adjusted Wald $F(1,88) = 27.9769$, $p < .001$. The odds ratio for this predictor suggested those who had participated in such a program were 30% less likely to be classified as having a high risk of

turnover—and thus more likely to have a low risk of turnover—than those who had not participated in such a program.

Table 1

Logistic Regression Analysis of Low and High Risk of Turnover, Final Model

Variable	β	SE	OR	95% CI	
				LL	*UL*
1. Age of principal	-0.0636**	0.018	0.9852	0.977	0.9936
2. Minority status of principal	0.0562*	0.022	1.3446	1.0706	1.6888
3. Principal's total teaching experience	-0.0602	0.05	0.9801	0.9458	1.0156
4. Years of teaching experience prior to becoming principal	0.0741	0.051	1.0257	0.9887	1.0641
5. Held assistant principal position	-0.0168	0.017	0.9219	0.7806	1.0888
6. Participated in program for aspiring principals	-0.0817**	0.015	0.7087	0.6226	0.8067
7. Held doctorate	0.077**	0.017	1.6989	1.3481	2.141
8. Mentored or coached other principals	-0.0181	0.017	0.9265	0.8012	1.0712
9. Female principal	-0.0399*	0.017	0.8459	0.7352	0.9732
10. Rural	0.0131	0.014	1.0593	0.9317	1.2043
11. Controlled access to school buildings	-0.0406*	0.017	0.7708	0.6226	0.9542
12. Daily presence of school security or police	-0.0342*	0.014	0.8512	0.7448	0.9728
13. Frequent physical conflicts between students	-0.0224	0.016	0.902	0.7765	1.0477
14. Time spent on administrative tasks	0.0692**	0.015	1.0086	1.0049	1.0124
15. Student test score outcomes included in principal evaluation	-0.0171	0.016	0.9299	0.8112	1.0659

Note. OR = odds ratio, CI = confidence interval, LL = lower limit, UL = upper limit, *$p < .05$, **$p < .01$.

The second-most significant predictor was whether the principal held a doctorate, Wald $F(1,88) = 20.7915$, $p < .001$. Examining the odds ratio for this predictor suggested principals who had a doctorate were 70% more likely to be classified as having a high risk of turnover—and thus less likely to remain in the profession—than those without a doctorate. The third significant predictor was minority status, Wald $F(1,88) = 6.6855$, $p < .05$. The odds ratio for this predictor indicated that minority principals were 35% more likely to be classified as having a high risk of turnover than non-Hispanic white principals.

The fourth significant predictor was age, Wald $F(1,88) = 12.3932$, $p < .001$. The odds ratio for this predictor suggested that for every year added to a principal's age, the likelihood of having a high risk of turnover decreased by 1.5%. The fifth significant predictor was whether a principal worked in schools with controlled access to the school buildings, Wald $F(1,88) = 5.889$, $p < .05$. According to the odds ratio, principals who worked in schools with controlled access to buildings were 23% less likely to be classified as having a high risk of turnover—and thus more likely to remain—than those without controlled access. The sixth significant predictor was whether a school had the daily presence of school security or police, Wald $F(1,88) = 5.7687$, $p < .05$. The odds ratio indicated that principals who served in schools with a daily security presence were 15% less likely to have a high risk of turnover than principals without such security measures.

The seventh significant predictor was the time principals spent on administrator tasks, Wald $F(1,88) = 21.0501$, $p < .001$. The odds ratio indicated that for every hour of weekly time spent on administrative tasks, the likelihood of being classified as having a high risk of turnover increased by .005%. The final significant predictor was gender, Wald $F(1,88) = 5.6454$, $p < .05$. The odds ratio suggested that female principals were 15% less likely to be classified as having a high risk of turnover—and thus more likely to remain—than male principals.

Conclusions and Recommendations

This study examined public-school principals' risk of turnover using a nationally representative dataset with a population of 114,330 principals. The sample consisted of 7,500 principals surveyed during the 2011–2012 school year as part of the SASS conducted by the NCES. The purpose of this study was to determine risk factors related to principal turnover so that implications can be suggested for principal retention efforts. For the preliminary analysis

and model building, 37 variables were examined. Each variable was correlated with the outcome variable (low or high risk of turnover) and only those variables that achieved an alpha level of 0.15 were retained. This analysis resulted in 15 predictor variables included in the final model. Of these 15 predictors, eight were significantly related to the likelihood of principals being classified as having a low or high risk of turnover. These predictors could be grouped into two categories: (1) personal characteristics, including principal age, minority status, participation in aspiring principal programs, gender, and possession of a doctorate, and (2) school characteristics, which included controlled access to school buildings, daily presence of security personnel, and time spent on administrative tasks.

Personal Characteristics

In this study, principals who participated in a program for aspiring principals were less likely to be classified as having a high risk of turnover than principals who had not participated in such programs. Similar to what Hickman (2011) found, this result suggested that participation in aspiring principal programs is an important factor that should be considered in school administrative retention efforts, and aspiring principals should be given more opportunities to participate in such programs.

Whether principals held a doctorate appeared to predict their intent to remain or leave their position. Those with a doctorate were more likely to leave. One factor that may lead principals to seek higher credentials is to improve their financial status. In light of this issue, school district retention efforts should pay particular attention to principals with higher credentials, as they have a greater risk of leaving. One possibility for school districts is to reconsider salary and benefits to make the position more attractive to principals with higher credentials and thus keep them from seeking other positions.

Another finding was that minority principals were 35% more likely to leave than non-Hispanic white principals. It was unclear why these principals were more likely to leave, but more retention efforts targeting minority principals should be made to understand and address this tendency. Gender was likewise an important factor in predicting intent to leave, as female principals were more likely to remain than male principals. This suggested female principals might be more committed to the job. Findings regarding principal age suggested that for every 5 years added to a principal's age, the likelihood of leaving decreased by 7.5%.

School Characteristics

Whether a school had controlled access to school buildings was significantly related to whether principals intended to leave or remain in their position. The findings suggested that principals who worked at schools with controlled access to school buildings were more likely to remain, possibly because the principals felt safer. A similar measure of school safety was also significantly related to risk of turnover. Principals who worked at schools that had a daily security presence were more likely to remain. These findings suggested that school safety is an important factor in principals' decisions to leave. Another finding was that for every hour principals spent on administrative tasks during the week, the likelihood of leaving increased by .005%, although this finding was trivial in terms of its odds ratio magnitude.

In conclusion, principal turnover can have a potential negative impact on both students and teachers. To minimize principals' intention to leave the profession, researchers need to isolate the risk factors that may contribute to this phenomenon. For example, nonparticipation in aspiring principal programs was found to be an important risk factor. However, it is unknown why principals choose to participate in this program and thus it is a topic for further research. Personal and school characteristics associated with high probability of leaving the profession can

suggest targeted policy intervention such as providing more guidance and support at the school district level to principals who have high risk of turnover. Unless all of the important risk factors are identified and mitigated, the school door will keep revolving.

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Appendix A

Variables Considered in Model Building Stage

	Variable	Decision[a]
Personal Characteristics	1. Age of principal	**Retained**
	2. Minority status of principal	**Retained**
	3. Principal's total teaching experience	**Retained**
	4. Years of teaching experience prior to becoming principal	**Retained**
	5. Years served as principal	Excluded
	6. Years served as principal at current school	Excluded
	7. Held assistant principal position	**Retained**
	8. Participated in program for aspiring principals	**Retained**
	9. Held doctorate	**Retained**
	10. Participated in professional development related to role as principal	Excluded **Retained**
	11. Mentored or coached other principals	Excluded
	12. Participated in principal networking group	**Retained**
	13. Gender	Excluded
	14. Salary	
School Characteristics	15. Total enrollment in school	Excluded
	16. Percentage of students in the school representing a racial/ethnic minority	Excluded
	17. Percentage of teachers in the school representing a racial/ethnic minority	Excluded
	18. Percentage of enrolled students approved for the NSLP at school	Excluded
	19. High school	Excluded
	20. Estimated number of students per FTE teacher in the school	Excluded
	21. Rural	**Retained**
	22. Number of students expelled during 2010–2011 school year	Excluded
	23. Number of suspensions during 2010–2011 school year	Excluded
	24. Controlled access to school buildings	**Retained**
	25. Daily presence of school security or police	**Retained**
	26. Frequent physical conflicts between students	**Retained**
	27. Frequent physical abuse of teachers	Excluded
	28. Frequent student bullying	Excluded
	29. Frequent verbal abuse of teachers	Excluded
	30. Frequent student disrespect of teachers	Excluded
	31. Total number of hours spent on all school activities every week	Excluded
	32. Percentage of time spent on administrative tasks	**Retained**
	33. Percentage of time spent on curriculum and teaching-related tasks	Excluded
	34. Number of days required to work under current contract	Excluded
	35. Student test score outcomes included in principal evaluation	**Retained**
	36. School required to improve due to AYP	Excluded
	37. School made AYP	Excluded

Note. [a] Variables that achieved an alpha level of 0.15 in the univariate correlation with the outcome variable were kept for the final model.