



# Principal turnover and student achievement

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## ABSTRACT

Principals have important management roles, including responsibilities for teachers, curricula and budgets. Schools change principals frequently; about 20% of public school principals in the United States leave their positions each year. Despite the significance of principals and the regularity of principal departures, little is known about how turnover affects schools. Using twelve years of administrative data from North Carolina public schools, this paper explores the relationship between principal turnover and student achievement. Principal departures follow a downturn in student performance. Achievement continues to fall in the two years following the installation of a new principal and then rises over the next three years. Five years after a new principal is installed, average academic performance is no different than it was five years before the new principal took over. Increases in student achievement following a principal transition may reflect mean reversion rather than a positive effect of principal turnover.

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## 1. Introduction

School principals play important and varied roles in the day to day operations of schools. As instructional leaders, principals select, monitor and support teachers, design curricula, and manage discipline. As administrative leaders, principals set budgets, manage the school facility, and develop relationships with the broader community. In addition to a wide range of responsibilities, principals have many constituents including students, parents, teachers, school boards and superintendents (see, for example,

Davis, Darling-Hammond, LaPointe, & Meyerson, 2005; Richardson, Short, & Prickett, 1993). Improving principal quality has become a common focus of school reform efforts: A recent Department of Education report on turning around chronically low-performing schools recommends installing a new principal (Herman et al., 2008) and over the last ten years many states, school districts and non-for-profits have introduced new initiatives to train and support principals.

Despite the attention currently paid to principals as levers for school improvement, much remains unknown about how school leadership affects student learning. Early work on how principals affect student achievement has primarily focused on the relationship between principal characteristics and student test score gains. Both traditional human capital variables such as the education and prior experience of the principal and variables designed to capture the leadership style of the principal have been studied. However, as in the analogous work on teacher characteristics (Aaronson, Barrow, & Sander, 2007; Hanushek, 1986), the evidence is mixed. Eberts and Stone (1988) find that test score gains are positively correlated with the principal's years of prior teaching experience and administrative experience, while Brewer (1993) finds no

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significant effect. And, as Brewer (1993) points out, leadership style is likely endogenous since, for example, a student body with an academic focus may cause a school to both post large test score gains and to hire principal who emphasizes academic achievement.

More recently, there has been increasing attention on whether principals are paid for performance and on measuring the amount of variation in principal quality. There is evidence that principals are rewarded for strong student performance on standardized exams with higher salaries, a lower likelihood of dismissal and principalships at more desirable schools (Besley & Machin, 2008; Cullen & Mazzeo, 2008; Hussain, 2007)<sup>2</sup>, though accountability policies are not always effective at rewarding the best principals (Billger, 2007). In line with the findings on teacher quality (Nye, Konstantopoulos, & Hedges, 2004) and managerial quality (Bertrand & Schoar, 2003), principal fixed effects explain a significant portion of variation in principal salary (Besley & Machin, 2008) and student test score gains, particularly for high poverty schools (Branch, Hanushek, & Rivkin, 2009a<sup>3</sup>).

Rather than focus on the determinants of principal quality or the amount of variation in principal quality, in this paper I investigate how student performance varies with principal turnover. Principal turnover is a common phenomenon nationwide. Using data from a nationally representative survey, Battle (2010) reports that 21% of public school principals left their jobs from one year to the next. Cullen and Mazzeo (2008) reach the same conclusion using administrative data from Texas. Studies following cohorts of newly hired principals find that about half remain after four years and 20–40% remain after six (Gates et al., 2006; Papa, 2007; Stoelinga, Hart, & Schalliol, 2008). In the National Center for Education Statistics' 1999–2000 Schools and Staffing Survey (SASS), more than half of the 8524 public school principals surveyed had served for less than five years in their current position. As shown in Fig. 1, the modal SASS respondent was in her second year as principal, and principals with more than ten years of experience leading a school were quite rare. Principal turnover is particularly common at low performing schools (Besley & Machin, 2008; Branch et al., 2009a; Cullen & Mazzeo, 2008; Fuller, Baker, & Young, 2007), schools located in high poverty communities, (Partlow & Ridenour,

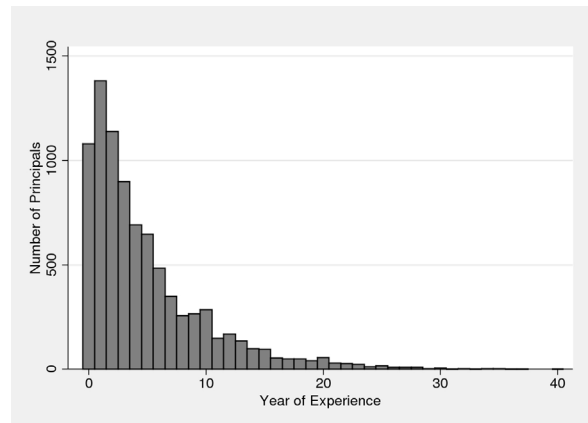


Fig. 1. Distribution principal experience at current school.

Notes: Data are from the 1999–2000 Schools and Staffing Survey, administered by the National Center for Education Statistics. The principals of 8524 public schools responded to the question “Prior to this school year, how many years were you employed as the principal of this school?” This is a histogram of their responses.

2008), and schools with more minority and limited English proficiency students (Gates et al., 2006; Papa, 2007).<sup>4</sup> Understanding the changes that accompany principal turnover is important not only because it is widespread, but also because any ill effects are disproportionately borne by disadvantaged students.

The primary question here is how principal turnover relates to student achievement. To date, few large scale studies address the issue of principal turnover.<sup>5</sup> The exceptions are Weinstein et al. (2009) and Rowan and Denk (1984). Weinstein et al. (2009) focus on principal transitions in newly formed New York City High Schools and consider the relationship between principal turnover and graduation rates. Years in which schools are led by new principals are associated with lower graduation rates, and this is particularly true when the school has already experienced a principal transition. Rowan and Denk (1984) perform a modified GLS analysis of how principal transitions and school demographics (specifically the proportion of students in the school who received Aid to Families with Dependent Children) are related to test scores. These results may be biased by the inclusion of both a school-specific residual component and lagged school performance as a regressor.

Using twelve years of administrative data from North Carolina public schools, I follow the method of Jacobson, LaLonde, and Sullivan (1993) to measure student achievement at schools that will undergo a principal transition, are undergoing a principal transition, and have completed a principal transition. I take advantage of the panel aspect of the data to measure how schools perform relative to their

<sup>2</sup> Similar results hold for school superintendents (Ehrenberg, Chaykowski, & Ehrenberg, 1988; Meier & O’Toole, 2002). For both superintendents and principals there is considerable ambiguity about whether the high scores are actually indicative of high quality. Both Ehrenberg et al. (1988) and Hussain (2007) suggest not. Lavy (2008) finds that increasing principal salaries increases the academic performance of students.

<sup>3</sup> Branch et al. (2009a) note that principals may affect school quality differently at points of their tenure. Their purpose is not to estimate the effect of principal turnover, but they recognize that such effects are impediments to estimating the true variation in principal quality, and they make comparisons only among principals with similar job tenure.

<sup>4</sup> Many other school level factors have been associated with principal turnover. Large schools experience more turnover than small schools. High schools and middle schools experience more turnover than elementary schools. Urban and rural schools experience more turnover than suburban schools. Schools with large fractions of uncertified teachers also experience excess turnover (Gates et al., 2006; Papa, 2007; Young & Fuller, 2009).

<sup>5</sup> Theoretical frameworks for interpreting principal transitions can be found in Hargreaves, Moore, Fink, Brayman, and White (2003), Hart (1991) and Miskel and Cosgrove (1985). Case studies can be found in Hargreaves et al. (2003), Meyer, Macmillan, and Northfield (2009) and Weinstein, Jacobowitz, Ely, Landon, and Schwartz (2009). Miskel and Owens (1983) compares schools with and without new principals on several non-academic measures and finds few differences.

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