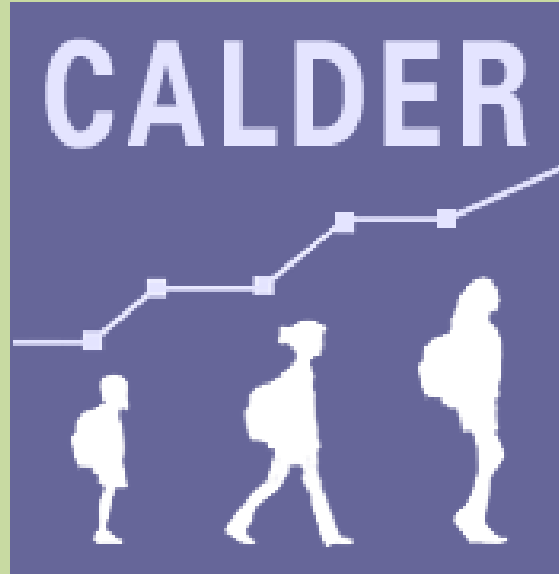


National Center for Analysis of Longitudinal Data in Education Research



Principal Effectiveness and Leadership in an Era of
Accountability: What Research Says

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Teachers' Perceptions of their Working Conditions: How Predictive of Policy-Relevant Outcomes?

Helen F. Ladd

Sanford School, Duke University

hladd@duke.edu

Introductory comments



- This paper is less about principals *per se* than about school leadership.
- The data come from surveys of all teachers in North Carolina and represent teachers' perceptions of school leadership and other aspects of their working conditions.
- NC is the first of many states to conduct state wide surveys of teachers about their working conditions
 - Important to ask what one can learn from such surveys.

Two components of a teacher's work environment



1. Measurable characteristics of the school – **S**
e.g. characteristics of the students or teachers in the school, location of the school.
 - emphasized in quantitative studies of teacher movement by economists
2. Harder-to-measure working conditions --**WC**
e.g. **quality of school leadership** and facilities, opportunities for advancement
 - emphasized in qualitative research – see summary by Susan Moore Johnson et al.

Outcomes of interest in this study



- Planned departures of survey respondents (a measure of their preferences)
- Actual one-year departure rates of all teachers
- Student achievement – math and reading in grades 4 and 5.

Key questions:

Are teachers' perceptions of their WC predictive of these outcomes, controlling for other factors?

Answer: yes, but most so for planned departures

If so, which working conditions matter most?

Answer: **school leadership**; teacher empowerment (high school only); time for planning (elem. and mid.)

Empirical Approach



Plans to leave_{ij} = f (WC_j, S_j, W_j, X_i)

where

WC_j is working conditions in school j

S_j is school characteristics in school j

W_j is the salary in school j

X_i is respondent characteristics

Actual departure rate models are analogous
Student achievement models differ somewhat.

Policy context - NC



- Governor Easley and teachers
 - Budget deficit in 2001, but desire to help teachers
 - Working conditions surveys 2002, 2004, **2006**, 2008
- In 2006 strong incentives for teachers to participate
 - Business incentives for high rates of completion
 - A lot of follow up;
 - Results posed on web for each school with RR > 40 %;
Response rates: 75 % elementary, 65% middle, 63 % high school (Response rates even higher for 2008)
(The new Teacher Center now has contracts for similar surveys in 10 other states)

NC Policy context (cont.)



- Public reports based on the survey results suggest that working conditions matter for teacher movement and student achievement.
- Starting in 2009, all school principals are expected to use survey results for internal discussion. **Part of the evaluation rubric for principals.**

Potential reasons for skepticism

Perceived working conditions may just be a proxy for other school characteristics.

Survey results may present misleading picture

Teacher perceptions of working conditions



On NC survey - 5 categories (I recombine the 54 underlying questions using factor analysis)

1. School leadership (based on > 20 questions)
2. Facilities and resources
3. Teacher empowerment
4. Professional development
5. Time – for activities such as planning,

NOTE: teachers' perceptions could well differ from those of an external, objective observer

Statistical issues that arise from the use of survey data



- Noise of measures relative to true signal. Solution: **measure WC at school level.**
- Reverse causation. E.g grumpiness which makes teacher want to leave the school and to criticize the leadership. Partial solution: **Measure WC by the average of all responses at each school, and then weight the regressions by number of responses at the school.**
- Multicollinearity among the responses by topic. **Use factor analysis to measure latent constructs.**

All factors normalized to have mean 0 and SD =1

Nature of models for the planned departures



Based on schools with >40 percent response rate, separately by level of school

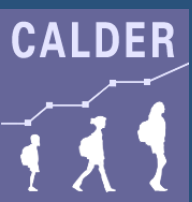
Lots of explanatory variables in the models: 5 WC factors, 2 quantitative time variables, 20 school characteristics, 12 respondent or teacher characteristics, 1 (district level) salary variable, 10 regional or district indicator variables.

- Linear probability models of planned departure rates (0-1)
- Multinomial logit models of exit routes
 - Change school, change district, leave the profession .
- Alternative specifications – with and without S or WC



Planned departures: Selected coefficients from full linear probability models Mean depart.rates: Elem. 0.107 Middle 0.145 High 0.138

	Elem.	Middle	High
Leadership	-0.040* (.005)	-0.056* (.008)	-0.039* (.010)
Facilities	0.003 (.004)	0.008 (.007)	-0.004 (.006)
Empower.	-0.001 (.004)	0.006 (.007)	-0.014# (0.008)
Prof. devel.	0.000 (.004)	-0.006 (.007)	0.010 (.007)
Time	-0.007 (.004)	-0.019* (.006)	n/a
Evaluation	n/a	n/a	0.000 (.007)
Fr. Black stud.	0.051* (0.020) [0.012]	0.040 (.036) [0.009]	0.124 * (.044) [0.028]
R- square	0.044	0.056	0.042
Observations	22,941	9,101	10,829
N. of schools	1,118	378	340



Conclusions 1 – Planned departures (i.e. teacher preferences)



1. WC together are VIP predictor.

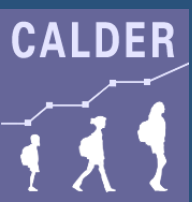
Explanatory power of WC variables : 63 percent for elem., 80 percent for middle and 40 percent for HS

2. Leadership is most important WC factor

3. Teacher empowerment, as separate from leadership, matters only at the HS level; time Time constraints important at elementary and middle school level.

4. Inclusion of the WC variables attenuates but does not eliminate the effects of school demographics, such as racial mix of students.

5. Quality of leadership is most predictive of planned moves within a district; school's racial mix most predictive of moves out of the district.



Conclusions 2 – One year actual departure rates



- Explanatory power of WC variables less than for planned departures: 15 percent elem; 13 percent middle; 10 percent high school
- Leadership emerges as the most important working condition, but with smaller coefficient than in the planned departure equations.

Conclusions 3 – student achievement



Two stage model: student level with school fixed effects:
school fixed effects as a function of school characteristics, including WC)

- WC as a group account for about 15-20 percent of the variation across schools in the second state.
- Quality of leadership is predictive but only for math.

Final comments

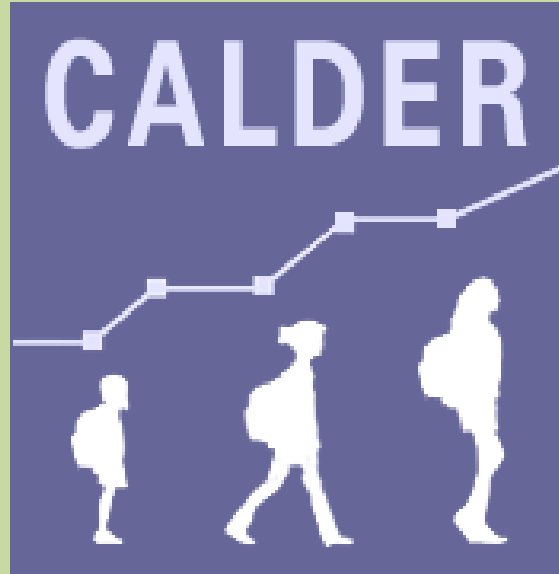


- Working conditions matter independent of student demographics of the school.
- But how much weight should we put on the planned departure models compared to the actual one-year departure rate models?
- Teachers' perceptions of school leadership matter, but what makes for good leadership?

We cannot say much, but some suggestive evidence.



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