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BUSINESS AND SOCIAL SCIENCES  
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# LEADERSHIP (AND MOTIVATION) IN DANISH HIGH SCHOOLS

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# INTRODUCTION

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- › Leadership is often claimed to be fundamentally important for public sector performance.
- › However, only few studies have linked leadership strategies with objective performance measures in the public sector.
- › To address this shortage of empirical studies, we study the relationship between leadership and objectively measured organizational performance – and a number of employee outcomes, including motivation, in Danish high schools.
- › We distinguish between two different strategies – transformational and transactional leadership styles



# WHAT DO WE NEED TO KNOW?

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## Research question

- > How are high school principals' leadership strategies related to teacher outcomes and organizational performance?

# LEADERSHIP STRATEGIES

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- › Classical distinctions between "hard" and "soft" management (e.g. Theory X and Y, Herzberg's two-factor theory):

Focus on either:

- a) employees as inherently lazy, who seek to avoid work if they can and therefore need to be closely supervised and incentivized.
  - b) employees as self-motivated by higher-order needs for growth, interest, and self-actualization.
- › Developed into a classical distinction between transformational and transactional leadership styles (Burns, 1978; Bass, 1985), which has been intensely studied in private sector studies.
  - › However, we have few public sector studies, especially from the education sector and with good performance data.

# TRANSACTIONAL LEADERSHIP

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- › Based on transactions of pecuniary and non-pecuniary character.
- › Making sure that the organization is running according to plan and that rules and regulations are followed.
- › Rewarding employees for doing what the leaders want them to do or sanctioning them if their work effort is unsatisfactory.
- › Many aspects of transactional leadership are fundamental and inherent to organizational functioning, e.g. pay systems, monitoring, control mechanisms.

## Our definition

- › *The use of contingent rewards and sanctions intended to facilitate that employees have a self-interest in achieving organizational goals*



# TRANSACTIONAL LEADERSHIP AND PERFORMANCE

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- › Transactional leadership approaches enable employees to get recognition for their work and make it possible for managers to detect when an employee is not productive.
- › Seek to align individual utility with organizational goals by relying on price and disciplining effects.
- › Thereby addresses challenges arising from delegation in complex organizations, such as coordination, control, and shirking.



# TRANSFORMATIONAL LEADERSHIP

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- › Transformational leaders try to transform (and motivate) their employees by raising their awareness of the importance of organizational values.
- › Seeks to lift employees' focus from lower- to higher-order needs.
- › Recent critique of transformational leadership theory points to both conceptual and methodological problems and suggest focus on certain aspects of transformational leadership – particularly vision communication.

## Our definition

- › “Behaviors intended to develop, share, and sustain a vision in order to facilitate that employees transcend their own self-interest and achieve organizational goals”





# TRANSFORMATIONAL LEADERSHIP AND PERFORMANCE

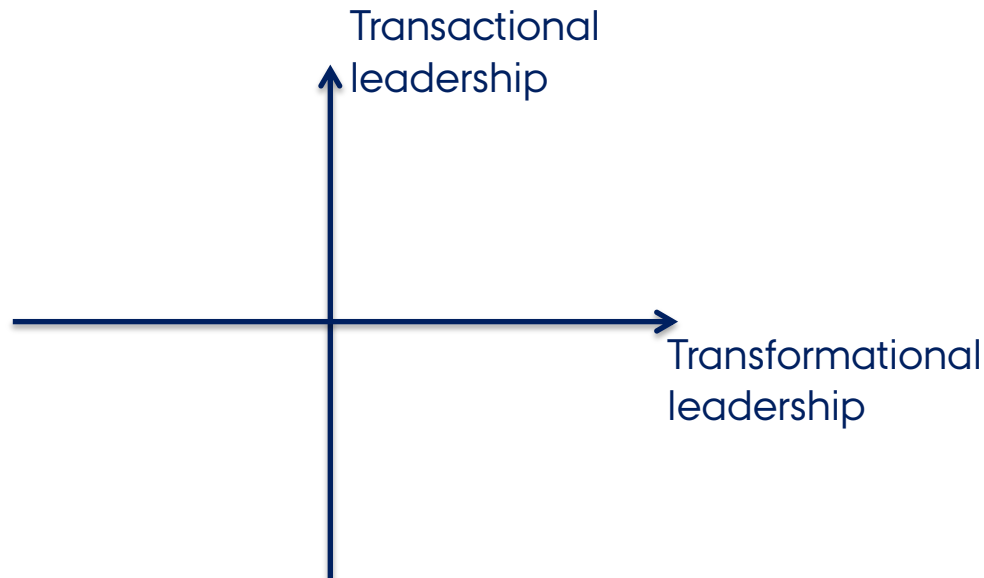
- › Is expected to clarify organizational goals and increase the congruence between organizational and employee values and thereby positively affect motivation.
- › Aims at affecting performance indirectly through the employees' motivation and values.
- › Involves motivating employees to transcend their immediate self-interest "for the sake of the team, the organization or the larger polity" – circumvents problems with shirking and transaction costs by aligning individual and organizational values and goals.





# LEADERSHIP STRATEGIES

- > Transactional and transformational leadership strategies were originally portrayed as contrasts, but they do not necessarily conflict.
- > We therefore see the two leadership strategies as different continua.





# EMPLOYEE OUTCOMES

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## > **Self-efficacy**

- > "...beliefs in one's capabilities to organize and execute courses of action required in managing prospective situations. Efficacy beliefs influence how people think, feel, motivate themselves, and act" (Bandura, 1997)

## > **Public service motivation**

- > "...an individual's orientation to delivering service to people with the purpose of doing good for others and society" (Hondeghem & Perry, 2009)

## > **Job satisfaction**

- > "...one's affective attachment to the job" (Tett & Meyer, 1993)



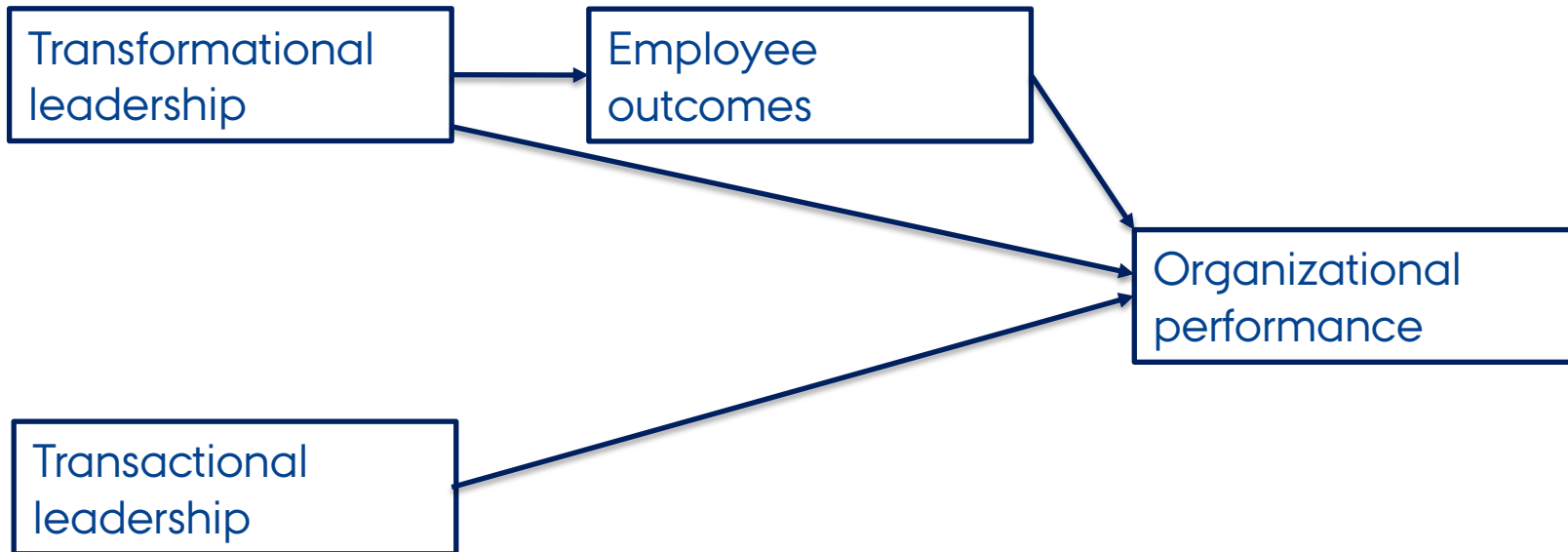
# ORGANIZATIONAL PERFORMANCE

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- > Performance is defined as achievement of the objectives formulated by elected politicians in public organizations and by owners in private organizations.
- > School effects – the difference between expected and observed grade levels after regressing a number of social demographic characteristics on grade levels (e.g. parents' education, income, ethnicity)
- > We focus on school effects on grade levels, because they offer a number of advantages:
  - > Externally graded
  - > Relatively objective
  - > Quantified



# THEORETICAL MODEL





# RESEARCH DESIGN

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## > Danish upper secondary schools

- > Stx: General high schools
- > Hhx: Business high schools
- > Htx: Technical high schools

> Linking data from 79 schools (64 stx, 12 hhx, and 3 htx) and principals with nearly 1,900 teachers.

- > Clear relation between employees and managers
- > Similar organizations producing more or less identical services
- > Self-governing organizations with formally strong leader positions
- > Reliable, quantitative performance data



# DATA SOURCES

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## > **Survey data:**

- > Email questionnaires sent in Nov/Dec 2012
  - > 5.740 teachers (response rate 38.8 percent)
  - > 581 leaders (response rate = 52.7 percent) (principals, middle managers etc.)
- > Tapping leadership styles and a number of teacher outcomes (job satisfaction, public service motivation, self efficacy etc.)

## > **Register data:**

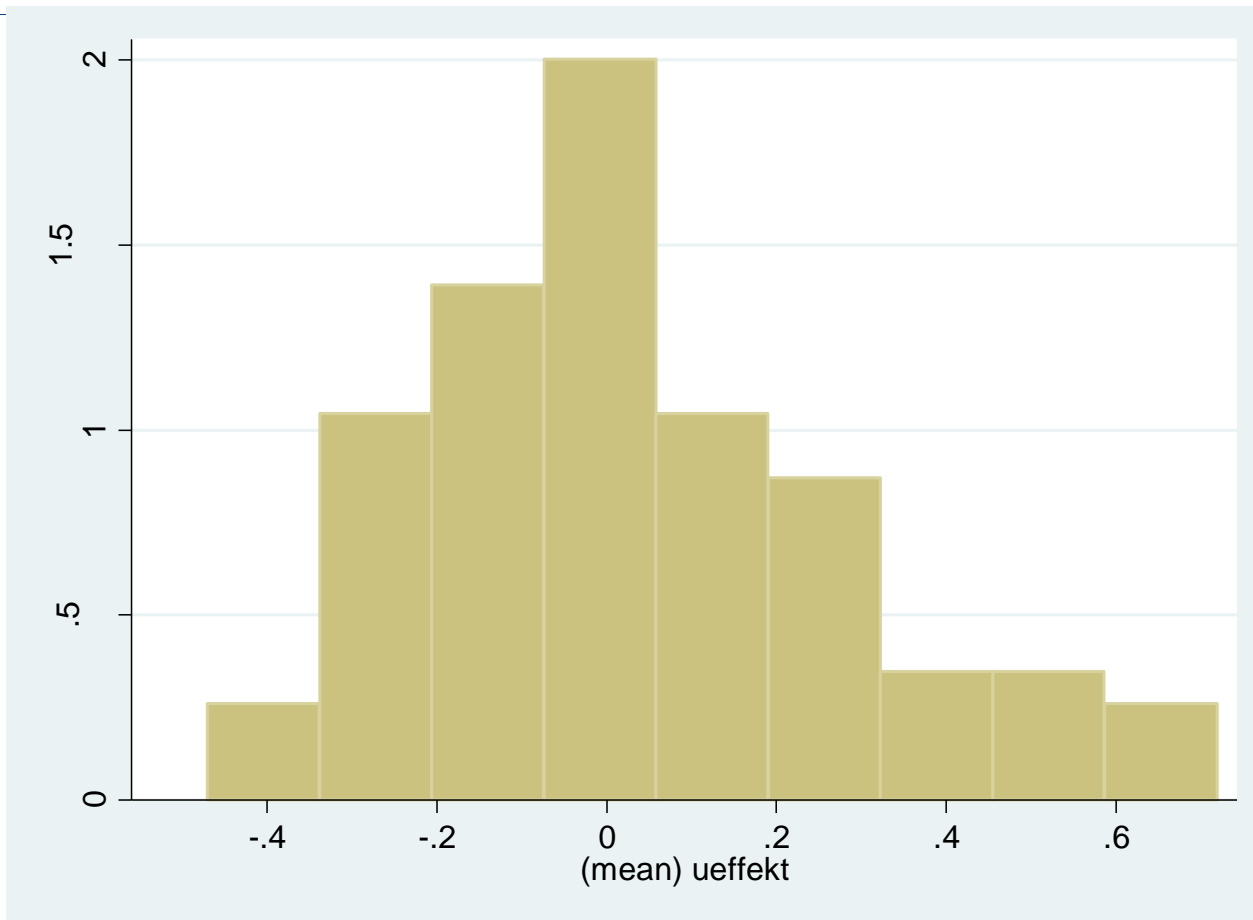
- > Performance – school effects (grade levels, social demographics) – but measured in 2010! (until now...)

## > **Qualitative data:**

- > 54 qualitative interviews with decision makers, principals, teachers, and union representatives as background material.



# DISTRIBUTION OF SCHOOL EFFECTS (n = 79)





# Survey measures

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## > Transformational leadership (Cronbach's alpha: 0.90/0.79)

As a leader I/My principal...

- > ... provide(s) a compelling vision of the organization's future.
- > ... articulate(s) and generate(s) enthusiasm for a shared vision and mission.
- > ... facilitate(s) the acceptance of shared goals for the school.
- > ... say(s) things that make employees proud to be part of the organization.

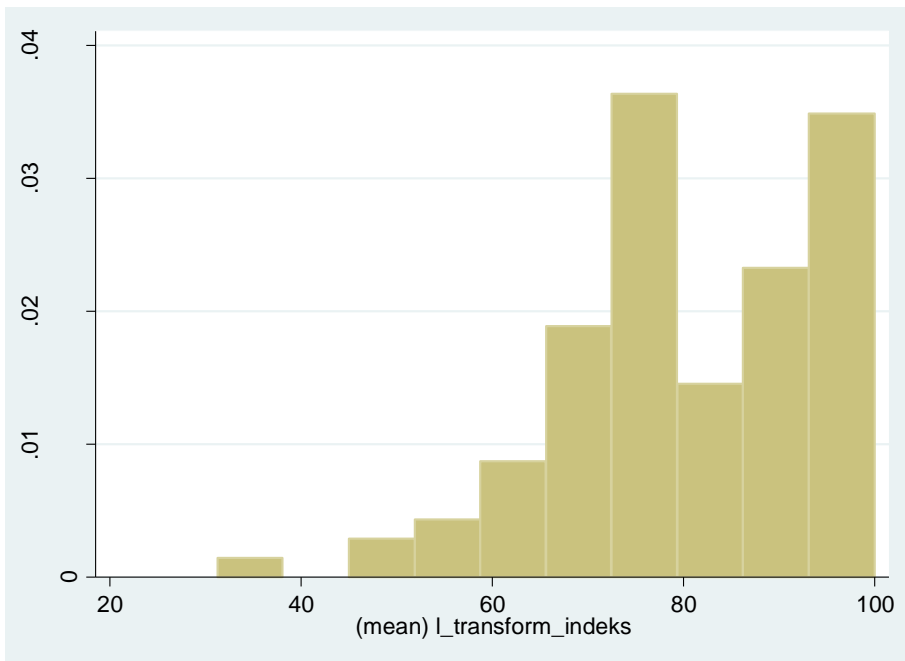
## > Management by exception (Cronbach's alpha: 0.61/0.63)

As a leader I/My principal

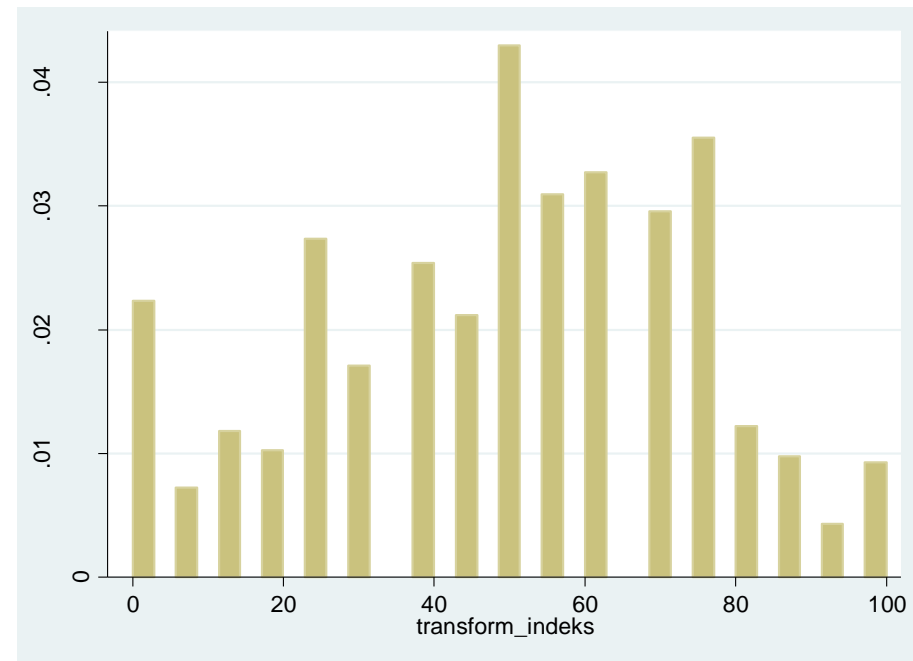
- > ...focus(es) attention on irregularities, mistakes, exceptions and deviations from what is expected of me.
- > ...dismiss(es) teachers, if they over a longer period do not perform satisfactory.



# DISTRIBUTIONS TRANSFORMATIONAL LEADERSHIP



Principals  
(Mean: 79.6, std: 13.2)



Teachers  
(Mean: 49.4, std: 25.1)

# Survey measures II

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- › Self efficacy (class room management) (5 point scale) (Cronbach's alpha: 0.80)
  - › I feel that I make a significant educational contribution
  - › I normally know how to get the students' attention
  - › I have success with the students in my class
  - › I can keep my class quiet, whenever necessary
  
- › Job satisfaction
  - › All in all, how satisfied are you with your current job on a scale from 0-10?
  
- › Public service motivation (5 point scale) (Cronbach's alpha: 0.75)
  - › Meaningful public service is very important to me.
  - › I am often reminded by daily events about how dependent we are on one another.
  - › • Making a difference in society means more to me than personal achievements.
  - › • I am prepared to make sacrifices for the good of society.
  - › • I am not afraid to go to bat for the rights of others even if it means I will be ridiculed.

# SELF-EFFICACY (0-100)

Table 1. Random effects panel regression of self efficacy (0-100) (n = 1850, groups = 88)

Transformational leadership (principal)	0.0176 (0.63)		
Age, years	-0.0570 (-1.43)	-0.0456 (-1.14)	-0.0563 (-1.39)
Gender (male = 1)	0.123 (0.21)	-0.0828 (-0.15)	0.0685 (0.12)
Work experience, current job	0.0352 (0.62)	0.0400 (0.74)	0.0453 (0.83)
Science area (dummy)	-0.610 (-0.76)	-0.912 (-1.19)	-0.697 (-0.89)
Part time (dummy)	-2.299** (-2.60)	-2.715** (-3.11)	-2.514** (-2.92)
Principals' age (years)	0.0511 (0.74)	0.0760 (1.07)	0.0742 (1.03)
Principal's gender (male = 1)	0.263 (0.27)	0.0493 (0.05)	0.0822 (0.09)
Principal tenure in current job (years)	-0.00181 (-0.03)	0.00161 (0.03)	-0.0106 (-0.17)
School size (# teachers)	-0.00703 (-0.73)	-0.00619 (-0.66)	-0.0103 (-1.07)
Stx (dummy)	0.0849 (0.11)	0.104 (0.13)	-0.0193 (-0.02)

R<sup>2</sup> between  
R<sup>2</sup> overall

0.0021  
0.0076

0.0002  
0.0181

0.0002  
0.0184

t statistics in parentheses, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001



# PUBLIC SERVICE MOTIVATION

Tr	Age, years	-0.0246 (-0.21)	-0.00940 (-0.08)	-0.0194 (-0.17)
M:	Gender (male = 1)	0.302 (0.32)	0.506 (0.54)	0.474 (0.49)
Tr	Work experience, current job	0.107 (1.08)	0.108 (1.11)	0.112 (1.13)
M:	Science area (dummy)	-3.528** (-3.24)	-3.825*** (-3.61)	-3.611*** (-3.33)
Tr	Part time (dummy)	0.395 (0.36)	0.186 (0.17)	0.207 (0.19)
M:	Principals' age (years)	0.0907 (1.04)	0.0955 (1.10)	0.102 (1.17)
	Principal's gender (male = 1)	0.869 (0.79)	0.464 (0.44)	0.511 (0.47)
	Principal tenure in current job (years)	-0.137 (-1.92)	-0.150* (-2.13)	-0.154* (-2.11)
	School size (# teachers)	0.000978 (0.10)	-0.000989 (-0.10)	-0.00156 (-0.15)
	Stx (dummy)	1.719 (1.54)	1.658 (1.48)	1.585 (1.41)

_cons	50.79*** (7.38)	46.30*** (6.84)	46.96*** (6.55)
$R^2$ within	0.0105	0.0203	0.0174
$R^2$ between	0.0590	0.0343	0.0416
$R^2$ overall	0.0133	0.0199	0.0181

t statistics in parentheses, \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# JOB SATISFACTION

Table 2. Random effects panel regression of job satisfaction (0-10) ( $n = 1850$  groups = 99)

Tr	Age, years	-0.00189 (-0.33)	-0.00220 (-0.44)	-0.000624 (-0.13)
M	Gender (male = 1)	-0.0274 (-0.31)	-0.0884 (-1.12)	-0.0475 (-0.62)
Tr	Work experience, current job	-0.00266 (-0.47)	0.00419 (0.89)	0.00353 (0.75)
M	Science area (dummy)	0.0456 (0.44)	-0.0315 (-0.36)	-0.0106 (-0.12)
Tr	Part time (dummy)	-0.0555 (-0.45)	-0.230* (-2.44)	-0.203* (-2.24)
M	Principial's age (years)	0.00933 (0.85)	0.0250** (3.16)	0.0246*** (3.43)
	Principal's gender (male = 1)	0.0568 (0.44)	-0.0854 (-0.87)	-0.0686 (-0.72)
	Principal tenure in current job (years)	-0.00246 (-0.30)	-0.00768 (-1.13)	-0.00816 (-1.16)
	School size (# teachers)	0.000819 (0.32)	-0.00216 (-1.24)	-0.00223 (-1.11)
	Stx (dummy)	0.0437 (0.30)	-0.00486 (-0.04)	-0.0197 (-0.18)

$N$			
$R^2$ within	0.0009	0.2523	0.2614
$R^2$ between	0.0263	0.3330	0.3526
$R^2$ overall	0.0031	0.2670	0.2747

$t$  statistics in parentheses, \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# TRANSFORMATIONAL LEADERSHIP AND SCHOOL OUTCOMES

Table 4. OLS regression of school effects on grade levels

		(0.02)	(0.00)	
Transf	Age, years	-0.0191 (-1.24)	-0.0101 (-0.65)	-0.0151 (-0.97)
Manag	Gender (male = 1)	-0.00275 (-0.01)	-0.0795 (-0.41)	-0.0361 (-0.19)
	Work experience, current job	0.0117 (0.94)	0.00662 (0.54)	0.00983 (0.81)
Transf	Principals' age (years)	-0.00970 (-1.85)	-0.0116* (-2.30)	-0.0117* (-2.35)
Manag	Principal's gender (male = 1)	0.0132 (0.19)	0.0887 (1.35)	0.0482 (0.72)
	Principal tenure in current job (years)	0.0130** (2.98)	0.0165*** (3.89)	0.0150*** (3.57)
	School size (# teachers)	-0.00204* (-2.08)	-0.00131 (-1.30)	-0.00169† (-1.69)
	Stx (dummy)	-0.0371 (-0.50)	-0.0349 (-0.49)	-0.0514 (-0.72)
		(1.25)	(1.33)	(1.16)
	N	79	75	75
	R <sup>2</sup>	0.283	0.269	0.322
	adj. R <sup>2</sup>	0.178	0.155	0.190

t statistics in parentheses †p < 0.1 \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001



# FINDINGS

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- › **Teachers' perceptions of transformational leadership** are positively related to a number of outcomes – self-efficacy, public service motivation, and job satisfaction.
- › **Teachers' perceptions of transactional leadership** are positively related to public service motivation, but negatively related to job satisfaction.
- › Teachers' perceptions of transformational and transactional leadership are positively related to **organizational performance**.
- › **Principals' intended leadership styles** are not related to any outcomes at all!

# DISCUSSION

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- › Apparently principals can make a difference – active leadership is better than passive leadership.
- › And both leadership strategies matter for organizational performance – an iron fist in a velvet glove?
- › Do transactional principals bring down shirking and increase coordination?
- › Do transformational principals share their vision and inspire teachers?
- › Are the effects of these strategies contingent on one another?
- › How can we make better studies of the effects of leadership?
- › Common source bias and causality?





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**THANK YOU!**

