TALIS

The Value of School Principals in TALIS 2024



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Foreword

Principals shape the daily experiences of teachers, students and families. They guide teaching, support staff, build trust with parents and create environments where students can thrive. Their leadership matters.

This report examines who valued principals are, where they work, what they do and how they can be supported. Its purpose is practical: to help education systems remove barriers and direct support where it is most needed.

Since 2008, the OECD Teaching and Learning International Survey (TALIS) has amplified teachers' and principals' voices, offering insights into life in classrooms and schools. In 2024, 280 000 teachers across 55 education systems shared their views on the leadership of 17 000 principals. Principals themselves described their practices, working conditions, professional development and school organisation.

The findings invite a closer look at who leads our schools. Younger principals are more likely to be perceived as strong instructional and relational leaders, yet principals tend to be older in urban and larger schools.

Leadership practices also merit attention. Principals valued by their teachers tend to use school- and classroom-based results in formal teacher appraisal, although this practice became less common between 2018 and 2024.

Working conditions offer clear opportunities for support. Between 2018 and 2024, the share of principals reporting material resource shortages fell and satisfaction with pay rose in many systems. However, excessive administrative work remains principals' most frequently reported source of stress.

By turning teachers' and principals' voices into evidence, TALIS helps education systems see where change is needed. This report points to opportunities to act. Supporting principals is not an end in itself: it is an investment in the schools they lead and the communities they serve.

Acknowledgements

The OECD Teaching and Learning International Survey (TALIS) is a collaboration between the countries, territories and organisations of the TALIS Governing Board, the OECD Secretariat, the European Commission and an international consortium led by the International Association for the Evaluation of Educational Achievement (IEA).

The development of this report was guided by Andreas Schleicher, Lucia Dellangelo and Yuri Belfali. Gabor Fülöp led the development of this report and authored Chapters 1 and 2. Rodolfo Ilizaliturri developed the statistical processing that underpins all analysis. Manuela Fitzpatrick authored Chapter 3. Nardos Tesfay authored Chapter 4. Qi Kuang authored the boxes highlighting education policies and the ones featuring results for primary and upper secondary education, as well as contributed analysis to Chapter 1. Qi Kuang and Leonard Najman provided assistance with statistical analyses and outputs. Jason McGrath contributed to the planning of this report. Emily Groves and Daiana Torres Lima supported report preparation, project co-ordination and communications. Ruochen Li led and supported the team and provided valuable feedback on everything.

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What is TALIS?

Introduction

The OECD Teaching and Learning International Survey (TALIS) is the largest international survey of teachers and principals. It was first introduced in 2008, then administered cyclically in 2013, 2018 and 2024. By collecting internationally comparable information about teachers, teaching and principals, TALIS ensures that the voices of teachers and principals are represented in education policy making.

What data does TALIS collect?

TALIS captures information about a variety of aspects related to teachers and teaching. For example, TALIS collects data about teacher demographics (e.g. age, gender) and their schools' characteristics (e.g. size, location). Teachers also provide information about their working hours, professional learning, contract modalities, professional and teaching practices, school climate, well-being, job satisfaction and career intentions.

Each cycle, TALIS introduces new survey questions to capture contemporarily relevant information. In 2024, TALIS asked teachers about how they adapt to increasingly diverse student populations, their use of technology and artificial intelligence, how they respond to students' social and emotional needs, and their practices and attitudes related to environmental sustainability.

More information about the data collected by TALIS can be found in the *TALIS 2024 Conceptual Framework* (OECD, 2025[1]).

How is TALIS implemented?

The TALIS Governing Board (TGB) leads TALIS. It is composed of a representative from each country and territory that participates in the survey. The TGB oversees the OECD Secretariat, which in turn manages a consortium of international actors that together develop and implement TALIS.

A diverse group of education experts, guided by the TGB, drafts the questions that appear in TALIS. Each question is translated into the national languages of every participating country and territory. The questions are tested twice to verify their translations and their functioning.

Each education system chooses to administer TALIS in up to three levels of education: primary (International Standard Classification of Education or ISCED level 1), lower secondary (ISCED level 2) and upper secondary (ISCED level 3). Within each level in each country or territory, a representative sample of roughly 4 000 teachers from 200 schools complete the survey along with their school principals.

Which countries and territories participate in TALIS?

The following table shows which countries and territories participated in TALIS 2024 and at which levels of education.

Table 1. Participating countries and territories in 2024

Country/territory	ISCED 1	ISCED 2	ISCED 3
Albania		x	
Alberta (Canada)		x	
Australia	x	x	
Austria		x	
Azerbaijan		x	
Bahrain		x	
Brazil	x	x	
Bulgaria		x	
Chile		x	
Colombia		x	
Costa Rica		x	
Croatia		x	x
Cyprus[1]		x	
Czechia		x	
Denmark		x	x
Estonia		x	
Finland		x	
Flemish Community (Belgium)	x	x	x
France	x	x	
French Community (Belgium)	x	x	
Hungary		x	
Iceland		x	
Israel		x	
Italy		x	
Japan	x	x	
Kazakhstan		x	
Korea	x	x	
Kosovo		x	
Latvia		x	
Lithuania		x	
Malta		x	
Montenegro		x	
Morocco	x	x	
Netherlands	x	x	
New Zealand	x	x	
North Macedonia		x	
Norway		x	
Poland		x	
Portugal		x	x
Romania		x	
Saudi Arabia	x	x	x
Serbia		x	
Shanghai (People's Republic of China)		x	

Country/territory	ISCED 1	ISCED 2	ISCED 3
Singapore		x	
Slovak Republic		x	
Slovenia	x	x	x
South Africa		x	
Spain	x	x	
Sweden		x	
Türkiye	x	x	x
United Arab Emirates	x	x	x
United States		x	
Uzbekistan		x	
Viet Nam		x	

1. Cyprus did not participate directly in TALIS 2024: its data collection and processing were managed exclusively by the international research consortium. Its data are reported in the result tables listed in Annex C.

The next table shows the number of countries and territories that have participated in TALIS in each cycle.

Table 2. Participation over time

Year	ISCED 1	ISCED 2	ISCED 3
2008	-	23	-
2013	6	37[1]	10
2018	13	47	10
2024	15	53	8

1. Four countries and territories, including Georgia, New Zealand, the Russian Federation and Shanghai (China), collected data in 2014.

Other survey modules within the TALIS programme

The TALIS Teacher Knowledge Survey (TKS) module, which is closely connected to the Core Survey at ISCED level 2 and designed to study teachers' general pedagogical knowledge, was introduced for the first time in the 2024 TALIS cycle.

The Starting Strong Teaching and Learning International Survey 2024 is an important international, large-scale survey in early childhood education and care (ECEC), focusing on early childhood staff and setting leaders. It was first implemented in 2018 and continues to cover staff and leaders at ISCED level 02 (pre-primary settings) as well as in settings for children under the age of three.

Reader's guide

Countries and territories

There are five territories participating in TALIS 2024. They are italicised in figures and referred to in the following manner:

- The province of Alberta, in Canada, is referred to as Alberta (Canada).
- The Flemish Community of Belgium is referred to as Flemish Comm. (Belgium) in tables and figures.
- The French Community of Belgium is referred to as French Comm. (Belgium) in tables and figures.
- Kosovo.
- The municipality of Shanghai, in the People's Republic of China, is referred to as Shanghai (China).

In tables, countries and territories are sorted in alphabetical order. There are two exceptions:

- The Flemish Community and the French Community of Belgium are indented, italicised and appear below Belgium, for ISCED level 2 teacher and principal data. The French Community of Belgium is indented, italicised and appears below Belgium, for ISCED level 1 teacher and principal data.
- Countries and territories that did not meet the TALIS technical standards with respect to participation rates are placed at the bottom of the tables by ISCED level.

Cyprus did not participate directly in TALIS 2024: its data collection and processing were managed exclusively by the international research consortium. Its data are reported in the result tables listed in Annex C. Two notes are added to the information on Cyprus:

- **Note by Türkiye**: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Türkiye recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Türkiye shall preserve its position concerning the "Cyprus issue".
- **Note by all the European Union Member States of the OECD and the European Union**: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Türkiye. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

One note is added to the information on the data for Israel:

- The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

One note is added with an asterisk to the first mention of Kosovo:

- This designation is without prejudice to positions on status, and is in line with United Nations Security Council Resolution 1244/99 and the Advisory Opinion of the International Court of Justice on Kosovo's declaration of independence.

Throughout the report, "education systems" is used as a shorthand for countries and territories participating in TALIS with available data.

High exclusion rates

For reasons of practicality, safety or economy (e.g. remote schools, unique demographic groups, school types, areas under civil unrest, natural catastrophe), the national survey population could be reduced by no more than 5% of the international target population of ISCED level 2 teachers. However, not all countries/territories could adhere to this rule:

- Israel: ultra-Orthodox schools (20.4% of teachers) and schools teaching in English or French (0.1% of teachers) excluded.
- Brazil: schools in Rio Grande do Sul (10.5%) excluded due to flooding.

In trend analyses, substantial differences in exclusion rates across TALIS cycles warrant caution:

- Brazil: increase in exclusion rate from 2% in 2018 to 11% in 2024.
- Saudi Arabia: decrease in exclusion rate from 17% in 2018 to 0% in 2024.

Low participation rates

Data for education systems that did not meet the TALIS technical standards with respect to participation rates are annotated (*) in tables, figures and the text:

- ISCED level 1 (teacher and principal data): the Flemish Community of Belgium, the Netherlands and New Zealand.
- ISCED level 2 (teacher and principal data): Alberta (Canada), the Netherlands, New Zealand and Norway.
- ISCED level 3 (principal data): the Flemish Community of Belgium.

Data for education systems that did not meet the TALIS technical standards in TALIS 2018 with respect to participation rates are annotated ([a]) in tables, figures and the text referring to TALIS 2018 results or change between TALIS 2018 and TALIS 2024:

- ISCED level 1 (teacher and principal data): Australia and the Netherlands.
- ISCED level 2 (principal data): Australia.

Caution is required when interpreting estimates for countries and territories that did not meet the TALIS technical standards with respect to participation rates due to higher risk of non-response bias. See Annex A for more detail.

Reporting conventions

Principals

The report uses "principals" as shorthand for the TALIS target population of lower secondary (ISCED level 2) principals. "Primary principals" refer to principals providing instruction in programmes at

ISCED level 1 (primary education). “Upper secondary principals” refer to principals providing instruction in programmes at ISCED level 3 (upper secondary education).

Results from the report focus on lower secondary (ISCED 2) principals. Results related to primary (ISCED 1) and upper secondary (ISCED 3) principals are presented in chapter-specific boxes covering multiple indicators for either primary (ISCED 1) or upper secondary (ISCED 3) principals.

This report refers to findings that are based on responses of principals as a “share of principals”, “percentage of principals”, etc. For example, 35% of principals in an education system are female.

Teachers

The report uses “teachers” as shorthand for the TALIS target population of lower secondary (ISCED level 2) teachers.

Self-reported data

TALIS results are based exclusively on self-reports from principals and teachers, therefore, represent their opinions, perceptions, beliefs and accounts of their activities. As with any self-reported data, this information is subjective and may, therefore, differ from data collected through other means (e.g. administrative data or video observations). The same is true of principals’ reports about school characteristics and practices, which may differ from descriptions provided by administrative data at a national or local government level.

While self-reported data allow respondents to share their beliefs and perceptions, there are also limitations when interpreting findings based on self-reported information.

- **Cultural response patterns**: Social and cultural backgrounds might systematically affect how individuals respond to questions (e.g. tending to respond in moderate or extreme ways) (van de Vijver and Leung, 1997[2]).
- **Social desirability bias**: Individuals respond in ways that they think are viewed favourably but do not represent their true beliefs or actions (Krumpal, 2011[3]).
- **Validity concerns**: Respondents might have to remember something that occurred a long time in the past, or their interpretation of a question is not consistent (e.g. what one person believes to be “critical thinking” could be different from another person’s opinion).

As a result, direct comparisons across countries using self-reported measures warrant caution as they can be misleading.

Classification of levels of education

The classification of levels of education is based on the International Standard Classification of Education (ISCED). ISCED is an instrument for compiling statistics on education internationally. The latest version, which was formally adopted in November 2011, distinguishes between nine levels of education:

- early childhood education (ISCED level 0)
- primary education (ISCED level 1)
- lower secondary education (ISCED level 2)
- upper secondary education (ISCED level 3)
- post-secondary non-tertiary education (ISCED level 4)
- short-cycle tertiary education (ISCED level 5)
- bachelor’s or equivalent level (ISCED level 6)

- master's or equivalent level (ISCED level 7)
- doctoral or equivalent level (ISCED level 8).

International averages

The OECD and TALIS averages correspond to the arithmetic mean of the respective country estimates. They are calculated for most indicators presented in this report. The European Union average, called "EU total", takes the European Union (EU) member states as a single entity, to which each country contributes in proportion of the estimated size of the target population. It can be used to assess how a country compares with the European Union as a whole.

The system-level estimates of the Flemish Community of Belgium and the French Community of Belgium are not included in the international averages, as these subnational entities already contribute to the international averages through Belgium as a whole.

The system-level estimates of countries that did not meet the TALIS technical standards with respect to participation rates are excluded from the international averages.

In the case of some countries, data may not be available for specific indicators, or specific categories may not apply. Readers should, therefore, keep in mind that the terms "OECD average", "TALIS average" and "EU total" refer to the countries with available data that are included in the respective averages. Each of these averages may not necessarily be consistent across all columns of a table.

Throughout the report, "on average" is used as a shorthand for on average across OECD countries and territories with available data.

The number of education systems included in an international average is indicated next to that average:

- **OECD average-27**: arithmetic average based on ISCED level 2 teacher or principal data across 27 OECD education systems with a data adjudication rating of "good", "fair" or "poor". The report refers to the average teacher as equivalent shorthand for the average teacher "across the 27 OECD education systems participating in TALIS".
- **OECD average-25**: arithmetic average based on ISCED level 2 teacher data across 25 OECD education systems with a data adjudication rating of "good", "fair" or "poor" that participated in both the TALIS 2018 and TALIS 2024 cycles.
- **OECD average-24**: arithmetic average based on ISCED level 2 principal data across 24 OECD education systems with a data adjudication rating of "good", "fair" or "poor" that participated in both the TALIS 2018 and TALIS 2024 cycles.
- **OECD PIAAC average-29**: arithmetic average based on data across the 29 OECD countries and territories that participated in the Survey of Adult Skills 2023.
- **TALIS average-49**: arithmetic average based on ISCED level 2 teacher or principal data across 49 TALIS 2024 education systems with a data adjudication rating of "good", "fair" or "poor".
- **EU total-22**: weighted average based on ISCED level 2 teacher or principal data across all EU member states that participate in TALIS with a data adjudication rating of "good", "fair" or "poor".
- **TALIS ISCED 1 average-12**: arithmetic average based on ISCED 1 teacher or principal data across 12 TALIS 2024 education systems with a data adjudication rating of "good", "fair" or "poor".
- **TALIS ISCED 3 average-8**: arithmetic average based on ISCED 3 teacher data across eight TALIS 2024 education systems with a data adjudication rating of "good," "fair," or "poor."
- **TALIS ISCED 3 average-7**: arithmetic average based on ISCED 3 principal data across seven TALIS 2024 education systems with a data adjudication rating of "good," "fair," or "poor."

Glossary

- **Younger principal**: Principal under age 40.
- **Older principal**: Principal at age 60 or above.
- **Less experienced (or novice) principal**: Principal with up to five years of experience as a principal.
- **More experienced principal**: Principal with more than ten years of experience as a principal.
- **Advantaged school**: School with 10% or fewer students from socio-economically disadvantaged homes (those that lack the basic necessities or advantages of life, such as adequate housing, nutrition or medical care).
- **Disadvantaged school**: School with more than 30% of students from socio-economically disadvantaged homes (those that lack the basic necessities or advantages of life, such as adequate housing, nutrition or medical care).
- **Smaller school**: School with fewer than 250 enrolled students.
- **Larger school**: School with 750 enrolled students or more.
- **Urban school**: School located in a community with a population of over 100 000 people.
- **Rural school**: School located in rural area or village (with a population of up to 3 000 people). To note, in some countries and territories, schools labelled as rural may actually be located in urbanised villages.
- **Publicly managed school**: School whose principal reported that it is managed by a public education authority, government agency, municipality or governing board appointed by government or elected by public franchise. To note, a publicly managed school may not necessarily be publicly funded.
- **Privately managed school**: School whose principal reported that it is managed by a non-governmental organisation (e.g. a church, trade union, business or other private institution). To note, a privately managed school may not necessarily be privately funded.
- **Students with special education needs**: Students for whom a special education need has been formally identified.

Abbreviations

Dif.	Difference
ICT	Information and communication technology
ISCED	International Standard Classification of Education
PPP	Purchasing power parity
S.D.	Standard deviation
S.E.	Standard error
%pt. dif.	Percentage point difference

Technical information

Causality

The design of TALIS does not allow to establish causal relationships between two variables. All regression analysis presented in this report should be interpreted as uncovering the presence (or absence) of statistical association, i.e. whether or not variations in one variable (for instance, principals' participation in professional development) is systematically associated to variation in another variable (for instance, job

satisfaction). It is not possible, however, to assess causality between two variables, i.e. whether making principals participate in professional development, all other things being kept equal, would cause a change in job satisfaction.

Data underlying the figures

Four symbols are used to denote non-reported estimates:

- **a**: The category does not apply to the country/territory concerned, data were not collected by the country/territory, or there was no observation in the sample.
- **c**: There are too few or no observations to provide reliable estimates and/or to ensure the confidentiality of respondents (i.e. there are fewer than 30 teachers or 10 schools/principals with valid data; and/or the item non-response rate [i.e. ratio of missing or invalid responses to the number of participants for whom the question was applicable] is above 50%).
- **m**: Data were collected but subsequently removed, or not reported on, for technical reasons.
- **w**: Data were withdrawn or were not collected at the request of the country/territory concerned.

Rounding figures

Because of rounding, some figures in tables may not add up exactly to the totals. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation.

All standard errors in this publication have been rounded to one, two or three decimal places. Where the value 0.0, 0.00 or 0.000 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.05, 0.005 or 0.0005, respectively.

Focusing on statistically significant differences

This volume only comments on statistically significant differences or changes. These are denoted by using bold font in tables and filled shapes in figures. See Annex B for further information.

Further technical documentation

For further information on TALIS documentation, instruments and methodology, see the *TALIS 2024 Technical Report* (OECD, forthcoming[4]) and *TALIS 2024 User Guide* (OECD, forthcoming[5]).

This report uses the OECD StatLinks service. All tables and charts are assigned a URL leading to a corresponding Excel™ workbook containing the underlying data. These URLs are stable and will remain unchanged over time. In addition, readers of the e-books will be able to click directly on these links and the workbook will open in a separate window if their Internet browser is open and running.

Content of this report

Research consistently demonstrates that school leadership is closely associated with the quality of teaching and learning, largely through its effects on school organisation, culture, and teacher practice (Day, Gu and Sammons, 2016[6]; Day et al., 2010[7]; Hallinger, 2011[8]; Leithwood, Harris and Hopkins, 2020[9]; Leithwood et al., 2004[10]). Thus, strengthening the recruitment, development, and retention of valued principals represents a key policy consideration for education systems seeking to improve school performance and equity.

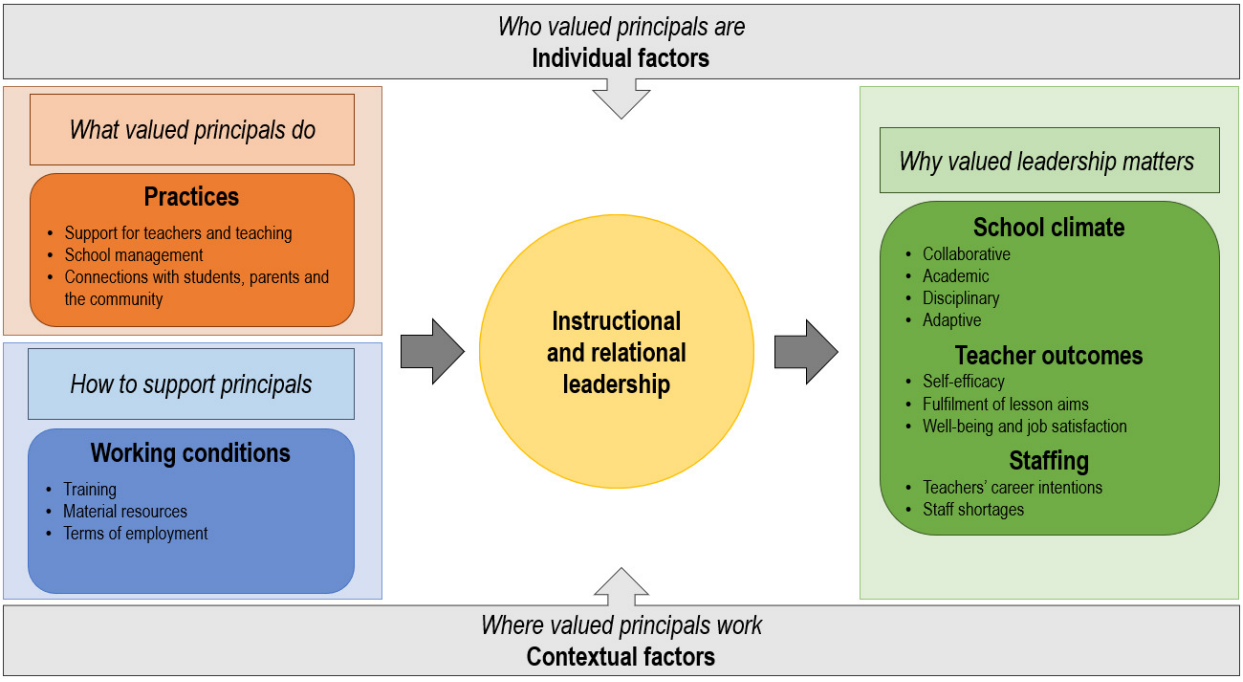
The central theme of the report is: *supportive systems for valued principals*. Understanding who valued principals are, where they work, what they do, and the conditions under which they operate can help education systems remove barriers and target support where it is most needed.

Analytical framework

The report examines the profiles, practices, and working conditions associated with *valued leadership* – and, by extension, valued principals. Valued leadership is defined as the school-level average of teachers' views about their principals' instructional and relational leadership. The conceptualisation of valued leadership is guided by the *TALIS 2024 Conceptual Framework* (OECD, 2025[1]), which identifies instructional and relational leadership as key domains of school leadership. See Chapter 1 for a more detailed description of instructional and relational leadership and how they are measured in TALIS.

The analytical framework is based on the notion that valued leadership has a positive effect on the teaching and learning environment. The report explores its links with school climate, teachers' professional outcomes, and staff stability. To promote valued leadership, education systems need to identify the working conditions and practices most closely associated with it. Given that leadership may differ under similar conditions due to personal and contextual factors, understanding who valued principals are and where they work is also important. Figure 1 presents the underlying conceptual model.

Figure 1. Conceptual model underpinning this report



Why valued leadership matters

The report explores the relationship between instructional and relational leadership (hereafter, *valued leadership*) and school climate, teachers' professional outcomes and staffing (Figure 1). The school climate dimensions that are examined include collaborative, academic, disciplinary and adaptive climates. Teachers' professional outcomes are captured by teacher self-efficacy, teachers' fulfilment of their lesson aims, teacher well-being and job satisfaction. Drawing on teachers' career intentions and principals' views of staff shortages affecting instructional quality, the report also explores the link between valued leadership and staffing.

Practices

To examine what valued principals do, the report focuses on practices identified in the *TALIS 2024 Conceptual Framework* (OECD, 2025[1]) and supported by TALIS 2024 data. As shown on Figure 1, these include support for teachers and teaching, school management, and connections with students, parents and the community. Practice groupings follow high level leadership activities that emphasise long term organisational outcomes.

Working conditions

Valued leadership depends not only on individual effort but also on working conditions. Education systems can foster valued leadership by improving these conditions. Guided by the job demands-resources (JD-R) model (Bakker and Demerouti, 2017[11]; Bakker and Demerouti, 2007[12]), the report examines three key resources as levers for improvement: training, material resources and terms of employment (Figure 1).

Individual and contextual factors

Leadership may vary under similar conditions due to individual and contextual factors (Figure 1). These are considered in the analysis of the report, both as breakdown variables and controls in regression models.

Individual factors include principals' demographics (i.e. age, gender) and, where relevant, years of experience. Contextual factors include school size, governance type, students' socio-economic background and, where relevant, school location and student composition, such as language background and special education needs.

Implications of smaller school-level samples

School-level sample sizes are considerably smaller than teacher-level samples. This has several implications for the analyses:

- **Statistical power is lower**. Smaller samples reduce the likelihood of detecting statistically significant differences across TALIS cycles, sub-populations, and relationships between variables. Analyses are therefore likely to capture only the strongest patterns.
- **Analyses rely mainly on continuous outcomes**. Analysis of valued principals as a binary outcome produce less stable estimates, particularly when the outcome is uncommon. Analyses therefore rely mainly on linear regression, using the school-level average of teachers' ratings of principals' instructional and relational leadership as the outcome.
- **Regression models are kept parsimonious**. Including too many predictors relative to the sample size increases the risk of overfitting, whereby models capture random variation rather than underlying relationships.

Outline

This report is organised in the following way:

- **Chapter 1** explores the relationship between instructional and relational leadership (hereafter, *valued leadership*), and school climate, teachers' professional outcomes and staffing.
- **Chapter 2** analyses valued principals' individual characteristics, the school contexts in which they work, and their well-being and job satisfaction.
- **Chapter 3** examines how valued principals support teachers and teaching, how they lead their schools, and how they connect with students, parents and the community.

- **Chapter 4** looks at principals' working conditions, and their relationship with valued leadership and job satisfaction.
- **Annex A** contains information about the TALIS target populations, the TALIS samples and a summary of the adjudication outcomes for each sample, along with cautionary notes about the interpretations of results, whenever necessary.
- **Annex B** contains information about complex variables derived from the teacher and principal questionnaires analysed in the volume, and statistical methods used to analyse TALIS data.
- **Annex C** contains the full list of online result tables.

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Executive summary

Research consistently shows that school leadership matters for teaching and learning. The OECD Teaching and Learning International Survey (TALIS) 2024, the world's largest survey of teachers and principals, reinforces this evidence. Valued leadership (i.e. teachers' positive assessments of their principals' instructional and relational leadership) is associated with a positive school climate, better professional outcomes for teachers and fewer reported teacher shortages. The results from TALIS 2024 also shed light on who valued principals are, where they work, what they do and the conditions in which they lead.

Principals who thrive are more valued

Principals who feel supported and satisfied may be better placed to lead and build strong relationships with teachers. Teachers' appreciation may, in turn, strengthen principals' job satisfaction and sense of effectiveness. In most education systems, more than 90% of principals are satisfied with their jobs overall, although younger and less experienced principals tend to be less satisfied.

Working conditions offer clear opportunities for support. Job satisfaction is higher when principals are satisfied with their salaries and other employment terms, and face fewer material resource constraints.

There are encouraging signs. Between 2018 and 2024, the share of principals reporting shortages fell for most resource areas examined, with the largest decline for digital resources and tools. In Viet Nam, the share reporting shortages or inadequacy of digital tools fell by 51 percentage points, reflecting sustained national investment in digital infrastructure for education. Satisfaction with pay also rose in many education systems; in Lithuania, the share of principals satisfied with their salary rose by 55 percentage points, following substantial improvements in principals' pay and working conditions. Yet administrative burdens need attention: excessive administrative work remains principals' most frequently reported source of stress, cited by around two-thirds of principals on average across the OECD.

Younger principals are highly rated but need support

Younger principals are more likely to be viewed as strong leaders. Yet those under 40 and newcomers to the role report higher work-related stress and are less satisfied with their pay and other employment terms. These principals are also less likely to lead urban and larger schools but are overrepresented in schools serving higher shares of students with special education needs.

Encouraging earlier entry into leadership therefore needs to go hand in hand with support. Austria promotes earlier entry through transparent, competency-based recruitment, structured leadership training and programmes that prepare future principals. It is the only participating education system where principals' average age fell, from 55 to 53 years, between 2018 and 2024.

Leadership can improve through training

Support should not stop at appointment. TALIS 2024 links stronger instructional leadership to participation in two forms of continuous professional learning: self-initiated in-person learning activities and online training in digital tools for teaching.

Participation varies substantially. For digital training, it ranges from below 30% in France and Sweden to above 90% in Kazakhstan, Shanghai (China) and Viet Nam. For self-initiated learning, it ranges from 50% in Türkiye to 98% in Iceland, Poland and Shanghai (China). These differences warrant attention to how systems encourage and support principals' continued learning.

Practices associated with valued leadership are not always adopted

Valued principals tend to prioritise curriculum and instruction, including classroom observation and teacher feedback. They support teacher leadership, use school- and classroom-based results in formal teacher appraisal, follow appraisal with development or training plans, and involve students, parents and the local community in decisions and school activities.

Progress in these areas is uneven. Between 2018 and 2024, the share of principals reporting opportunities for students to participate in school decisions rose by 6 percentage points on average, with the largest increase in Japan, at 37 percentage points. Japan strengthened its national curriculum, providing structured opportunities for students to participate in deliberation, collective decision making and the organisation of school life. Classroom observation and teacher feedback based on observations increased by 7 and 4 percentage points on average, respectively. Latvia and Spain, which have specific policies to strengthen classroom observation and feedback, were among the education systems with the largest increases. By contrast, the use of school- and classroom-based results in formal teacher appraisal fell from 70% to 61% on average.

Infographic 1. The Value of School Principals infographic

The Value of School Principals

OECD
BETTER POLICIES FOR BETTER LIVES

Teaching and Learning International Survey (TALIS) 2024

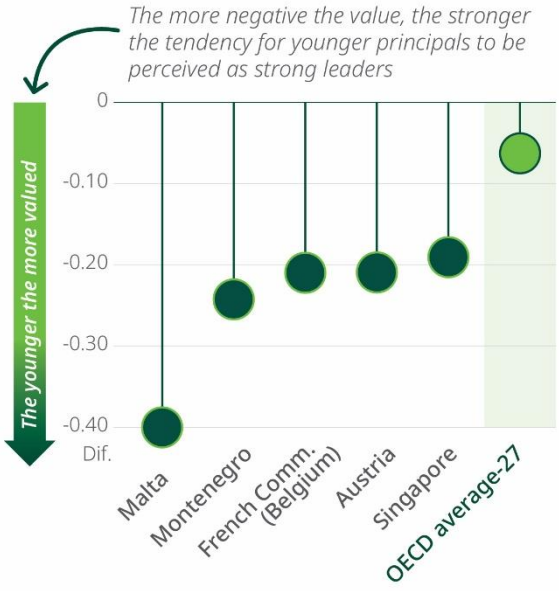
Over 90% of principals are satisfied with their jobs...



Feeling satisfied and supported at work may help principals lead more effectively and build **stronger relationships with teachers**.

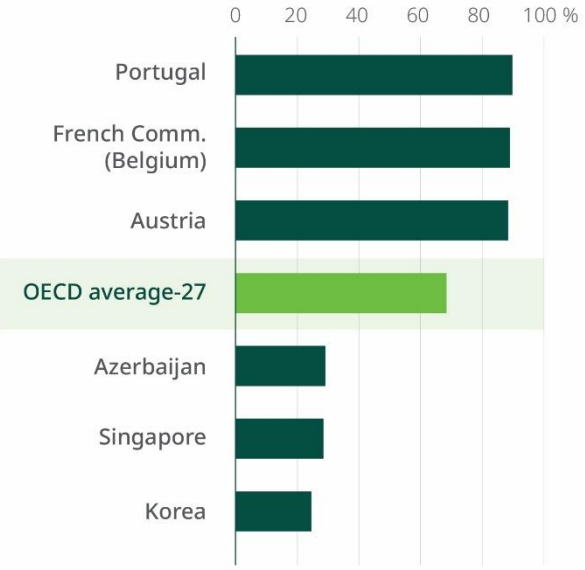
Teachers are more likely to view younger principals as strong leaders...

Relationship between principals' instructional leadership and their age



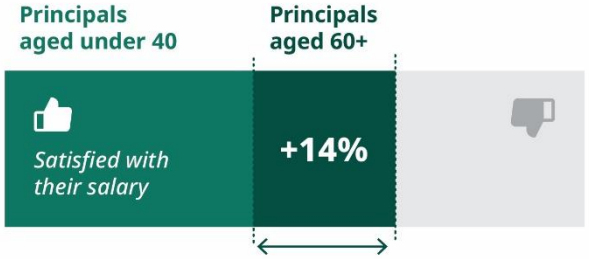
...but more than 2 in 3 say admin is a source of stress

Share of principals reporting stress from too much administrative work



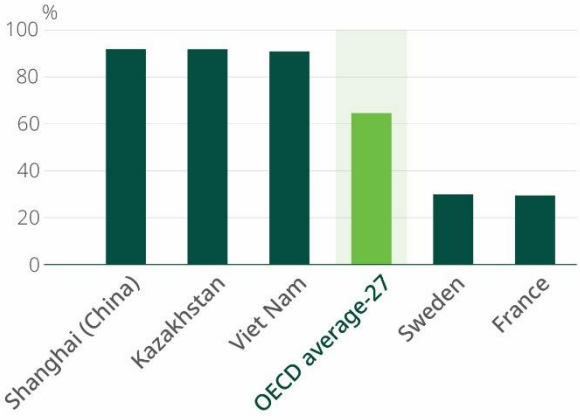
...but younger principals are less satisfied with pay and conditions





How much digital training do principals receive?

Participation in digital training ranges from below 30% to over 90% across education systems.

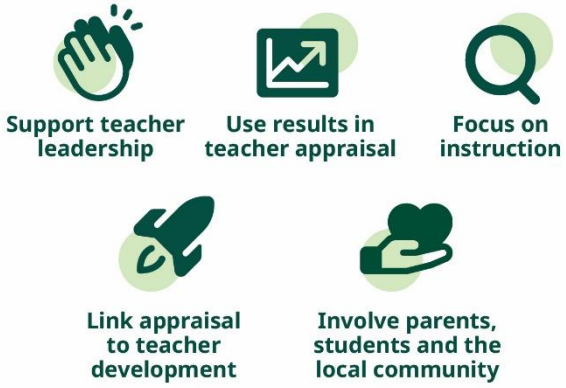


Fewer schools report shortages of digital resources and tools

Between 2018 and 2024, the share of principals reporting a shortage of digital resources and tools that hindered teaching fell.

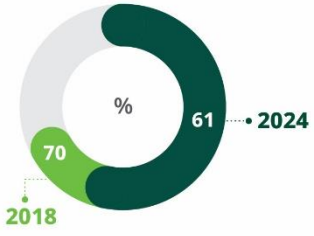


What do valued principals do?



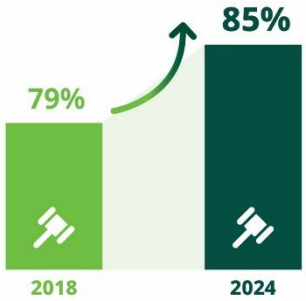
Use of results in teacher appraisal is declining

Between 2018 and 2024, the use of school- and classroom-based results in formal teacher appraisal fell from **70%** to **61%** across the OECD.





Student involvement in school decision-making is increasing



Share of principals across the OECD who agree or strongly agree that **students have opportunities to participate in school decisions**.

1 Why valued leadership matters

This chapter examines how much principals' instructional and relational leadership varies between education systems, schools and teachers. It then explores how these leadership practices relate to school climate, teachers' professional outcomes and staffing.

Highlights

- **How teachers perceive their principals' leadership varies more within education systems than between them.** Over 90% of the total variation in instructional and relational leadership is attributable to differences within systems. **Instructional leadership** involves principals encouraging their teachers to improve their skills, collaborate with each other and take responsibility for students' learning outcomes. **Relational leadership** refers to principals fostering their school community's shared vision, inclusive decision making and positive professional relationships.
- **The widest disparities in instructional and relational leadership appear in South Africa, Chile, United States, Alberta (Canada)* and Norway*.**
- **Valued leadership (i.e. teachers' viewing their principals' instructional and relational leadership as positive) is linked to a school climate that supports teaching and learning.** In most education systems, the more teachers value their principals' leadership the better the schools' collaborative, academic, disciplinary and adaptive climates.
- **Valued leadership is associated with better professional outcomes for teachers.** In nearly all education systems, teachers who value their principals' leadership greatly also report higher self-efficacy, fulfilment of lesson aims, well-being and job satisfaction.
- **In schools with more valued leadership, teachers are less likely to want to leave the profession. There are also fewer reported teacher shortages, on average.**

* For countries highlighted with an asterisk (*), estimates should be interpreted with caution due to a higher risk of non-response bias. See the Reader's Guide and Annex A for more detail.

Introduction

Principals shape the daily experiences of teachers, students and families. Research consistently demonstrates that school leadership is closely associated with the quality of teaching and learning, largely through its effects on school organisation, culture and teacher practice (Day et al., 2010[1]; Hallinger, 2011[2]; Leithwood, Harris and Hopkins, 2020[3]). Principals are key to setting the vision, establishing culture, building capacity and aligning efforts across stakeholders (Leithwood, Harris and Hopkins, 2020[3]). They are central to improving teaching quality and cultivating a positive school climate (Darling-Hammond et al., 2026[4]; Price, 2020[5]; Price, 2012[6]). All this supports student learning.

This chapter begins by defining what valued leadership is and then examines the extent to which the two dimensions, instructional and relational leadership, vary between education systems, schools and teachers. The chapter also explores the relationship between valued leadership and school climates, teachers' professional outcomes and staffing.

The relationships presented in this chapter are based on regression analyses, which examine how two variables are related while taking other relevant factors into account that may influence the relationship. Depending on the level of analysis, the regression models control for teacher- or principal-level characteristics (i.e. gender and age), as well as school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).[1] The relationships identified and discussed meet the following conditions:

- coefficients for OECD and TALIS averages are statistically significant;[2]

- at least two-thirds of participating education systems with available data have coefficients with the same sign as OECD and TALIS averages, regardless of statistical significance.

To note, the design of TALIS does not allow to establish causal relationships. All regression analysis presented in this report should be interpreted as uncovering the presence (or absence) of statistical association, i.e. whether or not variations in one variable is systematically associated to variation in another variable. It is not possible, however, to assess causality between two variables, i.e. whether or not variations in one variable, all other things being kept equal, would cause a change in another variable.

Valued leadership

This report defines valued leadership based on teachers' views about their principals' instructional and relational leadership. The conceptualisation of valued leadership is guided by the Teaching and Learning International Survey (TALIS) 2024 Conceptual Framework (OECD, 2025[7]), which identifies instructional and relational leadership as key domains of school leadership. To note:

- TALIS does not survey teachers about their views on other important aspects of principals' leadership, such as managerial leadership.
- The instructional and relational leadership scales, which are based on teachers' perceptions, may partly reflect principals' popularity rather than leadership quality. Principals who make difficult but necessary decisions may consequently be viewed less favourably, even when their leadership is highly effective.
- The instructional and relational leadership scales are strongly and positively correlated, ranging from a linear correlation coefficient (r) of .62 in the Netherlands* to .91 in Shanghai (China) (Table 1.1). Teachers who rate their principals highly on one dimension also tend to rate them highly on the other.

Instructional leadership

Instructional leadership is a central school leadership approach associated with student achievement (Day, Gu and Sammons, 2016[8]; Hallinger et al., 2015[9]; Robinson, Lloyd and Rowe, 2008[10]; Sebastian and Allensworth, 2012[11]). It focuses on high-quality instruction, curriculum improvement, professional learning communities and the use of data (OECD, 2025[7]).

The TALIS 2024 instructional leadership scale summarises teachers' responses to three four-point agreement items ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their school principal. The scale is constructed using latent variable modelling[3] and is based on the following items:

- The principal encourages co-operation among teachers to develop new teaching practices
- The principal ensures that teachers take responsibility for improving their teaching skills
- The principal ensures that teachers feel responsible for their students' learning outcomes

On average across OECD countries and territories with available data (hereafter, "on average"), over 80% of teachers "agree" or "strongly agree" with each of these three statements that capture principals' engagement in instructional leadership (Table 1.2). The lowest levels of agreement — ranging from 62% to 79%, depending on the statement and system — are observed in Austria, Finland, France and Japan.

Relational leadership

Relational leadership refers to the social processes (Hallinger and Truong, 2016[12]), and connections and interdependencies (Uhl-Bien, 2006[13]) within a school that help it flourish. This focus is an important way to respond to a changing and complex world. It involves having a strong focus on care and well-being

(Smit, 2018[14]), and creating ownership and a sense of belonging and identity (Gómez-Leal et al., 2022[15]). Strong relational leadership features include clear vision (Mincu, 2022[16]), collaboration skills (Mincu, 2022[16]), communication skills (Gómez-Leal et al., 2022[15]), fostering cohesion across the school community (Gómez-Leal et al., 2022[15]; Mincu, 2022[16]) and shared decision making (Liu and Watson, 2023[17]).

The TALIS 2024 relational leadership scale summarises teachers' responses to four four-point agreement items ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their school principal. The scale is constructed using latent variable modelling and is based on the following items:

- The principal has a clear vision for this school
- The principal encourages all staff to have a say on important decisions
- The principal has good professional relationships with staff
- The principal has good professional relationships with parents or guardians

Most teachers across education systems participating in TALIS with available data (hereafter, "education systems") have a positive view about their principals' relational leadership (Table 1.3). On average, depending on the statement, 78% to 91% of teachers "agree" or "strongly agree" that their principals demonstrate good relational leadership practices. Principals are rated lowest on encouraging all staff to have a say on important decisions (OECD average: 78%); in Australia, Costa Rica, the Flemish and French Communities of Belgium, Japan, the Netherlands* and New Zealand*, this ranges from 61% and 70%.

Variation in valued leadership between education systems, schools and teachers

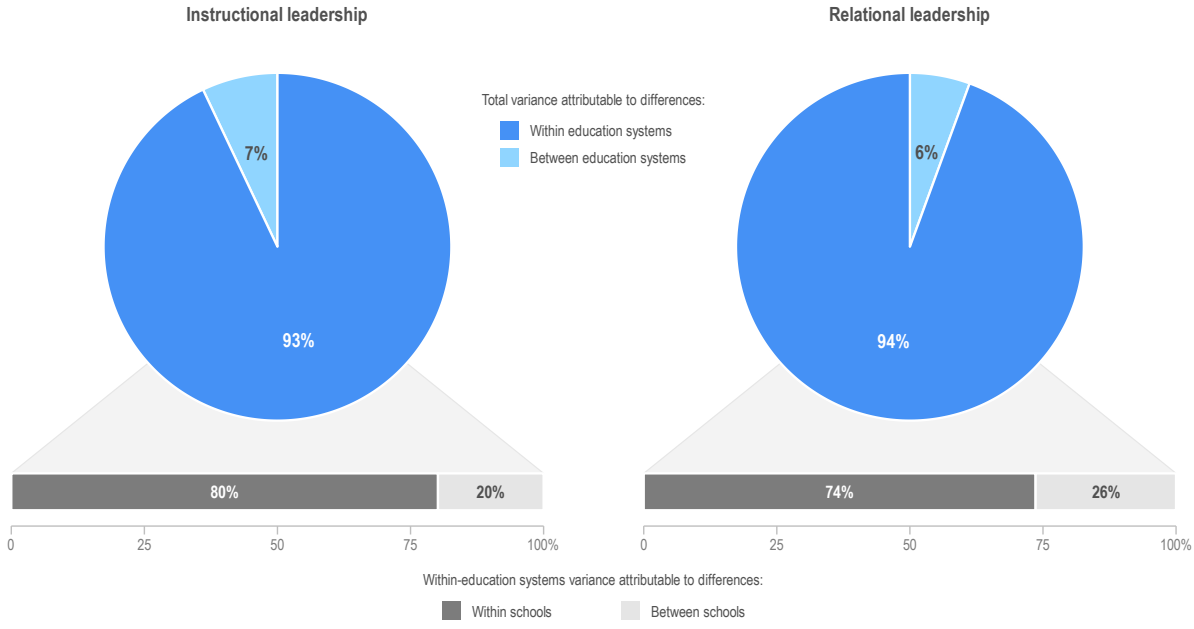
Identifying where perceived differences in leadership lie can help education authorities target policy more effectively. When the greatest variation in principals' perceived leadership is between education systems, it suggests that system-level factors, such as leadership policies, governance structures, accountability arrangements, or professional expectations for school leaders, strongly shape teachers' perceptions of leadership. By contrast, when variation is mainly within education systems, it is sub-system governance and policies, differences across schools, local contexts, and teachers' perceptions of their principals' personal qualities and experiences that are likely the main drivers. Principals' activities, interactions and decisions in schools both shape and reflect their leadership approaches and priorities. These, in turn, influence how teachers perceive them (Darling-Hammond et al., 2022[18]).

National policies may influence both between- and within-system variation by shaping leadership expectations, governance arrangements and support structures, as well as by promoting or constraining the equitable distribution of resources and leadership capacity across schools.

Perceptions of instructional and relational leadership vary more within education systems than between them. Across education systems, over 90% of the total variation in instructional (93%) and relational (94%) leadership is attributable to differences within systems (Figure 1.1).

Figure 1.1. Variation in instructional and relational leadership between and within education systems and schools

Based on lower secondary principals' instructional and relational leadership scales (education systems participating in TALIS)



Source: OECD, *TALIS 2024 Database*, Tables 1.4 and 1.5.

Breaking down within-country variation in perceived leadership can inform policymakers on whether to focus their support for principals on certain types of schools. When there is substantial between-school variation in perceived leadership, this suggests that differences in school characteristics are important for policy to consider. In contrast, when between-school variation is negligible, this indicates that perception of principals' leadership depends on the specific experiences and contexts of individual teachers.

Across education systems, 20% of the variation in instructional leadership and 26% of the variation in relational leadership is found between schools. These values are around twice as large compared to other TALIS indicators – such as teacher self-efficacy and school climate regarding bullying (Tables 1.6 and 1.7). In some education systems, including Alberta (Canada)*, Chile, Norway*, South Africa and the United States, the between-school variance in both instructional and relational leadership is over 25% (Tables 1.8 and 1.9). These results suggest that teachers' perceptions of their principals' leadership might be particularly sensitive to differences across schools and leaders.

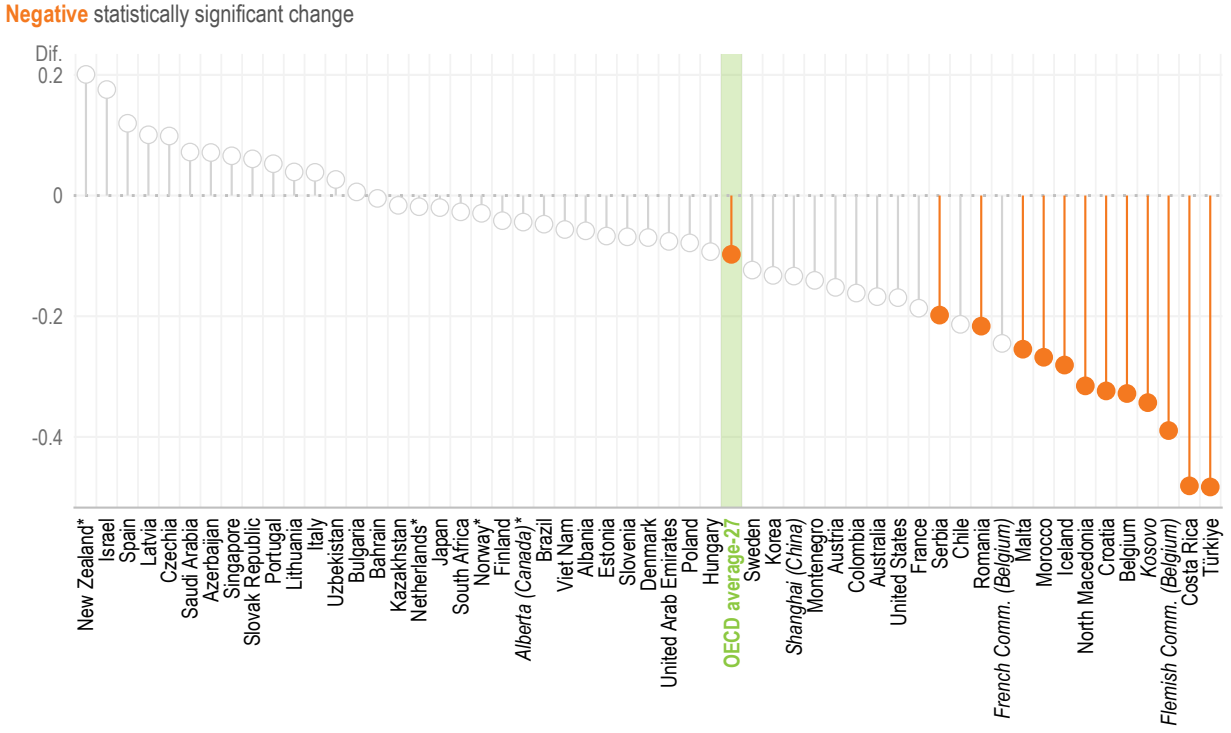
Nevertheless, the considerable within-school variations observed across education systems suggest that leadership is also not experienced uniformly within schools. Teacher-level factors play a role in how they perceive principals' leadership. Experienced teachers tend to rate their principals' instructional and relational leadership lower, on average (Figure 1.2 and Table 1.12). One possible explanation is that they have had greater exposure to their principals' leadership, value autonomy and distributed leadership more, and may therefore evaluate leadership more critically than novice teachers (Sanchez, Paul and Thornton, 2022[19]).

Other teacher-level factors include teachers' satisfaction with the teaching profession and their sense of value and policy influence. In almost all education systems, both factors are positively associated with teachers' views of principals' leadership (Tables 1.13 and 1.14). They reflect differences in how included, recognised and empowered teachers from the same school feel, leading them to perceive their principal's

leadership differently. Conversely, teachers working with more valued principals may, themselves, feel more satisfied with the profession and more influential.

Figure 1.2. Relationship between principals' instructional leadership and teachers' years of experience

Change in the scale of lower secondary principals' instructional leadership[1] associated with a one-standard-deviation increase in teachers' years of teaching experience[2,3]



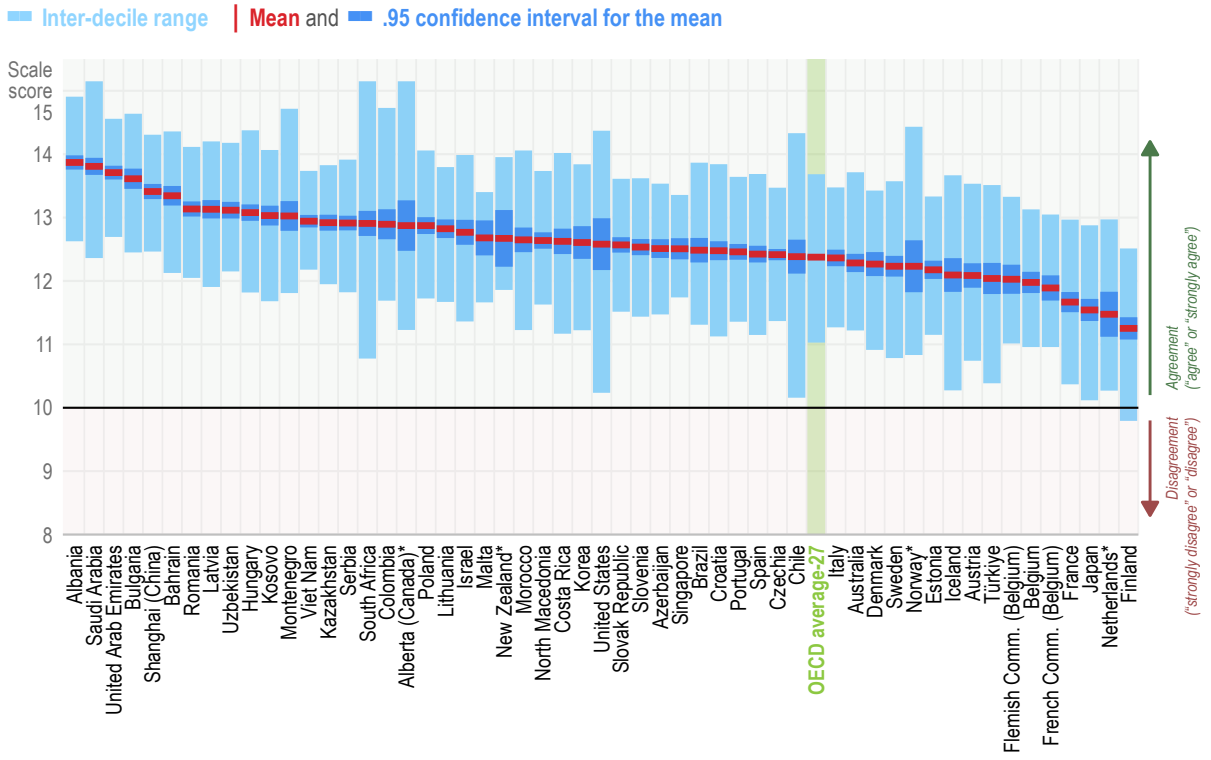
Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Years of teaching experience standardised at the international level.
3. Results are based on teacher-level linear regression analysis controlling for teacher characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 1.12.

Between-school variation can also be examined through the distribution of school-level averages of principals' instructional and relational leadership scales (Figure 1.3 and Figure 1.4). The inter-decile range measures the gap between the top 10% and bottom 10% of schools, showing how widely results vary within education systems. This measure also shows that the widest disparities in principals' instructional and relational leadership (over 3.5 index points, equivalent to almost two standard deviations, between the top and bottom deciles) appear in South Africa, Chile, United States, Alberta (Canada)* and Norway*. Large disparities in perceived leadership between schools may reflect several factors, including differences in school context and resources, variation in principals' leadership styles and working conditions, and broader education policies and governance arrangements. Moreover, systems might support their

principals inequitably (Clotfelter et al., 2007[20]), and teachers and principals may be allocated to schools inequitably. For example, according to Grissom, Bartanen and Mitani (2019[21]), schools that have greater shares of disadvantaged and low-achieving students tend to have less qualified and less effective principals.

Figure 1.3. Principals' instructional leadership

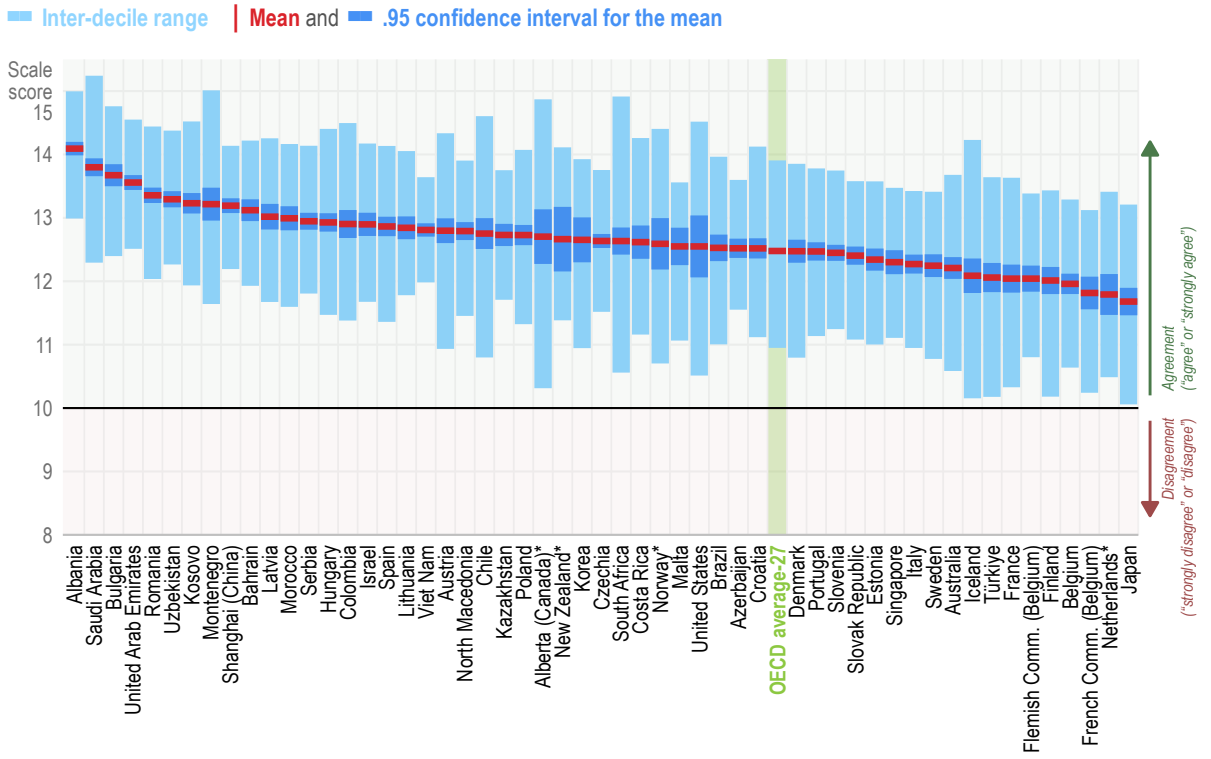
School-level average of lower secondary principals' instructional leadership scale



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order according to the mean scale score.
Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. Scale scores above 10 indicate positive evaluations of instructional leadership (i.e. agreement), scores below 10 indicate negative evaluations (i.e. disagreement), while scores of exactly 10 indicate indifference (i.e. neither agreement nor disagreement). For more information on the scales, see Annex B.
The inter-decile range measures the gap between the top 10% and bottom 10% of schools, showing how widely perceived instructional leadership vary within education systems.
A 95% confidence interval shows the range within which the true value is likely to lie, taking into account the uncertainty associated with survey estimates. It shows how precise an estimate is: narrower intervals indicate greater precision, while wider intervals indicate greater uncertainty.
Source: OECD, *TALIS 2024 Database*, Table 1.15.

Figure 1.4. Principals' relational leadership

School-level average of lower secondary principals' relational leadership scale



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order according to the mean scale score.
Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. Scale scores above 10 indicate positive evaluations of relational leadership (i.e. agreement), scores below 10 indicate negative evaluations (i.e. disagreement), while scores of exactly 10 indicate indifference (i.e. neither agreement nor disagreement). For more information on the scales, see Annex B.
The inter-decile range measures the gap between the top 10% and bottom 10% of schools, showing how widely perceived relational leadership vary within education systems.
A 95% confidence interval shows the range within which the true value is likely to lie, taking into account the uncertainty associated with survey estimates. It shows how precise an estimate is: narrower intervals indicate greater precision, while wider intervals indicate greater uncertainty.
Source: OECD, *TALIS 2024 Database*, Table 1.16.

Figure 1.3 and Figure 1.4 also present school-level average scores for instructional and relational leadership scales. Scores above 10 indicate positive evaluations (agreement), scores below 10 indicate negative evaluations (disagreement), and scores of 10 indicate indifference (neither agreement nor disagreement).[4] Although teachers rate their principals' instructional and relational leadership positively in all education systems, the highest average ratings are observed in Albania, Saudi Arabia, Bulgaria and the United Arab Emirates.

School climate

A large body of research highlights that a positive school climate is associated with more effective teaching and learning (OECD, 2025[7]). Studies also show that strong leadership can foster a positive school climate

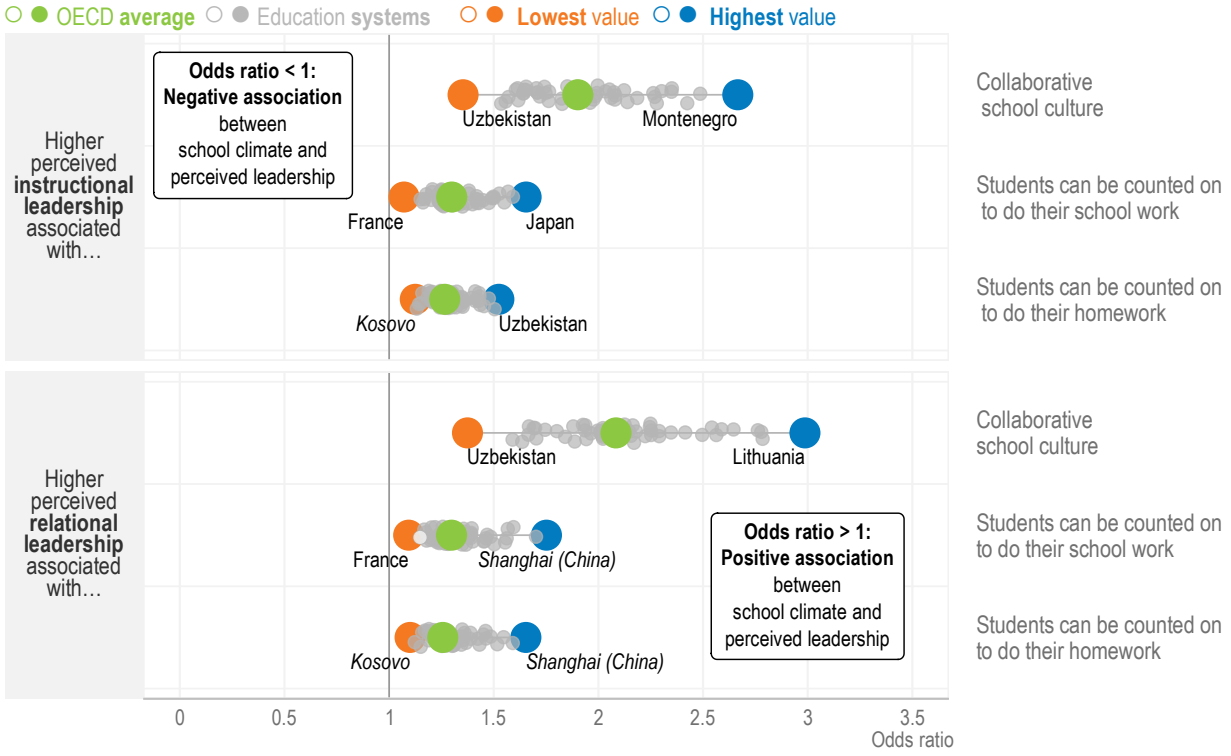
(Leithwood, Harris and Hopkins, 2020[3]; Price and Moolenaar, 2015[22]; Price, 2012[6]), which, in turn, improves teachers' workplace conditions and teacher job satisfaction.

Increased collaboration

Teachers' relationships with students, colleagues, principals, parents and the wider community shape how effective teachers are. The quality of school communities is central to teachers' experiences and outcomes (Muckenthaler et al., 2020[23]; Kelly, Merry and Gonzalez, 2018[24]). TALIS 2024 results show that teachers who report good professional relationships with principals, parents, guardians, students and other teachers have higher well-being and job satisfaction. These relationships are stronger predictors of job satisfaction than salary satisfaction (OECD, 2025[25]).

Figure 1.5. Relationship between collaborative and academic climates, and principals' leadership

Change in the likelihood of lower secondary teachers' "agree[ing]" or "strongly agree[ing]" with the following statements[1] associated with a one-unit increase in the scales of lower secondary principals' instructional and relational leadership[2,3]



Note: Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 1 indicate a positive association, while those below 1 reflect a negative relationship.
1. Binary variables: the reference category refers to "strongly disagree" and "disagree".
2. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
3. Results are based on separate teacher-level binary logistic regression analyses controlling for teacher characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Tables 1.17, 1.18 and 1.19.

TALIS asks teachers how much they agree (“strongly disagree”; “disagree”; “agree”; “strongly agree”) that their school has a collaborative culture characterised by mutual support. Regression analysis indicates a positive link between valued leadership and a collaborative climate across education systems (Figure 1.5). In other words, when comparing teachers with similar individual and school characteristics, those who have a more positive view of their principals are, on average, more likely to report a collaborative school culture. As with all regression analyses in this report, this comparison identifies an association between the two factors, but does not establish that one factor causes the other. These findings are aligned with TALIS 2013 results, which also showed a positive relationship between instructional leadership and teacher collaboration (OECD, 2016[26]).

Greater engagement with school and homework

A positive academic climate, characterised by engaged students, is linked to strong teaching and learning outcomes (Wang and Degol, 2016[27]). Supportive school environments that motivate students to learn is correlated with increased student engagement and performance (OECD, 2024[28]).

TALIS measures students' engagement in learning by asking teachers about their agreement (“strongly disagree”; “disagree”; “agree”; “strongly agree”) with the following statements regarding their school: “Students can be counted on to do their school work”; “Students can be counted on to do their homework”.

In all education systems, teachers who have a positive view about their principals’ instructional and relational leadership are more likely to report that students can be counted on to do their school work and homework (Figure 1.5). However, teachers working in schools where students are more engaged may also be more likely to view their principals positively because they work in a more favourable school context. Yet, this finding reflects how principals can create a school climate with clear expectations, supportive relationships and student accountability. This encourages students to complete their school work and homework. Sebastian and Allensworth (2012[11]) finds that principal leadership influences instruction quality and student achievement primarily through its impact on a school learning climate characterised by greater academic aspirations.

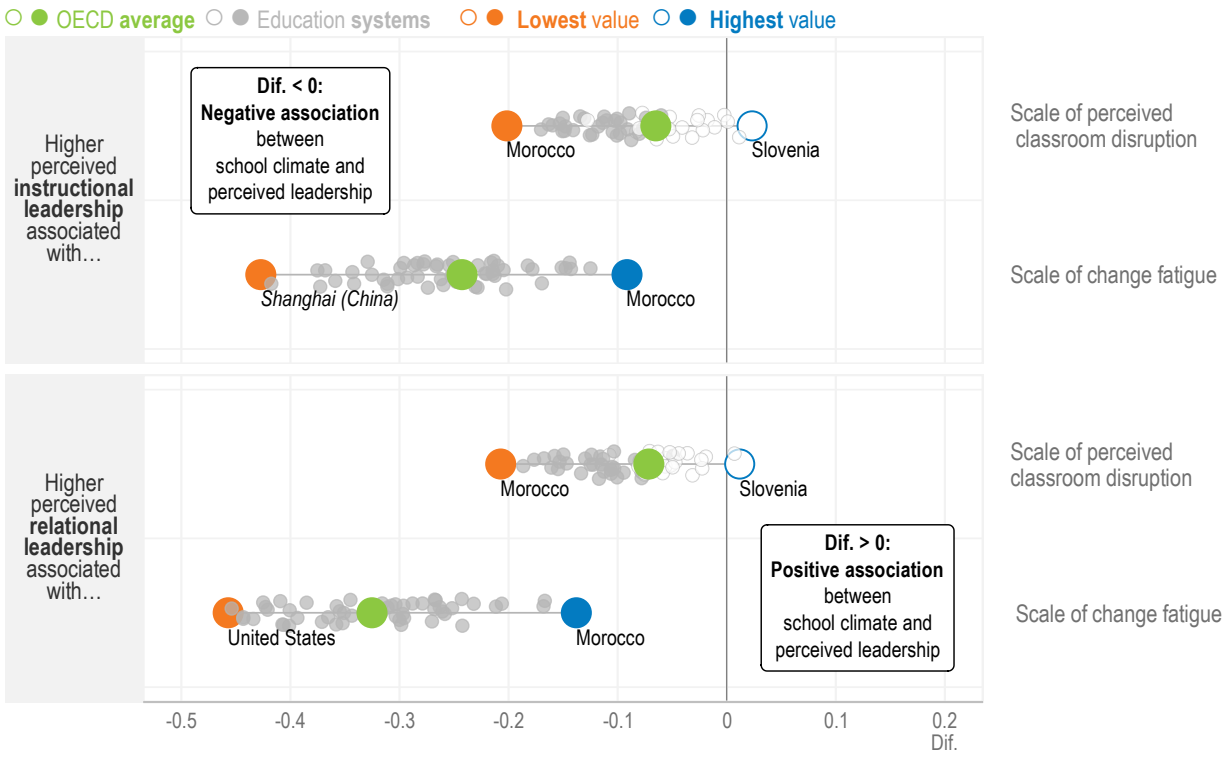
Fewer classroom disruptions

Ensuring a positive disciplinary climate is key to instructional quality (OECD, 2025[7]). The less time spent on classroom management, the more time there is for actual teaching and learning. TALIS captures disciplinary climate by the scale of perceived classroom disruption. This is based on teacher responses ("not at all"; "to some extent"; "quite a bit"; "a lot") about the extent to which the following situations can occur: “There is much disruptive noise and disorder”; “I have to wait a long time for students to quiet down”; “Many students don’t start working for a long time after the lesson begins”; “I lose quite a lot of time because students interrupt the lesson”.

Regression analysis indicates a negative association between valued leadership and disruptive classroom climate (Figure 1.6). In many education systems, the more highly teachers rate their principals’ instructional and relational leadership, the fewer classroom disciplinary issues there are. This may reflect that teachers in schools with a more positive disciplinary climate view their principals more favourably, or that principals can foster a positive and orderly school climate through clear expectations and supportive relationships. Research shows that schools with stronger leaders are more likely to be safe and orderly, even when serving similar student populations (Sebastian and Allensworth, 2012[11]).

Figure 1.6. Relationship between disciplinary and adaptive climates, and principals' leadership

Change in the following scales[1] associated with a one-unit increase in the scales of lower secondary principals' instructional and relational leadership[1,2]



Note: Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Results are based on separate teacher-level linear regression analyses controlling for teacher characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Tables 1.20 and 1.21.

More receptive to change

Educational reforms respond to societal, economic and technological change, but poorly managed change leads to unsuccessful reforms and increased teacher stress. TALIS 2024 results suggest that a strong adaptive climate characterised by well-managed change processes may be as important as resource investment in reducing teacher stress (OECD, 2025[25]). Although reforms and changing requirements are often initiated by national, regional or local authorities, principals play a central role in supporting change at the school level.

TALIS measures adaptive climate via the scale of change fatigue, which is constructed using teacher responses ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their attitudes and feelings towards changes in their school, regardless of whether these were initiated by the school or externally ("I am tired of all the changes in this school"; "We are asked to change too many things in this school"; "It feels like we are always being asked to change something around here"; "I am asked to implement change initiatives without the necessary resources").

Regression analysis highlights a negative relationship between valued leadership and teachers' change fatigue (Figure 1.6). Teachers who value their principals' instructional and relational leadership tend to be less disillusioned by change at school, although teachers who are less disillusioned by change may also be more likely to view their principals' leadership positively. These relationships are observed in all education systems. This finding indicates that principals who provide clear direction and maintain constructive relationships can help teachers feel more supported, receptive and resilient to change. This suggests that the quality of support matters more than the breadth or pace of the changes teachers are expected to adapt to.

Teachers' professional outcomes

Teachers are central to delivering education and shaping student outcomes (Chetty, Friedman and Rockoff, 2014[29]; Chetty, Friedman and Rockoff, 2014[30]; Rivkin, Hanushek and Kain, 2005[31]). Principals support teachers to thrive professionally through their influence on staff motivation, capacity and working conditions (Leithwood, Harris and Hopkins, 2020[3]).

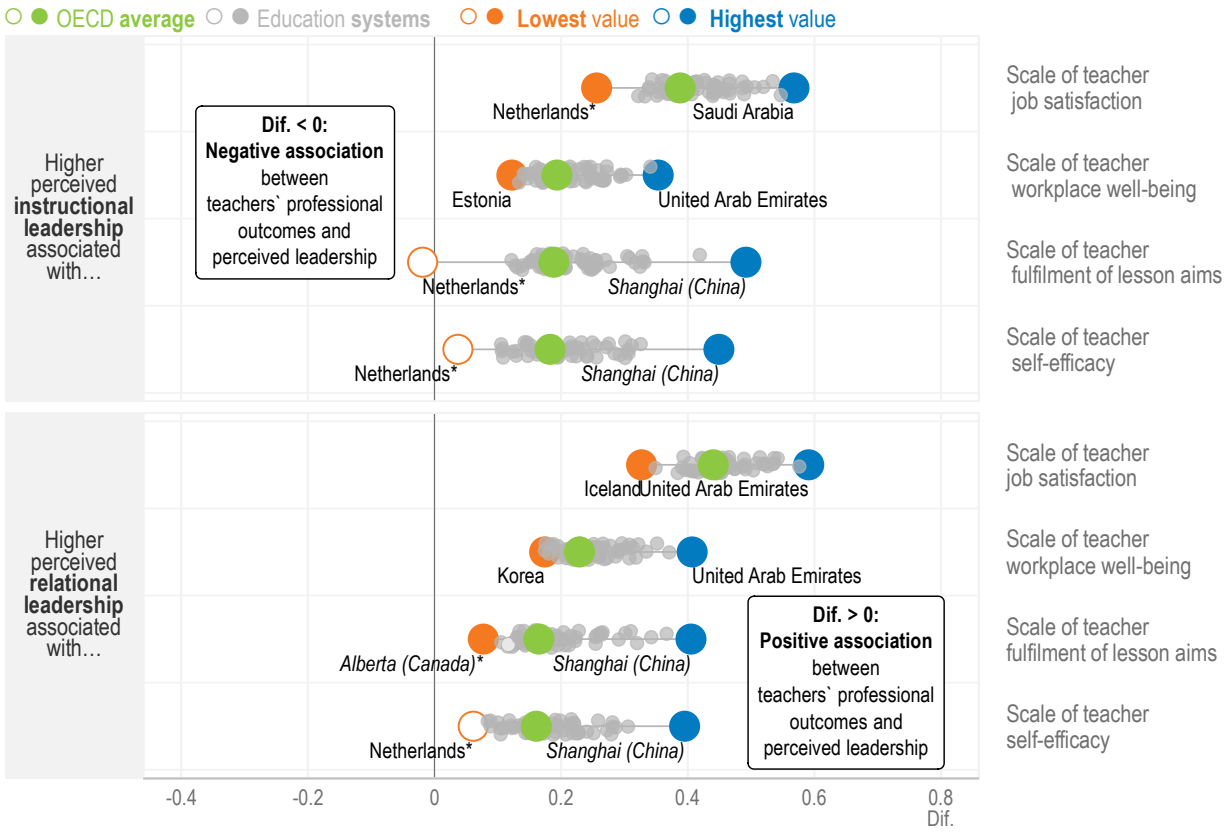
Regression analyses show that valued leadership is positively correlated with several professional outcomes for teachers in nearly all education systems (Figure 1.7), including:

- **Self-efficacy**: TALIS measures teacher self-efficacy in classroom management, instruction and student engagement by asking teachers how well ("not at all"; "to some extent"; "quite a bit"; "a lot") they can perform tasks in these areas. Higher teacher self-efficacy is linked to stronger instructional practices and better student outcomes (Holzberger, Philipp and Kunter, 2013[32]; Caprara et al., 2006[33]).
- **Fulfilment of lesson aims**: TALIS 2024 asked teachers to what extent ("not at all"; "to some extent"; "quite a bit"; "a lot") the lessons they taught over the past week in the target class achieved some goals, even when they are often in competition with each other. The TALIS scale of fulfilment of lesson aims covers the following areas: teaching clarity ("presenting the content in a comprehensible way"), cognitive activation ("engaging students in work that challenges them"), feedback ("providing students with feedback to support their learning"), support for consolidation ("offering students opportunities to practice what they learned") and adapting teaching to students' different needs.
- **Well-being**: TALIS measures teacher well-being by asking teachers how much ("not at all"; "to some extent"; "quite a bit"; "a lot") stress and health issues they experience in their work. Does their job leave them time for personal life? Does their job negatively impact their mental health? Does their job negatively impact their physical health? Low teacher well-being can lead to higher turnover, absenteeism, lower performance and reduced instructional quality (Ingersoll, 2001[34]; Ronfeldt, Loeb and Wyckoff, 2013[35]; Viac and Fraser, 2020[36]).
- **Job satisfaction**: TALIS measures job satisfaction by asking teachers to rate their agreement ("strongly disagree"; "disagree"; "agree"; "strongly agree") with statements about the positive and negative aspects of their profession ("The advantages of being a teacher clearly outweigh the disadvantages"; "If I could decide again, I would still choose to work as a teacher"; "I regret that I decided to become a teacher"; "All in all, I am satisfied with my job") and work environment ("I would like to change to another school if that were possible"; "I enjoy working at this school"; "I would recommend this school as a good place to work"). Teacher job satisfaction benefits teachers, school culture and student outcomes (OECD, 2025[7]). It is positively associated with teacher self-efficacy (OECD, 2025[25]; 2014[37]) and stronger student achievement (Banerjee et al., 2017[38]).

Figure 1.7 shows that, among teacher outcomes examined, job satisfaction is most strongly associated with valued leadership. Teachers with more positive views of their principals' leadership tend to report higher job satisfaction, although the direction of this relationship cannot be determined.

Figure 1.7. Relationship between teachers' professional outcomes and principals' leadership

Change in the following scales[1] associated with a one-unit increase in the scales of lower secondary principals' instructional and relational leadership[1,2]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. The workplace well-being scale refers to the inverted workplace well-being and stress scale. For more information on the scales, see Annex B.
2. Results are based on separate teacher-level linear regression analyses controlling for teacher characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Tables 1.22, 1.23, 1.24 and 1.25.

Box 1.1. Valued leadership in primary education

Instructional and relational leadership

On average, at least 88% of primary teachers value their principals' instructional leadership. Australia, Japan and the Netherlands* stand out as education systems where primary teachers rate instructional

leadership more highly on principals' encouraging their teachers to improve their skills, collaborate with each other and feel responsibility for students' learning outcomes (Table 1.2).

A similar pattern emerges for relational leadership. France, Japan and the Netherlands* are the only education systems where primary teachers rate relational leadership more highly across all four TALIS measures of principals' having a clear vision for the school, encouraging staff to have a say on important decisions, nurturing good professional relationships with staff and parents or guardians (Table 1.3).

Variation in valued leadership between education systems, schools and teachers

At the primary level, the between-education system share of variation across education levels (i.e. primary vs. lower secondary) is smaller than the within-system variation at lower secondary education (7% for instructional, 5% for relational) (Tables 1.4 and 1.5). Within education systems, on average, the bulk of variation sits within schools (83% for instructional, 76% for relational). In Japan, the share of within-school variation in perceived relational leadership at the primary level is 8 percentage points larger compared to lower secondary level (Table 1.9). The widest disparities in instructional and relational leadership (over 3.8 index points, equivalent to almost 2 standard deviations, between the top and bottom deciles) appear in France and Türkiye (Tables 1.15 and 1.16).

More experienced primary teachers tend to not rate their principals' relational leadership as highly, with Spain and Türkiye showing particularly strong negative associations – though this pattern does not extend to instructional leadership in primary education (Table 1.12). As in lower secondary education, teachers who are more satisfied with their profession and who feel valued and influential in policy matters tend to view their principals' leadership more favourably in most education systems (Tables 1.13 and 1.14).

School climate, professional outcomes and staffing

Similar to lower secondary level, valued leadership is associated with positive school climate and better professional outcomes for teachers at the primary level (Tables 1.17, 1.18, 1.19, 1.20, 1.21, 1.22, 1.23, 1.24, 1.25, 1.26 and 1.27).

Primary teachers who approve of their principals' leadership more highly are less likely to want to leave teaching – a pattern that holds for both leadership types in the Flemish Community of Belgium*, Brazil, Saudi Arabia, Slovenia and the United Arab Emirates (Table 1.28). A similar negative link is also found in primary education between principals reporting shortages of qualified teachers and their perceived instructional and relational leadership, notably in France, Slovenia and the Netherlands* (Table 1.29).

Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.

Staffing

Some education systems face challenges related to teacher mobility and workforce renewal (UNESCO, 2024[39]). In many systems, however, growing teacher shortages are the more pressing concern (OECD, 2024[40]; OECD, 2024[41]; UNESCO, 2024[39]). Ensuring an adequate supply of motivated and capable teachers is a key priority for principals.

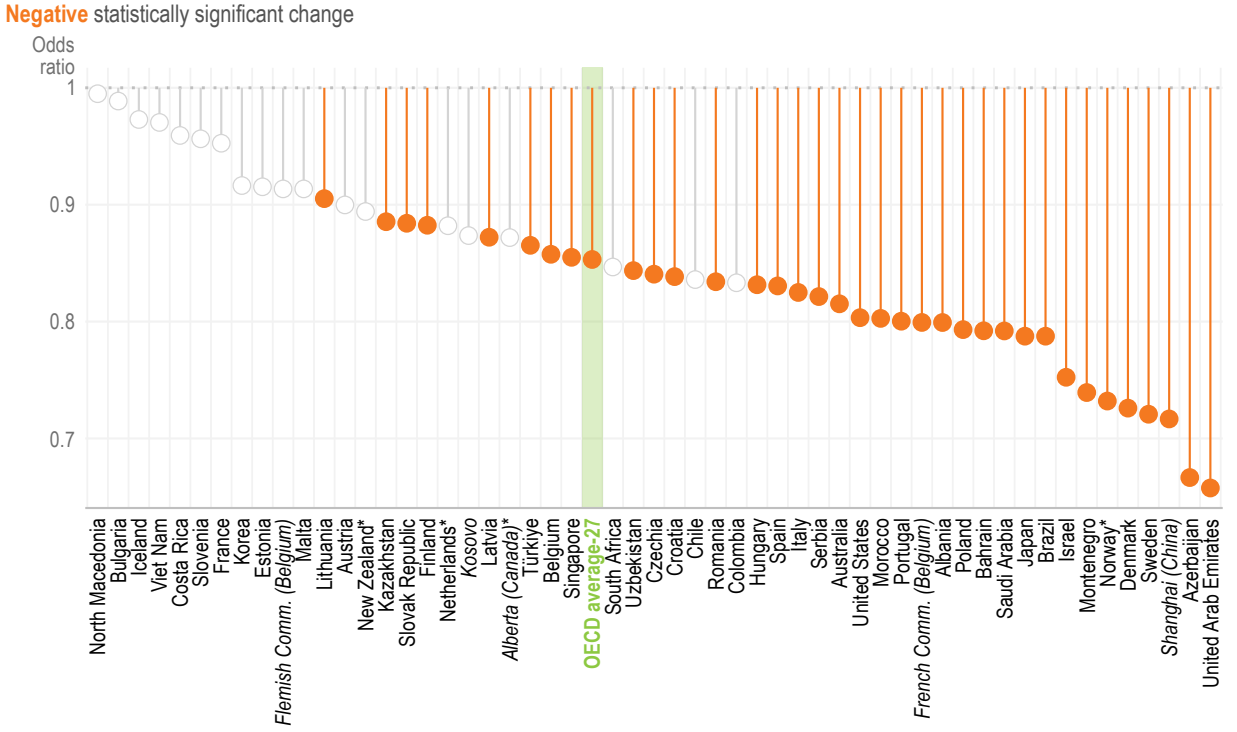
Principals play a key role in managing school resources strategically to maximise performance (Grissom, Egalite and Lindsay, 2021[42]; Sebastian et al., 2019[43]). Since teachers are schools' most critical resources, creating a supportive environment for them is essential to effective pedagogical management. Principals can contribute to this by fostering a positive school climate and improving working conditions (Leithwood, Harris and Hopkins, 2020[3]). This helps reduce turnover (Kraft et al., 2016[44]; Ladd, 2011[45]).

Drawing on TALIS 2024 data on teachers' career intentions (i.e. how many years they intend to continue working as teachers) and principals' views on how much ("not at all"; "to some extent"; "quite a bit"; "a lot") staff shortages affect the quality of teaching, this section explores the link between staffing and perceived leadership.

In almost two-thirds of education systems, among teachers who are not about to retire, those who give their principals a high rating on relational leadership are less likely to plan to leave the profession within five years, barring retirement (Figure 1.8). In over half of education systems, a similar link is observed between teachers' intentions to quit the profession and principals' instructional leadership (Table 1.28). Darling-Hammond et al. (2026[4]) argues that effective principals retain teachers by fostering a strong shared mission and supporting teachers both individually and collectively.

Figure 1.8. Relationship between teachers' intention to leave teaching and principals' relational leadership

Change in the likelihood of lower secondary teachers reporting their intention to leave teaching within the next five years[1] associated with a one-unit increase in the scale of principals' relational leadership[2,3]

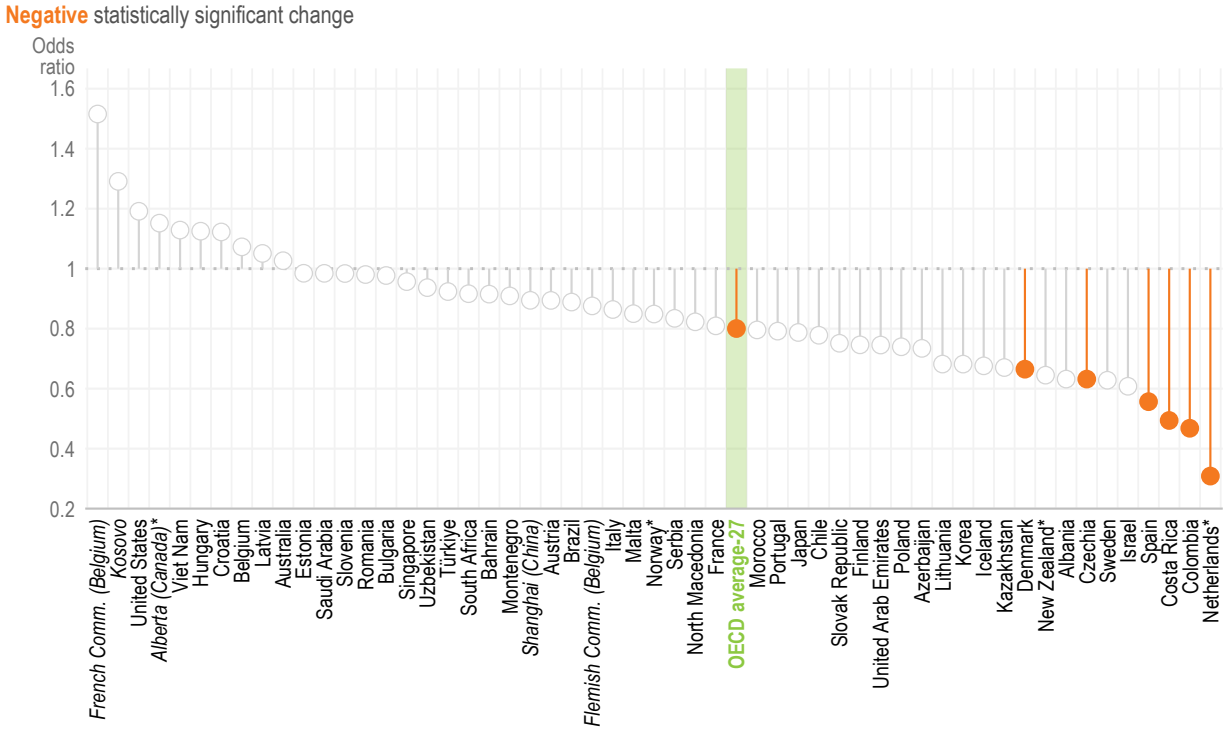


Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 1 indicate a positive association, while those below 1 reflect a negative relationship.
The analysis is restricted to teachers who report that retirement from work sector is "not at all likely" or "not very likely" to lead them to leave teaching within the next five years.
1. Binary variables: the reference category refers to teachers reporting that they want to continue working as a teacher for more than five years.
2. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
3. Results are based on teacher-level binary logistic regression analysis controlling for teacher characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 1.28.

Based on TALIS 2024 data, around 20% of teachers work in schools where principals say the quality of teaching, on average, is perceived to be hindered by the shortage of qualified teachers, (OECD, 2025[25]). Between 2018 and 2024, complaints of this issue increased in 16 education systems, with the largest increase observed in the Netherlands* and Malta (32 percentage points more).

Figure 1.9. Relationship between shortage of qualified teachers and principals' relational leadership

Change in the likelihood of lower secondary principals reporting that the school's capacity to provide quality instruction is currently hindered "quite a bit" or "a lot" by a shortage of qualified teachers[1] associated with a one-unit increase in the school-level average of principals' relational leadership scale[2,3]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 1 indicate a positive association, while those below 1 reflect a negative relationship.
1. Binary variables: the reference category refers to "not at all" and "to some extent".
2. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. Scale scores averaged at the school level. For more information on the scales, see Annex B.
3. Results are based on school-level binary logistic regression analysis controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 1.29.

Regression analysis shows that, on average and in Colombia, Costa Rica, Czechia, Denmark, the Netherlands* and Spain, principals who are rated highly in relational leadership are less likely to report shortages of qualified teachers (Figure 1.9). A similar link is observed between perceived shortage of qualified teachers and principals' instructional leadership (Table 1.29). This association could suggest that principals facing teacher shortages have less time and opportunity to engage in instructional or relational leadership. However, together with the findings related to teachers' career intentions, they could also

indicate that principals can play an important role in addressing teacher attrition and ensuring an adequate supply of qualified teachers.

Box 1.2. Valued leadership in upper secondary education

Instructional and relational leadership

Upper secondary teachers are less likely than their lower secondary counterparts to value their principals' leadership highly. On average, at least 86% of upper secondary teachers “agree” or “strongly agree” that their principals show instructional leadership in all three TALIS measures – yet this is at least 2 percentage points lower across all three measures compared to lower secondary. At the upper secondary level, Croatia, Denmark, the Flemish Community of Belgium and Slovenia all show lower ratings on at least two of the three instructional leadership measures (Table 1.2).

Relational leadership goes in a similar direction. Denmark stands out, with upper secondary teachers rating relational leadership lower across all four TALIS measures. The largest gap is 17 percentage points fewer teachers than in lower secondary agreeing that the principal encourages all staff to have a say on important decisions (Table 1.3).

Variation in valued leadership between education systems, schools and teachers

At the upper secondary level, the between-education system share of variation is larger than at lower secondary education (11% for instructional, 11% for relational), suggesting that system-level factors matter more for leadership at upper secondary level (Tables 1.4 and 1.5). This may have to do with features of upper secondary education, such as subject-based instruction, tracking, pathways, or examination pressure. These features are often organised at the system level and are found in many education systems, though their design and implementation can vary considerably.

Variation is also concentrated within schools rather than between them (84% for instructional, 78% for relational) but Saudi Arabia and Denmark are notable exceptions: in Saudi Arabia, 12–13 percentage points more of the variation in both leadership types lies within schools at the upper secondary level, whereas in Denmark, the variation in relational leadership lies within schools and is 6 percentage points smaller (Tables 1.8 and 1.9). In other words, teachers’ perceptions of relational leadership are more similar across schools in Saudi Arabia and more different across schools in Denmark. The widest disparities in relational leadership (over 3 index points, equivalent to almost 2 standard deviations, between the top and bottom deciles) appear in Denmark and Türkiye (Tables 1.15 and 1.16).

School climate, professional outcomes and staffing

The broader pattern of associations observed at lower secondary level – that valued leadership is linked to a positive school climate and better professional outcomes for teachers – is largely the same in upper secondary education (Tables 1.17, 1.18, 1.19, 1.20, 1.21, 1.22, 1.23, 1.24, 1.25, 1.26 and 1.27).

The staffing picture, however, is more mixed at this level. The negative link between teachers' intention to leave and valued leadership holds on average, with six out of eight education systems showing the pattern for both leadership types (Table 1.28). However, once principal and school characteristics are taken into account, the negative association between perceived teacher shortages and valued leadership is observed only in the United Arab Emirates (Table 1.29).

Table 1.1. Chapter 1 figures

Figure 1.1		Variation in instructional and relational leadership between and within education systems and schools
Figure 1.2		Relationship between principals' instructional leadership and teachers' years of experience
Figure 1.2 (ISCED 1)	WEB	Relationship between principals' instructional leadership and teachers' years of experience
Figure 1.2 (ISCED 3)	WEB	Relationship between principals' instructional leadership and teachers' years of experience
Figure 1.3		Principals' instructional leadership
Figure 1.3 (ISCED 1)	WEB	Principals' instructional leadership
Figure 1.3 (ISCED 3)	WEB	Principals' instructional leadership
Figure 1.4		Principals' relational leadership
Figure 1.4 (ISCED 1)	WEB	Principals' relational leadership
Figure 1.4 (ISCED 3)	WEB	Principals' relational leadership
Figure 1.5		Relationship between collaborative and academic climates, and principals' leadership
Figure 1.5 (ISCED 1)	WEB	Relationship between collaborative and academic climates, and principals' leadership
Figure 1.5 (ISCED 3)	WEB	Relationship between collaborative and academic climates, and principals' leadership
Figure 1.6		Relationship between disciplinary and adaptive climates, and principals' leadership
Figure 1.6 (ISCED 1)	WEB	Relationship between disciplinary and adaptive climates, and principals' leadership
Figure 1.6 (ISCED 3)	WEB	Relationship between disciplinary and adaptive climates, and principals' leadership
Figure 1.7		Relationship between teachers' professional outcomes and principals' leadership
Figure 1.7 (ISCED 1)	WEB	Relationship between teachers' professional outcomes and principals' leadership
Figure 1.7 (ISCED 3)	WEB	Relationship between teachers' professional outcomes and principals' leadership
Figure 1.8		Relationship between teachers' intention to leave teaching and principals' relational leadership
Figure 1.8 (ISCED 1)	WEB	Relationship between teachers' intention to leave teaching and principals' relational leadership
Figure 1.8 (ISCED 3)	WEB	Relationship between teachers' intention to leave teaching and principals' relational leadership
Figure 1.9		Relationship between shortage of qualified teachers and principals' relational leadership
Figure 1.9 (ISCED 1)	WEB	Relationship between shortage of qualified teachers and principals' relational leadership
Figure 1.9 (ISCED 3)	WEB	Relationship between shortage of qualified teachers and principals' relational leadership

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Notes

[1] Descriptive statistics for the control variables can be found in the online **TALIS 2024 Statistical Compendium**.

[2] Coefficients for the OECD and TALIS averages may be statistically significant even when country-level coefficients are statistically significant in only a small number of participating education systems. As such, these average results may not reflect a consistent pattern across education systems.

[3] Latent variable modelling is a statistical approach that uses responses to several related questions to measure an underlying concept that cannot be observed directly, such as motivation, job satisfaction or leadership.

[4] Scale scores are standardised to have a standard deviation of 2 across all education systems participating in TALIS and where value 10 corresponds to the item mid-point value of the response scale.

2 Who valued principals are and where they work

This chapter analyses how much valued leadership is linked to principals' individual characteristics and the school contexts in which they work. It explores cross-country variation and changes over time in the characteristics and contexts associated with valued leadership. The chapter also examines principals' well-being and job satisfaction, and their link with valued leadership.

Highlights

- **Younger principals are more likely to be perceived as demonstrating strong instructional and relational leadership**.
- **Principals tend to be older in urban and larger schools** (750 students or more), **and schools with a lower share of students with special education needs** (10% or less).
- **School leadership is more gender-balanced than the teaching workforce, on average.** However, this varies across education systems. The share of female principals ranges from 30% or below in Japan, Korea, Kosovo, Morocco, Türkiye and Uzbekistan to above 70% in Brazil, Bulgaria, Estonia, Iceland, Italy, Latvia, Poland and Romania.
- **Principals in smaller schools** (fewer than 250 students) **are generally perceived as more valued leaders.** In larger schools, greater administrative demands, more complex leadership structures and more challenging school climates may make it harder for principals to engage in effective instructional and relational leadership.
- **In most education systems, over 90% of principals are satisfied with their jobs overall.** Yet, in Alberta (Canada)*, France, Japan and Norway*, the share of principals satisfied with their jobs decreased by 7 to 10 percentage points between 2018 and 2024.
- **Principals who are satisfied with their jobs tend to be more valued by their teachers, both as instructional and relational leaders.** Principals who feel supported and satisfied may be better placed to lead and build strong relationships with teachers. Teachers' appreciation may, in turn, strengthen principals' job satisfaction and sense of effectiveness.
- **Principals most frequently report stress from excessive administrative work.** Between 2018 and 2024, on average, the share of principals reporting extra duties due to staff absences, school discipline and parent concerns as major sources of stress increased by 4 percentage points, reaching 45%, 49% and 53%, respectively.

* For countries highlighted with an asterisk (*), estimates should be interpreted with caution due to a higher risk of non-response bias. See the Reader's Guide and Annex A for more detail.

Introduction

School leadership matters for school outcomes, such as student achievement and the quality of teaching and learning (Grissom, Egalite and Lindsay, 2021[1]; Leithwood, Harris and Hopkins, 2020[2]). TALIS 2024 data show that valued leadership[1] is associated with better school climate, better teacher professional outcomes, lower teacher attrition and fewer perceived teacher shortages (see Chapter 1). However, leadership under similar conditions can still vary in terms of style and effectiveness due to individual and school-context factors. Understanding how these factors interact with how teachers perceive their principals' leadership can help in designing more targeted and effective policies.

This chapter first analyses the relationship between principals' individual characteristics and valued leadership. Then, it explores how school context is associated with valued leadership. The chapter also examines cross-country variation and changes over time in the individual and school-context factors associated with valued leadership. Finally, it looks at principals' well-being and job satisfaction, and their link with valued leadership.

The relationships presented in this chapter are based on regression analyses, which examine how two variables are related while taking other relevant factors into account that may influence the relationship. Depending on the level of analysis, the regression models control for teacher- or principal-level characteristics (i.e. gender and age), as well as school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).[2] The relationships identified and discussed meet the following conditions:

- coefficients for OECD and TALIS averages are statistically significant;[3]
- at least two-thirds of participating education systems with available data have coefficients with the same sign as OECD and TALIS averages, regardless of statistical significance.

To note, the design of TALIS does not allow for the establishment of causal relationships. All regression analyses presented in this report should therefore be interpreted as identifying the presence (or absence) of statistical associations, i.e. whether or not variation in one variable is systematically associated with variation in another. They do not permit conclusions about causality; in other words, they cannot determine whether variation in one variable would cause a change in another, while holding all other factors constant.

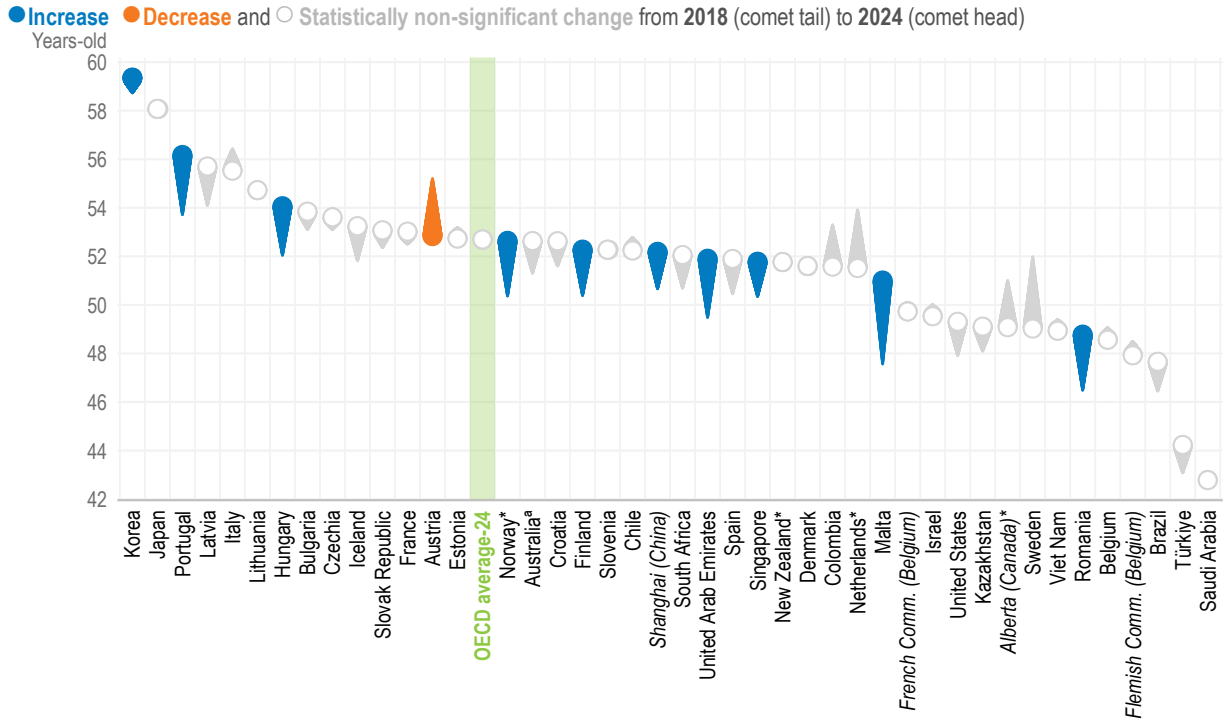
Individual factors

Age

The average age of principals is 53, ranging from 43 in Saudi Arabia to 59 in Korea (Table 2.1). Between 2018 and 2024, the average age of principals increased by two to three years in Hungary, Malta, Norway*, Portugal, Romania and the United Arab Emirates (Figure 2.1). These changes over time are consistent with broader population ageing trends and increases in retirement age. However, population ageing alone cannot fully explain the rise in principals' average age. In several countries with ageing populations, principals' average age did not increase over the same period. In Austria, for example, it fell from 55 to 53 years, despite the country having a quickly growing old-age dependency ratio (OECD, 2025[3]). Austria promotes earlier entry into school leadership through transparent, competency-based recruitment, structured leadership training and leadership development programmes that build a pipeline of qualified future principals (Box 2.1).

Figure 2.1. Change in the average age of principals, from 2018 to 2024

Average age of lower secondary principals



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the average age of lower secondary principals in 2024.
Source: OECD, *TALIS 2018 and TALIS 2024 Databases*, Table 2.2.

Box 2.1. Preparing the next generation of principals in Austria

Competency-based recruitment and open advertisement of positions

Under the Education Reform Act 2017 (*Bildungsreformgesetz 2017*, BGBl. I Nr. 138/2017), a uniform and standardised selection procedure for school principals was introduced. Principal positions are now publicly advertised by the responsible Board of Education and candidates are assessed by a formal committee (*Begutachtungskommission*) against a defined requirement profile – centred on pedagogical aptitude, a minimum of five years of teaching experience, and demonstrated leadership and management skills. By replacing informal or seniority-based appointment practices with open, competency-focused selection, this reform creates conditions under which qualified teachers can realistically compete for leadership positions at earlier points in their careers.

Structured leadership preparation pathways

School principals in Austria come from the teacher ranks. Since 2017, Austria has required all school principal candidates to hold at least 20 European Credit Transfer and Accumulation System (ECTS) credits from the Professional Leadership in Schools university course – or equivalent certification – prior

to appointment, with the full 60-ECTS programme to be completed within 4.5 years of taking up the role. This requirement, extended to all tenured principals from 2023, represents a shift from a system where seniority served as the primary marker of readiness, toward one where leadership credentials must be actively acquired. By creating a formal, accessible preparation pathway, the reform enables teachers to build the qualifications needed for principalship earlier in their careers, potentially lowering the age at which they are both eligible and ready to apply.

Leadership Academy Austria

The Leadership Academy Austria (*LEA*), an initiative of the Austrian Federal Ministry of Education, operated from 2004 to 2018 and developed leadership capacity across all levels of the education system through cohort-based programmes combining plenary lectures, collegial coaching and practical project work. The Academy engaged over 3 000 education professionals during its operation. By identifying and cultivating leadership potential among practising teachers and middle leaders – rather than waiting for career-end appointment – the LEA contributed to building a pipeline of principals ready to take on leadership roles at a younger age. While the programme is no longer active, some of its effects on the current principal workforce may still be evident today.

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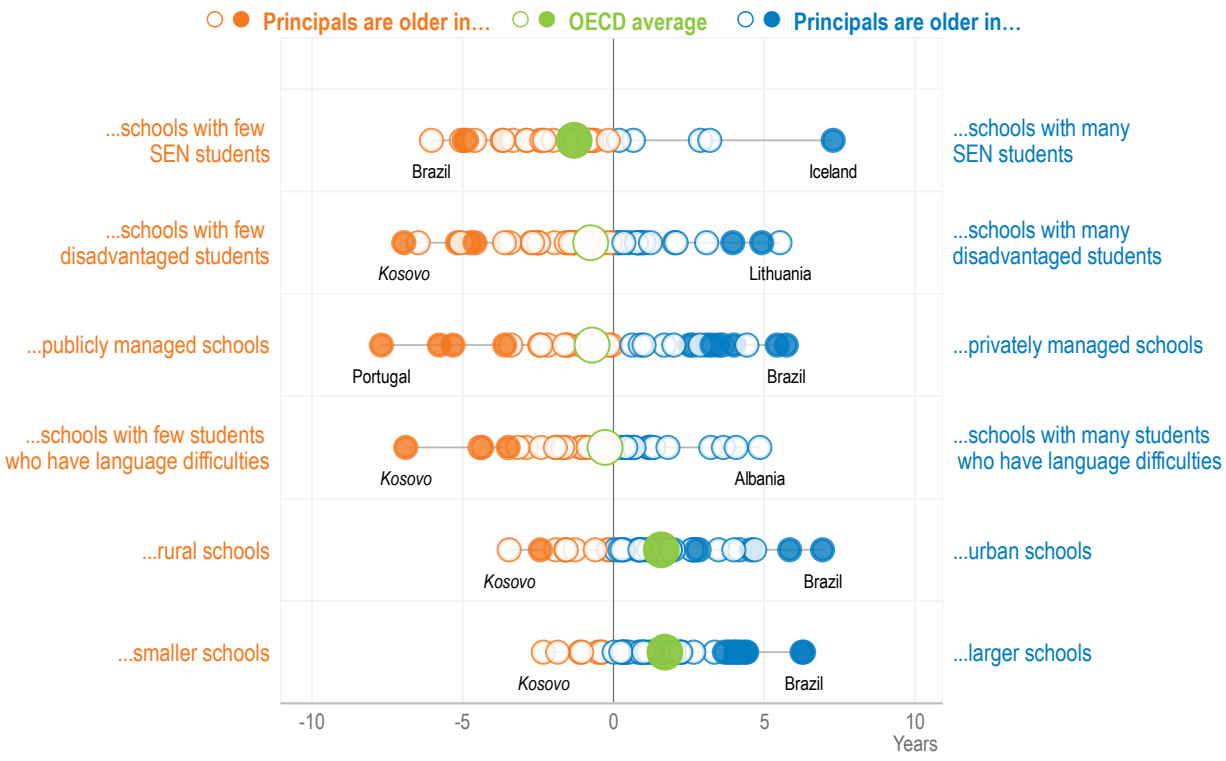
Analysing principals' age across school characteristics can reveal differences in the attractiveness of various school contexts. Principals tend to be older in urban and larger schools, and those with a lower share of special education needs (SEN) students (10% or less), on average (Figure 2.2). Small rural schools face greater recruitment and turnover challenges, and, according to Lee and Mao (2023[4]), have limited financial incentives to attract candidates. This may be why they offer earlier or more accessible leadership opportunities and why younger principals are disproportionately represented in these kinds of school.

Figure 2.2. Differences in principals' average age, by school characteristics

Based on responses of lower secondary principals

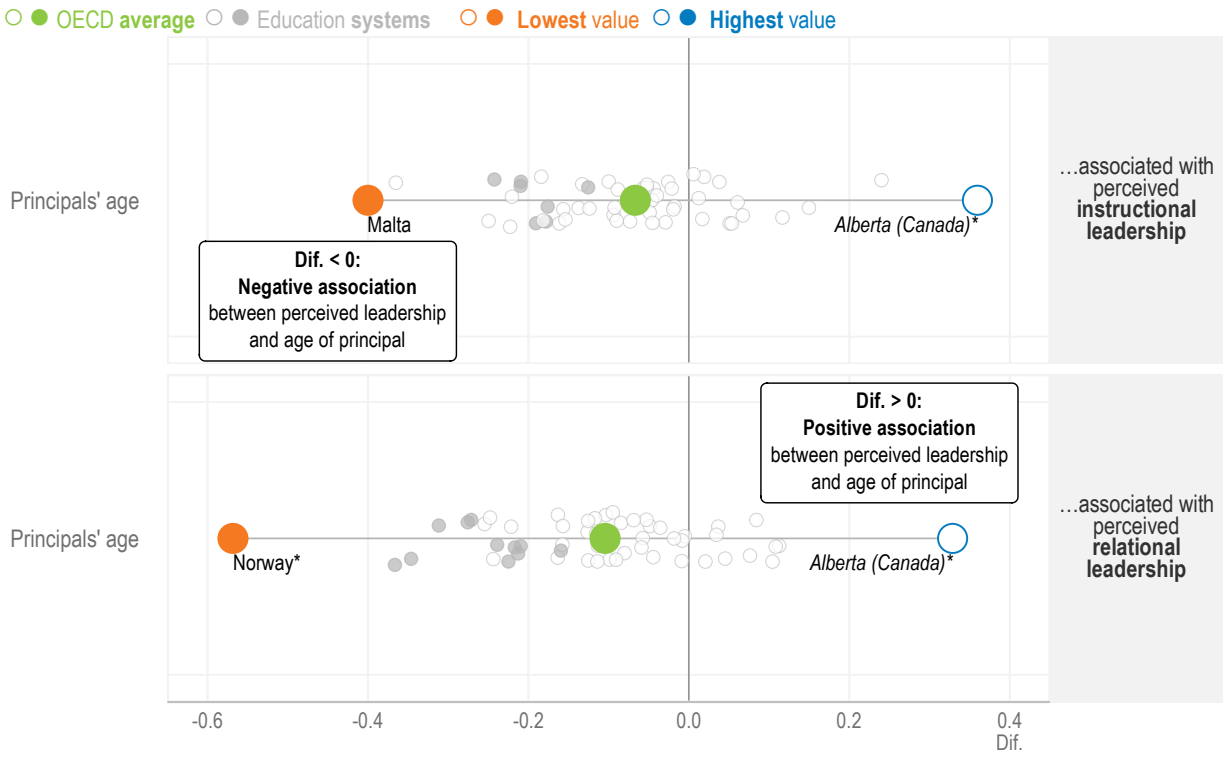


Note: Statistically significant differences are highlighted with filled circles (see Annex B).
A rural school is in a rural area or village of up to 3 000 people; an urban school is in a city of over 100 000 people.
A publicly managed school is a school that is managed by a public education authority, government agency, municipality, or governing board appointed by the government or elected by public franchise. A publicly managed school may not necessarily be publicly funded.
Smaller schools have fewer than 250 enrolled students. Larger schools have 750 students or more.
Schools with many disadvantaged students have at least 30% of students from socio-economically disadvantaged homes, while schools with few disadvantaged students have fewer than 10% of students from such homes. Socio-economically disadvantaged homes are those that lack the basic necessities or advantages of life, such as adequate housing, nutrition or medical care.
Schools with many special education needs (SEN) students have at least 30% of students with special education needs, while schools with few SEN students have fewer than 10%. Students with special education needs are those for whom a special education need has been formally identified because they are mentally, physically or emotionally disadvantaged.
Schools where many students have language difficulties have at least 10% of students who have difficulty understanding the language(s) of instruction, while schools where few students have language difficulties have no students who have difficulty understanding the language(s) of instruction.
Source: OECD, *TALIS 2024 Database*, Table 2.1.

Principals' age is associated with teachers' perceptions of their principals' leadership. Based on regression analyses using TALIS 2024 data, teachers are less likely, on average, to perceive older principals as strong instructional and relational leaders (Figure 2.3). Principals who attain leadership positions relatively early in their careers may represent a selected group who have progressed rapidly through leadership pathways and been identified as having leadership potential. Research also indicates that, in rural schools, novice principals often rely on strong relationships, accessibility and visibility to build positive school cultures and to develop instructional leadership agendas (Wieczorek and Manard, 2018[5]).

Figure 2.3. Relationship between principals' leadership and their age

Change in the school-level averages of lower secondary principals' instructional and relational leadership scales[1] associated with a one-standard-deviation increase in principals' age[2,3]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Years standardised at the international level.
3. Results are based on school-level linear regression analyses controlling for principals' gender and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 2.4.

Gender

Gender balance is an important consideration in occupations because it promotes equal opportunity while ensuring that talent and perspectives are drawn from the full population (Azmat and Boring, 2020[6]; Fine, Sojo and Lawford-Smith, 2020[7]).

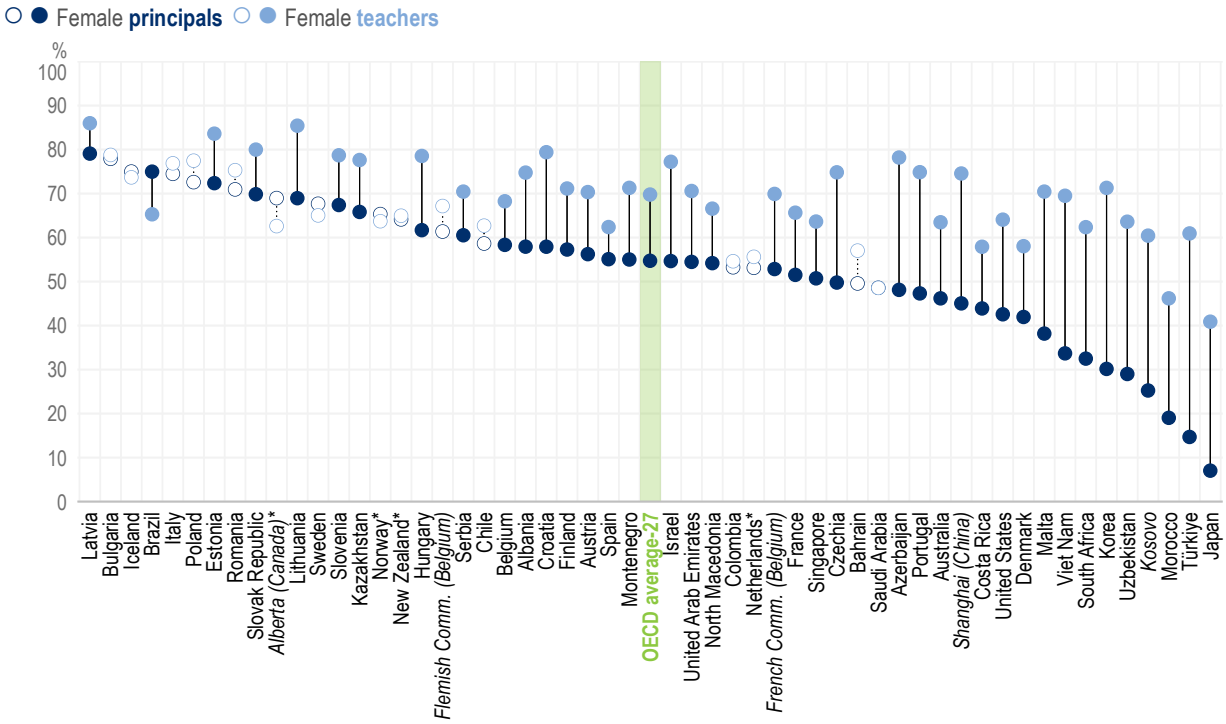
School leadership is more gender-balanced than the teaching workforce, on average (Figure 2.4). However, this pattern varies across education systems: school leadership is male-dominated in some, while in others the feminisation of the teaching profession is also reflected among principals. Based on TALIS 2024 data, the share of female principals ranges from 30% or below in Japan, Korea, Kosovo, Morocco, Türkiye and Uzbekistan to above 70% in Brazil, Bulgaria, Estonia, Iceland, Italy, Latvia, Poland and Romania.

Where women are overrepresented among principals, they also tend to be overrepresented among teachers. Since most principals were previously teachers, improving gender balance in school leadership

starts with recruiting more male teachers. Conversely, systems with low shares of female principals should examine whether women face barriers to leadership. Research shows that women often face structural and cultural barriers when pursuing school leadership positions, including biased hiring practices, exclusion from informal networks, limited mentoring opportunities and stereotypes about leadership (Harris et al., 2024[8]; Martínez, Molina-López and de Cabo, 2021[9]; Murakami and Törnsen, 2017[10]).

Figure 2.4. Share of female principals and teachers

Percentage of female lower secondary principals and teachers

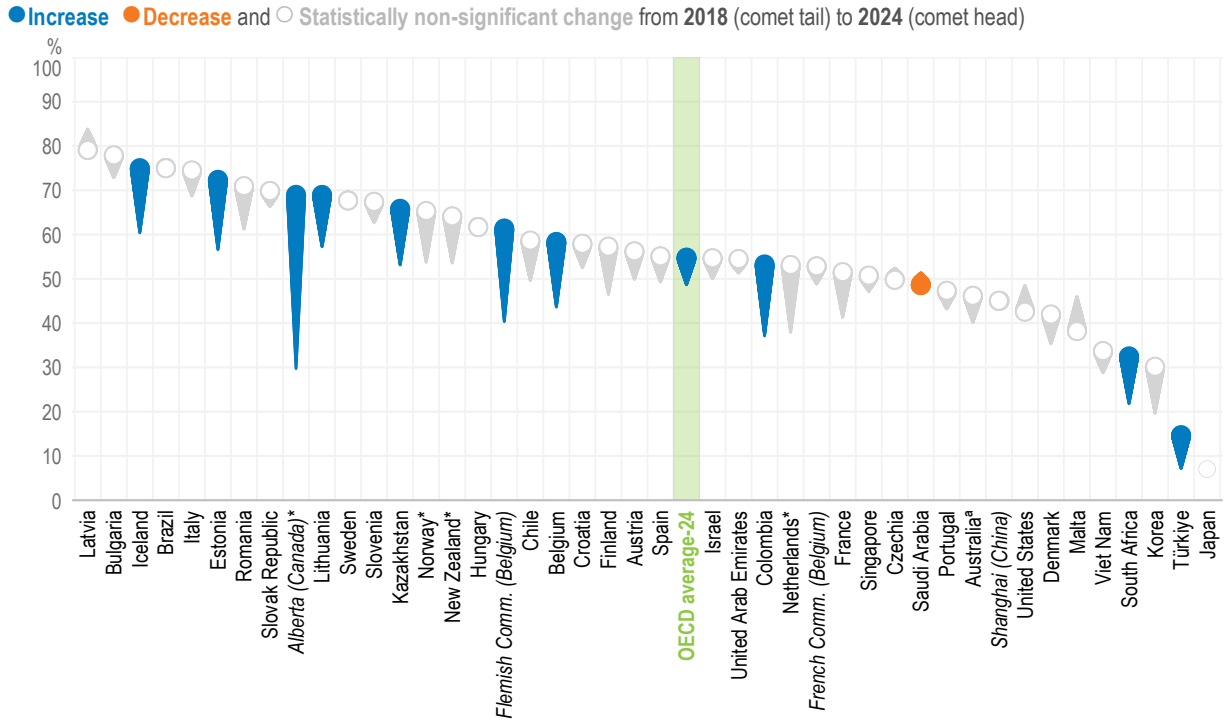


Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant differences are highlighted with filled circles and solid lines (see Annex B).
Education systems are sorted in descending order by the percentage of lower secondary female principals.
Source: OECD, *TALIS 2024 Database*, Table 2.7.

On average, the share of female principals increased by 6 percentage points, from 49% to 55%, between 2018 and 2024 (Figure 2.5). Some education systems, such as Brazil and Estonia, promote equity in school leadership through transparent, merit-based recruitment (Box 2.2). South Africa provides targeted support to reduce barriers to women's advancement, while some, such as Colombia, combines both approaches (Box 2.2).

Figure 2.5. Change in the share of female principals, from 2018 to 2024

Percentage of female lower secondary principals



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of female lower secondary principals in 2024.
Source: OECD, *TALIS 2018 and TALIS 2024 Databases*, Table 2.8.

Box 2.2. Strengthening equitable pathways to school leadership

In **Brazil**, *Conditionality I* of the *Value-Added Annual Total per Student Results* (VAAR) component of the *Fund for the Maintenance and Development of Basic Education and the Valorisation of Education Professionals* (Fundeb), enacted in 2020, ties a portion of federal basic education funding to the adoption of merit-based principal selection processes. To access this funding, educational networks must select principals on the basis of verifiable competencies – including qualifications, management experience and the defence of a pedagogical plan – rather than political appointment. Compliance is publicly monitored through the public Integrated System of Monitoring, Execution and Control (*Sistema Integrado de Monitoramento, Execução e Controle*) platform. While the policy's primary aims are anti-patronage and educational quality, transparent and competency-based selection may carry an indirect gender effect by reducing reliance on informal networks and political connections, which have historically tended to favour male candidates.

In **Estonia**, school principals must meet nationally established qualification requirements and are appointed through an open recruitment process. When a principal position becomes vacant, the school owner is required to launch a public competition. Candidates are evaluated by a selection committee

that typically includes representatives from various stakeholder groups. The committee is expected to select the candidate best qualified to lead the school. The recruitment process does not include gender-based preferences or quotas.

In **Colombia**, Decree Law 1278 of 2002 established merit-based recruitment, retention and promotion procedures for teachers and principals through public competitive examinations based on objective criteria, including pedagogical competencies, academic qualifications and professional experience. By relying on transparent selection processes rather than discretionary appointments, the statute provides an equitable framework for access to school leadership positions. This framework has been reinforced by the 2022 CONPES Document 4080, Colombia's National Public Policy for Gender Equality for Women, which promotes gender mainstreaming across public institutions, encourages women's leadership and supports investments in postgraduate training for teachers and school leaders. Together, these measures have contributed to increased female representation in school leadership by combining merit-based recruitment with broader efforts to strengthen women's leadership opportunities and qualifications.

In 2013, **South Africa**'s Department of Basic Education launched the Support Network for Female Principals in recognition that women made up around 68% of the teaching force but only 36% of principalships. The network was designed to support women already in school leadership roles through peer exchange and formation of sustainable provincial networks. Building on this model, the Eastern Cape Department of Education in August 2022 held a Provincial Women Capacity Building and Wellness Programme, bringing together female principals and deputy principals from all education districts across the province with the aim of empowering women at the workplace and building their capacity to compete for senior positions.

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Identifying the types of schools where gender imbalances in school leadership are most pronounced can inform policies aiming to promote more balanced representation among principals. TALIS 2024 data show consistent differences in gender balance among principals by school governance type and school size. On average, there are lower shares of women principals in publicly managed and larger schools (750 students or more) than in privately managed and smaller ones (fewer than 250 students) (Table 2.9). That may be because publicly managed larger schools often have more formalised and hierarchical career structures, which the literature suggests can reinforce existing gender biases and barriers to women's advancement into leadership roles (Eagly and Karau, 2002[11]; Harris et al., 2024[12]).

Gender biases can mediate the relationship between principals' gender and how their leadership is perceived by teachers (Eagly, Johannesen-Schmidt and Van Engen, 2003[13]; Eagly and Karau, 2002[11];

Lee, Smith and Cioci, 1993[14]). According to Lee, Smith and Cioci (1993[14]), women teachers tend to feel more empowered in schools led by women principals, whereas men teachers tend to feel less empowered in such settings. The qualitative study conducted by Shaked, Glanz and Gross (2018[15]) highlights that female principals tend to rely on their instructional knowledge and experience, while male principals often rely on their decision-making ability and hierarchical authority.

TALIS 2024 shows that women principals are more highly rated as instructional leaders,[4] on average, and in Alberta (Canada), Croatia, Denmark, Estonia, Saudi Arabia and Shanghai (China) (Table 2.10). However, regression analyses also show that, on average:

- female teachers tend to rate female principals more highly than male principals as instructional leaders (Table 2.11); and
- male teachers are more likely to rate male principals more highly as relational leaders[5] compared to female principals (Table 2.12).

School contexts

Research has shown that the effectiveness of school leadership is context-dependent, hence successful leadership is mediated by school context (Clarke and O'Donoghue, 2017[16]; Hallinger, 2018[17]; Leithwood, Harris and Hopkins, 2020[2]). Understanding how teachers' perceptions of their principals' leadership vary across school contexts can help design more targeted and effective policies.

Based on regression analyses, school size is a factor in how teachers perceive their principals' instructional and relational leadership (Table 2.13). But, other school characteristics, such as location, governance type and intake of students from socio-economically disadvantaged homes, who have language difficulties, or who have special education needs, are not associated with teachers' views about their principals' leadership (Tables 2.14, 2.15, 2.16, 2.17 and 2.18).

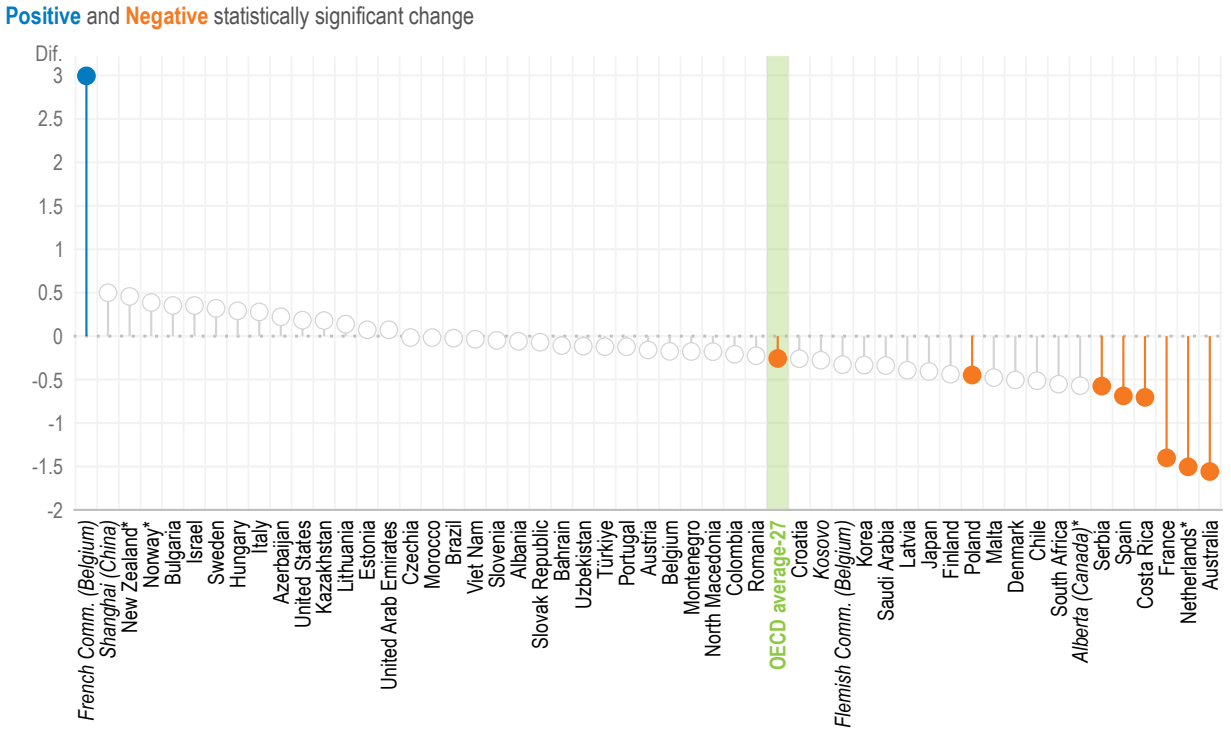
School size

Teachers in larger schools judge their principals to be weaker instructional leaders, on average (Figure 2.6). This holds while controlling for principal and school characteristics, including school location. The only exception is the French Community of Belgium, where principals in larger schools are more valued as instructional leaders than their colleagues in smaller schools.

Several factors may explain this pattern. It could be that onerous administrative demands limit principals' engagement with teaching and learning. Alternatively, instructional leadership in larger schools may be more often delegated to middle managers within more complex leadership structures. As principals cannot devote much time to teaching, this also likely contributes to the organisational challenges that are more common in larger schools. Consistent with this interpretation, principals who rate themselves highly as instructional leaders also tend to report stronger organisational management skills (Sebastian et al., 2019[18]), suggesting that both forms of leadership become more complex as school size increases.

Figure 2.6. Relationship between principals' instructional leadership and school size

Change in the school-level average of lower secondary principals' instructional leadership scale[1] associated with larger schools (750 students or more)[2,3]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. The reference category is under 250 students enrolled. The regression model also controls for whether the number of students enrolled is between 250 and 749.
3. Results are based on school-level linear regression analysis controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school intake of students from socio-economically disadvantaged homes and school location).
Source: OECD, *TALIS 2024 Database*, Table 2.13.

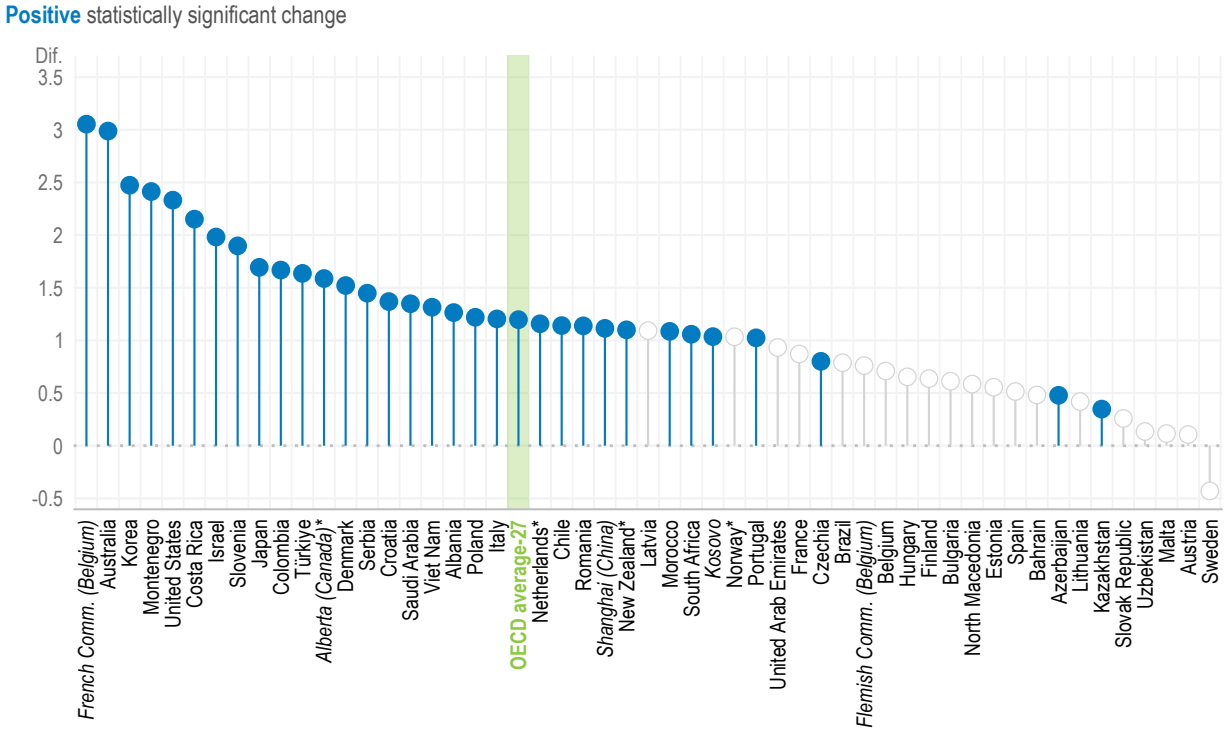
Teachers in larger schools do not think as highly of their principals as relational leaders as in smaller schools, on average (Table 2.13). This may be because greater organisational complexity limits principals' interactions with teachers, creating a less connected school climate and compromising strong relational leadership. In Belgium's French Community and Italy, however, principals in larger schools are more highly rated as relational leaders than their peers in smaller schools.

After accounting for school location, as well as principal and other school characteristics, the link between school size and relational leadership is no longer consistently observed across education systems (Table 2.13). For Italy, for instance, the relationship between school size and relational leadership no longer holds after accounting for school location. This finding suggests that the observed relationship is partly explained by the fact that smaller schools are more often located in less populated, rural communities. In most education systems, larger schools tend to be in urban areas (Table 2.19).

School climate may also help explain why leadership is perceived less positively in larger schools. TALIS 2024 results show that principals in larger schools report more safety and behavioural problems (Figure 2.7), while teachers tend to report poorer teacher-student relations (Table 2.21). Managing these more challenging conditions may demand more of principals' time and attention, leaving less scope for instructional and relational leadership.

Figure 2.7. Relationship between school safety and behavioural problems, and school size

Change in lower secondary principals' school delinquency and violence scale[1] associated with larger schools (750 students or more)[2,3]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. The reference category is under 250 students enrolled. The regression model also controls for whether the number of students enrolled is between 250 and 749.
3. Results are based on school-level linear regression analysis controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school intake of students from socio-economically disadvantaged homes and school location).
Source: OECD, *TALIS 2024 Database*, Table 2.20.

Box 2.3. Valued principals' characteristics and school contexts in primary education

Individual factors

On average in primary education, older principals are less likely to be perceived by teachers as strong relational leaders (Table 2.4). The opposite pattern is observed in the United Arab Emirates, where principals' age is positively associated with valued leadership. The United Arab Emirates has also seen an ageing of its principal population in primary education. Between 2018 and 2024, the average age of principals increased by 3 years, from 49 to 52 (Table 2.2).

On average, primary principals tend to be older in urban and larger schools (750 students or more), and schools with a smaller share of socio-economically disadvantaged students (10% or less) or no students with difficulties understanding the language(s) of instruction; this, compared to in rural and smaller schools (fewer than 250 students), and schools with higher shares of these student populations (Table 2.1).

The gender composition of primary school leadership differs markedly from lower secondary education: on average, the share of female principals in primary education is 10 percentage points higher than in lower secondary education (Table 2.9). This gap varies considerably, however, from 11 percentage points in Saudi Arabia to 26 percentage points in France. In primary education, female principals are more commonly found in privately managed and smaller schools, and in those with 10% or fewer socio-economically disadvantaged students.

School contexts

Teachers in larger schools and schools where a larger share of students have difficulties understanding the language(s) of instruction (11% or more) rate primary principals lower as both instructional and relational leaders than principals in smaller schools and schools without such students (Tables 2.13 and 2.17).

Job satisfaction and well-being

Similar to lower secondary education, over 90% of primary principals are, on average, satisfied with their jobs (Table 2.22). In primary education, experienced principals (with 10 or more years' experience) are more likely to report being satisfied with their jobs.

Primary school principals who report having extra duties due to absent school staff or being intimidated or verbally abused by students as sources of stress "quite a bit" or "a lot" score lower on instructional leadership (Table 2.32). Women principals are more likely, on average, to report extra duties due to absent staff as a major source of stress (Table 2.34). Between 2018 and 2024, four out of nine education systems saw an increase in the share of principals reporting this stressor, ranging from a 13 percentage point-increase in Spain to 30 percentage points in Australia[a] (Table 2.33). On average, too much administrative work is a more common source of stress for primary principals than for their peers in lower secondary education (Table 2.36). Within primary education, principals in publicly managed schools, in schools with a larger share of students from socio-economically disadvantaged homes and a larger share of students with special education needs (above 30%) are more likely to report administrative work as a source of stress.

Note: [a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.

Job satisfaction and well-being

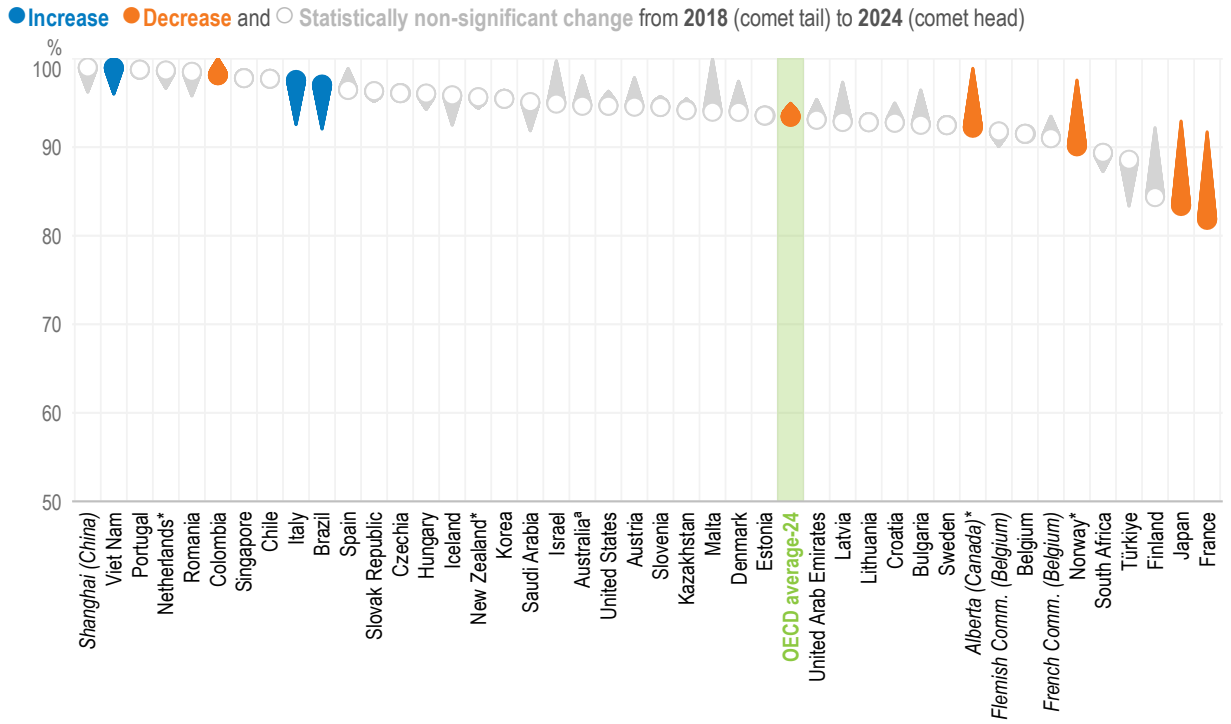
There is ample research evidence that shows the positive association between employee well-being, job satisfaction and performance (Bakker and Demerouti, 2007[19]; Harter, Schmidt and Hayes, 2002[20]; Judge et al., 2001[21]; Warr, 1999[22]). Leithwood, Harris and Hopkins (2020[2]) argue that successful school leaders sustain staff motivation, resilience and organisational commitment. Principals who are satisfied with their jobs are generally better able to foster such environments.

Job satisfaction

TALIS measures job satisfaction by asking principals to rate their agreement ("strongly disagree"; "disagree"; "agree"; "strongly agree") with statements reflecting both positive and negative aspects of their profession ("The advantages of this profession clearly outweigh the disadvantages"; "If I could decide again, I would still choose this job/position"; "I regret that I decided to become a principal"; "All in all, I am satisfied with my job") and current work environment ("I would like to change to another school if that were possible"; "I enjoy working at this school"; "I would recommend this school as a good place to work"). The scale of job satisfaction is based on these items.[6]

Figure 2.8. Change in principals' job satisfaction, from 2018 to 2024

Percentage of lower secondary principals who "agree" or "strongly agree" that, all in all, they are satisfied with their jobs



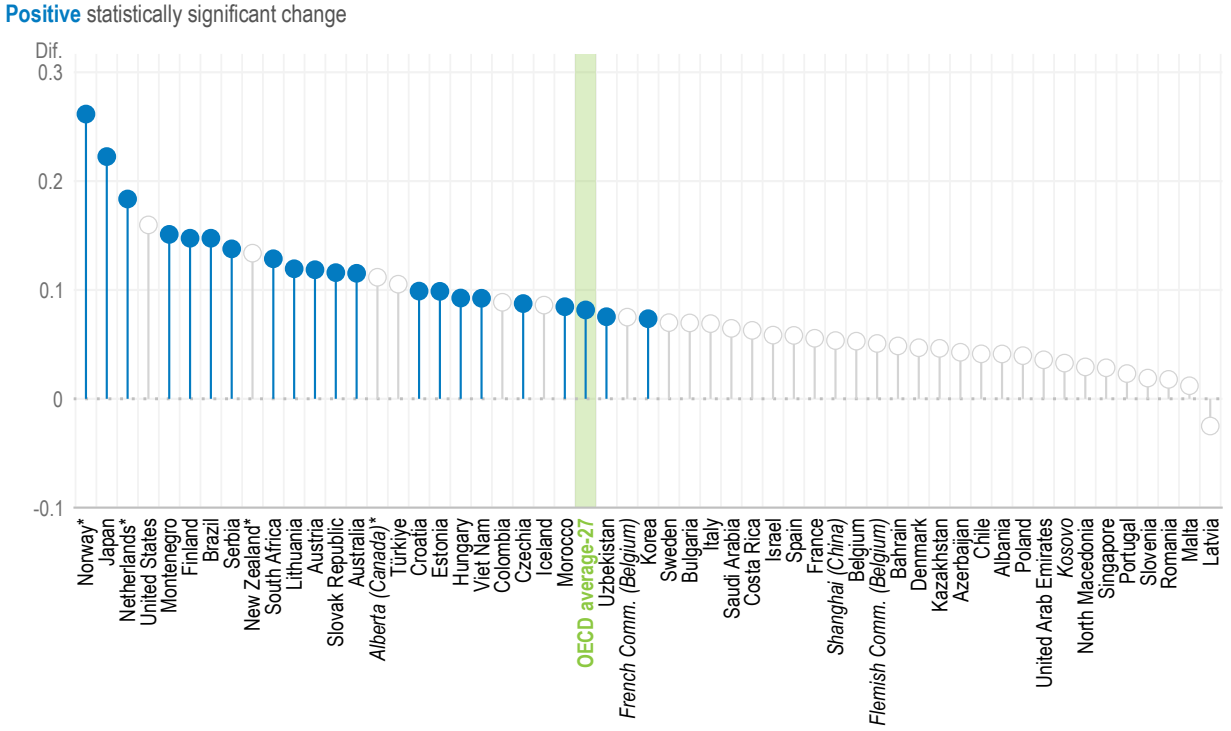
Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order according to the percentage of lower secondary principals in 2024 who "agree" or "strongly agree" that, all in all, they are satisfied with their jobs.
Source: OECD, *TALIS 2018 and TALIS 2024 Databases*, Table 2.23.

Over 90% of principals are, all in all, satisfied with their jobs (Table 2.22) in most education systems. Yet, in Alberta (Canada)*, France, Japan and Norway*, the share of principals satisfied with their jobs decreased by 7 to 10 percentage points between 2018 and 2024 (Figure 2.8).

Principals who are, overall, satisfied with their jobs tend to be more valued by their teachers, both as instructional (Figure 2.9) and relational leaders (Table 2.25). Principals who feel supported and satisfied in their roles likely make more effective leaders and build stronger relationships with teachers. And feeling appreciated by their teachers, in turn, reinforces their job satisfaction and sense of effectiveness.

Figure 2.9. Relationship between principals' instructional leadership and their job satisfaction

Change in the school-level average of lower secondary principals' instructional leadership scale[1] associated with a one-unit increase in the scale of job satisfaction[1,2]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Results are based on school-level linear regression analysis controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 2.25.

Malta and Morocco have the widest within-country disparities (over 6 index points, equivalent to more than three standard deviations, between the top and bottom deciles) in principals' job satisfaction (Table 2.26). The inter-decile range measures the gap between the top 10% and bottom 10% of schools, showing how widely principals' well-being varies within education systems. This result suggests that individual factors and school contexts are the main drivers of job satisfaction.

Despite being less valued as leaders, older and more experienced (over 10 years) principals tend to be more satisfied with their jobs than their younger and less experienced peers (Table 2.22). On average, the share of principals at age 60 or above who are satisfied with their jobs is 8 percentage points higher compared to principals under age 40. Older and more experienced principals may be more satisfied with their jobs because they have developed greater confidence, stability and coping strategies over time, and may also benefit from greater job security and higher pay (see Chapter 4). Principals who are more satisfied with their work are also more likely to remain in the profession and accumulate experience. Research indicates that younger principals tend to report lower job satisfaction, partly because they experience greater difficulties in their work (Wang, Pollock and Hauseman, 2018[23]).

Principals' job satisfaction also varies by school size (Table 2.27). On average, the share of principals who are satisfied with their jobs is larger in schools with 750 students or more than in schools with fewer than 250 students. Education systems with the largest differences (between 16 to 22 percentage points) include Finland, Japan and Sweden. Principals in larger schools may report higher job satisfaction because broader professional opportunities make their roles more rewarding. Research shows that opportunities for personal development are a key intrinsic job resource linked to higher job satisfaction (Skaalvik, 2023[24]).

Well-being

TALIS measures principals' well-being by asking principals to what extent ("not at all"; "to some extent"; "quite a bit"; "a lot") they experience stress and health issues in their work. Does their job leave them time for their personal life? Does it negatively impact their mental and physical health? The scale of principals' workplace stress and health issues summarises principals' responses to these items.[7]

A certain level of stress can motivate professionals to perform well and take responsibility for their work. However, when stress becomes excessive it can result in mental or physical health problems and burnout. Around three in five (61%) principals report experiencing stress "quite a bit" or "a lot" in their work, on average, ranging from below 20% in Azerbaijan and Kazakhstan to over 80% in Bulgaria, Hungary, Italy, Portugal and Belgium's Flemish Community (Table 2.28).

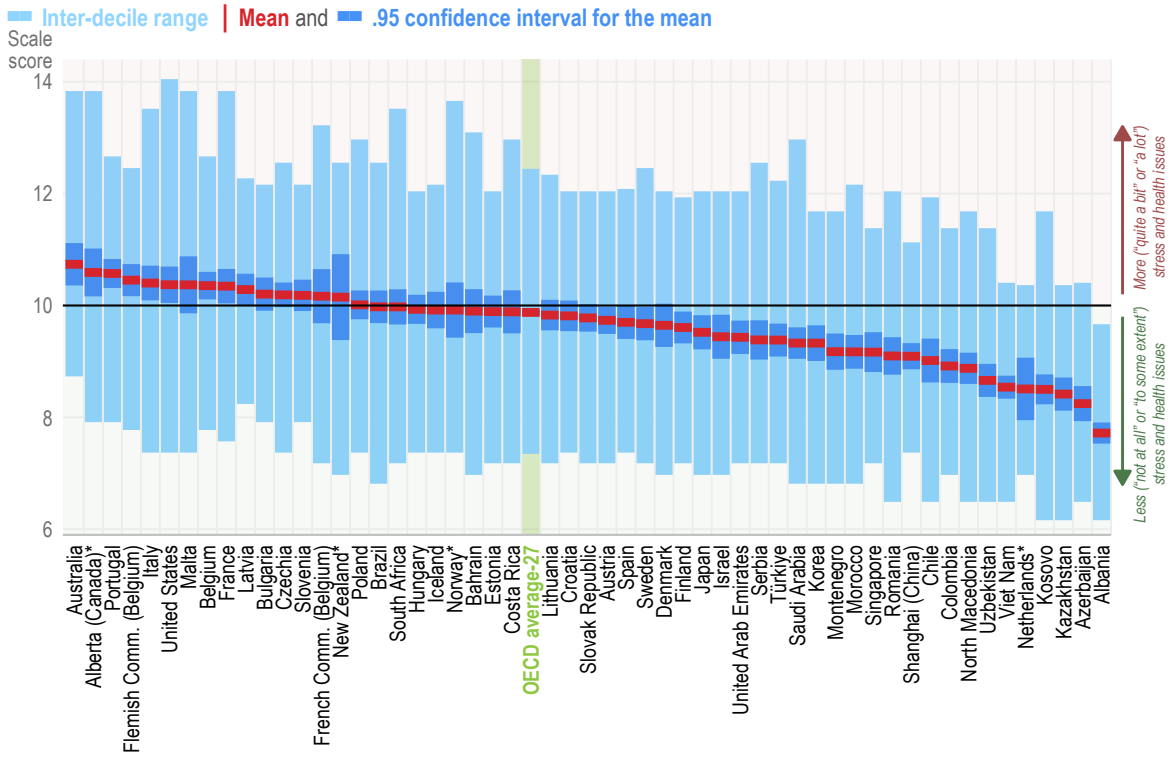
Differences in well-being

The country-level distributions of workplace stress and health issues highlight that disparities are widest (over 6 index points, equivalent to more than three standard deviations, between the top and bottom deciles) in the United States, Malta, South Africa, Norway*, France, Saudi Arabia, Italy and Bahrain (Figure 2.10).

Within-country imbalances in principals' well-being are driven by differences in individual factors and school contexts. For example, studies highlight that women employees tend to be more stressed than their colleagues who are men (Gallup, 2026[25]; Gao, Ping and Liu, 2020[26]; Matud, 2004[27]), which is also the case for female and male teachers (OECD, 2025[28]). TALIS data from school leaders support these conclusions. Younger (under age 40) and less experienced (5 years or less) principals, those who are women, as well as those in urban schools and schools with more students with language difficulties (over 10%), report higher work-related stress, on average (Tables 2.28 and 2.30).

Figure 2.10. Principals' workplace stress and health issues

Scale of lower secondary principals' workplace stress and health issues



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the mean scale score.
Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. Higher values on the workplace stress and health issues scale reflect lower levels of well-being. Scale scores above 10 indicate more stress and health issues (corresponding to responses of "quite a bit" or "a lot"), scores below 10 indicate less stress and health issues (corresponding to "not at all" or "to some extent"), while scores of exactly 10 represent the mid-point of the scale between "to some extent" and "quite a bit". For more information on the scales, see Annex B.
The inter-decile range measures the gap between the top 10% and bottom 10% of schools, showing how widely principals' well-being vary within education systems.
A 95% confidence interval shows the range within which the true value is likely to lie, taking into account the uncertainty associated with survey estimates. It shows how precise an estimate is: narrower intervals indicate greater precision, while wider intervals indicate greater uncertainty.
Source: OECD, *TALIS 2024 Database*, Table 2.29.

Sources of stress

TALIS measures principals' sources of stress by asking to what extent ("not at all"; "to some extent"; "quite a bit"; "a lot") they encounter the following stressors in their work: having too much teacher appraisal and feedback work; having too much administrative work; having extra duties due to absent school staff; being held responsible for students' achievement; maintaining school discipline; being intimidated or verbally abused by students; keeping up with changing requirements from authorities; addressing parent or guardian concerns; accommodating students with special education needs; being held responsible for students' social and emotional well-being; and having to adapt the school's practices due to unexpected disruptions.

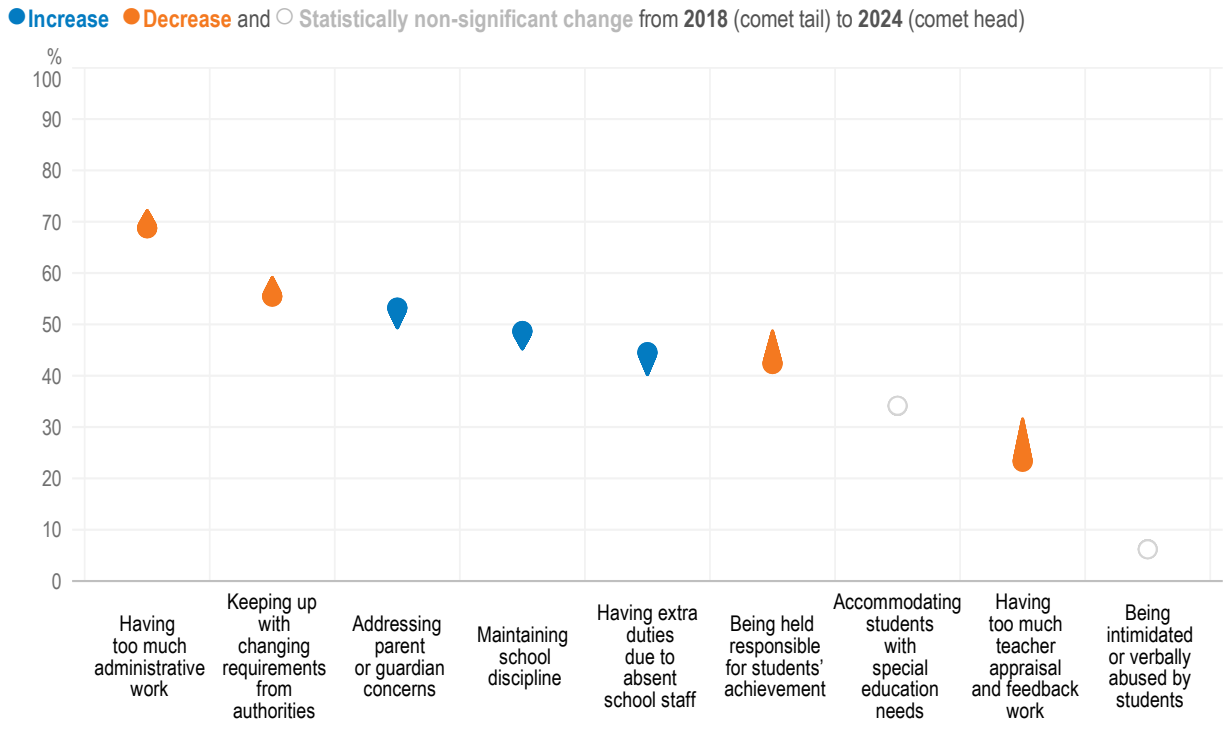
On average, principals most frequently report stress from excessive administrative work (68% of principals report it as a source of stress "quite a bit" or "a lot"), followed by changing requirements from authorities (56%) and addressing parents' concerns (53%) (Table 2.34). Excessive administrative work is negatively associated with perceived instructional leadership (Table 2.31), suggesting that greater administrative

demands may leave principals with less time to focus on teaching and learning. Stress from covering for staff absences and maintaining school discipline are also negatively associated with perceived instructional and relational leadership (Tables 2.31 and 2.32). Conversely, schools with weaker leadership are often more prone to staff absenteeism and disciplinary challenges, creating a vicious circle.

Extra duties due to staff absences, maintaining school discipline and addressing parent concerns are the only stressors principals reported more often in 2024 than 2018 (Figure 2.11). The share of principals reporting these three sources of stress increased, on average, by 4 percentage points, reaching 45%, 49% and 53%, respectively.

Figure 2.11. Change in principals' sources of stress, from 2018 to 2024

Percentage of lower secondary principals who report that the following are sources of stress "quite a bit" or "a lot" (OECD average-24)



Note: Education systems are sorted in descending order by the percentage of lower secondary principals in 2024 who report that the following are sources of stress "quite a bit" or "a lot".
Source: OECD, *TALIS 2018 and TALIS 2024 Databases*, Table 2.33.

On average, female principals are more likely to report various sources of stress, including covering for absent staff, maintaining school discipline and excessive administrative work, than their male peers (Table 2.34). Similarly, younger principals under age 40 are more likely than those aged 60 or above to report a range of work-related stressors, on average (Table 2.35).

Principals' sources of stress also vary depending on the kinds of schools they are in:

- Principals in publicly managed schools and those with a larger share of socio-economically disadvantaged students (over 30%) report excessive administrative burden as a stressor more often (Table 2.36);

- Principals in rural schools, publicly managed schools, smaller schools and schools with a larger share of socio-economically disadvantaged students are more likely to report being stressed by absent school staff (Table 2.37); and
- Principals in publicly managed schools, schools with a larger share of socio-economically disadvantaged students and those with more students with language difficulties (over 10%) report school discipline as a stressor more often (Table 2.38).

Differences in stress related to staff absences, disciplinary issues and administrative burden may partly reflect how principals are distributed across school types. As noted earlier, female and younger principals, who report these stressors more often than their male and older colleagues, are overrepresented in smaller schools. Results also point to principals facing cumulative stress burden in schools combining socio-economic disadvantage and language difficulties.

Box 2.4. Valued principals' characteristics and school contexts in upper secondary education

Individual factors

Teachers in upper secondary schools rate experienced principals more highly as instructional leaders (Table 2.5). Upper secondary principals are, on average, one year older than their lower secondary counterparts (Table 2.1). In Portugal and Slovenia, the average age of principals in upper secondary education increased by three years between 2018 and 2024 (Table 2.2). Upper secondary principals tend to be older in urban and larger schools (750 students or more), as well as in schools with a smaller share of special education needs students (10% or less) (Table 2.1).

On average, the share of female principals in upper secondary education is similar to that in lower secondary education (Table 2.9). Between 2018 and 2024, this share increased by 12 percentage points in Portugal and 8 percentage points in Türkiye (Table 2.8). In upper secondary education, women principals are more likely than men to work in smaller schools (fewer than 250 students) (Table 2.9).

School contexts

Upper secondary principals in larger schools are less valued as instructional leaders than their colleagues in smaller schools (Table 2.13).

Job satisfaction and well-being

On average, 96% of upper secondary principals "agree" or "strongly agree" that, overall, they are satisfied with their jobs (Table 2.22). Of these, experienced principals (with 10 or more years of experience) are more likely to be happy with their jobs than principals with five years of experience or less.

The share of principals in upper secondary education who report experiencing stress "quite a bit" or "a lot" in their work is, on average, 10 percentage points lower compared to principals in lower secondary education (Table 2.28). Among the 11 sources of stress surveyed, a smaller share of upper secondary principals report experiencing stress "quite a bit" or "a lot" in six areas compared to lower secondary principals (Table 2.34). And upper secondary principals who report being held responsible for students' achievement as a source of stress "quite a bit" or "a lot" tend to be more highly valued instructional leaders (Table 2.31). Within upper secondary education, principals in privately managed schools are less likely than those in publicly managed schools to report excessive administrative work and extra duties due to staff absences, on average (Tables 2.36 and 2.37).

Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.

Table 2.1. Chapter 2 figures

Figure 2.1		Change in the average age of principals, from 2018 to 2024
Figure 2.1 (ISCED 1)	WEB	Change in the average age of principals, from 2018 to 2024
Figure 2.1 (ISCED 3)	WEB	Change in the average age of principals, from 2018 to 2024
Figure 2.2		Differences in principals' average age, by school characteristics
Figure 2.2 (ISCED 1)	WEB	Differences in principals' average age, by school characteristics
Figure 2.2 (ISCED 3)	WEB	Differences in principals' average age, by school characteristics
Figure 2.3		Relationship between principals' leadership and their age
Figure 2.3 (ISCED 1)	WEB	Relationship between principals' leadership and their age
Figure 2.3 (ISCED 3)	WEB	Relationship between principals' leadership and their age
Figure 2.4		Share of female principals and teachers
Figure 2.5		Change in the share of female principals, from 2018 to 2024
Figure 2.5 (ISCED 1)	WEB	Change in the share of female principals, from 2018 to 2024
Figure 2.5 (ISCED 3)	WEB	Change in the share of female principals, from 2018 to 2024
Figure 2.6		Relationship between principals' instructional leadership and school size
Figure 2.6 (ISCED 1)	WEB	Relationship between principals' instructional leadership and school size
Figure 2.6 (ISCED 3)	WEB	Relationship between principals' instructional leadership and school size
Figure 2.7		Relationship between school safety and behavioural problems, and school size
Figure 2.7 (ISCED 1)	WEB	Relationship between school safety and behavioural problems, and school size
Figure 2.7 (ISCED 3)	WEB	Relationship between school safety and behavioural problems, and school size
Figure 2.8		Change in principals' job satisfaction, from 2018 to 2024
Figure 2.8 (ISCED 1)	WEB	Change in principals' job satisfaction, from 2018 to 2024
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Figure 2.9		Relationship between principals' instructional leadership and their job satisfaction
Figure 2.9 (ISCED 1)	WEB	Relationship between principals' instructional leadership and their job satisfaction
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Figure 2.10		Principals' workplace stress and health issues
Figure 2.10 (ISCED 1)	WEB	Principals' workplace stress and health issues
Figure 2.10 (ISCED 3)	WEB	Principals' workplace stress and health issues
Figure 2.11		Change in principals' sources of stress, from 2018 to 2024

StatLink https://stat.link/c53miw

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Notes

[1] This report defines valued leadership based on teachers' views about their principals' instructional and relational leadership. The conceptualisation of valued leadership is guided by the Teaching and Learning

International Survey (TALIS) 2024 Conceptual Framework (OECD, 2025[29]), which identifies instructional and relational leadership as key domains of school leadership. To note, TALIS does not survey teachers about their views on other important aspects of principals' leadership, such as managerial leadership. Moreover, the instructional and relational leadership scales, which are based on teachers' perceptions, may partly reflect principals' popularity rather than leadership quality. Principals who make difficult but necessary decisions may consequently be viewed less favourably, even when their leadership is highly effective.

[2] Descriptive statistics for the control variables can be found in the online **TALIS 2024 Statistical Compendium**.

[3] Coefficients for the OECD and TALIS averages may be statistically significant even when country-level coefficients are statistically significant in only a small number of participating education systems. As such, these average results may not reflect a consistent pattern across education systems.

[4] The instructional leadership scale (T4INSTLE) summarises teachers' responses to three four-point agreement items ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their school principal. The scale is constructed using latent variable modelling within a confirmatory factor analysis (CFA) framework and is based on the following items: "The principal encourages co-operation among teachers to develop new teaching practices"; "The principal ensures that teachers take responsibility for improving their teaching skills"; "The principal ensures that teachers feel responsible for their students' learning outcomes". Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale.

[5] The relational leadership scale (T4RELEAD) summarises teachers' responses to four four-point agreement items ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their school principal. The scale is constructed using latent variable modelling within a CFA framework and is based on the following items: "The principal has a clear vision for this school"; "The principal encourages all staff to have a say on important decisions"; "The principal has good professional relationships with staff"; "The principal has good professional relationships with parents or guardians". Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale.

[6] The scale of job satisfaction overall (principal) (T4PJOBSAT) was constructed as an average of the two subscales: job satisfaction with profession (T4PJSPROT) and job satisfaction with work environment (T4PJSENVT). Standardised scale scores with a standard deviation of 2 and a mean of 10.

[7] The scale of principals' workplace stress and health issues (T4PWELS) is constructed using latent variable modelling within a CFA framework. Higher values on the scale reflect lower levels of well-being. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale.

3 What valued principals do

This chapter explores how valued principals lead their schools. How do valued principals support teachers and teaching, and connect with students, parents and the community? What can be learned about school management undervalued principals? It also discusses how much practices associated with valued leadership vary across countries in terms of principal and school characteristics, and their changes over time.

Highlights

- **Valued principals focus on curriculum and instructional tasks**, such as classroom observation and teacher feedback; **support teacher leadership**; **use school- and classroom-based results in formal teacher appraisal; follow appraisal with development/training plans**; and **actively involve stakeholders in decision making and school activities**.
- **Female principals and those with over 20 years of teaching experience are more likely to spend time on curriculum- and teaching-related tasks on a weekly basis**. This is also true of principals in urban schools and schools with a greater intake of students with special education needs (over 30%).
- **Female principals are, on average, more likely than male principals to engage in classroom observation, provide feedback and foster teacher collaboration**. These practices have become more widespread since 2018.
- **The share of principals reporting that teachers lead their own professional growth is high, on average** (88%), and **even higher in privately managed schools and schools with fewer students with special education needs and disadvantaged backgrounds** (10% or less). It is also more commonly reported by older and more experienced principals.
- **Between 2018 and 2024, on average, the use of school- and classroom-based results as part of teachers' formal appraisal decreased from 70% to 61%**.
- **It is common for principals to provide opportunities for staff** (98%, on average), **parents** (81%) and **students** (85%) **to actively participate in school decisions**. Between 2018 and 2024, the share of principals reporting that their school provides opportunities for students to participate in school decisions increased by 6 percentage points, on average.
- **Most principals report making efforts to engage with students** (80%, on average) **and the local community** (70%), **while involving parents and guardians in school activities is less common** (45%). Principals with more than 10 years of experience, principals in privately managed schools and those in schools with fewer disadvantaged students (10% or less), students with language difficulties (none), or students with special education needs (10% or less) report stronger engagement with parents and guardians.

Introduction

Principals' activities, interactions and decisions in schools shape and reflect their leadership approaches and priorities. This influences how teachers perceive them (Darling-Hammond et al., 2022[1]). Examining what valued principals[1] do in schools can provide important insights into leadership practices that support a more positive school climate, better outcomes for students and better teacher retention (see Chapter 1).

At the same time, leadership practices are embedded in broader institutional, organisational and socio-economic contexts that enable, constrain or shape principals' work. Examining where and in which types of schools these practices are more or less prevalent can help policymakers better understand the conditions under which effective forms of leadership are more likely to emerge and where extra support, resources or policy attention may be needed to strengthen or encourage their development.

This chapter first explores principals' practices associated with valued instructional[2] and relational[3] leadership. These include curriculum and instructional tasks, support for teacher leadership, and use of school- and classroom-based results in teacher appraisal and professional development. Then it looks at tasks related to organisation, planning and collaborative decision making in schools. The last section

examines principals' efforts to co-operate with stakeholders outside the school. Each section discusses whether these practices vary across and within education systems, and whether they have changed since the previous Teaching and Learning International Survey (TALIS) cycle, which took place in 2018.

The relationships presented in this chapter are based on regression analyses, which examine how two variables are related, while taking other relevant factors into account that may influence the relationship. Depending on the level of analysis, the regression models control for teacher- or principal-level characteristics (i.e. gender and age), as well as school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).[4] The relationships identified and discussed meet the following conditions:

- coefficients for OECD and TALIS averages are statistically significant;[5]
- at least two-thirds of participating education systems with available data have coefficients with the same sign as OECD and TALIS averages, regardless of statistical significance.

To note, the design of TALIS does not allow for the establishment of causal relationships. All regression analyses presented in this report should therefore be interpreted as identifying the presence (or absence) of statistical associations, i.e. whether or not variation in one variable is systematically associated with variation in another. However, they do not permit conclusions about causality; in other words, they cannot determine whether variation in one variable causes a change in another, while holding all other factors constant.

Support for teachers and teaching

While administrative and managerial tasks take up a large share of principals' time (Pont, Nusche and Moorman, 2008[2]), principals are also increasingly expected to support teachers and help improve teaching. Principals monitor teachers' practices, organise induction and mentoring, plan professional development opportunities and strengthen a culture and community of learning in schools (Pont, Nusche and Moorman, 2008[2]). By shaping teachers' professional development and working environment, principals contribute, directly and indirectly, to improving student outcomes and retaining teachers (Darling-Hammond et al., 2026[3]; Leithwood, Harris and Hopkins, 2008[4]; Pont, Nusche and Moorman, 2008[2]).

Curriculum and instruction

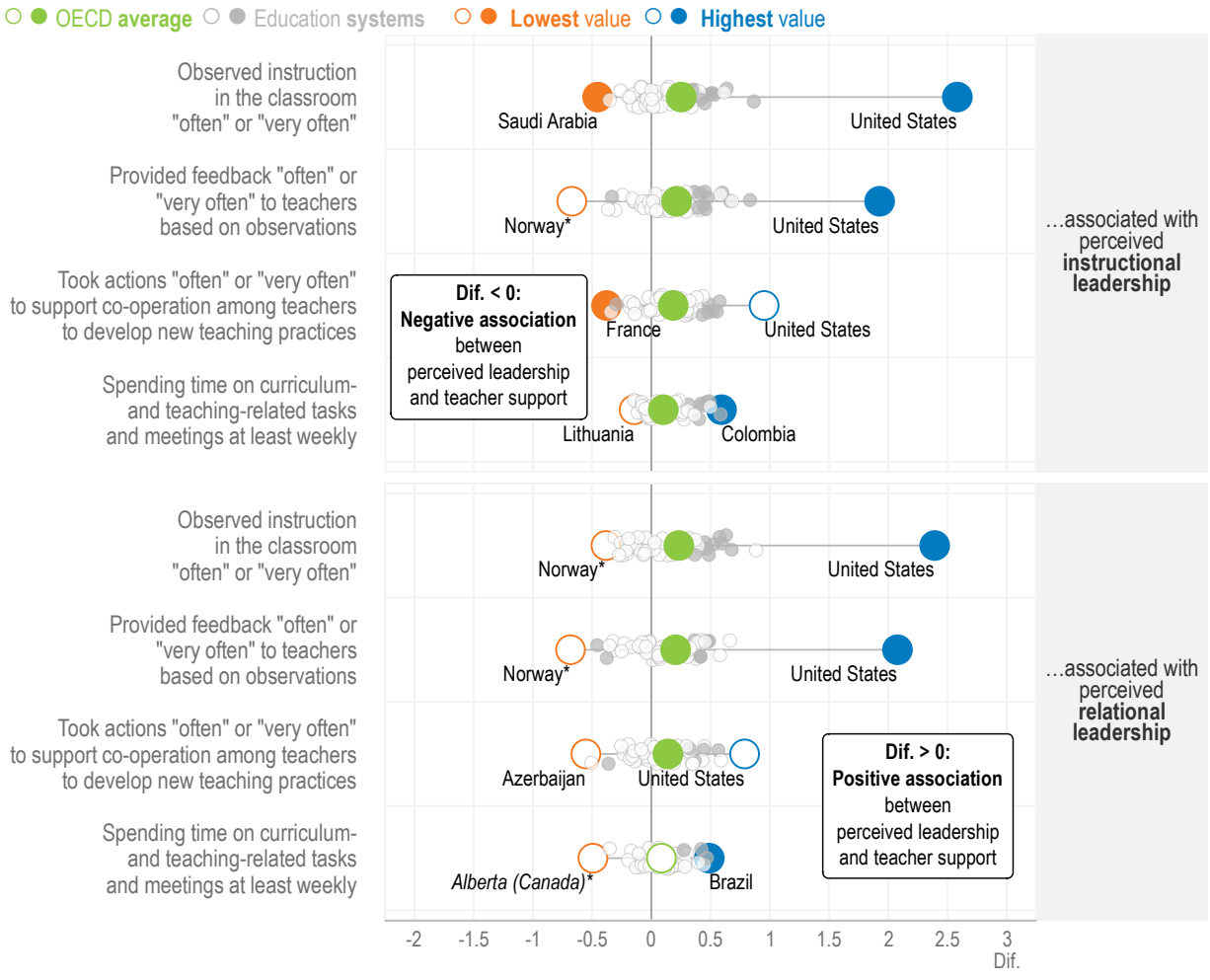
Research suggests that regular interactions with teachers on curriculum and teaching is a hallmark of effective leadership (Grissom, Egalite and Lindsay, 2021[5]). Principals can support teachers in this regard by observing their classes, providing feedback or organising collaborative activities.

TALIS 2024 results show that, on average:

- Nearly half of principals (49%) spend time on curriculum- and teaching-related tasks and meetings at least weekly (Table 3.3);
- About half of principals (49%) observed instruction in the classroom "often" or "very often" in the 12 months prior to the survey (Table 3.8);
- Some 56% of principals gave feedback to teachers based on their observation "often" or "very often" in the 12 months prior to the survey (Table 3.8);
- Some 60% of principals helped teachers co-operate to develop new teaching practices "often" or "very often" in the 12 months prior to the survey (Table 3.8).

Figure 3.1. Relationship between principals' perceived leadership and their support of curriculum and instruction

Change in the school-level averages of lower secondary principals' instructional and relational leadership scales[1] associated with the following practices related to curriculum- and instruction[2,3]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Binary variables: the reference categories refer to "never or rarely" and "sometimes"; and "monthly" or less frequently.
3. Results are based on school-level linear regression analyses controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Tables 3.1, 3.2, 3.5 and 3.6.

Regression analyses indicate that principals who spend time on these instructional tasks are perceived more positively as instructional leaders, on average (Figure 3.1). Across education systems, the strongest relationships with instructional leadership are observed in:

- **Regularly observing classroom instruction**: Colombia, the Netherlands* and the United States (Table 3.5).

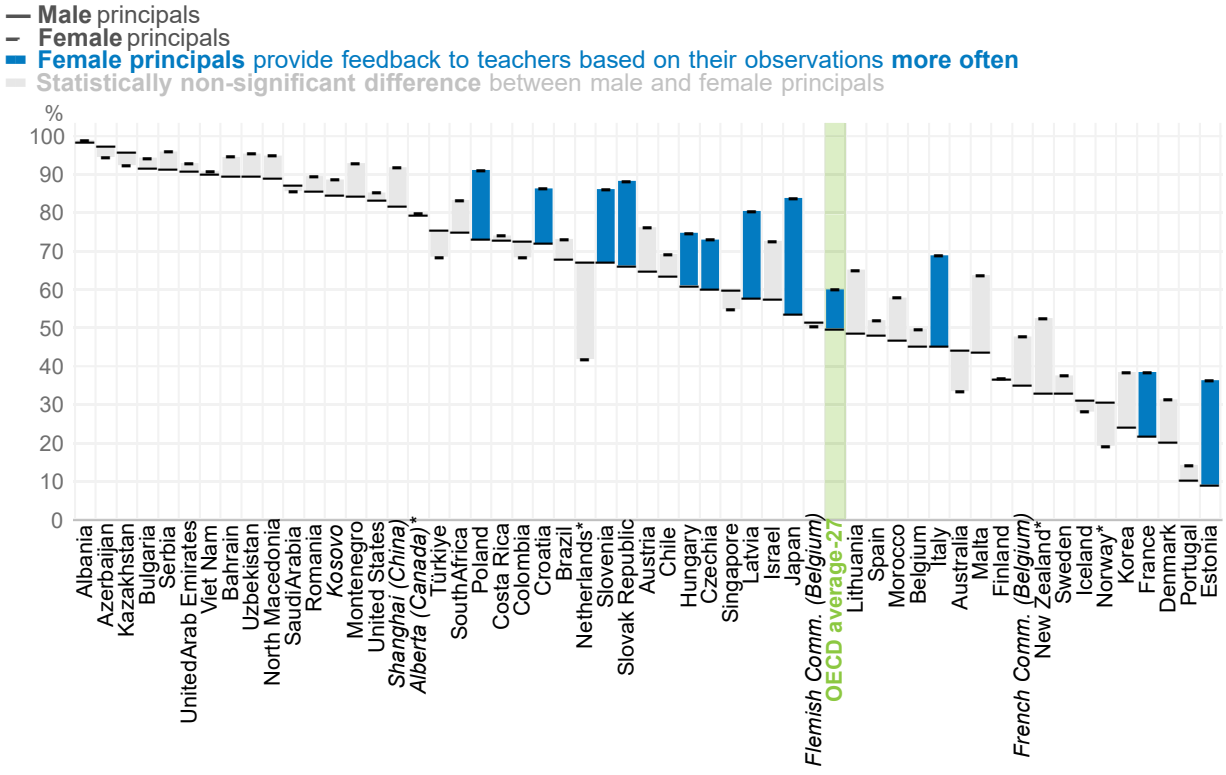
- **Regularly providing feedback to teachers**: Israel, the Netherlands* and the United States (Table 3.5).
- **Regularly supporting teacher co-operation**: Colombia, Japan and South Africa (Table 3.5).
- **Spending time each week on curriculum- and teaching-related tasks and meetings**: Brazil, Colombia and the French Community of Belgium (Table 3.1).

Regarding time spent on instructional practices, however, there are considerable differences across education systems participating in TALIS with available data (hereafter "education systems"). The share of principals who spend time on curriculum- and teaching-related tasks and meetings on a weekly basis ranges from 20% in France to 83% in New Zealand* and 86% in the United Arab Emirates (Table 3.3). And, while virtually all principals in Albania regularly observed instruction in the 12 months prior to the survey, only 8% of principals in Portugal and 10% in France did so (Table 3.8).

On average, female principals and principals with more than 20 years of teaching experience are more likely to spend time on curriculum- and teaching-related tasks on a weekly basis (Table 3.3). Female principals are also more likely than male principals to engage regularly in classroom observation, provide feedback to teachers and foster teacher collaboration (Table 3.8 and Figure 3.2). These results are aligned with meta-analysis showing that female principals engage in more active instructional leadership than their male colleagues (Hallinger, Dongyu and Wang, 2016[6]).

Figure 3.2. Principals providing feedback to teachers, by gender

Percentage of lower secondary principals who report having provided feedback to teachers based on their observations "often" or "very often" during the 12 months prior to the survey



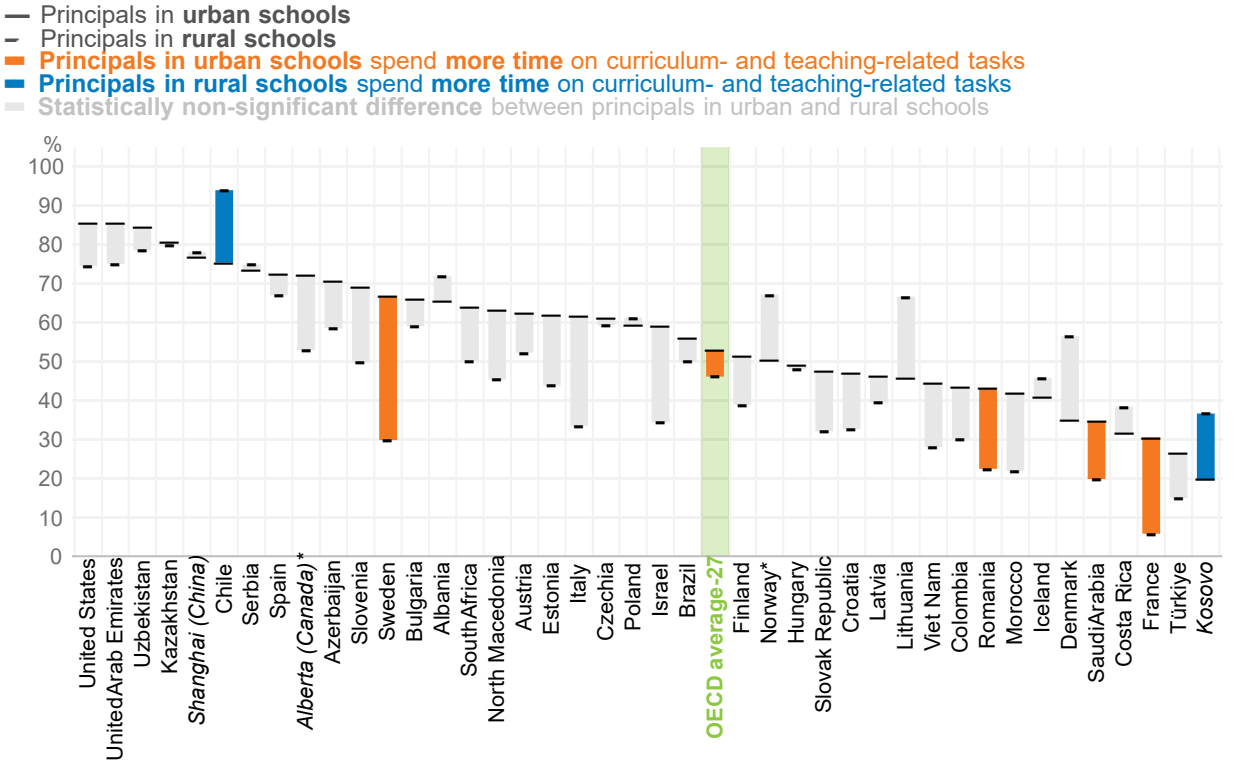
Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of male lower secondary principals who report having provided feedback to teachers based on their observations "often" or "very often" during the 12 months prior to the survey.
Source: OECD, *TALIS 2024 Database*, Table 3.8.

Principals whose formal education or training included instructional leadership are, on average, more likely to use instructional leadership practices (Table 3.7). This finding corroborates studies from the United States showing that principals who had good training in instructional and organisational leadership are more likely to use these practices. This, in turn, is associated with greater teacher collaboration and school improvement (Orphanos and Orr, 2014[7]; Orr and Orphanos, 2011[8]).

School context also matters for principals' engagement with instructional tasks. Principals in urban schools (Figure 3.3), as well as those working in schools with over 30% of students with special education needs, are more likely to spend time on curriculum- and teaching-related tasks (Table 3.4). This pattern may partly reflect contextual challenges. In schools with larger shares of students with special education needs, principals probably need to devote more attention to instructional support because their students have more specific requirements.

Figure 3.3. Principals' curriculum- and teaching-related tasks and meetings, by school location

Percentage of lower secondary principals who report spending time on curriculum- and teaching-related tasks and meetings at least weekly



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of lower secondary principals in urban schools who report spending time on curriculum- and teaching-related tasks and meetings at least weekly.
Rural schools refer to those located in rural areas or villages (up to 3 000 people). Urban schools refer to those located in a community with a population of over 100 000 people.
Source: OECD, *TALIS 2024 Database*, Table 3.4.

Some instructional practices became more widespread between 2018 and 2024 (Table 3.11):

- Collaborating with teachers to solve classroom discipline problems increased by 13 percentage points, on average. The largest increases are observed in Finland (28 percentage points) and Japan (28 percentage points).
- Classroom observation increased by 7 percentage points, on average. The largest increases are observed in Alberta (Canada)* (23 percentage points), Spain (22 percentage points) and Latvia (21 percentage points). See Box 3.1 for examples from Latvia and Spain of policies designed to strengthen classroom observation and feedback[6].
- Providing feedback to teachers based on classroom observations increased by 4 percentage points, on average.

These trends suggest that, despite growing emphasis on collaborative and indirect forms of instructional leadership in the literature (OECD, 2020[9]), principals' direct involvement with teachers' practice remains prevalent across schools. Moreover, the fact that both classroom observation and feedback are increasing at the same time in a few countries (i.e. Italy, Japan, Spain) can be a positive sign, as studies suggest that the discussions that follow classroom observation are the most valuable part of the process (Sartain, Stoelinga and Brown, 2011[10]).

Box 3.1. Engaging principals in classroom observation

Spanish Framework for Good School Principalship (MEBD, 2016–2018) is a professional framework developed by principal federations positioning instructional leadership – including direct engagement with teaching and learning – as the defining dimension of effective school leadership in **Spain**. This framework was later complemented by Spain's Organic Law on Education 3/2020 (LOMLOE), which reinforced the expectation that school principals must combine administrative management with pedagogical leadership, assigning them legal responsibility for leading the school's pedagogical activity. While classroom observation is not a requirement, the fact that these initiatives have emphasised principals' instructional leadership may explain the observed increase in Spanish principals' engaging in this practice.

Latvia's Guidelines for Ensuring the Quality of Education in General and Vocational Education entered into force in January 2022 and apply to ISCED levels 1–3. The guidelines specify indicators used to evaluate school principals. These indicators include classroom observation and feedback to teachers. Importantly, the guidelines also set out a minimum number of observed teaching hours that principals must undertake per semester or year. Taken together, these provisions formalise classroom observation as part of the professional responsibilities of school principals and provide concrete, quantified requirements that help keep principals accountable.

Sources:
Martínez Sánchez, J. A. and Bolívar Botía, A. (coords.) (2022), El Marco Español para la Buena Dirección Escolar [Spanish Framework for Good School Principalship], FEAE/FEDADi, November 2022. https://www.adimad.org/wp-content/uploads/2025/07/el-marco-espanol-para-la-buena-direccion-escolar.pdf
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State Education Quality Service (IKVD) (2022), *Vadlīnijas izglītības kvalitātes nodrošināšanai vispārējā un profesionālajā izglītībā* [Guidelines for Ensuring the Quality of Education in General and Vocational Education], https://www.ikvd.gov.lv/lv/jaunums/publicetas-vadlinijas-izglitibas-kvalitates-nodrosinasanai-vispareja-un-profesionalaja-izglitiba

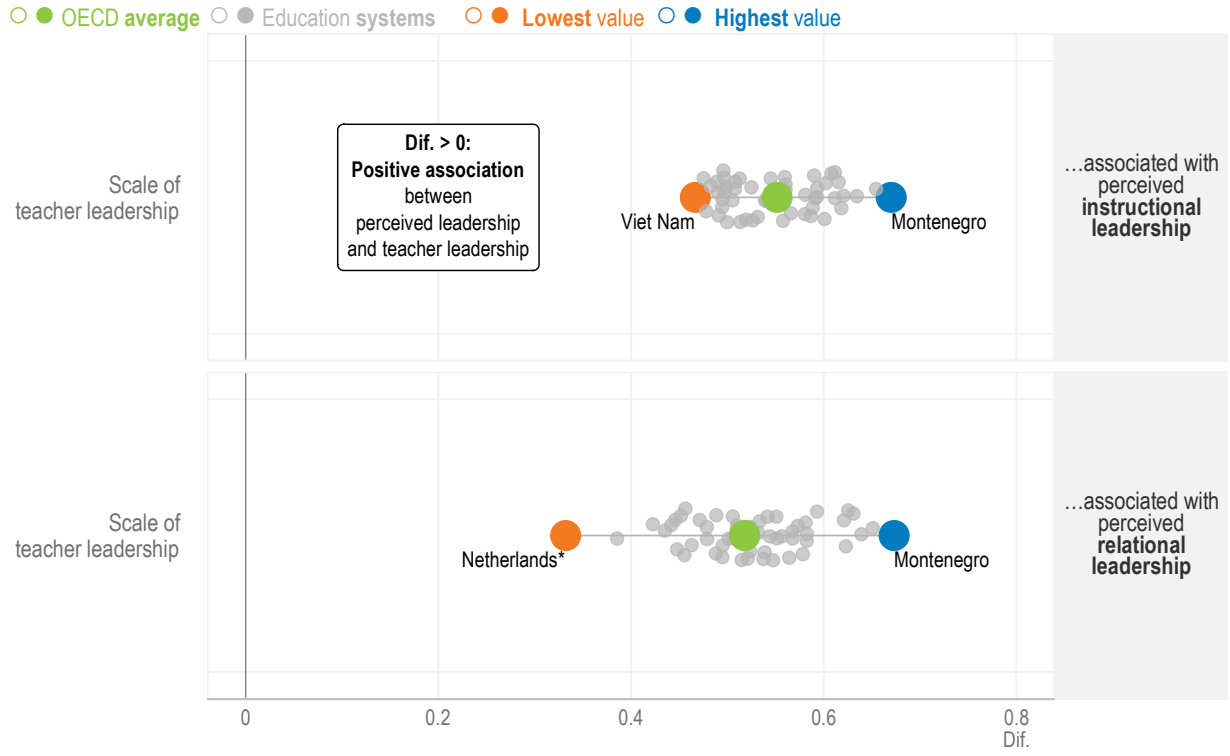
Teacher leadership

Teacher leadership refers to the capacity of teachers to influence their own development and their schools' culture (OECD, 2025[11]). Research evidence suggests that teacher leadership is critical on a few fronts. Li and Liu (2022[12]) found, for example, that teacher leadership is associated with teachers' self-efficacy and student learning. There is also evidence linking teacher leadership with higher levels of job satisfaction and lower turnover among teachers (OECD, 2025[11]; Schott, van Roekel and Tummers, 2020[13]), greater parental involvement (Vranješević and Frost, 2016[14]) and stronger students' educational motivation (Öqvist and Malmström, 2018[15]). Principals play a critical role in creating a school environment that fosters teacher leadership.

TALIS 2024 measures teacher leadership by asking teachers and principals how much they agree (i.e. "strongly disagree"; "disagree"; "agree"; "strongly agree") with the following statements about their schools: teachers take leadership roles in promoting a professional learning community; teachers initiate and lead collaborative activities; teachers lead their professional growth and development activities whenever possible; teachers participate in non-teaching school events and projects.

Figure 3.4. Relationship between principals' leadership and teacher leadership

Change in the scales of lower secondary principals' instructional and relational leadership[1] associated with a one-unit increase in the scale of teacher leadership[1,2]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Results are based on teacher-level linear regression analyses controlling for teacher characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 3.14.

The share of principals reporting that teachers in the school lead their own professional growth is high (88%), on average (Table 3.15). However, there is variation across systems, ranging from around half of principals in France (52%) to near-universal agreement in several systems (e.g. Albania, Bulgaria, Denmark, Korea, Romania, Singapore, Uzbekistan and Viet Nam). There is also variation with regards to principals' reports (see Box 3.2).

Regression analyses based on TALIS 2024 data show that teachers who report higher levels of teacher leadership in their schools tend to value their principals' leadership more (Figure 3.4). The positive association between principals' instructional and relational leadership, and teacher leadership holds in all education systems. The strongest relationships with instructional leadership are observed in Chile, Montenegro and Romania, and with relational leadership in Montenegro, Shanghai (China) and Romania (Table 3.14).

Box 3.2. Do teachers and principals agree on the prevalence of teacher leadership?

TALIS 2024 asked both principals and teachers whether their schools encourage teachers to take on a leadership role. Teachers' and principals' reports generally align in showing that teacher leadership is common. However, on average, teachers tend to report less teacher leadership than principals (Table 3.16):

- **Promoting a professional learning community**: while 85% of principals report that teachers take a leadership role in promoting a professional learning community, only 79% of teachers report the same.
- **Leading collaborative activities**: 91% of principals report that teachers initiate and lead collaborative activities, while only 84% of teachers report the same.
- **Leading professional growth**: 84% of teachers report that teachers lead their professional growth and development activities. The share of principals reporting the same is slightly higher, at 88%.
- **Participating in non-teaching school events and projects:** the share reporting that teachers participate in non-teaching school events and projects is slightly higher among principals (87%) than teachers (84%).

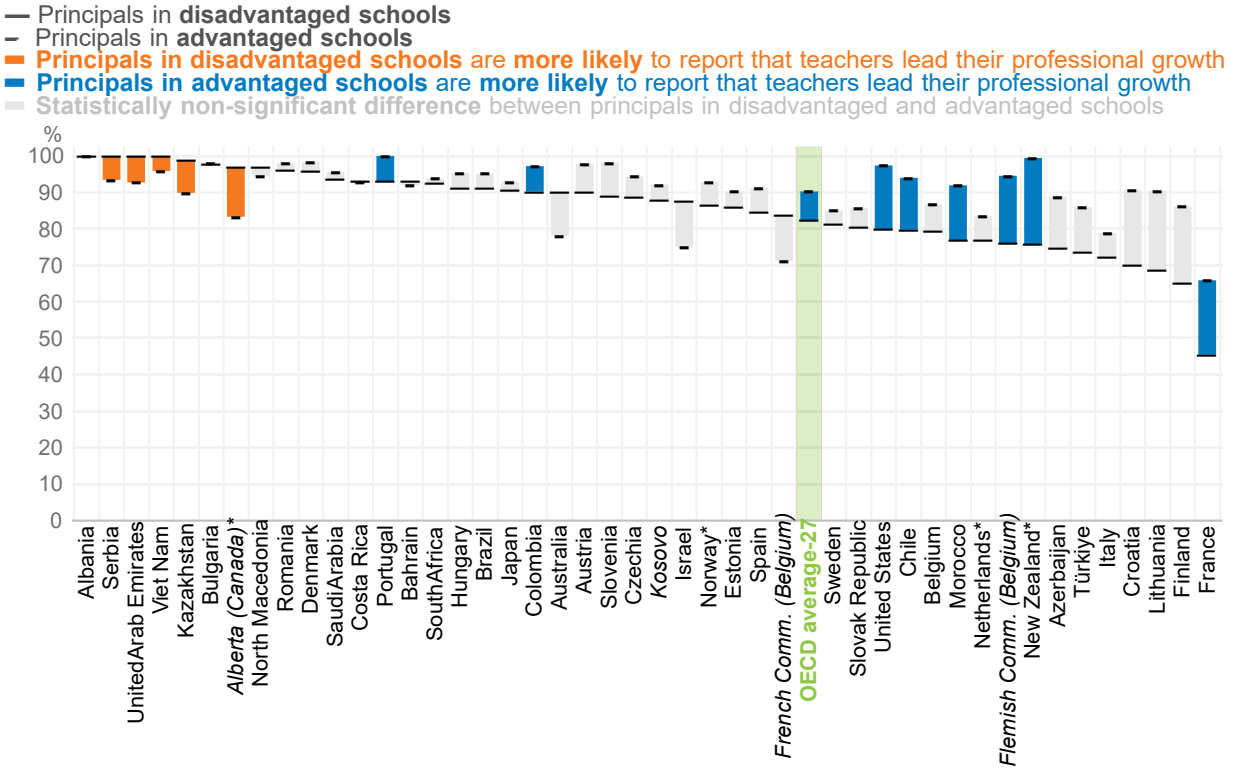
Teacher leadership varies by principal and school characteristics. On average, the share of principals reporting that teachers lead their own professional growth and development activities is higher among older (age 60 and above) and more experienced (over 10 years) principals than their younger and less experienced peers (by 10 and 4 percentage points, respectively) (Table 3.15). It is also more commonly reported, on average, in privately managed schools (by 5 percentage points), in schools with 10% or less of students with special education needs and in schools with 10% or less of students with disadvantaged backgrounds (by 7 percentage points, respectively) (Table 3.17 and Figure 3.5). The observed variation in teacher-led professional growth and development is consistent with evidence suggesting that teachers' engagement in professional learning depends on their professional environment and the opportunities and support available to them (Kraft and Papay, 2014[16]).

Figure 3.5 also reveals that in systems where teacher-led professional growth is already widespread, principals in disadvantaged schools are sometimes more likely to report these practices (e.g. Alberta [Canada]*, Kazakhstan, Serbia, the United Arab Emirates and Viet Nam). By contrast, in systems where there is less teacher-led professional growth overall, these practices are reported more often by principals in advantaged schools, as is the case in Chile, Colombia, the Flemish Community of Belgium, France, Morocco, Portugal, New Zealand* and the United States. This disparity may reflect the difficulties of

sustaining such practices in certain school environments unless they are strongly embedded across the entire education system.

Figure 3.5. Principals' views on teacher leadership in their professional growth, by school intake of socio-economically disadvantaged students

Percentage of lower secondary principals who "agree" or "strongly agree" that teachers at the school lead their professional growth and development activities whenever possible



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of lower secondary principals in disadvantaged schools who "agree" or "strongly agree" that teachers at the school lead their professional growth and development activities whenever possible.
Advantaged schools are those with 10% or less of students from socio-economically disadvantaged homes. Disadvantaged schools are those with more than 30% of students from socio-economically disadvantaged homes.
Source: OECD, TALIS 2024 Database, Table 3.17.

Teacher appraisal

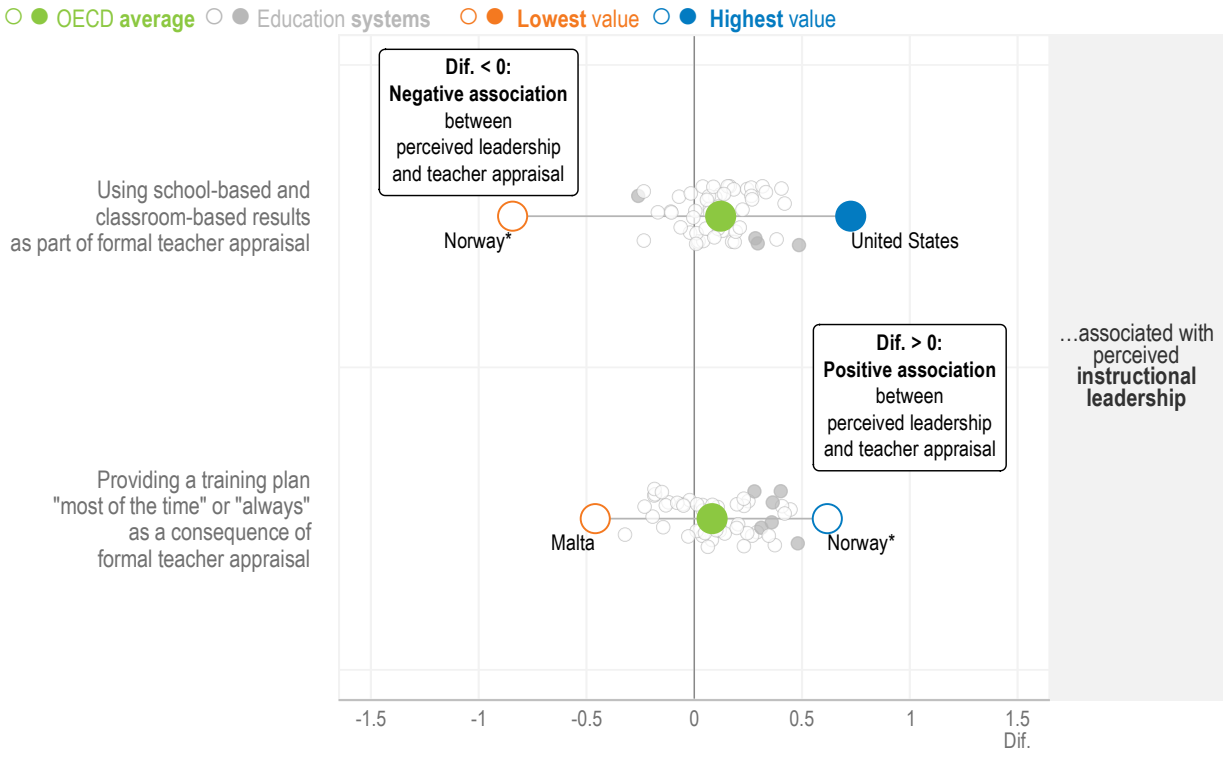
Formal teacher appraisal, the act of reviewing teacher performance, is meant to support teachers' professional practice by helping teachers identify strengths and areas for development and holding them accountable for their performance. While the TALIS 2024 Initial Report covered the relationship between appraisal and teachers' well-being (OECD, 2025[17]), this section focuses on how it connects with teachers' perceptions of principals.

Teacher appraisal led by principals is common in most education systems. On average, 88% of teachers work in schools where they are formally appraised at least once a year by their principals – see Table 3.47 in *Results from TALIS 2024* (OECD, 2025[17]). Only 5% of teachers work in schools where teachers are never formally appraised.

Based on TALIS 2024 data, there is no association between principals' instructional or relational leadership and whether they formally appraise teachers at least once a year (Tables 3.18 and 3.19). However, principals who report using school- and classroom-based assessment results as part of formal teacher appraisal or preparing development/training plans following formal teacher appraisal, are generally more valued as instructional leaders (Figure 3.6). Using school- and classroom-based assessment results for teacher appraisal is positively associated with instructional leadership on average, and in Kazakhstan, Poland, the United Arab Emirates and the United States (Table 3.18). Similarly, preparing development or training plans following teacher appraisal is positively associated with instructional leadership on average, and in Australia, Colombia, Romania, Singapore, Slovenia and Spain (Table 3.23).

Figure 3.6. Relationship between principals' instructional leadership and formal teacher appraisal

Change in the school-level averages of lower secondary principals' instructional leadership scale[1] associated with the following aspects of formal teacher appraisal[2,3]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Binary variables: the reference categories refer to not using school- and classroom-based results as part of formal teacher appraisal and providing a training plan as a consequence of formal teacher appraisal "never" or "sometimes".
3. Results are based on school-level linear regression analyses controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Tables 3.18 and 3.23.

This finding suggests that teachers' perceptions of leadership are shaped less by the frequency of formal appraisal processes than by how appraisal is implemented, including the evidence used and whether it

leads to meaningful professional development opportunities. This interpretation is consistent with the OECD's *Synergies for Better Learning.* The report concluded that "it is not the existence of formal (teacher) appraisal requirements but the design and quality of the processes that seem to matter most for its effect on teaching and learning outcomes" (OECD, 2013[18]).

On average, 62% of principals use assessments of teachers' school- and classroom-based results as part of formal teacher appraisal, although this ranges from 35% in Korea to 85% in the United States (Table 3.20). An average of 47% of principals report that a training or professional development plan is developed "most of the time" or "always", following a formal teacher appraisal, with particularly wide variation across systems, ranging from 8% in Iceland to 94% in Kazakhstan (Table 3.25). The limited use of professional development plans is concerning, as teacher appraisal is unlikely to improve teaching and learning if it is not clearly linked to teachers' professional growth (Goe, Biggers and Croft, 2012[19]; OECD, 2013[18]).

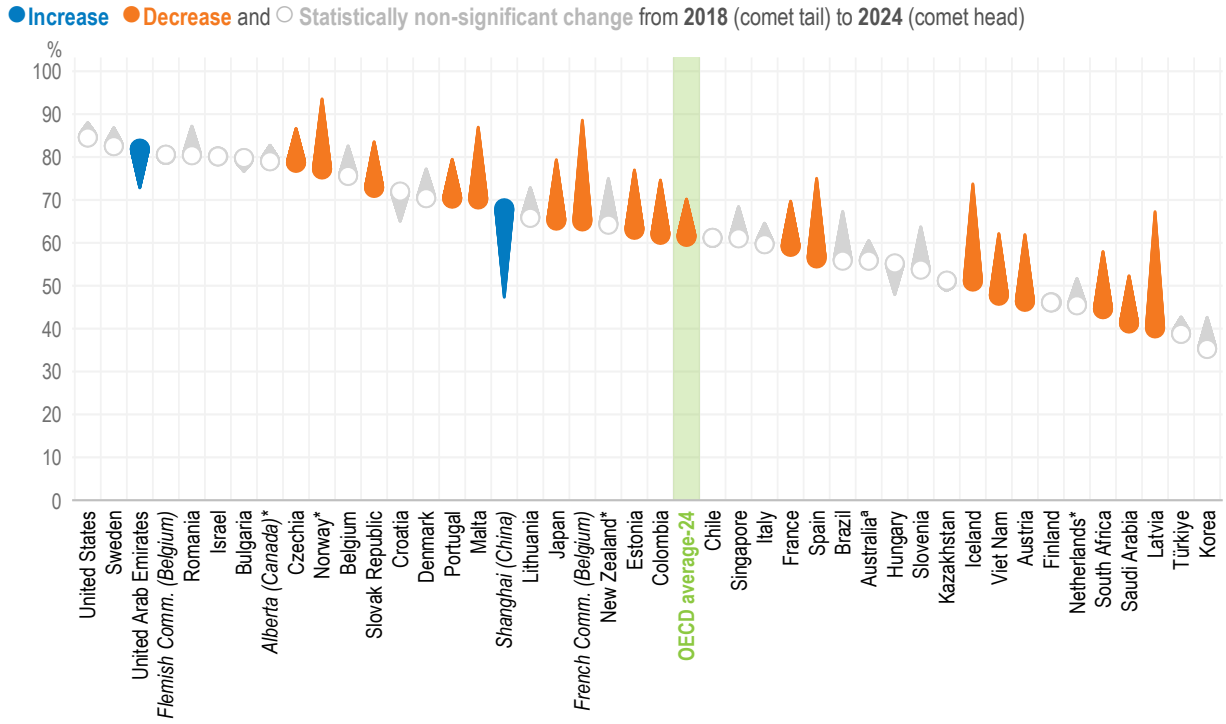
Within education systems, principals in schools with over 30% of socio-economically disadvantaged students are more likely to develop such plans following appraisal compared to their counterparts in schools with 10% or less of such students (Table 3.26). On average, the difference is 9 percentage points. In Austria, Denmark, Israel, Kosovo, Lithuania and the Netherlands*, this difference ranges between 23 and 63 percentage points. There are exceptions, however. In Azerbaijan, Estonia and Morocco, the share of principals in socio-economically advantaged schools who develop a development or training plan "most of the time" or "always", following formal teacher appraisal, is between 25 and 35 percentage points higher compared to disadvantaged schools.

Between 2018 and 2024, the use of school-based and classroom-based results as part of the formal appraisal of teachers decreased from 70% to 61%, on average (Figure 3.7). The largest declines are observed in Latvia (27 percentage points), the French Community of Belgium (24 percentage points) and Iceland (23 percentage points). Shanghai (China) and the United Arab Emirates are the only systems where the use of school-based and classroom-based results in formal teacher appraisal increased (by 21 and 9 percentage points, respectively) during the same period.

Several factors may explain the decline in the use of school-based and classroom-based results in formal teacher appraisal. Policymakers in some systems are more cautious about relying heavily on these measures due to concerns about excessive accountability pressures. They are also more sceptical about how well such results capture teaching quality (OECD, 2013[18]). In other systems, teacher appraisal may have placed greater emphasis on professional dialogue or other sources of information about teachers' professional performance (e.g. with greater reliance on peer reviews, as discussed in (Quenette and Rybas, 2023[20]).

Figure 3.7. Change in teachers' formal appraisal by principals who report using school- and classroom-based results, from 2018 to 2024

Percentage of lower secondary principals who report using school- and classroom-based results as part of formal teacher appraisal



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of lower secondary principals in 2024 who report using school- and classroom-based results as part of formal teacher appraisal.
Source: OECD, *TALIS 2018 and TALIS 2024 Databases*, Table 3.22.

School management

The smooth running of a school depends on a range of administrative and management tasks. This section explores how principals' engagement in these activities relates to how their instructional and relational leadership is perceived. It also examines the extent to which principals collaborate with other stakeholders in school decision making.

Organisation and planning

TALIS 2024 asked principals questions about the organisation and planning of school operations, including whether schools provide in-person, online or hybrid lessons; the time principals spend on administrative tasks and meetings; the extent to which they review school administrative procedures and reports, or resolve problems with lesson timetables "often" or "very often"; and types of student ability grouping (i.e. for some or all subjects, into different classrooms or the same classroom). Based on TALIS 2024 data, however, principals' reported engagement in these activities is not linked to how they are valued as leaders (Tables 3.28, 3.29, 3.30, 3.31, 3.32, 3.33, 3.34 and 3.35).

This does not imply that principals' management of personnel, resources or daily school operations do not matter. On the contrary, the literature suggests that these responsibilities play an important role in how well a school is run (Grissom, Egalite and Lindsay, 2021[5]). One possible interpretation is that no single organisational structure or management approach is consistently associated with principals' being valued by teachers. Principals may be highly valued regardless of whether teaching is delivered in person or online, or whether students are grouped by ability. Alternatively, what matters may not be organisational arrangements themselves, but how principals implement them to meet their schools' needs. Because TALIS does not capture how effectively principals carry out these practices or the degree of autonomy they have in doing so, the available data do not allow to determine which explanation is more likely.

Box 3.3. What valued principals do in primary education

Principals in primary education are more valued when they report:

- having some, but not excessive, teaching responsibilities (Tables 3.12 and 3.13);
- working on professional learning plans for the school (Tables 3.34 and 3.35);
- actively engaging stakeholders in decision making (Tables 3.34 and 3.35);
- overseeing grouping students by ability in classrooms (Tables 3.32 and 3.33);
- focusing on curriculum and instructional tasks, such as classroom observation and teacher feedback, and supporting the integration of technology for teaching (Tables 3.1, 3.2, 3.5 and 3.6);
- supporting teacher leadership (Table 3.14);
- appraising teachers at least once a year and using assessments of teachers' content knowledge and teachers' self-assessments of their work in formal teacher appraisal, followed by development/training plans (Tables 3.18, 3.19, 3.23 and 3.24);
- interact with students on a weekly basis (Table 3.41).

How much primary school principals use these practices can differ from that observed among principals in lower secondary education. It can also vary across primary school principals depending on school and principal characteristics. For example, there are differences with respect to:

- **Curriculum and instruction:** The share of primary principals who spend time on curriculum- and teaching-related tasks and meetings at least weekly is 3 percentage points higher compared to their colleagues in lower secondary education (Table 3.3). Particularly large differences are observed in the Netherlands* (29 percentage points more) and Australia (26 percentage points more), while the opposite pattern is observed in the United Arab Emirates (9 percentage points fewer). These results may reflect the fact that primary school principals often play a more direct pedagogical and co-ordination role due to younger students, broader teaching responsibilities and smaller school structures.
- **Collaborative decision making:** Within primary education, a larger share of principals from publicly managed schools "agree" or "strongly agree" that staff are given opportunities to actively participate in school decisions than those from privately managed schools (Table 3.39). On average, primary principals are also less likely than lower secondary principals to provide students with opportunities to actively participate in school decision making (Table 3.36). However, increases in student participation opportunities have been observed in Australia[a], France and the United Arab Emirates (Table 3.40).
- **Connections with students, parents and the community:** In primary education, female principals and those working in schools with a large share of socio-economically disadvantaged students (over 30%) are more likely to interact with students at least every week than male

principals and those in schools with a low share of such students (10% or less) (Tables 3.42 and 3.43).

On average, the share of primary principals who report that parents and guardians are involved in school activities "quite a bit" or "a lot" is 7 percentage points higher than in lower secondary education (Table 3.46). Morocco is a notable exception, with a share that is 21 percentage points lower. Between 2018 and 2024, this share increased in the Netherlands*[a] and the United Arab Emirates, but decreased by 22 percentage points in France (Table 3.48).

On average, the share of primary principals reporting good school co-operation with the local community is 4 percentage points higher compared to lower secondary principals (Table 3.52). Among primary principals, those in rural and publicly managed schools, and in schools without students with language difficulties, are more likely to report such co-operation.

Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.

Collaborative decision making

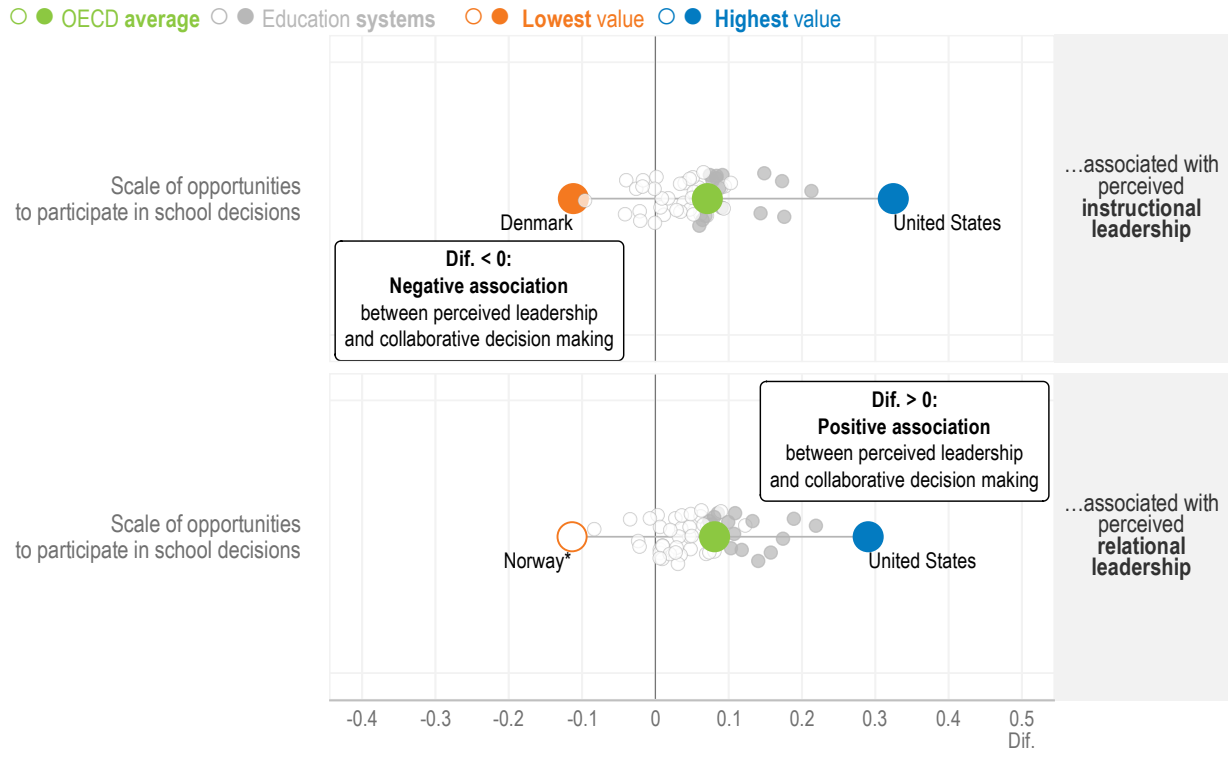
Practices that distribute responsibility and create opportunities for teachers and other stakeholders, such as parents or guardians, to participate in school decision making builds positive school climates. It encourages stronger collegial relationships and collaboration among teachers (Pont, Nusche and Moorman, 2008[2]). The literature also suggests that collaborative and participatory forms of leadership can support teacher retention and students' success (Avvisati et al., 2014[21]). Other studies have identified "bottom up" influence in decision making as a characteristic of highly innovative schools (Geijsel, Sleegers and Van Den Berg, 1999[22]; OECD, 2020[9]).

Across education systems, principals widely report providing opportunities for staff, students and parents to participate in school decisions (Table 3.36). Providing opportunities for staff participation is almost universal, with 98% of principals reporting this, on average. A large share of principals also report opportunities for parents or guardians (81%) and students (85%) to actively participate in school decisions (Table 3.36).

Results from TALIS 2024 corroborate the significance of participatory decision making: regression analyses show that, on average, principals that offer opportunities for other stakeholders to participate in school decisions tend to be more valued as both instructional and relational leaders (Figure 3.8). The strongest relationships with instructional leadership are observed in Colombia, Finland, Latvia, Montenegro, New Zealand* and the United States (Table 3.34), and with relational leadership in Finland, Korea, Latvia, Montenegro, New Zealand*, Sweden and the United States (Table 3.35).

Figure 3.8. Relationship between principals' leadership and teachers', parents' and students' opportunities to participate in school decisions

Change in the school-level averages of lower secondary principals' instructional and relational leadership scales[1] associated with a one-unit increase in the scale of opportunities to participate in school decisions[1,2]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Results are based on school-level linear regression analyses controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Tables 3.34 and 3.35.

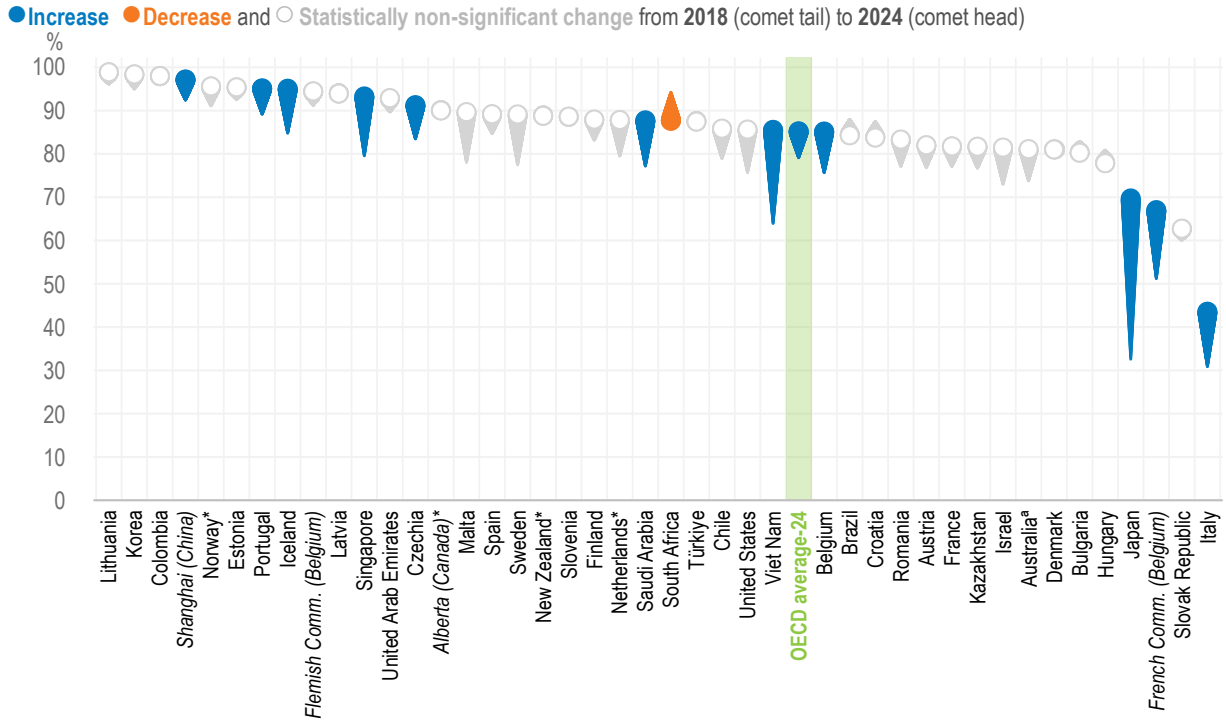
Between 2018 and 2024, the share of principals reporting that their school enables students to participate in school decisions increased by 6 percentage points, on average (Figure 3.9). The largest increase was observed in Japan (37 percentage points), although the share of principals in Japan who involved students in school decisions – 70% in 2024 – was still below the OECD average (85%). As highlighted in Box 3.4, Japan has various policies to strengthen schools' collaboration with stakeholders, including a strengthened national curriculum that provides structured opportunities for students to participate in deliberation, collective decision making and the organisation of school life.

Involving students in decision making can also strengthen their sense of belonging at school. Principals' reports of increased student involvement in school decisions between 2018 and 2024 coincided with a rise in students' sense of belonging between 2018 and 2025, as shown by PISA 2025 results (see Table I.B1.3.63 in *PISA 2025 Results (Volume I)* (OECD, 2026[23])). Japan recorded the largest increase in both indicators, although these parallel trends do not establish a causal relationship. Involving young people in

decision making can bring other benefits as well (discussed in detail by Gottschalk and Borhan (2023[24]), but creating meaningful opportunities for participation can be time-consuming and resource-intensive for schools.

Figure 3.9. Change in principals' views on students' opportunities to participate in school decisions, from 2018 to 2024

Percentage of lower secondary principals who "agree" or "strongly agree" that the school provides students with opportunities to actively participate in school decisions



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of lower secondary principals in 2024 who "agree" or "strongly agree" that the school provides students with opportunities to actively participate in school decisions.
Source: OECD, *TALIS 2018 and TALIS 2024 Databases*, Table 3.40.

Box 3.4. Japan's efforts to strengthen schools' collaboration with stakeholders

Japan has aimed to strengthen partnerships between schools, parents, local communities and specialised staff, while also broadening leadership and participation within schools. These efforts have involved the following initiatives:

***Tokkatsu* ("Student-Led Activities for Civic and Personal Development")**: *Tokkatsu* is a mandatory component of Japan's national curriculum from primary through upper secondary school, through which students collectively manage their lives, develop collaborative skills and practise democratic participation. The revision of the national curriculum standards, which was issued in 2017–2018, and

implemented in 2020 at primary, 2021 at lower secondary and 2022 at upper secondary level, gave it a stronger framing, linking it explicitly to student-led deliberation and problem-solving. *Tokkatsu* is organised around:

- Classroom activities (*Gakkyū Katsudō*) where students deliberate and decide on class rules, organise events and resolve shared concerns through facilitated discussions;
- Student-council activities (*Seitokai Katsudō*) in which students raise issues, propose improvements to school life and engage directly with school management;
- Club activities (*Kurabu Katsudō*) that students organise and sustain collectively, developing leadership and responsibility;
- School events (*Gakkō Gyōji*) (e.g. sports days, cultural festivals, excursions) that students plan and run with significant autonomy.

Team *Gakkou* ("School as a Team"): This reform, announced in January 2016 and implemented in 2017, reorganised schools into multidisciplinary teams involving teachers, counsellors, social workers, information and communications technology (ICT) specialists, and community members (e.g. parents and local residents). Among other things, this initiative aims to reduce teachers' administrative burden, distribute leadership more broadly within schools and strengthen school-community partnerships to better support students' holistic development.

Community schools: "Community schools" are public schools overseen by School Management Councils, which are composed of parents, guardians and local residents. Councils provide input on school policies, operations and staffing decisions, with the aim of creating schools that better reflect local priorities and strengthen school-community collaboration.

Collaborative community networks (*Chiiki Gakkou Kyoudou Honbu*): Set out in 2016, these networks promote links between schools, volunteers, organisations and community groups through initiatives such as after-school programmes, community tutoring and school support activities.

Sources:
OECD (2018). *Education Policy in Japan: Building Bridges towards 2030*. Reviews of National Policies for Education. OECD Publishing, Paris. https://doi.org/10.1787/9789264302402-en
MEXT (2017). *Course of Study for Lower Secondary Schools (Chūgakkō Gakushū Shidō Yōryō)*. Ministry of Education, Culture, Sports, Science and Technology. https://www.mext.go.jp/content/1413522_002.pdf
NIER / MEXT (2018). *Making a Better Classroom/School Life Together: Special Activities*. Curriculum Research Center, National Institute for Educational Policy Research. https://www.eduport.mext.go.jp
NIER (2012). *Lower Secondary Education in Japan*. National Institute for Educational Policy Research. https://www.nier.go.jp/English/educationjapan/pdf/201203LSJ.pdf
Tsuneyoshi, R. (2020). Japanese Educational Policy and the Curriculum of Holistic Development. In G. Fan & T. S. Popkewitz (Eds.), Handbook of Education Policy Studies. Springer, Singapore. https://doi.org/10.1007/978-981-13-8343-4_8

Between 2018 and 2024, the percentage of principals reporting that their school enabled parents or guardians to participate in school decisions decreased by 2 percentage points, on average (Table 3.40). The largest declines were observed in Kazakhstan and the Slovak Republic (12 percentage points), while in Japan and Viet Nam percentages increased by 18 and 13 percentage points, respectively. Difficulties in getting certain parent groups involved may have to do with parents' socio-economic background and/or educational attainment, or linguistic and cultural reasons that distance them from their children's school (European School Education Platform, 2026[25]; Jafarov, 2015[26]).

Connections with students, parents and the community

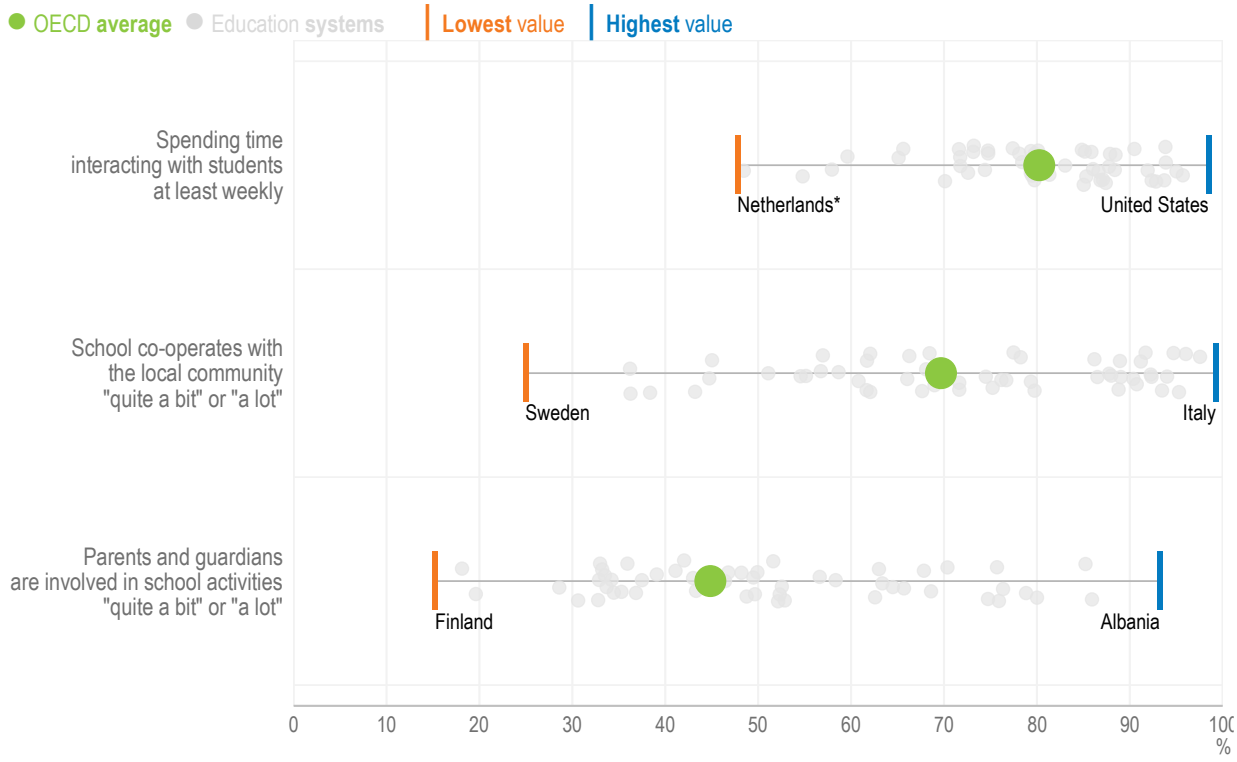
Building strong partnerships with students, parents or guardians and the wider community is an increasingly important responsibility of school leaders. Developing these relationships can help schools connect with, adapt to and influence their surrounding environments, while also strengthening trust, participation and engagement within school communities (OECD, 2020[9]; Pont, Nusche and Moorman, 2008[2]; Schleicher, 2018[27]).

On average, most principals report making efforts to engage with students (80%) and the local community (70%), while involving parents and guardians in school activities is less common (45%) (Figure 3.10). However, the OECD average masks substantial variation across education systems in how commonly principals engage with stakeholders:

- While in the Netherlands* only around half of principals (48%) report spending time with students at least weekly, almost all principals (99%) do so in the United States.
- The percentage of principals who report that the school co-operates with the local community "quite a bit" or "a lot" varies from 25% in Sweden to 99% in Italy.
- In Finland, only 15% of principals report that parents and guardians are involved in school activities "quite a bit" or "a lot", compared to 93% in Albania.

Figure 3.10. Connections with students, parents and the community

Percentage of lower secondary principals who report the following engagement with students, parents or the local community

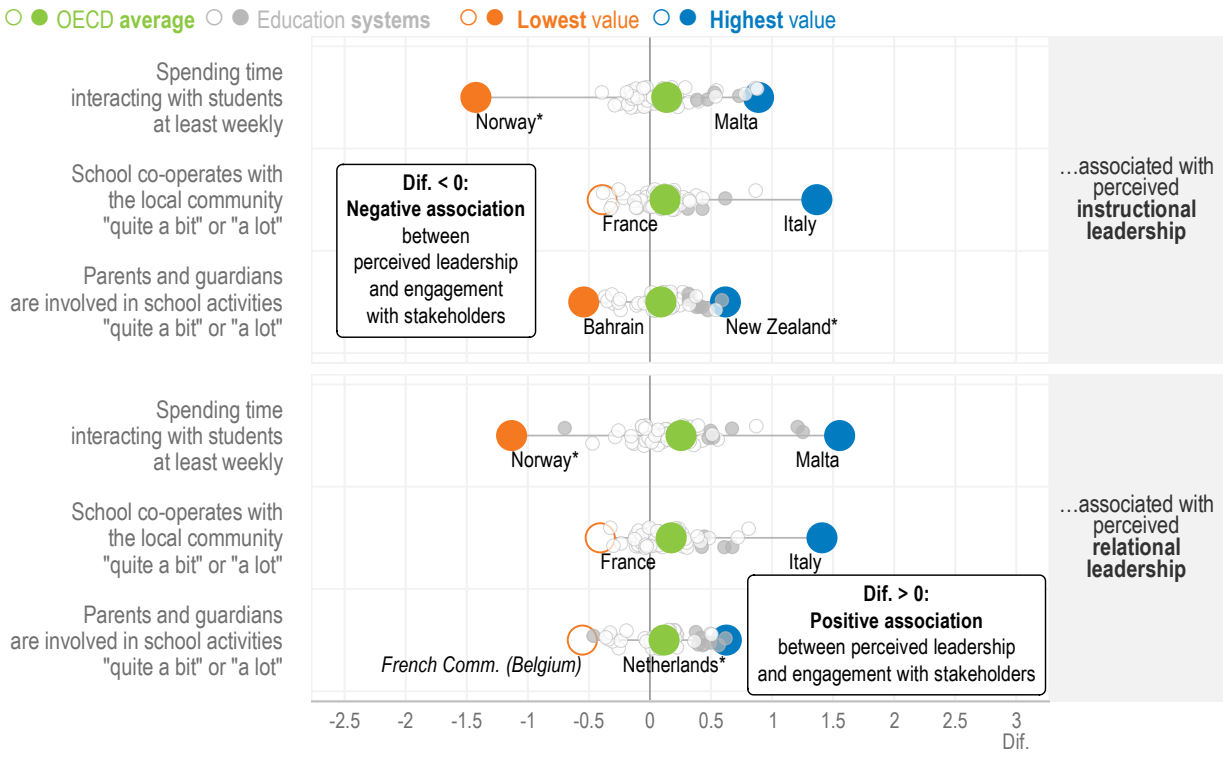


Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Source: OECD, *TALIS 2024 Database*, Tables 3.42, 3.46 and 3.51.

Several complementary explanations may account for the variation observed across education systems. Some differences may reflect national policy and governance arrangements. In Italy, for example, principals are expected by law to promote collaboration with local authorities, and fostering relationships with external stakeholders forms part of the annual evaluation of their performance (UNESCO, 2024[28]). Cross-system variation may also reflect differences in how leadership responsibilities are organised and principals' time is allocated. For example, research suggests that communication between Swedish schools and parents is extensive and has intensified in recent years (Hedlin and Frank, 2022[29]; Kristoffersson, Gu and Zhang, 2013[30]). However, much of this interaction takes place between teachers and parents, and focuses on individual students.

Figure 3.11. Relationship between principals' leadership and connections with students, parents and the community

Change in the school-level average of lower secondary principals' instructional and relational leadership scales[1] associated with principals' engagement with stakeholders[2,3]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Binary variables: the reference category for students refers to "monthly" or less; for parents and guardians, and the local community, it refers to "not at all" and "some extent".
3. Results are based on school-level linear regression analyses controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Tables 3.41, 3.44, 3.45, 3.49 and 3.50.

More frequent stakeholder engagement is not necessarily positive. Principals who spend considerable time with students may be responding to disciplinary or behavioural issues rather than fostering positive relationships. Similarly, frequent contact with parents may reflect conflict or concerns rather than effective collaboration. The frequency of stakeholder engagement should therefore not be interpreted as a direct measure of the quality or effectiveness of these interactions.

Still, TALIS 2024 results suggest that, on average, principals who actively engage with stakeholders are perceived more positively as instructional and relational leaders (Figure 3.11). Across education systems:

- **Interacting with students each week** is positively associated with both forms of leadership in Japan, Malta, Serbia and Singapore (Table 3.41).
- **Involving parents and guardians in school activities** is positively associated with both forms of leadership in Albania, Israel, Lithuania, Morocco, Shanghai (China) and the Slovak Republic (Tables 3.44 and 3.45).
- **Co-operating with the local community** is positively associated with both forms of leadership in Chile, Croatia, Israel and Italy (Tables 3.49 and 3.50).

Within systems, principals also differ in terms of which stakeholders they engage with most actively, on average:

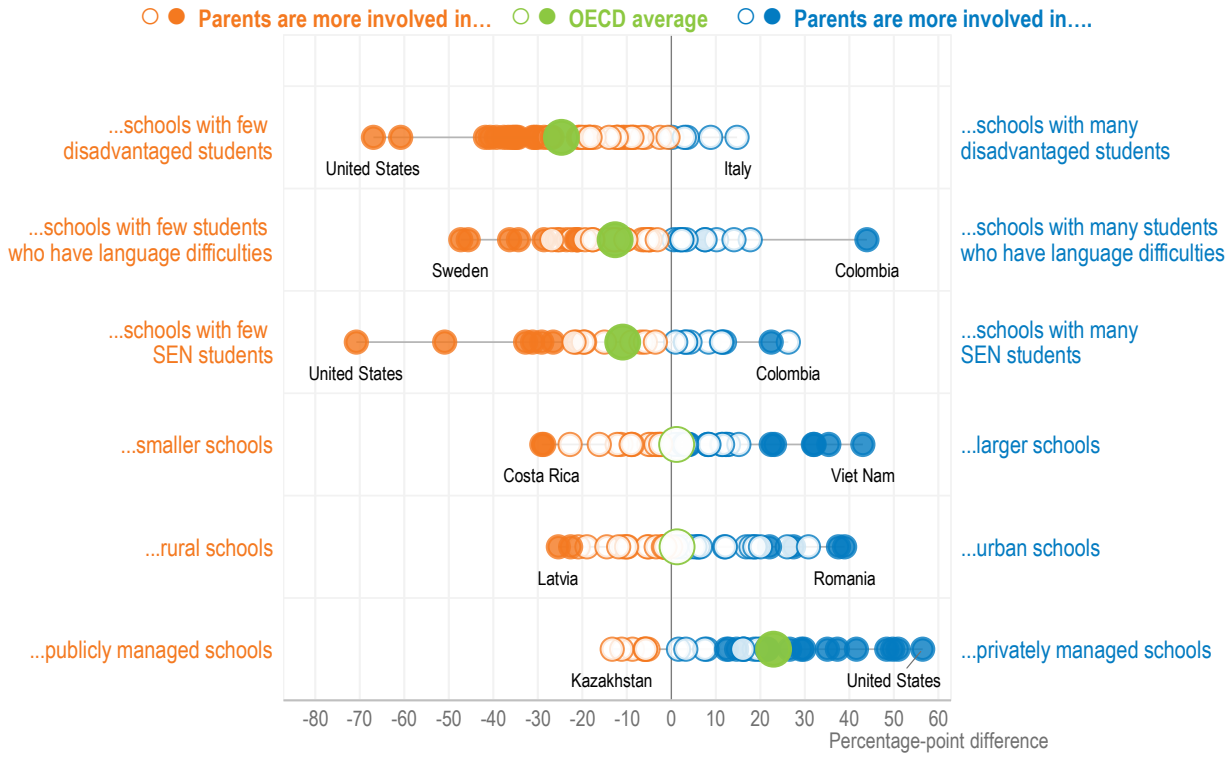
- Women principals, principals with over 20 years of teaching experience and principals working in schools with over 30% of students with special education needs interact more frequently with students (Tables 3.42 and 3.43).
- Principals with more than 10 years of experience, principals in privately managed schools and principals in schools with fewer disadvantaged students (10% or less), students with language difficulties (none), or students with special education needs (10% or less) tend to report stronger engagement with parents and guardians (Figure 3.12 and Table 3.46). These results are consistent with previous research. Principals in more disadvantaged, resource-constrained schools spend more time addressing a wider range of issues, limiting their capacity to engage with parents (Castro, 2023[31]). By contrast, parents in more affluent schools are more likely to expect principals to devote time to parent and student matters (Barr and Saltmarsh, 2014[32]).
- Younger principals (under age 40) and principals in rural, smaller and publicly managed schools co-operate more closely with the local community (Tables 3.51 and 3.52).

Between 2018 and 2024, the share of principals reporting that parents or guardians are involved in school activities “quite a bit” or “a lot” fell by 4 percentage points on average, with declines exceeding 25 percentage points in Colombia, France and Portugal (Table 3.48). These education systems also recorded some of the largest decreases in students’ perceptions of family support between 2022 and 2025 (see Table I.B1.4.122 in *PISA 2025 Results (Volume I)* (OECD, 2026[23])). However, there is no clear relationship across education systems between parental engagement in school activities and students’ perceptions of family support. This suggests that, while teachers value parents’ participation in school activities, it is distinct from the day-to-day family support that is consistently associated with higher science performance and more positive attitudes towards learning (OECD, 2026[23]).

Over the same period, the share of principals reporting that their schools co-operate with the local community “quite a bit” or “a lot” also decreased by 4 percentage points (Table 3.53). In New Zealand* and Türkiye, the share of principals reporting strong co-operation with the local community declined by around 25 percentage points.

Figure 3.12. Differences in parents' and guardians' involvement in school activities, by school characteristics

Percentage-point difference in the share of lower secondary principals who report that parents or guardians are involved in school activities "quite a bit" or "a lot"



Note: Statistically significant differences are highlighted with filled circles (see Annex B).
A rural school is located in a rural area or village of up to 3 000 people; an urban school is located in a city of over 100 000 people.
A publicly managed school is a school that is managed by a public education authority, government agency, municipality, or governing board appointed by the government or elected by public franchise. A publicly managed school may not necessarily be publicly funded.
Smaller schools have fewer than 250 enrolled students. Larger schools have 750 students or more.
Schools with many disadvantaged students have at least 30% of students from socio-economically disadvantaged homes, while schools with few disadvantaged students have fewer than 10% of students from such homes. Socio-economically disadvantaged homes are those that lack the basic necessities or advantages of life, such as adequate housing, nutrition or medical care.
Schools with many SEN students have at least 30% of students with special education needs, while schools with few SEN students have fewer than 10%. Students with special education needs are those for whom a special education need has been formally identified because they are mentally, physically or emotionally disadvantaged.
Schools where many students have language difficulties have at least 10% of students who have difficulty understanding the language(s) of instruction, while schools where few students have language difficulties have no students who have difficulty understanding the language(s) of instruction.
Source: OECD, *TALIS 2024 Database*, Table 3.47.

Box 3.5. What valued principals do in upper secondary education

Principals in upper secondary education are more valued when they report:

- focusing on curriculum and instructional tasks, such as classroom observations and teacher feedback, and taking action to improve students' social emotional development (Tables 3.1, 3.2, 3.5 and 3.6);
- supporting teacher leadership (Table 3.14);
- appraising teachers at least once a year and using school- and classroom-based results in formal teacher appraisal (Tables 3.18, 3.19, 3.23 and 3.24);
- providing parents and guardians with information on the school and student performance on a regular basis (Tables 3.44 and 3.45);
- having active co-operation with the local community (Tables 3.49 and 3.50).

How widespread these practices are among upper secondary school principals can differ from that observed among principals in lower secondary education. It can also vary across upper secondary school principals depending on school and principal characteristics. For example, there are differences with respect to:

- **Collaborative decision making**: On average, upper secondary principals are less likely than lower secondary principals to open up opportunities for parents and guardians to actively participate in school decision making. At the same time, they are more likely to provide such opportunities to students (Table 3.36). Between 2018 and 2024, Slovenia saw an 8 percentage-point decrease, from 97% to 89%, in the share of upper secondary principals providing opportunities to parents and guardians, although this share remains at a high level. Over the same period, the United Arab Emirates saw an increase of 5 percentage points, from 91% to 97% (Table 3.40).
- **Teacher appraisal**: Between 2018 and 2024, the share of upper secondary principals using school- and classroom-based results in formal appraisal decreased by 23 percentage points in Slovenia, while it increased by 12 percentage points in the United Arab Emirates (Table 3.22). In terms of follow-up after formal appraisal, the share of principals who appointed mentors to help teachers improve their teaching increased by at least 11 percentage points in Croatia, Denmark, Slovenia, Türkiye and the United Arab Emirates, while it remained stable in Portugal, the only other education system with comparable data from both cycles (Table 3.27).
- **Interactions with parents and guardians**: Compared to lower secondary education, 11 percentage points fewer upper secondary principals reported that parents and guardians were involved in school activities (Table 3.46). This likely reflects organisational differences between education levels. As students grow older, school interactions with families lessen and are more mediated through students themselves (Campbell, 2011).

  Principals from schools with a smaller share of socio-economically disadvantaged students (10% or less) and no students with difficulties understanding the language(s) of instruction are more likely to report such involvement than those from schools with a larger share of socio-economically disadvantaged students (over 30%) or students with language difficulties (over 10%) (Table 3.47). Between 2018 and 2024, the share of principals reporting parental involvement in school activities decreased by 23 percentage points in Portugal and 14 percentage points in Denmark, while the United Arab Emirates experienced an increase of 28 percentage points (Table 3.48).

Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.

Table 3.1. Chapter 3 figures

Figure 3.1		Relationship between principals' perceived leadership and their support of curriculum and instruction
Figure 3.1 (ISCED 1)	WEB	Relationship between principals' perceived leadership and their support of curriculum and instruction
Figure 3.1 (ISCED 3)	WEB	Relationship between principals' perceived leadership and their support of curriculum and instruction
Figure 3.2		Principals providing feedback to teachers, by gender
Figure 3.2 (ISCED 1)	WEB	Principals providing feedback to teachers, by gender
Figure 3.2 (ISCED 3)	WEB	Principals providing feedback to teachers, by gender
Figure 3.3		Principals' curriculum- and teaching-related tasks and meetings, by school location
Figure 3.3 (ISCED 1)	WEB	Principals' curriculum- and teaching-related tasks and meetings, by school location
Figure 3.3 (ISCED 3)	WEB	Principals' curriculum- and teaching-related tasks and meetings, by school location
Figure 3.4		Relationship between principals' leadership and teacher leadership
Figure 3.4 (ISCED 1)	WEB	Relationship between principals' leadership and teacher leadership
Figure 3.4 (ISCED 3)	WEB	Relationship between principals' leadership and teacher leadership
Figure 3.5		Principals' views on teacher leadership in their professional growth, by school intake of socio-economically disadvantaged students
Figure 3.5 (ISCED 1)	WEB	Principals' views on teacher leadership in their professional growth, by school intake of socio-economically disadvantaged students
Figure 3.5 (ISCED 3)	WEB	Principals' views on teacher leadership in their professional growth, by school intake of socio-economically disadvantaged students
Figure 3.6		Relationship between principals' instructional leadership and formal teacher appraisal
Figure 3.6 (ISCED 1)	WEB	Relationship between principals' instructional leadership and formal teacher appraisal
Figure 3.6 (ISCED 3)	WEB	Relationship between principals' instructional leadership and formal teacher appraisal
Figure 3.7		Change in teachers' formal appraisal by principals who report using school- and classroom-based results, from 2018 to 2024
Figure 3.7 (ISCED 1)	WEB	Change in teachers' formal appraisal by principals who report using school- and classroom-based results, from 2018 to 2024
Figure 3.7 (ISCED 3)	WEB	Change in teachers' formal appraisal by principals who report using school- and classroom-based results, from 2018 to 2024
Figure 3.8		Change in principals' views on students' opportunities to participate in school decisions, from 2018 to 2024
Figure 3.8 (ISCED 1)	WEB	Change in principals' views on students' opportunities to participate in school decisions, from 2018 to 2024
Figure 3.8 (ISCED 3)	WEB	Change in principals' views on students' opportunities to participate in school decisions, from 2018 to 2024
Figure 3.9		Relationship between principals' leadership and teachers', parents' and students' opportunities to participate in school decisions
Figure 3.9 (ISCED 1)	WEB	Relationship between principals' leadership and teachers', parents' and students' opportunities to participate in school decisions
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Figure 3.10		Connections with students, parents and the community
Figure 3.10 (ISCED 1)	WEB	Connections with students, parents and the community
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Figure 3.11 (ISCED 1)	WEB	Relationship between principals' leadership and connections with students, parents and the community
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Figure 3.12		Differences in parents' and guardians' involvement in school activities, by school characteristics
Figure 3.12 (ISCED 1)	WEB	Differences in parents' and guardians' involvement in school activities, by school characteristics
Figure 3.12 (ISCED 3)	WEB	Differences in parents' and guardians' involvement in school activities, by school characteristics

StatLink https://stat.link/7upzxw

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Notes

[1] This report defines valued leadership based on teachers' views about their principals' instructional and relational leadership. The conceptualisation of valued leadership is guided by the Teaching and Learning International Survey (TALIS) 2024 Conceptual Framework (OECD, 2025[17]), which identifies instructional and relational leadership as key domains of school leadership. To note, TALIS does not survey teachers about their views on other important aspects of principals' leadership, such as managerial leadership. Moreover, the instructional and relational leadership scales, which are based on teachers' perceptions, may partly reflect principals' popularity rather than leadership quality. Principals who make difficult but necessary decisions may consequently be viewed less favourably, even when their leadership is highly effective.

[2] The instructional leadership scale (T4ISNTLE) summarises teachers' responses to three four-point agreement items ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their school principal. The scale is constructed using latent variable modelling within a confirmatory factor analysis (CFA) framework and is based on the following items: "The principal encourages co-operation among teachers to develop new teaching practices"; "The principal ensures that teachers take responsibility for improving their teaching skills"; "The principal ensures that teachers feel responsible for their students' learning outcomes". Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale.

[3] The relational leadership scale (T4RELEAD) summarises teachers' responses to four four-point agreement items ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their school principal. The scale is constructed using latent variable modelling within a CFA framework and is based on the

following items: “The principal has a clear vision for this school”; “The principal encourages all staff to have a say on important decisions”; “The principal has good professional relationships with staff”; “The principal has good professional relationships with parents or guardians”. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale.

[4] Descriptive statistics for the control variables can be found in the online **TALIS 2024 Statistical Compendium**.

[5] Coefficients for the OECD and TALIS averages may be statistically significant even when country-level coefficients are statistically significant in only a small number of participating education systems. As such, these average results may not reflect a consistent pattern across education systems.

[6] While the prevalence of classroom observation has increased in Latvia and Spain, the statistical association between classroom observation and instructional or relational leadership is not statistically significant for either country.

4 How to support principals

This chapter looks at principals' working conditions, specifically their professional learning, the material resources that are available to their schools, and their salary and non-salary employment terms. It asks how these working conditions relate to valued leadership and job satisfaction. The chapter also explores how working conditions differ across education systems, vary in terms of principal and school characteristics and have changed over time.

Highlights

- **There is a positive association between instructional leadership and principals' participation in** two specific forms of continuous professional learning: **self-initiated in-person learning and online training in the use of digital tools for teaching**. The fact that delivery mode matters suggest that face-to-face engagement may be particularly important for developing leadership practices, while digital skill development is well-suited to online formats.
- **The share of principals engaging in continued professional learning varies widely across systems**, from less than 30% of principals in France and Sweden to over 90% in Kazakhstan, Shanghai (China) and Viet Nam for digital training. For self-initiated learning, participation ranges from half of principals (50%) in Türkiye to nearly universal participation (98%) in Iceland, Poland and Shanghai (China).
- **Principals are more satisfied with their jobs when they face fewer material resource constraints.** Shortages or inadequacies of instructional space and physical infrastructure are the most reported issue, affecting around one-quarter of principals, on average**.**
- **Material resource constraints** are **more prevalent in publicly managed schools and in schools serving a larger proportion of disadvantaged students (over 30%).**
- **The share of principals reporting such shortages has fallen** for most resource areas **since 2018**, with digital resources and tools showing the largest decline (-9 percentage points, on average).
- **Principals who are satisfied with their salaries and non-salary employment terms report higher overall job satisfaction.**
- **Around half of principals are satisfied with their salary, on average.** Satisfaction is not related to the principal-to-teacher salary ratio, suggesting that once pay reaches a certain threshold, perceptions are shaped more by factors such as the cost of living, pay structures and workload.
- **Between 2018 and 2024, salary satisfaction increased in many systems.** The largest gains were in Lithuania (55 percentage point-increase), Bulgaria (+30 percentage points), New Zealand* (+27 percentage points) and Italy (+25 percentage points).
- **Around two-thirds of principals are satisfied with their non-salary employment terms, on average**, ranging from below 35% in Portugal, France and the French Community of Belgium to over 90% in Colombia and the United States.
- **Satisfaction with salary and non-salary employment terms is higher among older** (age 60 or above) **and more experienced** (more than 10 years) **principals, and** among principals **in privately managed schools.**

* For countries highlighted with an asterisk (*), estimates should be interpreted with caution due to a higher risk of non-response bias. See the Reader's Guide and Annex A for more detail.

Introduction

Valued leadership[1] depends not only on what principals do, but also on working conditions that enable them to have an impact. Supporting working conditions are associated with lower principal turnover and greater leadership stability (Darling-Hammond et al., 2026[1]). This stability is, in turn, associated with

better school climates, higher teacher retention and improved student outcomes (Darling-Hammond et al., 2026[1]).

Guided by the Job Demands–Resources (JD-R) model (Bakker and Demerouti, 2007[2]), which distinguishes between job demands that consume energy and positive resources that buffer their effects, this chapter focuses on key working conditions that support principals across education systems participating in TALIS with available data (hereafter "education systems"): training, material resources and employment terms. Training, which is more directly linked to leadership practices, is examined in relation to valued leadership, both instructional[2] and relational[3] leadership. Other working conditions that shape principals' experiences, namely, school-level material resources shortages and principals' terms of employment, are examined in relation to job satisfaction. The chapter also discusses how working conditions vary across and within education systems, and whether they have changed over time.

The relationships presented in this chapter are based on regression analyses, which examine how two variables are related, while taking other relevant factors into account that may influence the relationship. The regression models control for principal characteristics (i.e. gender and age) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).[4] The relationships discussed meet the following conditions:

- coefficients for OECD and TALIS averages are statistically significant;[5]
- at least two-thirds of participating education systems with available data have coefficients with the same sign as OECD and TALIS averages, regardless of statistical significance.

To note, the design of TALIS does not allow for the establishment of causal relationships. All regression analyses presented in this report should therefore be interpreted as identifying the presence (or absence) of statistical associations, i.e. whether or not variation in one variable is systematically associated with variation in another. However, they do not permit conclusions about causality; in other words, they cannot determine whether variation in one variable would cause a change in another, while holding all other factors constant.

Training

Principals' professional learning spans both pre-service preparation and continuous professional learning (CPL). It encompasses both formal and informal activities that broaden the skills, knowledge and expertise of in-service educators throughout their careers (Boeskens, Nusche and Yurita, 2020[3]). Research consistently highlights that high-quality and ongoing professional development, mentoring and coaching strengthens principal effectiveness, improves teacher retention and student outcomes, and supports principals' retention in the profession (Darling-Hammond et al., 2026[1]; Pont, Nusche and Moorman, 2008[4]).

Not all forms of training are equally associated with the leadership practices that teachers value. Regression analyses show that neither principals' highest educational attainment (master's or doctoral degrees) nor the content of their formal education is associated with being valued by teachers (Tables 4.1, 4.2, 4.3 and 4.4).

However, as shown in Chapter 3, principals whose formal education or training included instructional leadership are more likely to use instructional leadership practices, on average across OECD countries and territories with available data (hereafter, "on average") (Table 3.7). While training may increase how much principals use these practices, their effectiveness depends on additional factors that training alone cannot provide, such as experience in the role, learning through practice in real school contexts, and the quality of relationships with teachers.

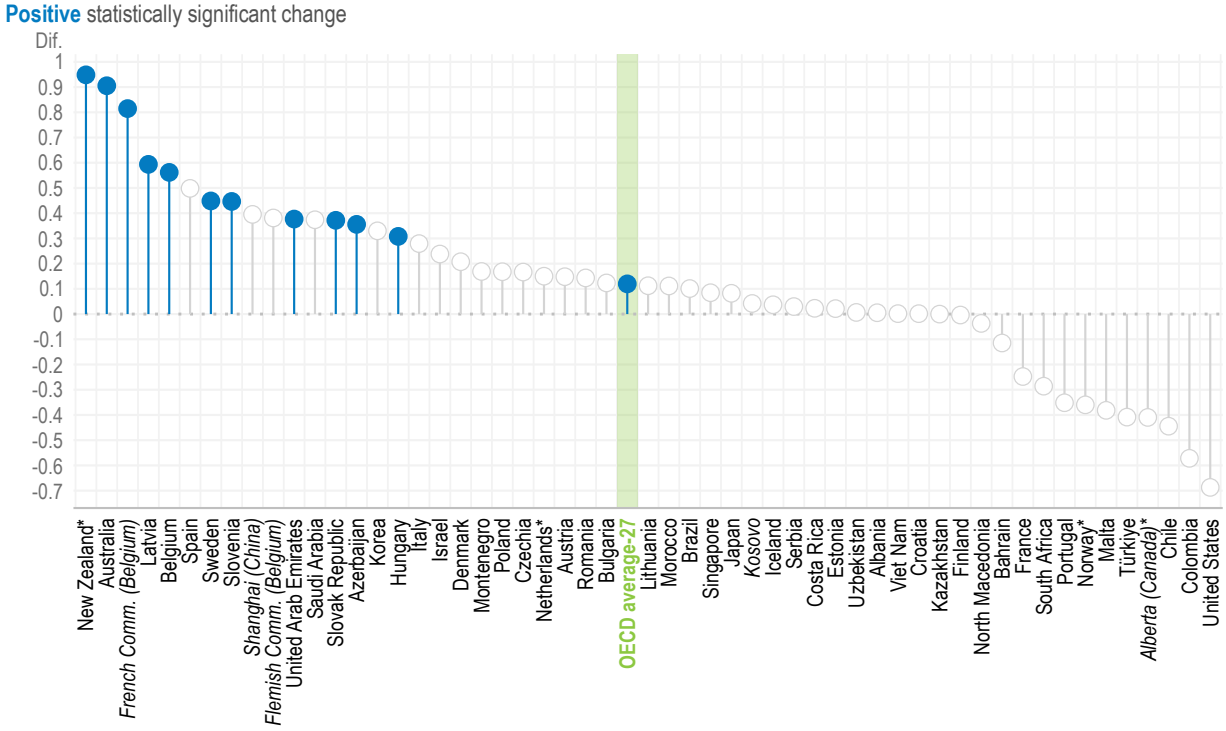
Continuous professional learning

TALIS captures principals' CPL through several complementary questions. The first set of questions asks principals whether they participated in specific professional learning activities in the previous 12 months and, if so, whether they participated in person, virtually/online, or both. Principals are also asked about the topics of their learning. A final set of questions asks principals to indicate how much they currently need professional learning in different areas, rated on a four-point scale ranging from "no need at present" to "high level of need".

Most principals participate in some form of professional learning. On average, participation is highest in self-initiated learning activities (80%), in courses, seminars or workshops on subject matter, teaching methods or pedagogy (79%), and in courses on leadership (78%) (Table 4.5). Formal qualification programmes, such as degree programmes, were the least common form of professional learning (22%).

Figure 4.1. Relationship between instructional leadership and training on the use of digital tools for teaching

Change in the school-level average of lower secondary principals' instructional leadership scale[1] associated with principals having participated (in the 12 months prior to the survey) in virtual or online training on developing strategies for the use of digital tools for teaching[2]



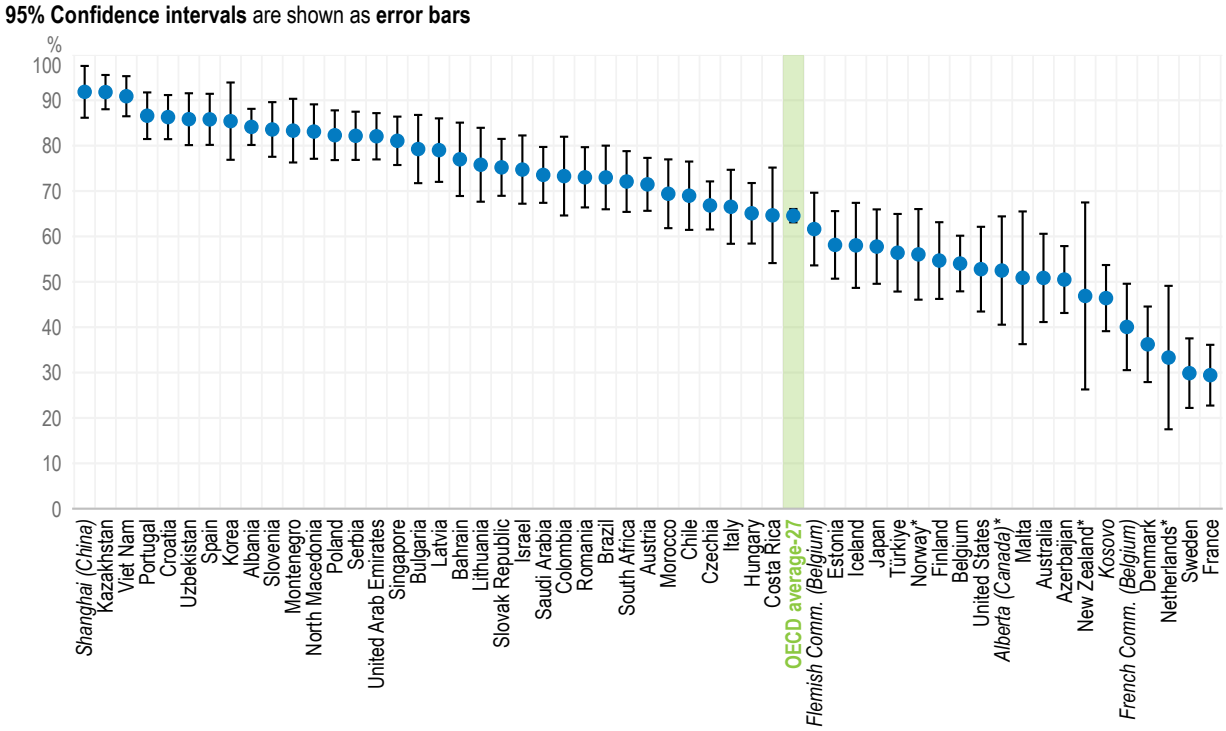
Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Results are based on school-level linear regression analysis controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 4.15.

Among the different forms of CPL, two activities stand out as positively associated with instructional leadership: self-initiated learning activities (which may be interpreted differently across systems) and courses, seminars or workshops on developing strategies for the use of digital tools for teaching. However, the association depends on the mode of participation. Self-initiated learning activities are associated with instructional leadership only when undertaken in person (Table 4.14). This suggests that face-to-face engagement, observation, coaching and exchange with colleagues may be particularly conducive to developing the leadership practices that teachers value in their principals. By contrast, participation in training on digital strategies is associated with instructional leadership only when delivered virtually (Figure 4.1). This may reflect the suitability of online learning for digital skills development and that principals who engage with digital learning may be better positioned to support the use of technology in teaching.

Participation varies considerably across education systems in the two professional learning activities that are positively associated with instructional leadership. For digital training, participation ranges from less than 30% of principals in France and Sweden to more than 90% in Kazakhstan, Shanghai (China) and Viet Nam (Figure 4.2). Similar variation is observed for self-initiated learning activities, ranging from 50% in Türkiye to nearly universal participation (98%) in Iceland, Poland and Shanghai (China) (Table 4.5).

Figure 4.2. Principals' participation in training on the use of digital tools for teaching

Percentage of lower secondary principals who participated (in the 12 months prior to the survey) in training on developing strategies for the use of digital tools for teaching



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
A 95% confidence interval shows the range within which the true value is likely to lie, taking into account the uncertainty associated with survey estimates. It shows how precise an estimate is: narrower intervals indicate greater precision, while wider intervals indicate greater uncertainty.
Source: OECD, *TALIS 2024 Database*, Table 4.16.

Principals in privately managed schools report less participation in training on the use of digital tools for teaching (54% versus 66%, respectively), on average (Table 4.16). Participation is higher in larger schools (750 students or more), schools with more disadvantaged students (over 30% disadvantaged) and schools with a larger share of students who struggle with the language of instruction (10% or more).

Box 4.1. How to support principals in primary education

Principals in primary education are more valued when they:

- participate in courses on developing strategies for using digital resources and tools for teaching (Tables 4.6 and 4.7);
- report low professional learning needs in leadership research and theory, and in developing collaboration (Tables 4.23 and 4.24);
- are involved in decisions on budget allocations and the selection of learning materials (Tables 4.40 and 4.41);
- They also report higher job satisfaction when they:
- face fewer material resource shortages that hinder the school's capacity to provide quality instruction (Table 4.25);
- are satisfied with both their salary and their non-salary terms of employment (Table 4.45).

The patterns observed for primary principals differ from those observed at the lower secondary level in:

- **Professional learning:** On average, more primary principals than lower secondary principals participate in professional learning on subject matter, teaching methods and pedagogical training, while fewer participate in educational conferences (Table 4.5). They also report higher learning needs, on average, in leadership theory, curriculum design, classroom observation, providing feedback and digital tools (Table 4.21).
- **Digital tools and Internet connectivity:** In most systems, fewer primary school principals reported shortages of digital resources and tools or insufficient Internet access in 2024 than in 2018, with declines observed in 7 and 6 out of 9 systems, respectively (Table 4.34). Primary principals report higher learning needs around digital tools, on average, than lower secondary principals, ranging from 2% in the Netherlands* to 54% in Morocco (Table 4.21).
- **Decision-making:** Primary principals have less responsibility for budgetary, staffing and curriculum decisions than lower secondary principals, on average (Tables 4.36, 4.37 and 4.38, 4.39). Responsibility is higher in privately managed schools than in publicly managed schools across all decision areas.
- **Salary satisfaction:** On average, primary principals are less satisfied with their salary than lower secondary principals (Table 4.42). In public schools, the two groups differ little (Table 4.43). Between 2018 and 2024, satisfaction fell by 17 percentage points in Korea, while it rose by 38 percentage points in the Netherlands*,[a] (Table 4.47).

Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.

The levels of professional learning need reported by principals are relatively modest. On average, reported needs range from around 14% in promoting equity and diversity to around 28% in promoting staff well-being (Table 4.21). Developing collaboration among teachers (27%), using data to improve school quality (25%) and school management (25%) also rank high in terms of reported needs, on average.

Compared to TALIS 2018, developing collaboration and using data remain important focus areas for principals (Table 4.22). Staff well-being emerged as a top priority in 2024, marking the introduction of a new topic that was not included in the TALIS 2018 questionnaire (Table 4.21).

The prominence of staff well-being may reflect a post-pandemic shift towards well-being as a growing area of concern among principals (Dreer and Gouasé, 2022[5]; Karakus, Toprak and Chen, 2024[6]). However, the evidence base on how best to support principals in promoting staff well-being remains limited (Dreer and Gouasé, 2022[5]). At the same time, educational leaders themselves face challenges such as stress and burnout. Supporting the well-being of staff and principals is therefore likely to remain an important challenge for education systems (Doyle Fosco, 2022[7]).

The absence of a clear relationship between professional learning needs and teachers' perceptions of leadership (Tables 4.23 and 4.24) may reflect differences in how professional learning is targeted and pursued across systems. Principals with weaker leadership practices may seek or receive training to address identified gaps, while highly motivated principals may engage in professional learning as part of their ongoing development. The relationship between need and outcome is therefore not straightforward.

Material resources

The adequacy of resources available to principals shapes their ability to lead effectively. They are an important component of principals' working conditions, supporting both staff well-being and schools' capacity to provide quality instruction (OECD, 2018[8]; OECD, 2023[9]).

In TALIS, material resource constraints are measured using an index based on principals' reports of the extent to which shortages or inadequacies of material resources hinder their school's capacity to provide quality instruction. Based on these reports, schools are classified into three categories based on whether principals perceive such constraints as "not a problem"; "a bit of a problem"; or "a problem".

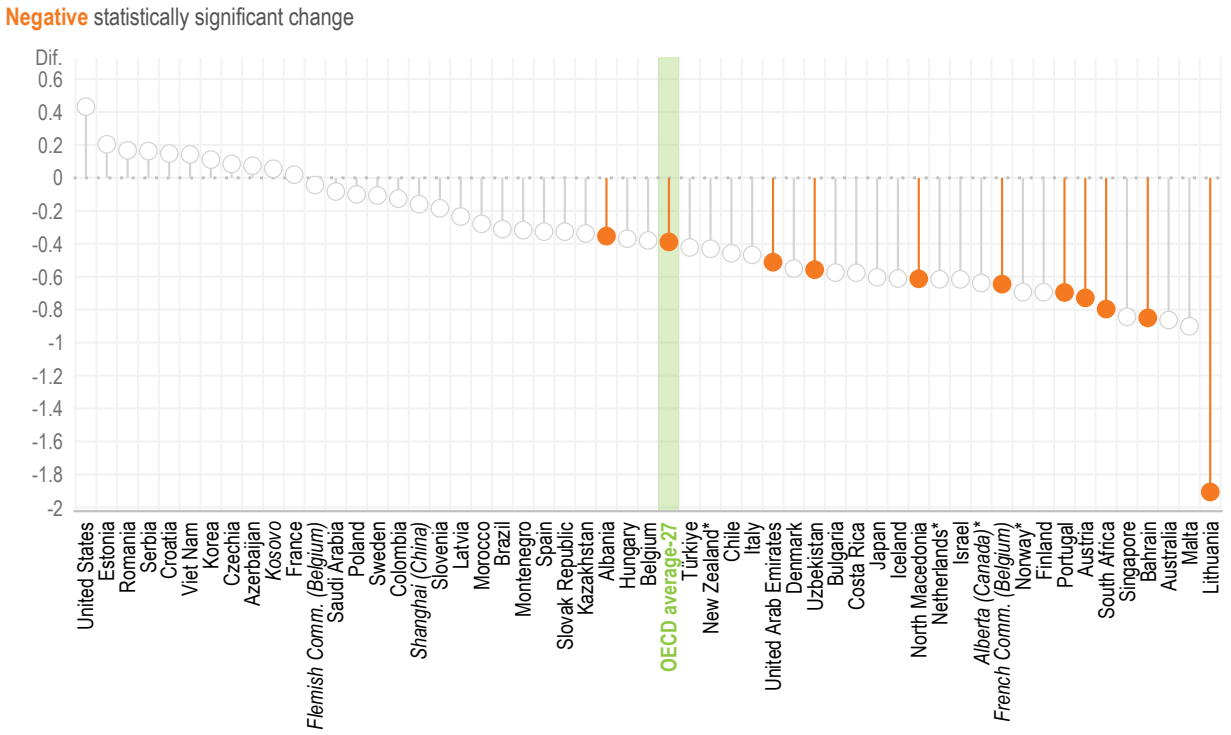
Consistent with evidence based on TALIS 2018 data showing that school resources influence school leaders' job satisfaction and workload stress (Chen, Bellibaş and Gümüş, 2023[10]), TALIS 2024 results show that principals in schools with greater material resource constraints report lower job satisfaction on average (Figure 4.3). This helps explain the within-country differences in principals' job satisfaction documented in Chapter 2 and highlights school-level resource conditions as a factor shaping how principals experience their role.

Perceived shortages or inadequacies of instructional space and physical infrastructure are the most common resource constraints, with around one-quarter of principals (25% and 24%, respectively) reporting that they hinder the school's capacity to provide quality instruction "quite a bit" or "a lot", on average (Table 4.26). Shortages of digital resources and tools (16%), instructional materials (15%) and Internet access (14%) are reported less frequently, with wide variation across systems. In Colombia, more than half of principals report shortages across all resource areas, while less than 4% of principals in Singapore report shortages in any area.

On average, principals in publicly managed schools report shortages across all resource areas examined more frequently than those in privately managed schools (Tables 4.27, 4.28, 4.29, 4.30, 4.31, 4.32 and 4.33). Gaps are particularly wide for physical infrastructure (12 percentage points) and Internet access (11 percentage points).

Figure 4.3. Relationship between principals' job satisfaction and perceived material resource shortages

Change in the scale of lower secondary principals' job satisfaction[1] associated with the index of lack of material resources[2,3]

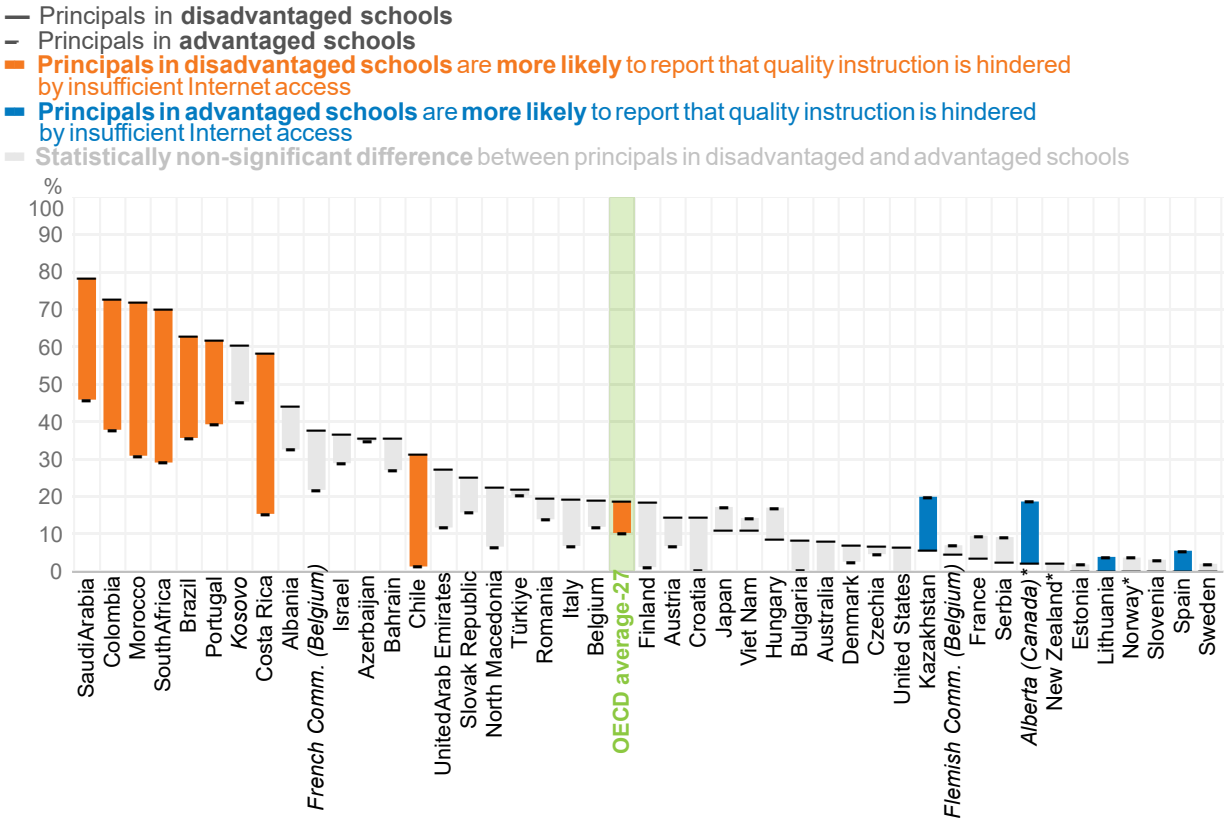


Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. Simple index ranging from 1 "Not a problem" to 3 "A problem", derived from seven items on shortages of material resources. A value of 1 indicates that all seven resource issues hindered instruction "Not at all" or "To some extent". A value of 3 indicates that all issues hindered instruction "Quite a bit" or "A lot". All other response combinations are coded 2 "A bit of a problem".
3. Results are based on school-level linear regression analysis controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 4.25.

Shortages are also more prevalent in schools with a high proportion of disadvantaged students across all resource areas, with the largest gaps observed for vocational materials (9 percentage points), physical infrastructure (8 percentage points), and Internet access (8 percentage points) (Tables 4.27, 4.28, 4.29, 4.30, 4.31, 4.32 and 4.33). Insufficient Internet connectivity is reported as a barrier to quality instruction by over 70% of principals in disadvantaged schools in Colombia, Morocco, Saudi Arabia and South Africa (Figure 4.4). The largest gaps between disadvantaged and advantaged schools appear in Costa Rica, Morocco and South Africa (over 40 percentage points in each system).

Figure 4.4. Principals' views on Internet access as a barrier to quality instruction, by school intake of socio-economically disadvantaged students

Percentage of lower secondary principals who report that the school's capacity to provide quality instruction is hindered by insufficient Internet access "quite a bit" or "a lot"

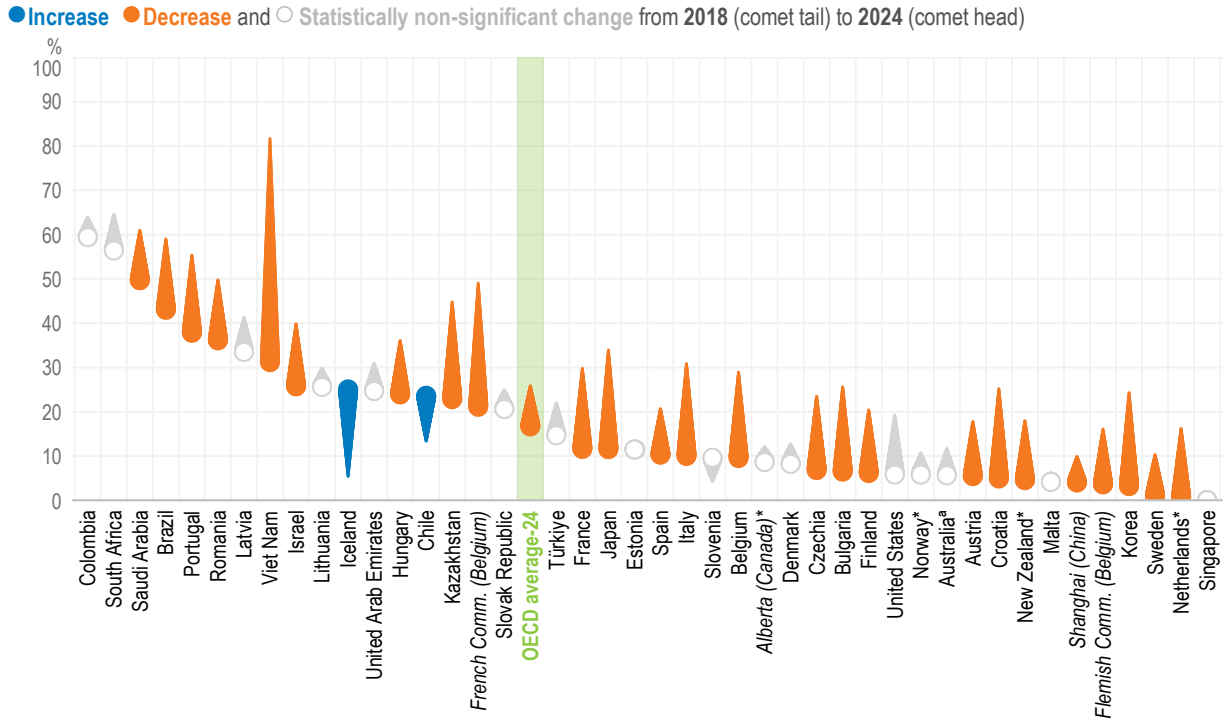


Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of lower secondary principals in disadvantaged schools who report that the school's capacity to provide quality instruction is currently hindered "quite a bit" or "a lot" by insufficient Internet access.
Advantaged schools are those with 10% or less of students from socio-economically disadvantaged homes. Disadvantaged schools are those with more than 30% of students from socio-economically disadvantaged homes.
Source: OECD, *TALIS 2024 Database*, Table 4.29.

The share of principals reporting such shortages has fallen since 2018 for most resource areas (Table 4.34). Shortage or inadequacy of digital resources and tools showed the largest improvement (9 percentage points, on average), with reductions observed in most systems (Figure 4.5). Viet Nam recorded the sharpest decline (51 percentage points), reflecting sustained national investment in digital infrastructure in education (Box 4.2). Chile and Iceland were notable exceptions where reported shortages increased over the period.

Figure 4.5. Change in shortage or inadequacy of digital resources and tools for instruction, from 2018 to 2024

Percentage of lower secondary principals who report that the school's capacity to provide quality instruction is hindered by a shortage in or inadequacy of digital resources and tools for instruction "quite a bit" or "a lot"



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of lower secondary principals in 2024 who report that the school's capacity to provide quality instruction is hindered "quite a bit" or "a lot" by a shortage in or inadequacy of digital resources and tools for instruction.
Source: OECD, *TALIS 2018 and TALIS 2024 Databases*, Table 4.34.

Box 4.2. Strengthening digital infrastructure and connectivity in schools in Viet Nam

In January 2017, the prime minister of Viet Nam launched a project (2016-2020) to strengthen the application of information technology in education and training. The project focused on deploying IT systems across schools and education authorities; establishing a sector-wide education database; moving administrative processes and teacher training to digital platforms and developing a shared repository of digital learning materials.

Building on this foundation, a successor phase (2022-2025) was adopted with an outlook to 2030, prioritising digital transformation across the education system. Its main objectives are to ensure fibre-optic Internet connectivity for all educational institutions, prioritise cloud-based services, support Internet access for teachers and learners, and equip students and educators with the devices needed for digital learning.

By 2025, the project aimed for half of all students and educators to have the facilities, connectivity and software needed to participate in digital and online learning. Funding combines state budget allocations with enterprise contributions and public-private partnerships.

Sources:
Government of Viet Nam (2017). Decision No. 117/QD-TTg approving the "Strengthening the Application of Information Technology in Management and Support for Teaching, Learning, and Scientific Research to Enhance the Quality of Education and Training for the 2016–2020 Period, with Orientation to 2025" project (*Quyết định số* 117/QĐ-TTg, 25 January 2017). https://vanban.chinhphu.vn/default.aspx?pageid=27160&docid=188112
Government of Viet Nam (2022). Decision No. 131/QD-TTg approving the "Strengthening the Application of Information Technology and Digital Transformation in Education and Training for the 2022–2025 Period, with Orientation to 2030" project (*Quyết định số* 131/QĐ-TTg, 25 January 2022). https://vanban.chinhphu.vn/?pageid=27160&docid=205236&classid=0

Principals' ability to address school challenges such as resource constraints depends, in part, on their decision-making authority. As shown in Box 4.3, budgetary decisions are the most centralised across education systems. Less than one-quarter (22%) of principals in publicly managed schools report school-level authority in this area, on average. A principal with greater control over resources can respond to a shortage more effectively by reallocating funds than one who must rely on external authorities to act. This may be especially relevant in systems that combine low school-level decision-making authority and high rates of material shortages, such as Brazil, Costa Rica, Kosovo, Morocco and Saudi Arabia (Tables 4.26 and 4.35).

Box 4.3. School-level involvement in decision-making

Neither greater centralisation nor greater school-level authority is inherently preferable. Having responsibility can strengthen principals' ability to address the needs of the school (Hanushek, Link and Woessmann, 2013[11]). At the same time, too much can reduce the time available for leadership tasks (Pont, Nusche and Moorman, 2008[4]).

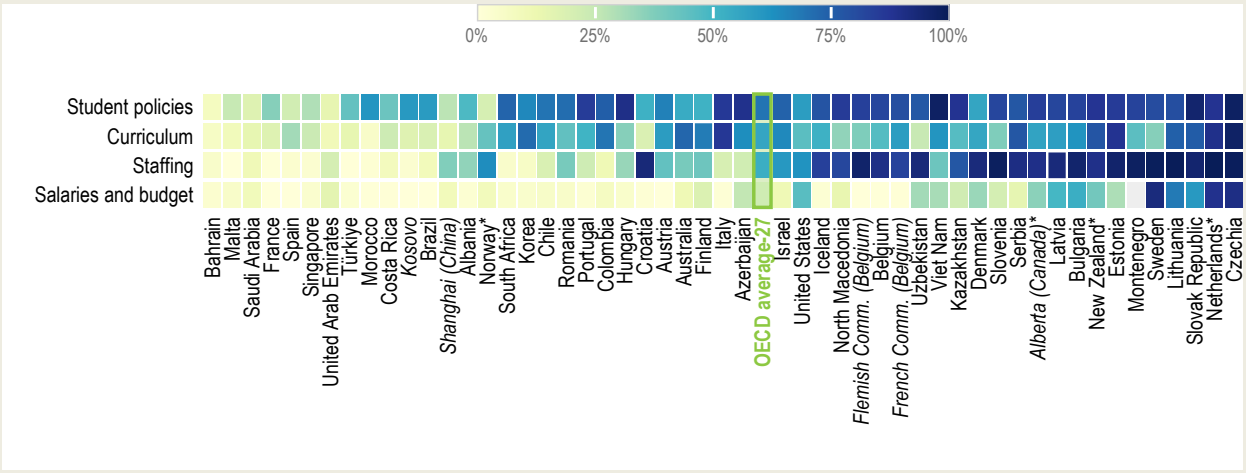
TALIS measures the distribution of decision-making authority between schools and external authorities across four domains: student policies (student discipline, assessment and admissions), curriculum (learning materials, course content and offerings), staffing (hiring, dismissing and suspending teachers) and budgets (setting teachers' salaries and allocating school budgets).

Student policies are the domain where principals most commonly report having authority (Figure 4.6). Around 70% of principals in publicly managed schools report that these decisions are made mostly at the school level, on average, followed by curriculum (56%) and staffing decisions (53%), while budgetary decisions are the most centralised domain, with fewer than one-quarter of principals (22%) reporting school involvement.

Privately managed schools have considerably more decision-making authority than publicly managed schools across all domains, with gaps particularly wide for budgeting (+45 percentage points) and staffing (+44 percentage points) (Tables 4.36, 4.37, 4.38. and 4.39). Figure 4.6 shows the distribution of school-level decision-making responsibility for publicly managed schools.

Figure 4.6. Decision-making authority of publicly managed schools

Percentage of lower secondary principals in publicly managed schools who report that decisions are mostly taken within schools[1,2]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in ascending order of the average percentage of lower secondary principals in publicly managed schools reporting that decisions are mostly within schools across the four domains.
1. Based on four indices that include: salaries and budget: T4PAUTB (TC4G24D–E); staffing: T4PAUTS (TC4G24A–C); curriculum: T4PAUTC (TC4G24I–K) and student policies: T4PAUTP (TC4G24F–H). Schools are classified by the distribution of decision-making as mostly external, shared, or school-level. Data are unavailable for Montenegro (T4PAUTB only), Japan and Poland.
2. Comparisons between the Netherlands* and other education systems should be interpreted with caution, as the estimates for the Netherlands* are based on schools that are privately managed but publicly funded.
Source: OECD, *TALIS 2024 Database*, Table 4.35.

Two broad governance profiles emerge across TALIS systems. The first group reports consistently high school-level involvement in decisions across all domains. This includes Czechia, Lithuania, the Netherlands* (where most schools are privately managed but publicly funded) and the Slovak Republic, consistent with allocations previously documented (OECD, 2018[12]). A second group reports low involvement in most areas. This includes Bahrain, Malta and Saudi Arabia, though the pattern is not uniform. Most systems fall somewhere between these two groups, with mixed decision-making profiles, where budget and staffing decisions remain more centralised.

The scope of principals' decision-making involvement is not associated with how teachers rate their leadership, on average (Tables 4.40 and 4.41). The finding may suggest that what teachers value is not how much authority principals have, but on the quality of the support they receive, their relationships and working conditions (Darling-Hammond et al., 2026[1]).

Terms of employment

Earnings quality and labour market security are two foundational dimensions of job quality (Cazes, Hijzen and Saint-Martin, 2015[13]; Eurofound and International Labour Organization, 2019[14]). For principals, these translate into satisfaction with salary levels, and the terms and conditions of their employment contract. Adequate employment conditions help prevent dissatisfaction and support sustained professional engagement and effective school leadership.

Salary

Salaries, both in absolute terms and relative to comparable professions, can influence decisions to enter and remain in school leadership, with higher relative salaries generally associated with greater occupational attractiveness (OECD, 2025[15]). Conversely, relatively low salaries may discourage experienced teachers from taking on leadership roles, with implications for the future pipeline of school principals (Pont, Nusche and Moorman, 2008[4]).

Education at a Glance (OECD, 2025[15]) provides system-level data on the statutory and actual salaries of principals in public institutions for the 2023 reference year, expressed in USD using purchasing power parities (PPPs). Statutory salaries refer to scheduled pay set by official salary scales, while actual salaries include all work-related payments, including bonuses and allowances. According to *Education at a Glance*, the actual salaries of lower secondary principals in 2023 were around USD 87 000.

Compared to teachers, principals earn roughly one and a half times more across systems with available data (OECD, 2025[15]). However, the comparison does not capture differences in how compensation is structured. For example, principals are less likely than teachers to receive additional compensation for responsibilities beyond regular duties (OECD, 2025[15]).

In the public sector, the pay difference between middle managers relative to professionals in central public administrations in OECD countries is broadly comparable to the pay difference between principals and teachers (OECD, 2017[16]).[6] However, in the private sector, pay differentials can be larger: evidence from Australia suggests that managers earn around twice as much as those in non-managerial roles (Workplace Gender Equality Agency, 2025[17]).

Assessing whether principals are adequately compensated is not straightforward. Different indicators provide complementary perspectives. Principals' salaries relative to tertiary-educated workers provide a useful labour market reference point. However, a favourable ratio in an economy where salaries are generally low may still leave principals feeling underpaid. Comparing principals' salaries to those of teachers instead reflects the pay advantage associated with school leadership. Too small a differential may make it difficult to recruit and retain principals, while too large a differential may attract experienced teachers away from the classroom.

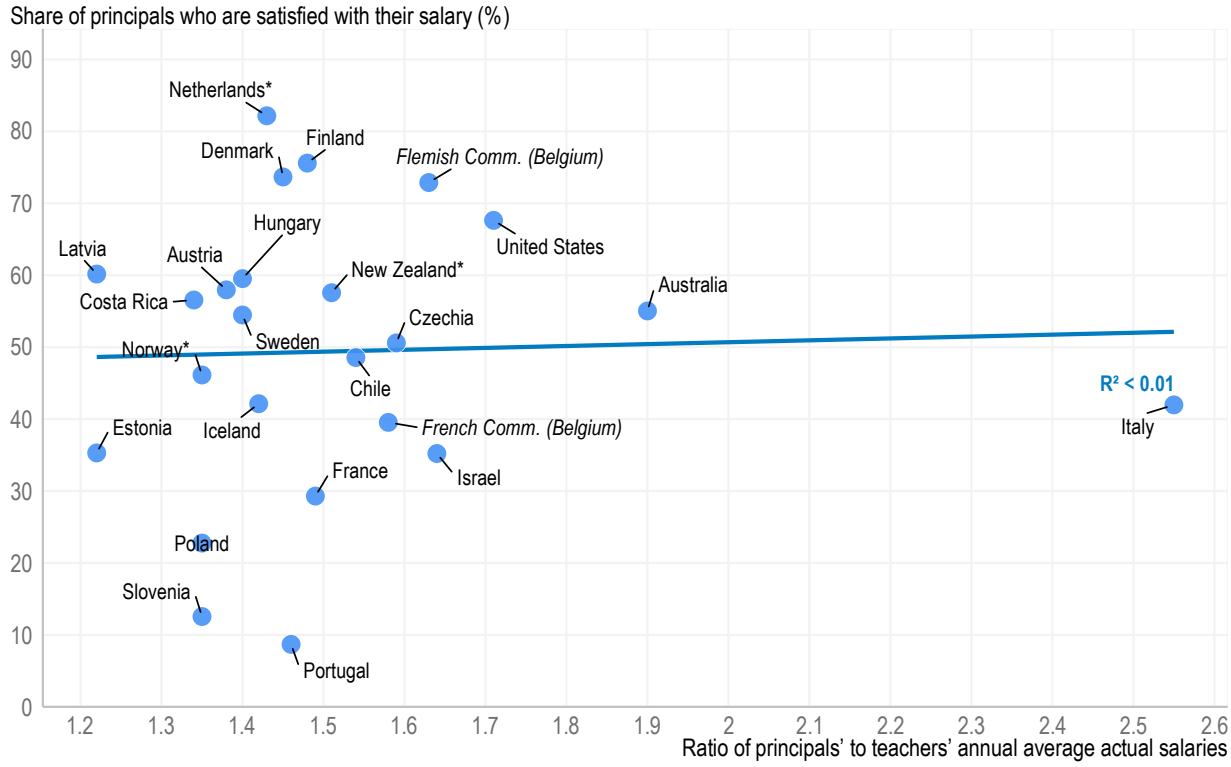
Beyond a certain threshold, pay levels may not explain whether principals feel adequately compensated. Salary satisfaction captures what objective pay measures cannot, how principals feel about their pay in the context of the cost of living, pay structures, workload, expectations and norms.

TALIS 2024 measures salary satisfaction by asking principals to rate their agreement ("strongly disagree"; "disagree"; "agree"; "strongly agree") with the statement: "I am satisfied with the salary I receive from my work". Around half of principals (49%) are satisfied with their salary, on average, although levels vary across systems, from below 25% in Kosovo, Malta, Portugal, Serbia and Slovenia to over 80% in Lithuania and the Netherlands* (Table 4.42).

At the system level, no relationship is observed between the ratio of principal-to-teacher salaries and principals' salary satisfaction (Figure 4.7). Systems with similar relative salary ratios often report very different levels of satisfaction. For example, Denmark and Portugal have comparable salary ratios, yet satisfaction levels differ. Around three-quarters (74%) of principals in Denmark report being satisfied with their salary compared to fewer than one in ten (9%) in Portugal.

Figure 4.7. Principals' salary satisfaction and their pay relative to teachers

Based on responses of lower secondary principals working in publicly managed schools and system-level data on principals' salaries relative to teachers' salaries[1,2]

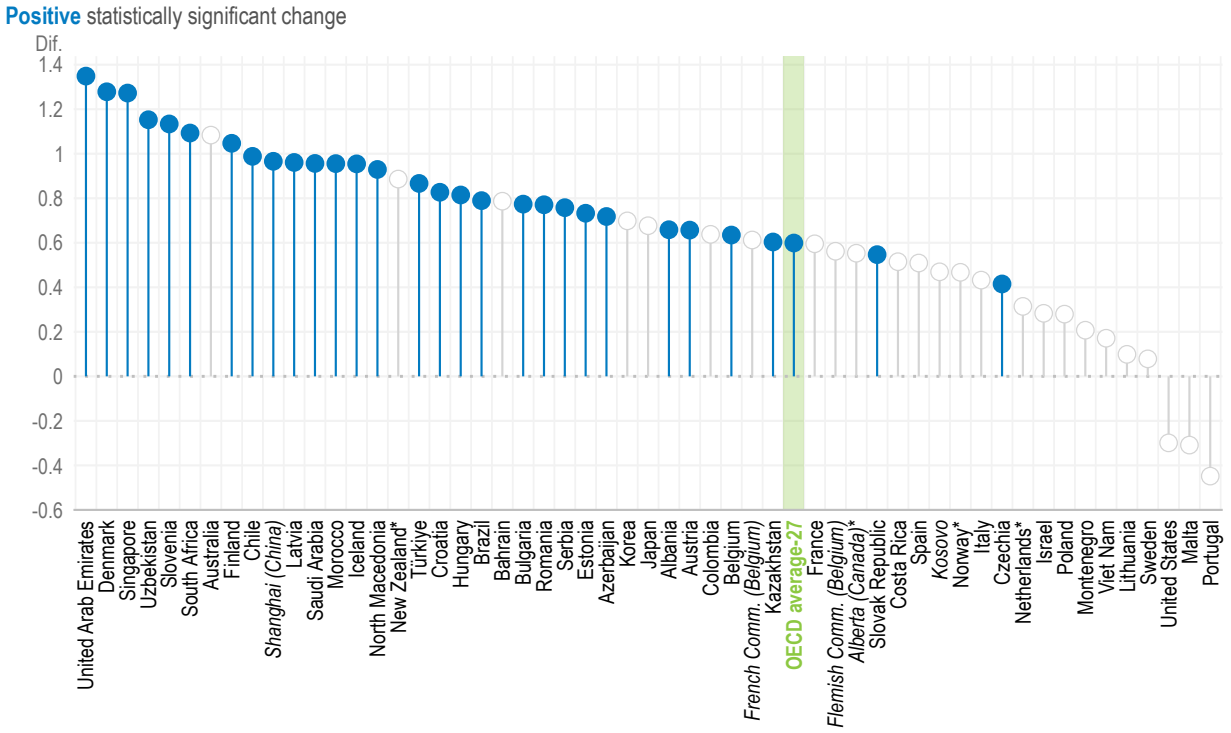


Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
The R^2 value (less than 0.01) indicates that the principal-to-teacher salary ratio accounts for less than 1% of the variation in principals' salary satisfaction across systems.
1. Ratio of the average annual salaries (including bonuses and allowances) of full-time principals aged 25–to–64 to full-time teachers aged 25–to–6 4working in public schools in lower secondary general programmes (2023, or latest year available).
2. Comparisons between the Netherlands* and other education systems should be interpreted with caution, as the estimates for the Netherlands* are based on schools that are privately managed but publicly funded.
Source: OECD, *TALIS 2024 Database*, Tables 4.43 and 4.44.

Principals who are satisfied with their salaries tend to report higher levels of job satisfaction (Figure 4.8), which, as mentioned earlier in this chapter, is associated with being more valued by teachers (Chapter 2, Table 2.25).

Figure 4.8. Relationship between principals' job satisfaction and their salary satisfaction

Change in the scale of lower secondary principals' job satisfaction[1] associated with principals "agree[ing]" or "strongly agree[ing]" that they are satisfied with their salary[2,3]



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. The reference category is "strongly disagree" or "disagree".
3. Results are based on school-level linear regression analysis controlling principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 4.45.

The share of principals reporting satisfaction with their salary is around 14 percentage points higher among older principals (aged 60 and above) than among younger principals (under age 40), on average (Table 4.42). This age difference is most evident in Türkiye (62 percentage points), Bahrain (56 percentage points), Alberta (Canada)* (50 percentage points) and Spain (41 percentage points). It is also 8 percentage points higher among more experienced (over 10 years) than novice (5 years or fewer) principals, on average.

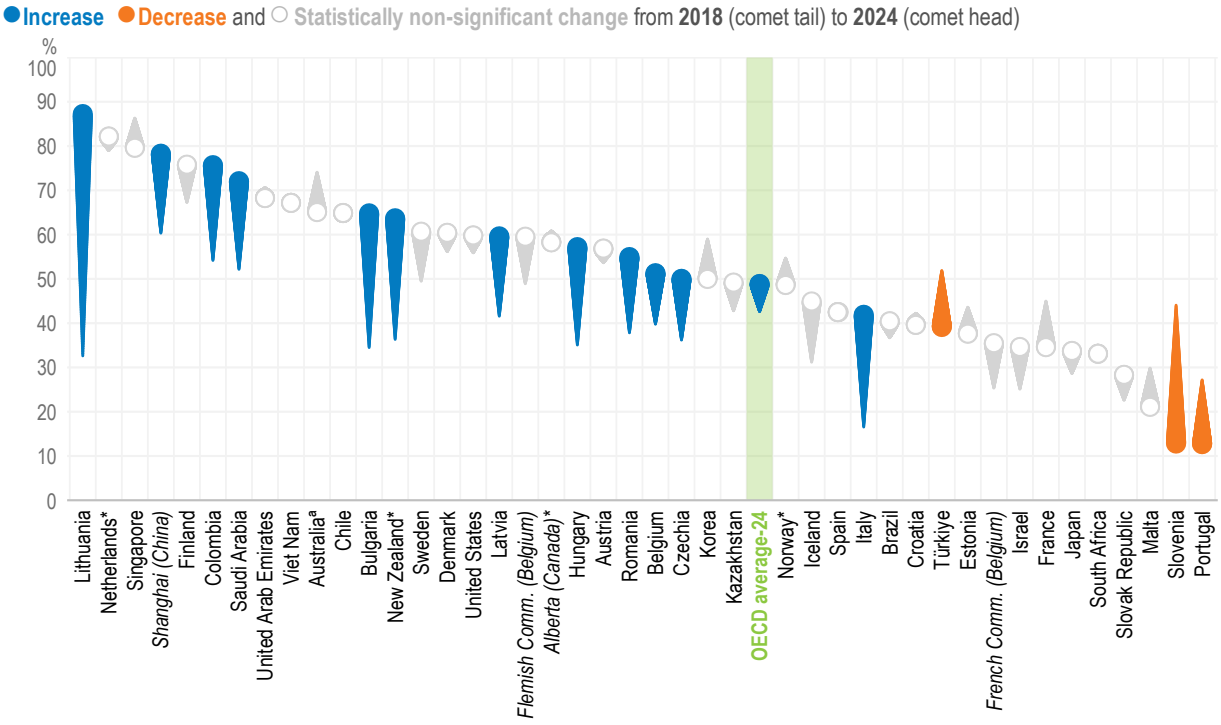
Principals in privately managed schools report more salary satisfaction, on average (55% versus 48%) (Table 4.46). This gap is most pronounced in Portugal (+43 percentage points) and Poland (+40 percentage points). The pattern is reversed in Denmark (-39 percentage points) and the Flemish Community of Belgium (-19 percentage points).

Between 2018 and 2024, salary satisfaction increased in many systems (Figure 4.9). The largest increases were observed in Lithuania, where the share of principals reporting satisfaction rose from 33% to 87% (+55

percentage points), reflecting sustained policy commitments to improve principals' pay and working conditions (Box 4.4). This was followed by Bulgaria (+30 percentage points), New Zealand* (+27 percentage points) and Italy (+25 percentage points).

Figure 4.9. Change in principals' satisfaction with their salary, from 2018 to 2024

Percentage of lower secondary principals who "agree" or "strongly agree" that they are satisfied with their salary



Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
[a] Estimates for TALIS 2018 and the change between TALIS 2018 and TALIS 2024 should be interpreted with caution due to a higher risk of non-response bias.
Education systems are sorted in descending order by the percentage of lower secondary principals in 2024 who "agree" or "strongly agree" that they are satisfied with their salary.
Source: OECD, *TALIS 2018 and TALIS 2024 Databases*, Table 4.47.

Box 4.4. Strengthening principals' pay and working conditions in Lithuania

In 2021, leaders of parliamentary parties signed an agreement on Lithuania's education policy until 2030 establishing a long-term framework for salary growth across the education sector.

Building on this, in 2022 the Ministry of Education, Science and Sports signed a collective agreement with the Lithuanian Trade Union of Educational Institution Leaders to improve the working and economic conditions of school principals. The agreement raised salary coefficients for school principals by 18%, ensuring that the minimum coefficient for a principal would be at least 30% higher than the maximum possible teacher coefficient, with the final salary increase for principals reaching 21% in 2023. The agreement also established additional benefits for trade union members, including double pay for work on rest or public holidays, 3 additional paid annual leave days, 2 paid working days for health improvement and up to 10 paid working days of study leave.

Salary increases have continued beyond 2023, reflecting the ongoing implementation of long-term collective agreements and a broader national commitment to raising salaries across the education sector.

Sources:
Lithuanian Parliamentary Parties (2021), "Agreement on Lithuania's Education Policy (2021–2030)" [Susitarimas dėl Lietuvos švietimo politikos (2021–2030)], https://smsm.lrv.lt/public/canonical/1763620063/7146/Susitarimas%20d%C4%97l%20Lietuvos%20%C5%A1vietimo%20politikos%20(2021%E2%80%932030).pdf
Ministry of Education, Science and Sports of Lithuania (2022), "Collective agreements with trade unions" [Ministerija ir profsąjungos], https://smsm.lrv.lt/lt/struktura-ir-kontaktine-informacija/komisijos-tarybos-ir-darbo-grupes/ministerija-ir-profsajungos/
Ministry of Education, Science and Sports of Lithuania (2022), "Sector collective agreement signed with the Lithuanian Trade Union of Educational Institution Leaders" [Pasirašyta šakos kolektyvinė sutartis su Lietuvos švietimo įstaigų vadovų profesine sąjunga], 23 December 2022, https://smsm.lrv.lt/lt/naujienos-1/pranesimai-ziniasklaidai-1/pasirasyta-sakos-kolektyvine-sutartis-su-lietuvos-svietimo-istaigu-vadovu-profesine-sajunga/
Ministry of Education, Science and Sports of Lithuania (2026), "New collective agreement with trade unions enters into force" [[sigaliojo nauja kolektyvinė sutartis su profesinėmis sąjungomis], 14 January 2026, https://smsm.lrv.lt/lt/naujienos-1/pranesimai-ziniasklaidai-1/isigaliojo-nauja-kolektyvine-sutartis-su-profesinemis-sajungomis-fRPK/

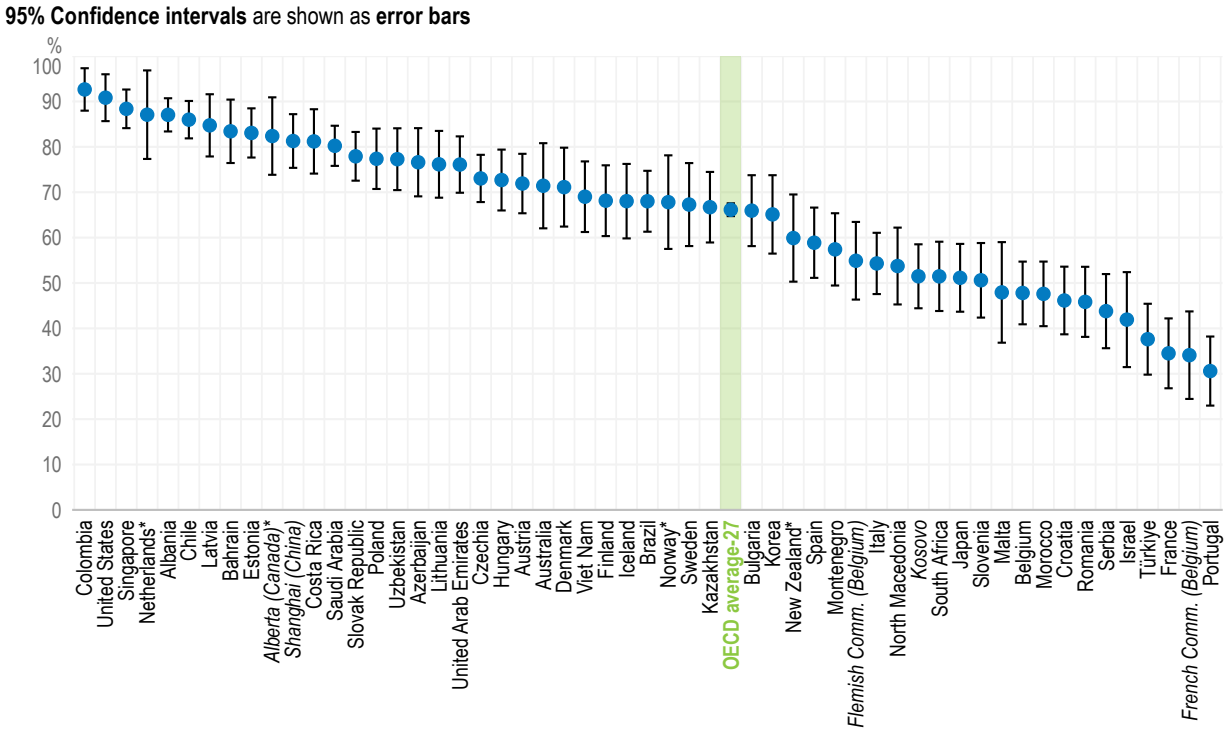
Non-salary terms

TALIS measures principals' satisfaction with non-salary employment terms through a single item asking: "Apart from my salary, I am satisfied with the terms of my principal contract/employment (e.g. benefits, work schedule)", using a four-point response scale ranging from "strongly disagree" to "strongly agree".

Around two-thirds (66%) of principals are satisfied with their non-salary employment terms, on average, a higher share than for salary satisfaction (Figure 4.10). Levels range from below 35% in France, the French Community of Belgium and Portugal to over 90% in Colombia and the United States.

Figure 4.10. Principals' satisfaction with their non-salary terms of employment

Percentage of lower secondary principals who "agree" or "strongly agree" that they are satisfied with their terms of employment (excluding salary)[1]

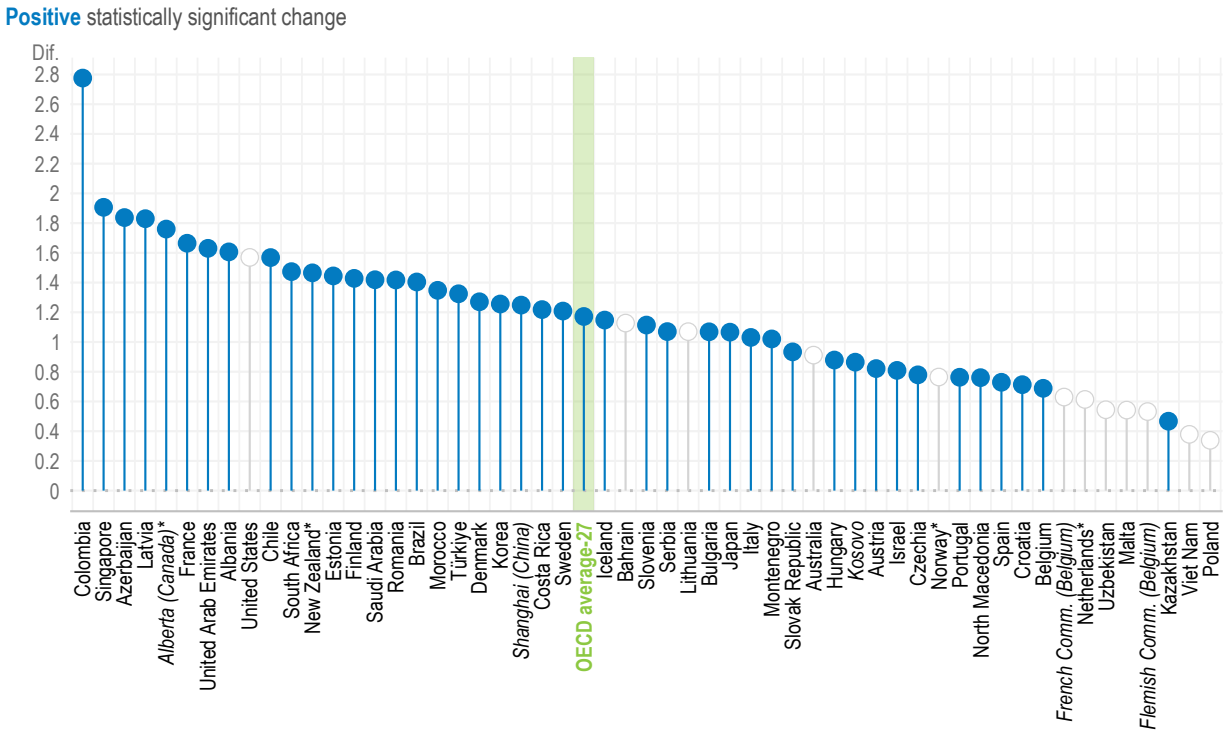


Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
A 95% confidence interval shows the range within which the true value is likely to lie, taking into account the uncertainty associated with survey estimates. It shows how precise an estimate is: narrower intervals indicate greater precision, while wider intervals indicate greater uncertainty.
1. For example, benefits and work schedule.
Source: OECD, *TALIS 2024 Database*, Table 4.48.

Regression analysis shows that, on average, satisfaction with non-salary employment terms is positively associated with job satisfaction (Figure 4.11). Given the association between job satisfaction and valued leadership (Chapter 2, Table 2.25), this suggests an indirect link with valued leadership.

Figure 4.11. Relationship between principals' job satisfaction and their satisfaction with their employment terms (excluding salary)

Change in the scale of lower secondary principals' job satisfaction[1] associated with principals "agree[ing]" or "strongly agree[ing]" that they are satisfied with their terms of employment (excluding salary)[2,3]



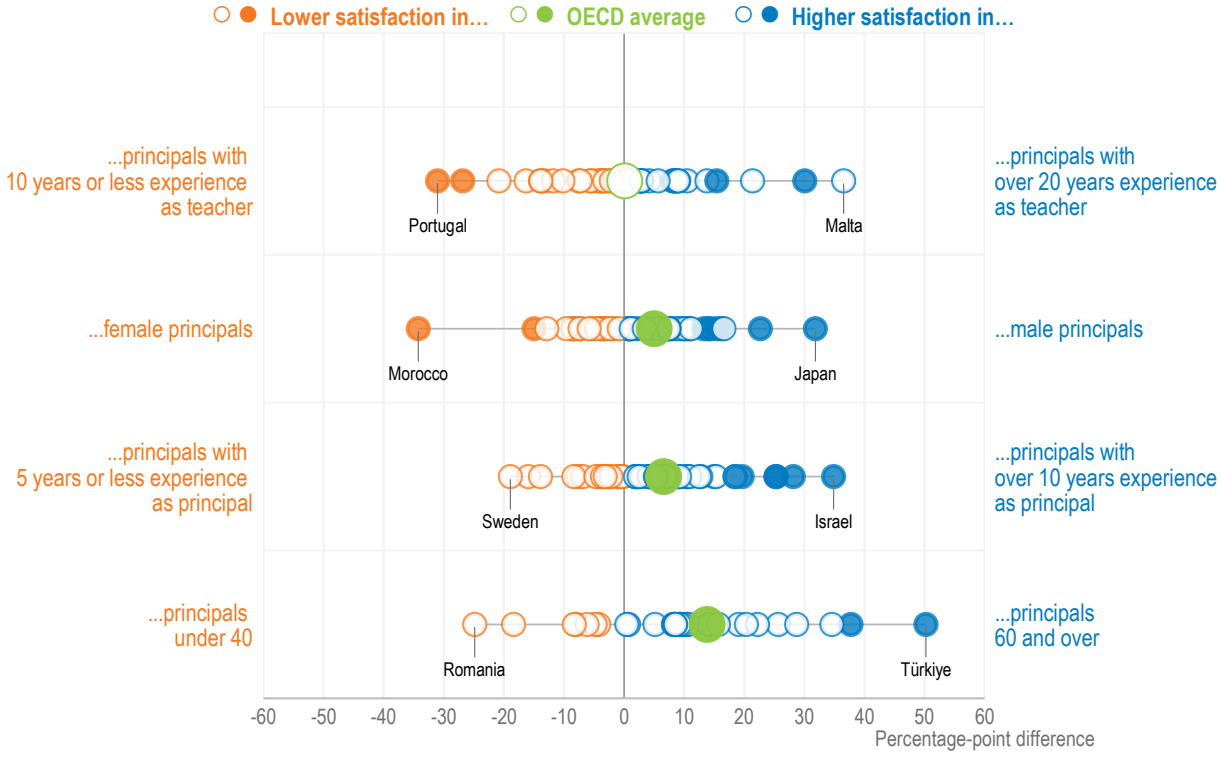
Note: *Estimates should be interpreted with caution due to a higher risk of non-response bias.
Statistically significant coefficients are highlighted with filled circles (see Annex B). Filled circles above 0 indicate a positive association, while those below 0 reflect a negative relationship.
1. Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale. For more information on the scales, see Annex B.
2. The reference category is "strongly disagree" or "disagree".
3. Results are based on school-level linear regression analysis controlling for principal characteristics (i.e. gender and age [standardised at the international level]) and school characteristics (i.e. school governance type, school size and school intake of students from socio-economically disadvantaged homes).
Source: OECD, *TALIS 2024 Database*, Table 4.45.

Older and more experienced principals report higher levels of satisfaction, on average (Figure 4.12). Those aged 60 and over report satisfaction rates around 14 percentage points higher than those under 40. The age difference is steepest in Türkiye (50 percentage points) and Czechia (38 percentage points) (Table 4.55). Similarly, the share of principals who are satisfied with their non-salary employment terms is 7 percentage points higher among more experienced principals than novice principals.

Male principals are more likely to be satisfied with their non-salary employment terms than female principals (68% versus 63%, respectively), though this gap varies considerably across systems and runs in the opposite direction in Morocco and Saudi Arabia, where female principals are more satisfied (Table 4.48).

Figure 4.12. Differences in principals' satisfaction with their employment terms (excluding salary), by principal characteristics

Percentage-point difference in the share of lower secondary principals who "agree" or "strongly agree" that they are satisfied with their terms of employment (excluding salary)[1]



Note: 1. For example, benefits and work schedule.
Source: OECD, *TALIS 2024 Database*, Table 4.48.

Principals in privately managed schools are more satisfied than those in publicly managed schools, on average (76% versus 64%, respectively) (Table 4.49). The gap is most pronounced in Malta (59 percentage points) and Portugal (47 percentage points). Principals in schools with a larger share of students who experience language difficulties are less satisfied than those in schools with no such students (63% versus 73%, a difference of 10 percentage points). The gap is largest in Australia, France, Morocco and Spain (over 30 percentage points in each system), pointing to a relationship between the intensity of student support needs and how principals perceive their working conditions.

Box 4.5. How to support principals in upper secondary education

Principals in upper secondary education are more valued when they:

- participate in courses on leadership (Tables 4.6 and 4.7).
- They also report higher job satisfaction when they:
- face fewer material resource shortages that hinder the school's capacity to provide quality instruction (Table 4.25);
- are satisfied with their salary and their employment terms (Table 4.45).

Patterns among upper secondary principals differ from those at the lower secondary level in:

- **Professional learning:** On average, more upper secondary principals participate in formal or informal principal networks and in courses on developing strategies on the use of digital resources and tools for teaching than lower secondary principals (Table 4.5).
- **Decision-making:** Upper secondary principals have more responsibility for budgetary, staffing and curriculum decisions than lower secondary principals, on average, though less so for student policies. Responsibility varies markedly by school type and location, with principals in privately managed and urban schools reporting more decision-making responsibility than those in publicly managed and rural schools across all decision areas (Tables 4.36, 4.37, 4.38 and 4.39).
- **Salary satisfaction:** Upper secondary principals report similar levels of satisfaction with their salary as their lower secondary counterparts. However, upper secondary principals in rural and publicly managed schools are less satisfied with their salaries (Table 4.46). Between 2018 and 2024, satisfaction fell by at least 13 percentage points in Portugal, Slovenia and Türkiye (Table 4.47).
- **Satisfaction with employment terms:** Upper secondary principals are more satisfied with their employment terms (excluding salary) than lower secondary principals. Principals in privately managed and large schools (750 students or more) are more satisfied than those in publicly managed schools and small schools (fewer than 250 students) (Table 4.49).

Table 4.1. Chapter 4 figures

Figure 4.1		Relationship between instructional leadership and training on the use of digital tools for teaching
Figure 4.1 (ISCED 1)	WEB	Relationship between instructional leadership and training on the use of digital tools for teaching
Figure 4.1 (ISCED 3)	WEB	Relationship between instructional leadership and training on the use of digital tools for teaching
Figure 4.2		Principals' participation in training on the use of digital tools for teaching
Figure 4.2 (ISCED 1)	WEB	Principals' participation in training on the use of digital tools for teaching
Figure 4.2 (ISCED 3)	WEB	Principals' participation in training on the use of digital tools for teaching
Figure 4.3		Relationship between principals' job satisfaction and perceived material resource shortages
Figure 4.3 (ISCED 1)	WEB	Relationship between principals' job satisfaction and perceived material resource shortages
Figure 4.3 (ISCED 3)	WEB	Relationship between principals' job satisfaction and perceived material resource shortages
Figure 4.4		Principals' views on Internet access as a barrier to quality instruction, by school intake of socio-economically disadvantaged students
Figure 4.4 (ISCED 1)	WEB	Principals' views on Internet access as a barrier to quality instruction, by school intake of socio-

		economically disadvantaged students
Figure 4.4 (ISCED 3)	WEB	Principals' views on Internet access as a barrier to quality instruction, by school intake of socio-economically disadvantaged students
Figure 4.5		Change in shortage or inadequacy of digital resources and tools for instruction, from 2018 to 2024
Figure 4.5 (ISCED 1)	WEB	Change in shortage or inadequacy of digital resources and tools for instruction, from 2018 to 2024
Figure 4.5 (ISCED 3)	WEB	Change in shortage or inadequacy of digital resources and tools for instruction, from 2018 to 2024
Figure 4.6		Decision-making authority of publicly managed schools
Figure 4.7		Principals' salary satisfaction and their pay relative to teachers
Figure 4.7 (ISCED 1)	WEB	Principals' salary satisfaction and their pay relative to teachers
Figure 4.7 (ISCED 3)	WEB	Principals' salary satisfaction and their pay relative to teachers
Figure 4.8		Relationship between principals' job satisfaction and their salary satisfaction
Figure 4.8 (ISCED 1)	WEB	Relationship between principals' job satisfaction and their salary satisfaction
Figure 4.8 (ISCED 3)	WEB	Relationship between principals' job satisfaction and their salary satisfaction
Figure 4.9		Change in principals' satisfaction with their salary, from 2018 to 2024
Figure 4.9 (ISCED 1)	WEB	Change in principals' satisfaction with their salary, from 2018 to 2024
Figure 4.9 (ISCED 3)	WEBW	Change in principals' satisfaction with their salary, from 2018 to 2024
Figure 4.10		Principals' satisfaction with their non-salary terms of employment
Figure 4.10 (ISCED 1)	WEB	Principals' satisfaction with their non-salary terms of employment
Figure 4.10 (ISCED 3)	WEB	Principals' satisfaction with their non-salary terms of employment
Figure 4.11		Relationship between principals' job satisfaction and their satisfaction with their employment terms (excluding salary)
Figure 4.11 (ISCED 1)	WEB	Relationship between principals' job satisfaction and their satisfaction with their employment terms (excluding salary)
Figure 4.11 (ISCED 3)	WEB	Relationship between principals' job satisfaction and their satisfaction with their employment terms (excluding salary)
Figure 4.12		Differences in principals' satisfaction with their employment terms (excluding salary), by principal characteristics
Figure 4.12 (ISCED 1)	WEB	Differences in principals' satisfaction with their employment terms (excluding salary), by principal characteristics
Figure 4.12 (ISCED 3)	WEB	Differences in principals' satisfaction with their employment terms (excluding salary), by principal characteristics

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Notes

[1] This report defines valued leadership based on teachers' views about their principals' instructional and relational leadership. The conceptualisation of valued leadership is guided by the Teaching and Learning International Survey (TALIS) 2024 Conceptual Framework (OECD, 2025[18]), which identifies instructional and relational leadership as key domains of school leadership. To note, TALIS does not survey teachers about their views on other important aspects of principals' leadership, such as managerial leadership. Moreover, the instructional and relational leadership scales, which are based on teachers' perceptions, may partly reflect principals' popularity rather than leadership quality. Principals who make difficult but necessary decisions may consequently be viewed less favourably, even when their leadership is highly effective.

[2] The instructional leadership scale (T4INSTLE) summarises teachers' responses to three four-point agreement items ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their school principal. The scale is constructed using latent variable modelling within a confirmatory factor analysis (CFA) framework and is based on the following items: "The principal encourages co-operation among teachers to develop new teaching practices"; "The principal ensures that teachers take responsibility for improving their teaching skills"; "The principal ensures that teachers feel responsible for their students' learning outcomes". Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale.

[3] The relational leadership scale (T4RELEAD) summarises teachers' responses to four four-point agreement items ("strongly disagree"; "disagree"; "agree"; "strongly agree") about their school principal. The scale is constructed using latent variable modelling within a confirmatory factor analysis (CFA) framework and is based on the following items: "The principal has a clear vision for this school"; "The principal encourages all staff to have a say on important decisions"; "The principal has good professional relationships with staff"; "The principal has good professional relationships with parents or guardians". Standardised scale scores with a standard deviation of 2 and the value of 10 corresponding to the item mid-point value of the response scale.

[4] Descriptive statistics for the control variables can be found in the online **TALIS 2024 Statistical Compendium**.

[5] Coefficients for the OECD and TALIS averages may be statistically significant even when country-level coefficients are statistically significant in only a small number of participating education systems. As such, these average results may not reflect a consistent pattern across education systems.

[6] Based on 2015 compensation data reported in Government at a Glance 2017, the estimated ratio of middle managers' compensation to that of professionals in public administration ranges from 1.26 to 1.97 (OECD, 2017[16]). The lower bound compares D4 managers (leaders of specific professional teams) with senior professionals, while the upper bound compares D3 managers (heads of directorates or administrative units) with junior professionals.

Annex A. Technical notes on sampling, participation rates and adjudication

Sampling procedures

The objective of the Teaching and Learning International Survey (TALIS) 2024 was to obtain a representative sample of teachers for each International Standard Classification of Education (ISCED) level in which an education system participated. The international sampling plan employed a stratified two-stage probability sampling design. Schools served as the first-stage units (primary sampling units), randomly selected from within strata. Teachers were then randomly selected from the list of eligible teachers within those schools, serving as secondary sampling units. A more detailed description of the survey design and its implementation can be found in the *TALIS 2024 Technical Report* (OECD, forthcoming[1]).

Education systems had the option to limit the coverage of their TALIS 2024 implementation for reasons of practicality, safety or economy. However, they were encouraged to minimise such exclusions and ensure that their national survey population covered at least 95% of teachers. National Project Managers (NPMs) were required to document the reasons for each exclusion, along with details such as the school's size, location and student population, for every ISCED level in which the system participated.

Sample size requirements

To ensure reliable estimation and allow for some non-response, the minimum sample size was set at 20 teachers per participating school. A minimum of 200 in-scope schools were to be selected, resulting in a nominal international sample size of at least 4 000 teachers per ISCED level.

Education systems could expand their samples by selecting more schools, more teachers per school or both. In some cases, systems were required to increase the number of teachers sampled within schools to offset selecting too many schools with fewer than 20 teachers.

For systems with a limited number of eligible schools, the sample size requirement was reduced. In a few instances, where the average number of teachers per school was lower than expected, the number of schools sampled was increased to meet the minimum required number of participating teachers.

In many systems, ISCED level divisions do not align with distinct school buildings or administrations. For example, schools covering Grades 8 to 12 span ISCED levels 2 and 3, but may not fully represent all of ISCED Level 2.

If a system participated in multiple modules at different ISCED levels, overlap control was applied to avoid selecting the same schools for multiple modules. While teachers may work across ISCED levels and belong to multiple target populations, it was not feasible for them to complete separate questionnaires for each level. Similarly, principals were not expected to complete multiple questionnaires for different ISCED levels within the same school. As a result, schools were generally selected for only one ISCED level, and only teachers at that level were listed and sampled.

However, in response to requests from two education systems, the selection of the same schools for two modules was permitted. In such cases, principals were required to complete multiple questionnaires, while teachers within each school were still sampled for only one ISCED level.

Definition of teachers and principals

A teacher at ISCED Level 1, 2 or 3 is defined as someone who, as part of their regular duties at a school, provides instruction in programmes corresponding to that ISCED level. Teachers who teach a mix of programmes across different ISCED levels within the target school are included in the TALIS target population. There is no minimum threshold for the amount of instruction a teacher must provide at any of the three ISCED levels to be included.

The international target population of TALIS 2024 includes only teachers who teach regular classes in ordinary schools, as well as the principals of those schools. The following teachers are considered out of scope for TALIS 2024:

- teachers teaching in schools exclusively serving students with special education needs[1]
- teachers teaching exclusively to adults
- substitute and emergency teachers
- teachers who also act as school principals
- teachers on long-term leave (e.g. disability, sabbatical)
- teachers who had taken part in the TALIS 2024 field trial.

Non-teaching staff (nurses, school psychologists, teachers' aides, etc.) are also out of the TALIS 2024 international target population.

A principal is defined as the individual with the highest level of responsibility for the administrative, managerial and/or pedagogical leadership of a school. This role may include overseeing students, supervising teachers, engaging with parents and guardians, and planning, preparing and implementing the school's pedagogical activities. Principals may also dedicate part of their time to teaching.

Adjudication process

Adjudication is the process of determining whether the collected data are "fit for use" as intended. The issues examined concerned, among others, the questionnaire adaptation to national context, translation and verification, quality of the sampling frame, handling of out-of-scope and refusal units (i.e. teachers and/or schools), within-school sampling, data collection, data cleaning, the reports of quality observers, participation rates and overall compliance with the technical standards.

During the adjudication session, each individual dataset (one per module per education system) was submitted to the same examination. Principal/school data were adjudicated independently of teacher data.

Once each survey process had been assessed, a recommended adjudication rating was formulated. While the rating was mostly dictated by the participation rate thresholds set in the TALIS 2024 Technical Standards (see Table A A.1 and Table A A.2), the adjudication committee at times improved the rating of a dataset if, after expert consideration, unique and favourable conditions were met (e.g. closeness to the threshold value and/or the non-response bias analysis (NRBA) report showing evidence for negligible bias risks).

To note, the adjudication rating is made at the education system level. However, potential non-response bias is specific to each estimate. Therefore, some estimates of systems with an adjudication rating of "good" might still have a high non-response bias; correspondingly, some estimates of systems with an

adjudication rating of "poor" might still be reliable. For more detailed information, please refer to the *TALIS 2024 Technical Report* (OECD, forthcoming[1]).

The adjudication rules, based on participation rates for principals and teachers, are displayed in Table A A.1 and Table A A.2.

Table A A.1. Adjudication rules for school or principal data

School/principal participation before replacement	School/principal participation after replacement	Risk of non-response bias[1]	Rating
≥75%	≥75%		Good
≥50% but <75%	≥75%		Fair (A)
≥50% but <75%	≥50% but <75%	Low	Fair (C)
≥50% but <75%	≥50% but <75%	High	Poor (D)
<50%			Insufficient

Note: A school was deemed a participating school if the principal returned their questionnaire with at least one question answered.
1. The risk of non-response bias is assessed through a non-response bias analysis. Under TALIS technical standards, all participating education systems with a preliminary rating below "Good" are expected to submit such an analysis.
Source: TALIS 2024 Technical Standard 3.26.

Table A A.2. Adjudication rules for teacher data

School participation before replacement	School participation after replacement	Teacher participation after school replacement[1]	Risk of teacher non-response bias[2]	Rating
≥75%	≥75%	≥75%		Good
≥75%		≥50% but <75%		Fair (A)
≥50% but <75%	≥75%	≥75%		Fair (B)
≥50% but <75%	≥75%	≥50% but <75%	Low	Fair (C)
≥50% but <75%	≥75%	≥50% but <75%	High	Poor (D)
≥50% but <75%	≥50% but <75%			Poor (E)
<50%	≥75%			Poor (F)
<50%	<75%			Insufficient

Note: A school was deemed a participating school if at least 50% of the selected teachers returned their respective questionnaires with at least one question answered.
1. It refers to teachers' participation rate in participating schools.
2. The risk of non-response bias is assessed through a non-response bias analysis. Under TALIS technical standards, all participating education systems with a preliminary rating below "Good" are expected to submit such an analysis.
Source: TALIS 2024 Technical Standard 3.27.

The following bulleted list aims to help data users understand what constitutes limitations on use or quality of the data:

- **Good:** the data of the participating system can be used for all reporting and analytical purposes and should be included in international comparisons.
- **Fair (A):** national and subnational estimates can be produced; some teacher/staff characteristics may be less precise, as indicated by a larger standard error (s.e.), hence the warning "fair", but with no additional warnings to users deemed necessary.

- **Fair (B, only for teacher data adjudication):** national and subnational estimates can be produced; some subnational estimates may be of lower precision (larger s.e.) if the sample size is locally low, hence the warning "fair", but with no additional warnings to users considered necessary.
- **Fair (C):** national and subnational estimates can be produced; some subnational estimates may be of lower precision (larger s.e.) if the sample size is locally low, hence the warning "fair", but with the possible inclusion of a note on data quality that points to the outcome of the NRBA; school participation somewhat lower than under (B), meaning that comparison of subnational estimates needs to be done with care given that some of these results are based on just a few schools; comparison of small subnational estimates with similar groups from other education systems is unlikely to uncover statistically meaningful differences because of potentially overly large standard errors.
- **Poor (D):** in addition to the warnings issued for the previous category, a note that warns users of higher risks of non-response bias in some estimates should be appended; comparisons of subnational estimates need to be limited to the groups with the larger sample sizes (because the sample at this point represents between 37% and 56% of teachers/staff from a relatively small sample of schools, comparisons with similar groups in other education systems is inadvisable).
- **Poor (E, only for teacher data adjudication):** subnational estimates are not recommended; a note pointing out the difficulty of obtaining a representative sample of schools, therefore, needs to be appended.
- **Poor (F, only for teacher data adjudication):** limitations similar to those for line E, but with the inclusion of a note pointing out the difficulty of obtaining at least 50% participation of the selected sample of schools; evident risk of having a non-representative sample of schools.
- **Insufficient:** weights should not be calculated for any official tabulations, meaning that data should not be incorporated into international tables, models, averages, etc.

Participation rates and adjudication ratings

The participation rates and adjudication ratings for each participating education system, by module and population, are presented in Table A A.3, Table A A.4, Table A A.5, Table A A.6, Table A A.7 and Table A A.8. Detailed results of unweighted and weighted participation can be found in Annex G of the *TALIS 2024 Technical Report* (OECD, forthcoming[1]).

Table A A.3. ISCED Level 2: Principal participation and recommended ratings

Participating education system	Number of participating principals	Estimated size of school population	Principal participation before replacement (%)	Principal participation after replacement (%)	Recommended rating
Albania	282	1 090	99.6	100.0	Good
Alberta (Canada)	139	1 152	38.5	50.3	Insufficient
Australia	181	2 575	63.0	89.9	Fair
Austria	266	1 446	83.6	96.7	Good
Azerbaijan	222	4 090	99.7	100.0	Good
Bahrain	115	116	99.1	99.1	Good
Belgium	262	1 226	65.0	73.4	Fair
Brazil	212	56 460	89.9	94.3	Good
Bulgaria	208	1 691	97.7	98.7	Good
Chile	362	5 776	70.0	84.3	Fair
Colombia	189	15 310	63.8	68.5	Fair
Costa Rica	183	939	85.7	87.1	Good
Croatia	259	857	87.8	87.8	Good
Cyprus	99	100	99.0	99.0	Good
Czechia	346	2 819	99.8	100.0	Good
Denmark	189	1 555	54.9	80.9	Fair
Estonia	192	367	94.1	94.1	Good
Finland	226	723	99.6	100.0	Good
Flemish Community (Belgium)	139	791	57.1	66.2	Fair
France	171	6 780	86.0	87.0	Good
French Community (Belgium)	123	436	76.0	83.8	Good
Hungary	231	2 665	93.5	93.9	Good
Iceland	109	140	77.9	77.9	Good
Israel[1]	198	1 232	92.5	93.0	Good
Italy	198	5 799	97.5	98.0	Good
Japan	200	10 277	89.5	98.1	Good
Kazakhstan	371	6 676	99.1	99.1	Good
Korea	173	3 085	65.3	85.6	Fair
Kosovo	222	630	99.1	99.1	Good
Latvia	213	514	96.3	97.9	Good
Lithuania	211	738	98.7	100.0	Good
Malta	50	55	90.9	90.9	Good
Montenegro	130	161	80.7	80.7	Good
Morocco	398	3 860	99.7	100.0	Good
Netherlands	78	1 345	35.6	52.3	Insufficient
New Zealand	90	1 871	27.2	51.4	Insufficient
North Macedonia	201	335	99.6	99.6	Good
Norway	147	1 093	44.5	69.7	Insufficient

Participating education system	Number of participating principals	Estimated size of school population	Principal participation before replacement (%)	Principal participation after replacement (%)	Recommended rating
Poland	279	12 502	93.6	99.6	Good
Portugal	224	1 195	98.8	99.3	Good
Romania	216	4 587	100.0	100.0	Good
Saudi Arabia	319	7 743	95.6	95.6	Good
Serbia	199	1 129	98.5	99.5	Good
Shanghai (China)	205	689	100.0	100.0	Good
Singapore	154	189	95.6	96.9	Good
Slovak Republic	239	1 608	95.7	99.0	Good
Slovenia[2]	207	443	77.4	79.1	Good
South Africa	318	7 806	84.4	84.6	Good
Spain	494	7 151	97.7	97.9	Good
Sweden	183	1 693	86.4	88.8	Good
Türkiye	226	16 723	98.5	98.5	Good
United Arab Emirates	210	875	98.8	98.8	Good
United States[3]	152	59 531	48.0	59.4	Insufficient
Uzbekistan	210	10 485	100.0	100.0	Good
Viet Nam	202	11 439	100.0	100.0	Good

Note: A school was deemed a participating school if the principal returned their questionnaire with at least one question answered.
1. Israel: Ultra-Orthodox schools were excluded after the survey administration due to very low participation rates. They are not considered in the participation rate but contribute to the exclusion rate.
2. Slovenia: The school sample was identical for ISCED Level 1 and Level 2. Principals were asked to participate in both questionnaires but did not in many cases. Eleven items were copied between ISCED levels in these cases.
3. United States: The national centre managed questionnaire delivery from their own servers using the platform provided by the IEA in a single participant setup. Following data collection, the United States assessed disclosure risk and applied related measures based on federal requirements (https://nces.ed.gov/fcsm/dpt/). No documentation of these measures was provided. The results of the non-response bias analysis conducted by the United States indicate a low likelihood of bias, despite the participation rate of schools (before replacement) being below 50%. For this reason, in OECD reports, data from the United States are treated as if the rating was "poor" and are, therefore, included in all tables and in international averages.

Table A A.4. ISCED Level 2: Teacher participation and recommended ratings

Participating education system	Number of participating schools	Number of participating teachers	Estimated size of teacher population	School participation before replacement (%)	School participation after replacement (%)	Teacher participation in participating schools (%)	Overall teacher participation (%)	Recommended rating
Albania	282	4 029	11 830	99.6	100.0	99.4	99.4	Good
Alberta (Canada)	153	1 823	11 190	46.4	56.4	82.2	46.4	Insufficient
Australia	179	3 035	122 147	66.6	88.5	86.7	76.7	Fair
Austria	247	4 335	43 477	77.5	89.8	85.9	77.2	Good
Azerbaijan	222	4 307	95 548	99.5	100.0	98.4	98.4	Good
Bahrain	116	3 104	4 581	100.0	100.0	97.7	97.7	Good
Belgium[1]	273	5 175	40 763	67.5	76.5	84.5	64.6	Fair
Brazil	207	3 009	590 695	89.9	92.4	95.2	87.9	Good
Bulgaria	210	3 629	21 777	97.9	99.6	99.1	98.7	Good
Chile	353	2 319	59 796	66.2	79.8	84.0	67.0	Fair
Colombia	213	3 010	167 714	71.7	77.2	91.9	70.9	Fair
Costa Rica	187	3 026	14 638	87.6	89.0	94.2	83.8	Good
Croatia	268	3 163	15 957	90.5	90.5	82.6	74.8	Good
Cyprus	99	1 793	4 151	99.0	99.0	91.2	90.3	Good
Czechia	346	6 369	49 671	99.7	100.0	98.4	98.4	Good
Denmark	189	2 488	23 083	53.5	80.0	85.6	68.5	Fair
Estonia	199	3 339	8 860	97.5	97.5	89.1	86.9	Good
Finland	226	4 300	20 980	99.6	100.0	94.8	94.8	Good
Flemish Community (Belgium)[2]	143	2 444	24 689	58.1	68.3	84.2	57.5	Poor
France	161	2 877	206 033	80.2	81.7	76.4	62.4	Good
French Community (Belgium)	130	2 731	16 075	81	88.4	84.7	74.9	Good
Hungary	235	3 890	43 537	95.1	95.5	92.6	88.4	Good
Iceland	131	1 427	1 982	94.2	94.2	81.6	76.9	Good
Israel[3]	196	3 227	35 940	92.0	92.0	87.4	80.5	Good
Italy	200	3 874	168 045	98.5	99.0	92.4	91.5	Good
Japan	201	3 558	209 963	90.2	98.5	97.7	96.2	Good
Kazakhstan	377	7 360	205 012	99.8	99.8	99.6	99.3	Good
Korea	169	3 098	76 205	65.3	83.7	91.0	76.2	Fair
Kosovo	222	3 281	7 339	99.1	99.1	91.4	90.6	Good
Latvia	215	4 088	9 219	97.2	98.6	91.0	89.8	Good
Lithuania	210	4 223	16 848	99.1	99.5	97.1	96.6	Good
Malta	48	2 263	3 265	88.6	88.6	81.3	72.0	Good
Montenegro	126	1 354	2 186	78.3	78.3	84.0	65.7	Fair
Morocco	398	6 112	71 394	99.7	100.0	98.3	98.3	Good
Netherlands	84	1 271	58 097	37.6	56.4	73.7	41.5	Insufficient

Participating education system	Number of participating schools	Number of participating teachers	Estimated size of teacher population	School participation before replacement (%)	School participation after replacement (%)	Teacher participation in participating schools (%)	Overall teacher participation (%)	Recommended rating
New Zealand	97	1 204	24 847	28.1	43.0	73.1	31.5	Insufficient
North Macedonia	202	3 992	7 322	100.0	100.0	94.9	94.9	Good
Norway	112	1 528	20 156	34.1	53.9	73.1	39.4	Insufficient
Poland	279	3 783	172 089	93.6	99.6	94.7	94.4	Good
Portugal	224	3 511	38 887	98.7	99.1	92.2	91.4	Good
Romania	216	3 873	64 851	100.0	100.0	97.4	97.4	Good
Saudi Arabia	326	3 306	112 606	98.1	98.1	94.6	92.8	Good
Serbia	199	4 007	23 354	98.5	99.5	95.6	95.2	Good
Shanghai (China)	205	4 078	44 556	100.0	100.0	98.4	98.4	Good
Singapore	156	3 355	10 601	96.9	98.1	97.2	95.3	Good
Slovak Republic	242	4 190	22 949	97.1	100.0	96.1	96.1	Good
Slovenia	222	2 831	8 269	82.7	84.2	89.1	75.0	Good
South Africa	361	3 301	87 309	92.8	93.3	91.2	85.0	Good
Spain	507	9 098	198 806	99.8	100.0	94.1	94.1	Good
Sweden	196	3 065	33 858	92.7	95.1	76.4	72.7	Fair
Türkiye	229	4 932	291 832	99.6	99.6	97.2	96.8	Good
United Arab Emirates	212	4 369	28 559	99.5	99.5	98.4	97.9	Good
United States[4]	154	1 988	1 206 856	49.6	60.2	82.8	49.8	Poor
Uzbekistan	210	4 431	306 057	100.0	100.0	98.7	98.7	Good
Viet Nam	202	4 348	305 410	100.0	100.0	99.0	99.0	Good

Note: A school was deemed a participating school if at least 50% of the selected teachers returned their respective questionnaires with at least one question answered.

1. Belgium: Some sampled schools of the Flemish Community were located in the same places. The national centre advised these schools to distribute teachers between listing forms to avoid being selected multiple times. This deviation from the procedures could not be corrected for.
2. Flemish Community (Belgium): Some sampled schools were located in the same places. The national centre advised these schools to distribute teachers between listing forms to avoid being selected multiple times. This deviation from the procedures could not be corrected for.
3. Israel: Ultra-Orthodox schools were excluded after the survey administration due to very low participation rates. They are not considered in the participation rate but contribute to the exclusion rate.
4. United States: The national centre managed questionnaire delivery from their own servers using the platform provided by the IEA in a single participant setup. Following data collection, the United States assessed disclosure risk and applied related measures based on federal requirements (https://nces.ed.gov/fcsm/dpt/). No documentation of these measures was provided. The rating was defined as “poor” although the participation rate of schools before replacement did not completely reach 50%.

Table A A.5. ISCED Level 1: Principal participation and recommended ratings

Participating education system	Number of participating principals	Estimated size of school population	Principal participation before replacement (%)	Principal participation after replacement (%)	Recommended rating
Australia	178	7 023	63.0	85.6	Fair
Belgium	333	4 241	61.1	81.0	Fair
Brazil	284	93 385	84.1	93.2	Good
Flemish Community (Belgium)	158	2 417	46.4	75.6	Insufficient
France	322	34 412	91.9	93.3	Good
French Community (Belgium)	175	1 824	76.2	86.6	Good
Japan	202	19 323	87.4	98.1	Good
Korea	198	6 133	66.1	88.4	Fair
Morocco	389	23 888	98.7	98.7	Good
Netherlands	132	5 993	43.8	68.3	Insufficient
New Zealand	141	2 044	34.8	58.1	Insufficient
Saudi Arabia	204	12 267	92.8	92.8	Good
Slovenia[1]	206	443	77.1	78.8	Good
Spain	487	13 736	97.2	97.2	Good
Türkiye	231	16 361	97.1	97.1	Good
United Arab Emirates	206	789	99.6	99.6	Good

Note: A school was deemed a participating school if the principal returned their questionnaire with at least one question answered.
1. Slovenia: The school sample was identical for ISCED Level 1 and Level 2. Principals were asked to participate in both questionnaires but did not in many cases. Eleven items were copied between ISCED levels in these cases.

Table A A.6. ISCED Level 1: Teacher participation and recommended ratings

Participating education system	Number of participating schools	Number of participating teachers	Estimated size of teacher population	School participation before replacement (%)	School participation after replacement (%)	Teacher participation in participating schools (%)	Overall teacher participation (%)	Recommended rating
Australia	178	3 003	137 078	63.0	85.6	89.9	76.9	Fair
Belgium	326	4 913	63 889	59.9	79.3	84.2	66.8	Fair
Brazil	279	2 994	667 700	81.0	90.9	97.4	88.5	Good
Flemish Community (Belgium)	146	2 258	38 107	42.1	69.9	88.0	61.5	Insufficient
France	291	1 993	179 824	89.1	91.2	88.9	81.1	Good
French Community (Belgium)	180	2 655	25 783	78.2	89.1	81.3	72.4	Good
Japan	202	3 356	311 128	87.4	98.1	97.9	96.0	Good
Korea	184	3 124	122 407	60.3	82.1	90.6	74.4	Fair
Morocco	394	4 905	192 370	100.0	100.0	99.1	99.1	Good
Netherlands	140	1 305	60 642	46.9	72.2	85.3	61.6	Insufficient
New Zealand	130	1 529	21 009	30.6	54.7	79.5	43.5	Insufficient
Saudi Arabia	218	3 783	213 117	99.1	99.1	94.6	93.8	Good
Slovenia	220	3 615	12 379	81.8	83.5	91.5	76.4	Good
Spain	500	8 060	201 862	99.2	99.2	94.7	94.0	Good
Türkiye	232	4 053	205 969	97.5	97.5	96.3	93.9	Good
United Arab Emirates	206	4 091	25 817	99.5	99.5	97.5	97.0	Good

Note: A school was deemed a participating school if at least 50% of the selected teachers returned their respective questionnaires with at least one question answered.

Table A A.7. ISCED Level 3: Principal participation and recommended ratings

Participating education system	Number of participating principals	Estimated size of school population	Principal participation before replacement (%)	Principal participation after replacement (%)	Recommended rating
Croatia	180	381	90.0	90.0	Good
Denmark	179	610	54.4	77.1	Fair
Flemish Community (Belgium)	137	744	47.6	65.2	Insufficient
Portugal	203	731	98.9	100.0	Good
Saudi Arabia	214	5 131	92.5	92.5	Good
Slovenia[1]	104	140	74.3	74.3	Good
Türkiye	197	10 741	97.0	97.0	Good
United Arab Emirates	197	629	98.3	98.3	Good

Note: A school was deemed a participating school if the principal returned their questionnaire with at least one question answered.
1. Slovenia: The rating was defined as “good” although the participation rate of schools did not completely reach 75%.

Table A A.8. ISCED Level 3: Teacher participation and recommended ratings

Participating education system	Number of participating schools	Number of participating teachers	Estimated size of teacher population	School participation before replacement (%)	School participation after replacement (%)	Teacher participation in participating schools (%)	Overall teacher participation (%)	Recommended rating
Croatia	192	3 497	14 212	96.0	96.0	85.7	82.3	Good
Denmark	179	2 550	16 672	58.3	79.3	86.1	68.3	Fair
Flemish Community (Belgium)[1]	141	2 427	47 252	50.5	67.1	86.5	58.1	Poor
Portugal	203	3 878	34 288	99.6	100.0	93.9	93.9	Good
Saudi Arabia	226	3 952	107 791	98.7	98.7	94.1	92.9	Good
Slovenia	113	2 717	6 076	80.7	80.7	83.4	67.4	Good
Türkiye	201	4 976	287 877	99.0	99.0	95.5	94.5	Good
United Arab Emirates	200	4 228	20 222	99.5	99.5	98.8	98.3	Good

Note: A school was deemed a participating school if at least 50% of the selected teachers returned their respective questionnaires with at least one question answered.
1. Flemish Community (Belgium): Some sampled schools were located in the same places. The national centre advised these schools to distribute teachers between listing forms to avoid being selected multiple times. This deviation from the procedures could not be corrected for.

References

OECD (forthcoming), *TALIS 2024 Technical Report*, TALIS, OECD Publishing, Paris. [1]

Notes

[1] Similar to TALIS 2013 and 2018, teachers working with special education needs students within regular school settings were considered in scope. If a school is composed exclusively of such teachers, the school itself was considered out of scope.

Annex B. Technical notes on analyses in this volume

Use of teacher and school weights

The statistics presented in this report were derived from data obtained through samples of schools, principals and teachers. Samples were collected following a stratified two-stage probability sampling design. This means that teachers (secondary sampling units) were randomly selected from the list of in-scope teachers for each of the randomly selected schools (first-stage or primary sampling units). For these statistics to be meaningful for a country, they needed to reflect the whole population from which they were drawn and not merely the sample used to collect them. Thus, survey weights must be used in order to obtain design-unbiased estimates of population or model parameters.

Final weights allow the production of country-level estimates from the observed sample data. The estimation weight indicates how many population units are represented by a sampled unit. The final weight is the combination of many factors reflecting the probabilities of selection at the various stages of sampling and the response obtained at each stage. Other factors may also come into play as dictated by special conditions to maintain the unbiasedness of the estimates (e.g. adjustment for teachers working in more than one school).

The statistics presented in this report that are based on responses of principals or on teacher responses averaged at the school level were estimated using the final principal weights (SCHWGTC). Results based only on responses of teachers or on responses of teachers and principals (i.e. responses from school principals merged with teachers' responses) were weighted by the final teacher weights (TCHWGT).

Use of scales

In this report, several scales are used, in particular in regression analyses. TALIS 2024 scales were constructed using latent variable modelling[1] within a confirmatory factor analysis (CFA) framework. They were built using the same international model parameters to be statistically equivalent across countries/territories and populations, facilitating scale score comparability across education systems. In general, scale scores created for TALIS 2024 can be used in different types of analyses, including comparisons of country/territory means for each individual scale.

TALIS 2024 scale scores are standardised to have a standard deviation of 2 across all education systems participating in TALIS and where value 10 corresponds to the item mid-point value of the response scale. The only exceptions are the composite scales (highlighted as "overall") that combine different scales. These are standardised to have a standard deviation of 2 across all education systems participating in TALIS and a mean of 10.

To note, direct mean comparisons across different scales and across TALIS cycles are not meaningful. It is also important to note that analysing different scale scores based on the same items (e.g. a composite scale and its subscales) requires caution, as shared variance can influence the results. A detailed

description of the construction and validation of TALIS 2024 scales can be found in Chapter 11 of the *TALIS 2024 Technical Report* (OECD, forthcoming[1]).

Instructional leadership

The scale of instructional leadership (T4INSTLE) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements related to the principal at their school (TT4G66): "The principal encourages co-operation among teachers to develop new teaching practices"; "The principal ensures that teachers take responsibility for improving their teaching skills"; "The principal ensures that teachers feel responsible for their students' learning outcomes". For school-level analysis, scale scores were averaged within each school.

Relational leadership

The scale of relational leadership (T4RELEAD) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements related to the principal at their school (TT4G66): "The principal has a clear vision for this school"; "The principal encourages all staff to have a say on important decisions"; "The principal has good professional relationships with staff"; "The principal has good professional relationships with parents or guardians". For school-level analysis, scale scores were averaged within each school.

Instructional leadership practices

The scale of instructional leadership (principal) (T4PLEADS) was constructed using principal responses ("never or rarely", "sometimes", "often", "very often") about the frequency of engaging in the following activities in the school during the last 12 months (TC4G27): "I took actions to support co-operation among teachers to develop new teaching practices"; "I took actions to ensure that teachers take responsibility for improving their teaching skills"; "I took actions to ensure that teachers feel responsible for their students' learning outcomes".

Opportunities to participate in school decisions

The scale of opportunities to participate in school decisions (principal) (T4POPPART) was constructed using principal responses ("strongly disagree or disagree", "agree", "strongly agree") about the following statements related to their school (TC4G38): "This school provides staff with opportunities to actively participate in school decisions"; "This school provides parents or guardians with opportunities to actively participate in school decisions"; "This school provides students with opportunities to actively participate in school decisions".

School delinquency and violence

The scale of school delinquency and violence (T4PDELI) was constructed using principal responses ("never", "less than monthly", "monthly, weekly, or daily") about the frequency of occurrence of the following amongst students (TC4G41): "Vandalism and theft"; "Intimidation or bullying among students (or other forms of verbal abuse) on school grounds"; "Physical injury caused by violence among students"; "Intimidation or verbal abuse of teachers or staff on school grounds".

Principals' workplace stress and health issues

The scale of workplace stress and health issues (principal) (T4PWELS) was constructed using principal responses ("not at all", "to some extent", "quite a bit", "a lot") about the extent to which the following occur

(TC4G50): "I experience stress in my work"; "My job leaves me time for my personal life"; "My job negatively impacts my mental health"; "My job negatively impacts my physical health". Higher values on the workplace stress and health issues scale reflect lower levels of well-being.

Principals' job satisfaction (overall)

The scale of job satisfaction overall (principal) (T4PJOBSAT) was constructed as an average of the two subscales: job satisfaction with profession (T4PJSPROT) and job satisfaction with work environment (T4PJSENVT).

Teacher self-efficacy (overall)

The scale of teacher self-efficacy overall (T4SELF) is a composite scale score that was constructed as an average of the three subscales: self-efficacy in student engagement (T4SEENG), self-efficacy in instruction (T4SEINS) and self-efficacy in classroom management (T4SECLS).

Perceived classroom disruption

The scale of perceived classroom disruption (T4CLSDIS) was constructed using teacher responses (“not at all”, “to some extent”, “quite a bit”, “a lot”) about the extent to which the following situations can occur (TT4G54): “There is much disruptive noise and disorder”; “I have to wait a long time for students to quiet down”; “Many students don’t start working for a long time after the lesson begins”; “I lose quite a lot of time because students interrupt the lesson”.

Teachers’ fulfilment of lesson aims

The scale of fulfilment of lesson aims (complexity of teaching) (T4FULFIL) was constructed using teacher responses (“not at all”, “to some extent”, “quite a bit”, “a lot”) about the extent to which the following aims were fulfilled in the past week (TT4G58): “Presenting the content in a comprehensible way”; “Engaging students in work that challenges them”; “Providing students with feedback to support their learning”; “Offering students opportunities to practise what they learnt”; “Adapting teaching to meet the different needs of students”.

Teacher leadership

The scale of teacher leadership (T4TLEAD) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements related to their school (TT4G64): "Teachers take leadership roles in promoting a professional learning community"; "Teachers initiate and lead collaborative activities"; " Teachers lead their professional growth and development activities whenever possible"; "Teachers participate in non-teaching school events and projects".

Teacher-student relations

The scale of teacher-student relations (T4STUD) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements related to what happens at their school (TT4G65): "Teachers and students usually get on well with each other"; "Most teachers believe that the students’ well-being is important"; "Most teachers are interested in what students have to say"; "If a student needs extra assistance, the school provides it".

School climate regarding bullying

The scale of school climate regarding bullying (T4CLIBUL) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements related to student bullying (TT4G70): "Teachers at this school make it clear to students that bullying is not tolerated"; "At this school, students tell teachers when other students are being bullied"; "There are adults at this school students could turn to if they had a personal problem"; "The teachers at this school are genuinely concerned about the students".

Change fatigue

The scale of change fatigue (T4CHFAT) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements related to changes in their school (TT4G72): "I am tired of all the changes in this school"; "We are asked to change too many things in this school"; "It feels like we are always being asked to change something around here"; "I am asked to implement change initiatives without the necessary resources".

Teachers' workplace well-being

The scale of teacher workplace well-being refers to the inverted workplace well-being and stress scale (T4WELS), which was constructed using teacher responses ("not at all", "to some extent", "quite a bit", "a lot") about the extent to which the following situations occur (TT4G76): "I experience stress in my work"; "My job leaves me time for my personal life"; "My job negatively impacts my mental health"; "My job negatively impacts my physical health".

While higher values on the workplace well-being scale reflect higher levels of well-being, higher values on the workplace well-being and stress scale reflect lower levels of well-being.

Teachers' job satisfaction with the profession

The scale of job satisfaction with the profession (T4JSPROT) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements related to how they feel about their job (TT4G78): "The advantages of being a teacher clearly outweigh the disadvantages"; "If I could decide again, I would still choose to work as a teacher"; "I regret that I decided to become a teacher"; "All in all, I am satisfied with my job".

Teachers' job satisfaction with the work environment

The scale of job satisfaction with the work environment (T4JSENVT) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements related to how they feel about their job (TT4G78): "I would like to change to another school if that were possible"; "I enjoy working at this school"; "I would recommend this school as a good place to work".

Teachers' job satisfaction (overall)

The scale of job satisfaction overall (T4JOBSAT) is a composite scale score that was constructed as an average of the two subscales: job satisfaction with the profession (T4JSPROT) and job satisfaction with the work environment (T4JSENVT).

Teachers' perceptions of value and policy influence

The scale of perceptions of value and policy influence (T4VALP) was constructed using teacher responses ("strongly disagree", "disagree", "agree", "strongly agree") about the following statements (TT4G79): "Teachers' views are valued by policymakers in this country/region"; "Teachers can influence educational policy in this country/region"; "Teachers are valued in the media in this country/region".

International averages

This report includes eight arithmetic and one weighted average (for more detail about the country coverage of the international averages, see Table A B.1):

- **OECD average-27**: arithmetic average based on International Standard Classification of Education (ISCED) Level 2 teacher or principal data across 27 OECD education systems with a data adjudication rating of "good", "fair" or "poor". The report refers to the average teacher as equivalent shorthand for the average teacher "across the 27 OECD education systems participating in TALIS".
- **OECD average-25**: arithmetic average based on ISCED Level 2 teacher data across 25 OECD education systems with a data adjudication rating of "good", "fair" or "poor" that participated in both the TALIS 2018 and TALIS 2024 cycles.
- **OECD average-24**: arithmetic average based on ISCED Level 2 principal data across 24 OECD education systems with a data adjudication rating of "good", "fair" or "poor" that participated in both the TALIS 2018 and TALIS 2024 cycles.
- **TALIS average-49**: arithmetic average based on ISCED Level 2 teacher or principal data across 49 TALIS 2024 education systems with a data adjudication rating of "good", "fair" or "poor".
- **TALIS ISCED 1 average-12**: arithmetic average based on ISCED Level 1 teacher or principal data across 12 TALIS 2024 education systems with a data adjudication rating of "good", "fair" or "poor".
- **TALIS ISCED 3 average-8**: arithmetic average based on ISCED Level 3 teacher data across eight TALIS 2024 education systems with a data adjudication rating of "good", "fair", or "poor".
- **TALIS ISCED 3 average-7**: arithmetic average based on ISCED Level 3 principal data across seven TALIS 2024 education systems with a data adjudication rating of "good", "fair", or "poor".
- **OECD PIAAC average-29**: arithmetic average based on data across the 29 OECD countries and territories that participated in the Survey of Adult Skills 2023.
- **EU total-22**: weighted average based on ISCED Level 2 teacher or principal data across all European Union (EU) member states that participate in TALIS with a data adjudication rating of "good", "fair" or "poor". The EU total represents the 22 EU member states that also participated in TALIS 2024 as a single entity and to which each of the 22 EU member states contribute in proportion to the number of teachers or principals, depending on the basis of the analysis. Therefore, the EU total is calculated as a weighted arithmetic mean based on the sum of final teacher (TCHWGT) or principal (SCHWGTC) weights by country, depending on the target population.

Education systems that did not meet the TALIS technical standards with respect to participation rates are not included in international averages:

- ISCED level 1 (teacher and principal data): the Flemish Community of Belgium, the Netherlands and New Zealand.
- ISCED level 2 (teacher and principal data): Alberta (Canada), the Netherlands, New Zealand and Norway.
- ISCED level 3 (principal data): the Flemish Community of Belgium.

Table A B.1. Country coverage of international averages in TALIS 2024

Country/territory	OECD average-27	OECD average-25	OECD average-24	TALIS average-49	TALIS ISCED 1 average-12	TALIS ISCED 3 average-8	TALIS ISCED 3 average-7	OECD PIAAC average-29	EU total-22
Albania				X					
Alberta (Canada)								X	
Australia	X	X		X	X				
Austria	X	X	X	X				X	X
Azerbaijan				X					
Bahrain				X					
Belgium	X	X	X	X	X				X
Flemish Community (Belgium)						X		X	
French Community (Belgium)									
Brazil				X	X				
Bulgaria				X					X
Chile	X	X	X	X				X	
Colombia	X	X	X	X					
Costa Rica	X			X					
Croatia				X		X	X		X
Cyprus*				X					X
Czechia	X	X	X	X				X	X
Denmark	X	X	X	X		X	X	X	X
Estonia	X	X	X	X				X	X
Finland	X	X	X	X				X	X
France	X	X	X	X	X			X	X
Hungary	X	X	X	X				X	X
Iceland	X	X	X	X					
Israel	X	X	X	X				X	
Italy	X	X	X	X				X	X
Japan	X	X	X	X	X			X	
Kazakhstan				X					
Korea	X	X	X	X	X			X	
Kosovo				X					
Latvia	X	X	X	X				X	X
Lithuania	X	X	X	X				X	X
Malta				X					X
Montenegro				X					
Morocco				X	X				
Netherlands								X	
New Zealand								X	
North Macedonia				X					
Norway								X	
Poland	X			X				X	X
Portugal	X	X	X	X		X	X	X	X
Romania				X					X
Saudi Arabia				X	X	X	X		
Serbia				X					
Shanghai (China)				X					
Singapore				X					

Country/territory	OECD average-27	OECD average-25	OECD average-24	TALIS average-49	TALIS ISCED 1 average-12	TALIS ISCED 3 average-8	TALIS ISCED 3 average-7	OECD PIAAC average-29	EU total-22
Slovak Republic	X	X	X	X				X	X
Slovenia	X	X	X	X	X	X	X		X
South Africa				X					
Spain	X	X	X	X	X			X	X
Sweden	X	X	X	X				X	X
Türkiye	X	X	X	X	X	X	X		
United Arab Emirates				X	X	X	X		
United States	X	X	X	X				X	
Uzbekistan				X					
Viet Nam				X					

Note: *Cyprus did not participate directly in TALIS 2024: its data collection and processing were managed exclusively by the international research consortium. Its data are reported in the result tables listed in Annex C.
The countries/territories not covered by TALIS but included in the OECD PIAAC average-29 are: England (United Kingdom), Germany, Ireland and Switzerland.

In this publication, the OECD average is generally used when the focus is on providing a global tendency for an indicator and comparing its values across education systems. In the case of some education systems, data may not be available for specific indicators, or specific categories may not apply. Therefore, readers should keep in mind that the term “OECD average” refers to the OECD education systems included in the respective comparisons. In cases where data are not available or do not apply to all sub-categories of a given population or indicator, the “OECD average” may be consistent within each column of a table but not necessarily across all columns of a table.

Standard errors and significance tests

The statistics in this report represent estimates based on samples of teachers and principals, rather than values that could be calculated if every teacher and principal in every country had answered every question. Consequently, it is important to measure the degree of uncertainty of the estimates. In TALIS, each estimate has an associated degree of uncertainty that is expressed through a standard error. The use of confidence intervals provides a way to make inferences about the population means and proportions in a manner that reflects the uncertainty associated with the sample estimates. From an observed sample statistic and assuming a normal distribution, it can be inferred that the corresponding population result would lie within the confidence interval in 95 out of 100 replications of the measurement on different samples drawn from the same population. The reported standard errors were computed with a balanced repeated replication (BRR) methodology.

Smaller school-level sample sizes increase the risk of Type II error (*false negatives*) and result in larger standard errors, reducing the likelihood of detecting statistically significant differences across TALIS cycles, sub-populations, and relationships between variables. As a result, the school-level analyses presented in this report are likely to capture only the most pertinent relationships and differences.

Differences between sub-groups

Differences between sub-groups along teacher (e.g. female and male teachers) and school characteristics (e.g. schools with a high concentration of students from socio-economically disadvantaged homes and schools with a low concentration of students from socio-economically disadvantaged homes) were tested

for statistical significance. All differences marked in bold in the data tables of this report are statistically significantly different from 0 at the 95% level.

In the case of differences between sub-groups, the standard error is calculated by taking into account that the two sub-samples are not independent. As a result, the expected value of the covariance might differ from 0, leading to smaller estimates of standard error as compared to estimates of standard error calculated for the difference between independent sub-samples.

Differences between cycles

Differences between TALIS cycles (e.g. change between 2018 and 2024) were tested for statistical significance. All differences marked in bold in the data tables of this report are statistically significant at the 95% level. As samples from different TALIS cycles are considered independent, the standard error for any comparison between cycles is calculated with the expected value of the covariance being equal to 0.

Statistics based on linear and logistic regressions

Regression analysis was conducted to explore the relationships between different variables. Multiple linear regression was used in those cases where the dependent (or outcome) variable was considered continuous. Binary logistic regression was employed when the dependent (or outcome) variable was a binary categorical variable. Regression analyses were carried out for each country separately. Similarly to other statistics presented in this report, the OECD and TALIS averages refer to the arithmetic mean of country-level estimates, while the EU total is calculated as a weighted arithmetic mean based on the sum of final teacher (TCHWGT) or principal (SCHWGTC) weights by country, depending on the target population.

Control variables included in a regression model are selected based on theoretical reasoning and to the extent possible limited to the most objective measures or those that do not change over time:

- Controls for teacher characteristics: teacher's gender and age.
- Controls for principal characteristics: principal's gender and age.
- Controls for school characteristics: school governance type, school size (based on the number enrolled students) and school intake of students from socio-economically disadvantaged homes.

In the context of smaller school-level sample sizes, regression models are kept as parsimonious as possible. The higher the ratio of the number of predictors to sample size, the higher the risk of model overfitting. Model overfitting occurs when a statistical model captures random variation in the sample rather than the true underlying relationship, which creates the risk that the model will appear accurate in the observed data but perform poorly and produce unreliable conclusions when applied to new data.

In the case of regression models based on multiple linear regression, the explanatory power of the regression models is also highlighted by reporting the R-squared (R^2), which represents the proportion of the observed variation in the dependent (or outcome) variable that can be explained by the independent (or explanatory) variables.

In order to ensure the robustness of the regression models, control variables were introduced into the models in steps. This approach also required that the models at each step be based on the same sample. The restricted sample used for the different versions of the same model corresponded to the sample of the most extended (i.e. with the maximum number of independent variables) version of the model. Thus, the restricted sample of each regression model excluded those observations where all independent variables had missing values.

Regression analyses presented in this report handle missing data by listwise deletion. In the result tables, regression models that are based on 25% to 50% of the full sample are highlighted with a † next to the country/territory label. Analyses based on less than 25% of the full sample are excluded from the report.

Multiple linear regression analysis

Multiple linear regression analysis provides insights into how the value of the continuous dependent (or outcome) variable changes when any one of the independent (or explanatory) variables varies while all other independent variables are held constant. Everything else held constant, on average, a one-unit increase in the independent variable (X_i) is associated with an increase in the dependent variable (Y) by the units represented by the regression coefficient (β_i):

$$\mathrm{Y} = \beta_0 + \beta_1 X_1 + \ \ldots \ + \beta_i X_i + \varepsilon$$

When interpreting multiple regression coefficients, it is important to keep in mind that each coefficient is influenced by the other independent variables in a regression model. The influence depends on the extent to which independent variables are correlated. Therefore, each regression coefficient does not capture the total effect of independent variables on dependent variables. Rather, each coefficient represents the additional effect of adding that variable to the model, if the effects of all other variables in the model are already accounted for. It is also important to note that, due to the cross-sectional nature of TALIS data, no causal conclusions can be drawn.

Regression coefficients in bold in the data tables are statistically significantly different from 0 at the 95% confidence level.

Binary logistic regression analysis

Binary logistic regression analysis enables the estimation of the relationship between one or more independent (or explanatory) variables and the dependent (or outcome) variable with two categories. The regression coefficient (β) of a logistic regression is the estimated increase in the log odds of the outcome per unit increase in the value of the predictor variable.

More formally, let Y be the binary outcome variable indicating no/yes with 0/1, and p be the probability of Y to be 1, so that $p = prob(Y = 1)$. Let $X_1 , \ldots X_k$ be a set of explanatory variables. Then, the logistic regression of Y on $X_1 , \ldots X_k$ estimates parameter values for $\beta_0, \beta_1, \ldots \ \beta_k$ via the maximum likelihood method of the following equation:

$$Logit(p) = \ \log(p/(1-p)) = \beta_0 + \beta_1 X_1 + \ \ldots \ + \beta_k X_k$$

Additionally, the exponential function of the regression coefficient $\big(exp(\beta)\big)$ is obtained, which is the odds ratio (OR) associated with a one-unit increase in the explanatory variable. Then, in terms of probabilities, the equation above is translated into the following:

$$p = \ exp(\beta_0 + \beta_1 X_1 + \ \ldots \ + \beta_k X_k / 1 + exp(\beta_0 + \beta_1 X_1 + \ \ldots \ + \beta_k X_k))$$

The transformation of log odds (β) into odds ratios ($exp(\beta); OR$) makes the data more interpretable in terms of probability. The odds ratio (OR) is a measure of the relative likelihood of a particular outcome when a specific condition is present (the antecedent) compared to when it is not. The odds ratio for observing the outcome when an antecedent is present is:

$$OR = \ (p_{11}/p_{12})/(p_{21}/p_{22})$$

where p_{11}/p_{12} represents the "odds" of observing the outcome when the antecedent is present, and p_{21}/p_{22} represents the "odds" of observing the outcome when the antecedent is not present. Thus, an odds ratio indicates the degree to which an explanatory variable is associated with a categorical outcome variable with two categories (e.g. yes/no) or more than two categories. An odds ratio below one denotes a negative

association; an odds ratio above one indicates a positive association; and an odds ratio of one means that there is no association. For instance, if the association between being a female teacher and working part-time is being analysed, the following odds ratios would be interpreted as:

- **0.2**: Female teachers are five times less likely to work part-time than male teachers.
- **0.5**: Female teachers are half as likely to work part-time than male teachers.
- **0.9**: Female teachers are 10% less likely to work part-time than male teachers.
- **1**: Female and male teachers are equally likely to work part-time than male teachers.
- **1.1**: Female teachers are 10% more likely to work part-time than male teachers.
- **2**: Female teachers are twice more likely to work part-time than male teachers.
- **5**: Female teachers are five times more likely to work part-time than male teachers.

The odds ratios in bold indicate that the relative risk/odds ratio is statistically significantly different from 1 at the 95% confidence level. To compute statistical significance around the value of 1 (the null hypothesis), the relative-risk/odds-ratio statistic is assumed to follow a log-normal distribution, rather than a normal distribution, under the null hypothesis.

Statistics based on multilevel models

Statistics based on multilevel models include variance components and the variance shares derived from these components. Two complementary decompositions are reported. All models are specified with normally distributed residuals and estimated with maximum likelihood estimation, using the *WeMix* package in R (version 4.0.3).

Between- and within-school variance within education systems

For teacher-reported outcomes, two-level models (teachers at level 1, schools at level 2) are estimated separately for each education system, using the final teacher weight (TCHWGT) at the teacher level and the school weight included in the teacher dataset (SCHWGTT).[2] Education systems with fewer than 10 schools or 30 teachers are not reported.

Pooled three-level decomposition

A single three-level model (teachers, schools, education systems) is estimated on the pooled international sample, with the conditional teacher weight (the final teacher weight [TCHWGT] divided by the school weight included in the teacher dataset [SCHWGTT]), the school weight included in the teacher dataset (SCHWGTT), and a constant weight at the education system level, so that each education system contributes equally to the estimation (i.e. senate weighting). This model provides the simultaneous decomposition of total variance into its three components: between teachers, schools and education systems.

The share of variance attributable to a given level is defined and estimated as:

$$100 \times \frac{\sigma_L^2}{\sum_{l \in D} \sigma_l^2}$$

where σ_L^2 is the variance component at the level of interest and D is the set of levels over which the share is computed, as specified for each statistic above.

Standard errors for statistics based on multilevel models are not estimated using the BRR method. Instead, they are model based. The standard errors for variance shares are derived from those of the variance components using the delta method and should be interpreted as an indication of the precision of the estimates.

Pearson correlation coefficient

In this report, Pearson correlation coefficients are used to quantify relationships between system-level statistics. Correlation coefficients measure the strength and direction of the statistical association between two variables. They vary between -1 and 1; values around 0 indicate a weak association, while the extreme values indicate the strongest possible negative or positive association. The Pearson correlation coefficient (indicated by the letter *r*) measures the strength and direction of the linear relationship between two variables.

Change in the definition of the target population between TALIS cycles

The fourth TALIS cycle (i.e. TALIS 2024) allows analysis of changes over a 16-year period. Nevertheless, such analysis poses certain challenges: country coverage and the target population within a given country may differ across cycles; the variables of interest could change due to changes in the questionnaires; moreover, the context of teaching and learning might also change. Therefore, comparisons across cycles need to be interpreted with care.

In TALIS 2008, teachers whose teaching was directed entirely or mainly at students with special education needs were not part of the target population. However, this changed for TALIS 2013 and onwards, as teachers of students with special education needs got included in the target population. Hence, estimates representing the change from 2008 to 2024 need to be interpreted with caution. Nevertheless, it is important to note that teachers who work in schools that teach only special education needs students were excluded from all TALIS cycles.

References

OECD (forthcoming), *TALIS 2024 Technical Report*, TALIS, OECD Publishing, Paris, https://one.oecd.org/document/EDU/TALIS/GB(2025)8/REV1/en/pdf. [1]

OECD (forthcoming), *TALIS 2024 User Guide*, TALIS, OECD Publishing, Paris, https://one.oecd.org/document/EDU/TALIS/GB(2025)9/REV1/en/pdf. [2]

Notes

[1] Latent variable modelling is a statistical approach that uses responses to several related questions to measure an underlying concept that cannot be observed directly, such as motivation, job satisfaction or leadership.

[2] A description of the school weight included in the teacher dataset (SCHWGTC) can be found in Chapter 9 of the *TALIS 2024 Technical Report* (OECD, forthcoming[1]) and Chapter 2 of the *TALIS 2024 User Guide* (OECD, forthcoming[2]).

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TALIS

The Value of School Principals in TALIS 2024

The OECD Teaching and Learning International Survey (TALIS) is the world's largest survey of teachers and principals. In 2024, 280 000 teachers across 55 education systems shared their views on the leadership of 17 000 principals, while principals themselves described their practices, working conditions, professional development and school organisation. This report explores why valued leadership matters, who valued principals are, where they work, what they do and how they can be supported. By bringing together the perspectives of teachers and principals, TALIS provides governments with evidence to strengthen teaching, leadership and learning conditions in schools.



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