School leadership and the performance of 15-year old students

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Could differences in school leadership explain differences in student performance as measured in the OECD PISA study?

- differences within countries
- differences between countries
- direct relationships with student achievement
- indirect relationships – via other school characteristics
- influence of the national context on manifestations of school leadership

These questions explored in a small-scale pilot study, involving 7 countries – Canada, Finland, Germany, Hungary, Italy, the Netherlands, Wales

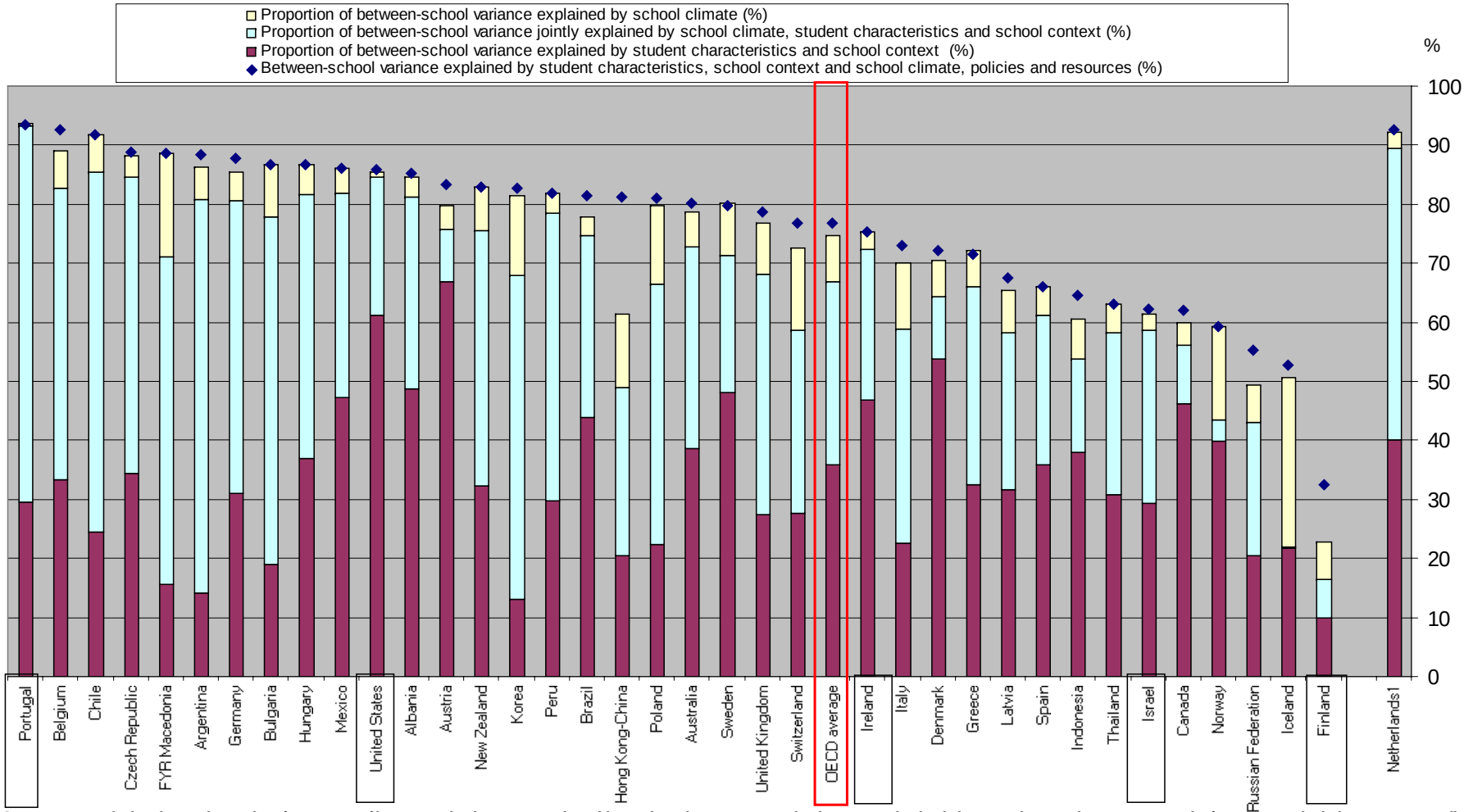
- consider various conceptual interpretations of school leadership
- make explicit the “indirect” ways in which school leadership might influence student performance
- relate to national contexts
- consider research methodological options for giving “school leadership” a place in PISA

Methodological constraints of “inserting” school leadership in PISA

- study not designed to answer questions about school effectiveness (no longitudinal data, no control for student aptitude)
- differences between countries in the structure of school systems and the kind of schools 15-year olds are in
- limited space for additional items in background questionnaires

Figure 3.3 **Differences between schools in student performance in reading literacy explained by school climate**

Proportion of between-school variance in student performance in reading literacy explained uniquely by school climate, jointly by school climate, student characteristics and school context and uniquely by student characteristics and school context



Note: Countries are ranked in descending order of proportion of between-school variance explained by student characteristics, school context and school climate, policies and resources. Results for countries shaded are not statistically significant.

1. Response rate too low to ensure comparability.

Source : OECD PISA database, 2000. Table 3.3.

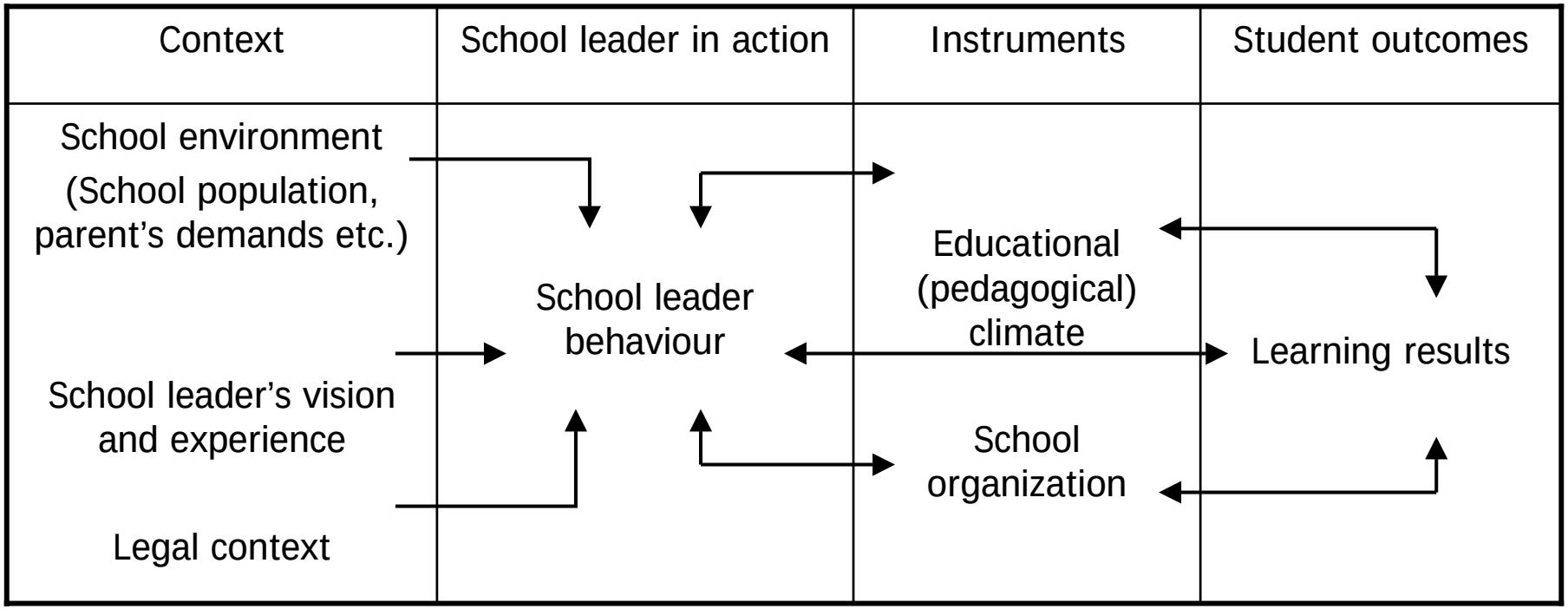
Review of the evidence from qualitative reviews, international studies and research syntheses

	Qualitative reviews	International analysis	Research synthesis
Resource input variables:			
Pupil-teacher ratio		**-0.03**	**0.02**
Teacher training		**0.00**	**-0.03**
Teacher experience			**0.04**
Teachers' salaries			**-0.07**
School organizational factors:			
Productive climate culture	**+**		
Achievement pressure for basic subjects	**+**	**0.02**	**0.14**
Educational leadership	**+**	**0.04**	**0.05**
Monitoring/evaluation	**+**	**0.00**	**0.15**
Cooperation/consensus	**+**	**-0.02**	**0.03**
Parental involvement	**+**	**0.08**	**0.13**
Staff development	**+**		
High expectations	**+**	**0.20**	
Orderly climate	**+**	**0.04**	**0.11**
Instructional conditions:			
Opportunity to learn	**+**	**0.15**	**0.09**
Time on task/homework	**+**	**0.00/-0.01(n.s.)**	**0.19/0.06**
Monitoring at classroom level	**+**	**-0.01(n.s.)**	**0.11 (n.s.)**
Aspects of structured teaching:			
-cooperative learning			**0.27**
-feedback			**0.48**
-reinforcement			**0.58**
Differentiation/adaptive instruction			**0.22**

Concepts of leadership at school

Instructional leadership	curriculum and instruction
Extended instructional leadership	school mission managing the curriculum providing learning climate
Transformational leadership	models organizational values develops shared mission provides intellectual stimulation builds consensus
Competing values model	productivity stability, continuity cohesion, commitment Adaptation
Integrated leadership	conditions supporting school improvement instructional leadership

Bossert, S.T., Dwyer, D.C., Rowan, R., & Lee, G.V. (1982). The instructional management role of the principal. *Educational Administration Quarterly*, *18* (3), 34-64.



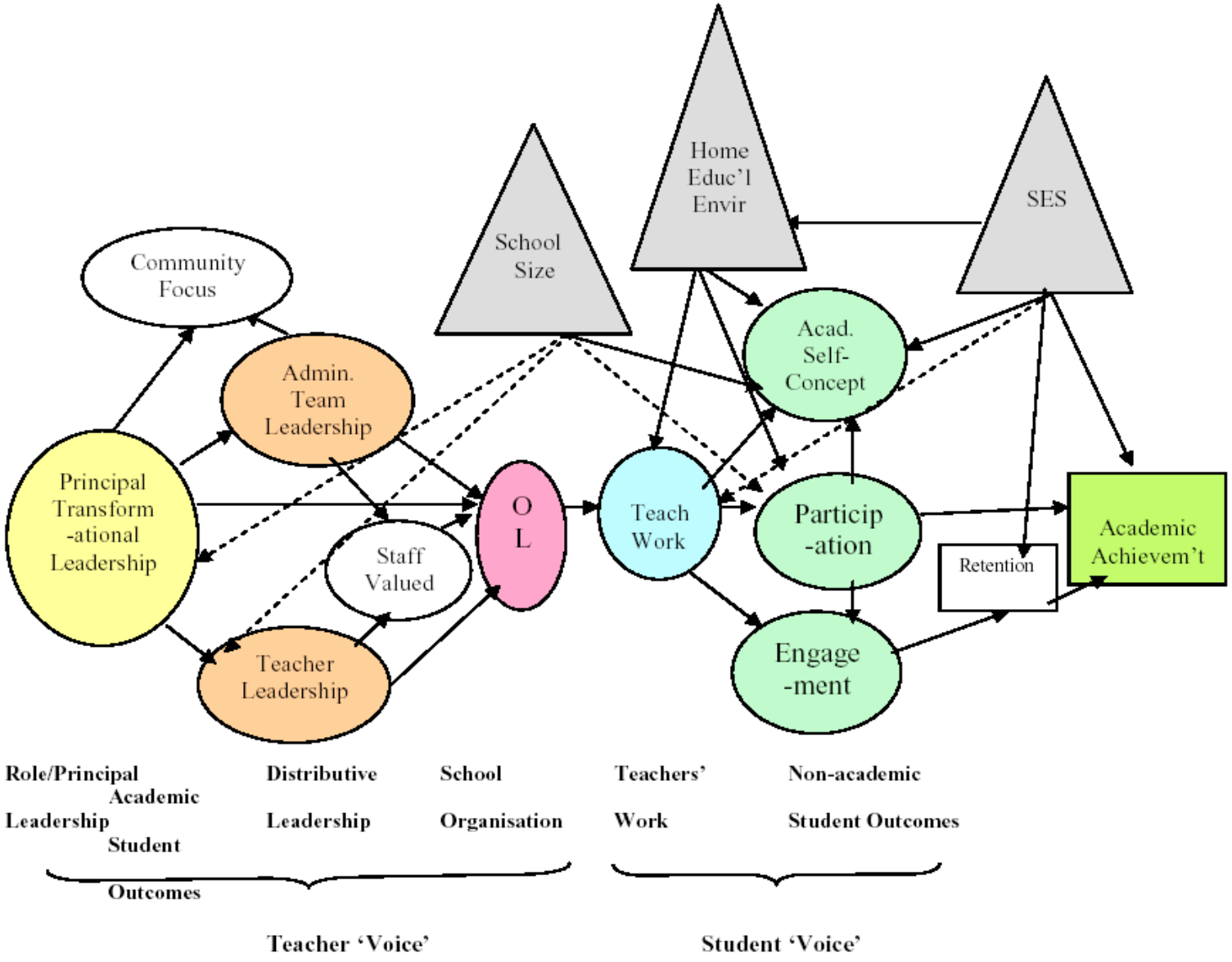


Figure 4: Summary for Section 4: Leadership for organisational learning and improved student outcomes (⇢ = negative relationship and → = positive relationship)

Source: Mulford (2003). *School leaders: changing roles and impact on teacher and school effectiveness*. Commissioned paper for OECD.

	External contacts Buffering	Enhanced teaching time
task-related →	Monitors curriculum and instruction Goal standard setting	Clear goals and standards Opportunity to learn Student monitoring & feedback Structured teaching Active teaching Active learning
person-related →	HRM & HRD Coaches teachers Recruits teachers Builds consensus	Cohesion among teachers Professionalization Teacher competency
	Sets values Creates climate	High expectations Disciplinary climate Supportive climate

Integral school leadership scale

How often do you carry out the following activities:

Discussing vision and mission	1	2	3	4	5	6
Appraising teachers	1	2	3	4	5	6
Taking over lessons from teachers	1	2	3	4	5	6
Rewarding teachers for special contributions	1	2	3	4	5	6

1 = never
2 = seldom
3 = regularly
4 = often
5 = very often
6 = not applicable

Psychometric properties of the scale

51 items

α = .93

high internal consistency

acceptable 1 factor solution

43 items

α = .95

after removing with r.it < .30

Average score of the scale on institutional leadership

Subscale (43 items); mean over the items [range=1-5]

NAP recoded to NEVER; respondents with missing removed

	N	Mean	Std. deviation	Std. error	Min	Max
Italy	6	4.31	0.37	0.15	3.67	4.72
Canada	5	4.27	0.39	0.17	3.98	4.91
Finland	6	4.03	0.49	0.20	3.56	4.93
UK England/ Wales	3	3.73	0.33	0.19	3.42	4.07
Germany	4	3.69	0.79	0.39	2.79	4.40
Hungary	5	3.57	0.65	0.29	2.81	4.47
Netherlands	4	3.46	0.42	0.21	3.00	3.95
Total	33	3.91	0.56	0.10	2.79	4.93

Average score of the scale on institutional leadership (continued)

One-way ANOVA for subscale:

	Sum of squares	df	Mean square	F	Sig.
Between groups	3.36	6	0.56	2.14	0.082
Within groups	6.80	26	0.26		
Total	10.16	32			

	Achievement	Curriculum / goal setting	Climate	Staff consensus	Staff Prof.	Staff monitoring and recruitment	Students monitoring	External orientation
Italy (8)	+	+	+	+	+	+	++	
Canada (12)	++	+	++	++	++	++	+	
Finland (7)	+	+	++			++		+
Wales (11)	+	++	++	+	+		++	++
Germany (9.5)	+	+/-	++	+	++		+	
Hungary (8)	+	++	++		++		+	
Netherlands (8)	+	*)	++	+	+			+

Italy: discrepancy between ideals and realization; many constraints

Canada: high instructional and transformational leadership

Finland: relatively strongest on personnel policy, recruitment, team work; also high on curriculum

Wales: strongest on learning from student achievement results

Germany: lowest on curriculum (most internally divided picture)

Hungary: goal setting and curriculum

Netherlands: manages at a distance

*) seen as role of middle management and teachers

	Means PISA reading literacy 2000	school autonomy in personnel management	Integrated leadership scale	Integrated leadership qualitative *)
Finland	546	15%	4.03	7
Canada	534	53%	4.27	12
Netherlands	532	79%	3.46	8
United Kingdom / Wales	523	82%	3.73	11
Italy	487	-	4.31	8
Germany	484	5%	3.69	9.5
Hungary	480	73%	3.57	8

*) number of times a specific aspect of instructional leadership was underlined in summary of semi-structured interviews

Main obstacles for influencing student achievement

Italy:	teacher-related problems, lack of steering capacity on recruitment and monitoring
Canada:	staff and staffing problems
Finland:	amount of paper work
Wales:	lack of time and funding
Germany:	no generally supported view on instructional leadership among 5 respondents
Hungary:	lack of time and funding
The Netherlands:	the autonomous position of teachers

Conclusions about measuring school leadership in PISA context

- Choose broader leadership concept (Quinn-framework)
- Measure ‘factual’ behaviour on the basis of a teacher survey
- Possibly measure intended behaviour on the basis of principal questionnaire
- Relate to characteristics of national school systems
- Relate school leadership to intermediary variables representing climate, staff consensus, staff stability and active teaching
- Relate indirectly “via” other school characteristics to student performance