

**DIRECTORATE FOR EDUCATION AND SKILLS
EDUCATION POLICY COMMITTEE**

Board of Participating Countries of the Teaching and Learning International Survey

UPDATE ON THE TALIS 2013 THEMATIC REPORTS

Paris, 6-7 May 2015

The TALIS BPC is invited to:

- NOTE and COMMENT on the update on the TALIS 2013 thematic reports.

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JT03374131

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UPDATE ON THE TALIS 2013 THEMATIC REPORTS

1. The initial reporting of the 2013 round of TALIS was released in 2014 with *TALIS 2013 Results: An International Perspective on Teaching and Learning* in June as well as *New Insights from TALIS 2013: Teaching and Learning in Primary and Upper Secondary Education* in December. In addition to these publications, the TALIS 2013 budget also covers the publication of two additional thematic reports. Moreover, the European Commission will, through its Eurydice Network¹, produce once again a thematic report on *The teaching profession in Europe: Practices, Perceptions, and Policies* which will examine TALIS results from a European perspective. This report will be released in June 2015.

2. This paper provides an update on the two thematic reports to be managed by the OECD Secretariat.

3. The TALIS BPC is invited to:

- **NOTE** and **COMMENT** on the update on the TALIS 2013 thematic reports.

Call for proposals

4. The TALIS Board of Participating Countries (BPC) discussed potential topics for thematic reports at its 16th and 17th meetings [[EDU/INES/TALIS/M\(2014\)1](#); [EDU/INES/TALIS/M\(2014\)3](#)]. Specifically, the BPC expressed interest in examining proposals that would further examine two policy-relevant themes:

1. School leadership and professional learning, and
2. Teacher professionalism and the status of teaching: Exploring teacher-, school- and system-level factors.

5. The OECD Secretariat launched an international call for proposals via a market consultation process for each of these reports in January 2015, with a deadline for proposal submissions of 15 February 2015. A total of four proposals were received for the first topic and seven proposals for the second topic.

6. The evaluation criteria for the selection of the proposals focussed on the proposed research questions and statistical analyses to be used to answer these questions and the policy relevance and potential impact of the work. Furthermore, the experience and ability of the bidders were also considered. Specifically, the following criteria were used:

¹ The Eurydice Network provides information on and analyses of European education systems and policies. As of 2015 it consists of 41 national units based in 37 countries participating in the EU's Erasmus+ programme (EU Member States, Bosnia and Herzegovina, Iceland, Liechtenstein, Montenegro, the former Yugoslav Republic of Macedonia, Norway, Serbia, Switzerland and Turkey). It is co-ordinated and managed by the EU Education, Audiovisual and Culture Executive Agency in Brussels (EACEA), which drafts its studies and provides a range of online resources.

- Policy relevance and potential impact of the work (25 points)
 - Bidders should provide a conceptual framework in which to consider the questions and their implications for policy. The potential policy impact of the resulting work should be made explicit in the proposal.
- Research questions and statistical analyses (45 points)
 - Bidders should provide the list of research questions they propose to address in the report.
 - Bidders should provide details regarding the analyses they propose to perform to address the research questions, along with the list of main variables of interest from the TALIS 2013 international databases.
 - Bidders should discuss how they will deal with the complex two-stage sampling design of TALIS in their analyses. See the TALIS 2013 Technical Report for more information about these considerations.
 - Bidders should discuss how any additional data will be used in the analyses, if applicable.
 - Bidders should provide a proposed overall outline and structure for the report resulting from the proposed work.
- Experience of the bidders (30 points)
 - Special emphasis will be placed on bidders' experience and ability. Bidders' past experience in conducting analyses of large international datasets should be described in the proposal. Evidence of effective performance in implementing relevant work should also be addressed.

7. Proposals were evaluated on their technical merit by using the above criteria by a review committee composed of five analysts at the OECD. Members of the review committee provided written justification for their scores. Average scores taking into account each member's evaluation were then calculated for each proposal. Following this technical evaluation, the OECD Central Purchasing Group performed a financial comparative analysis to examine the value for money of each proposal.

8. An adjudication meeting took place on 3 March 2015 at the OECD. Members from the review committee discussed each proposal further and came to a recommendation for the selection of the winning bids.

Selected proposals

School leadership and professional learning

9. The proposal selected for the topic of school leadership and professional learning was submitted by a team lead by Prof.dr. Roel Bosker, full professor of education and director of GION (Groningen Institute for Educational Research at the University of Groningen). This proposal obtained the highest technical score and proposed the lowest budget within this category.

10. The report will answer the following main questions:

1. What are determinants of distributed and instructional leadership, and to what degree do these differ across countries?
 2. To what extent are instructional and distributed leadership, and educational leadership practices related to the development of a professional learning community in school? What other school and teacher characteristics are related to the development of a professional learning community in school, and what is the net effect of aspects of school leadership if controlled for these other school and teacher characteristics?
 3. To what extent are instructional and distributed leadership, and educational leadership practices related to the establishment of a positive learning climate in school? What other school and teacher characteristics are related to the establishment of a positive learning climate in school, and what is the net effect of aspects of school leadership if controlled for these other school and teacher characteristics?
 4. To what extent does the relationship between school leadership and (a) the development of a professional learning community; and (b) the establishment of a positive learning climate in school, differ across various stages of schooling (primary education, lower secondary education and upper secondary education)?
11. A more detailed description of the framework, analyses and a preliminary outline is provided in Annex A.

Teacher professionalism

12. For the second topic on teacher professionalism, the review committee proposed to select the top two proposals and approach these teams for a potential collaboration for the report. The top-ranked proposal was submitted by a team from FHI-360 and led by Elizabeth Buckner, Ph.D. The next most highly ranked proposal was submitted by William Smith, Ph.D., Senior Associate with Results Educational Fund. The proposals had the lowest proposed budgets in their category. Full proposals are provided in Annex A. Both proposals presented very similar conceptual frameworks with rigorous, yet complementary proposed analyses. FHI-360 will lead the work on this report with input from William Smith for a chapter examining equity.
13. The report shall answer the following three main research questions:
1. What does teacher professionalism look like cross-nationally?
 2. How does the nature and extent of teacher professionalism affect teachers' perceptions of the status of teaching, their job satisfaction, their commitment to teaching, and their self-efficacy?
 3. Equity issues: Does teacher professionalism differ by school composition (school SES, percentage of second language learners, percentage of students with a disability), indicating inequitable access to teacher professionalism? Does the importance of teacher professionalism for teacher's sense of satisfaction with the profession differ by school composition?
14. A more detailed description of the framework, analyses and a preliminary outline is provided in Annex A.

Next steps and timelines

15. The OECD Secretariat has contracted with these experts and the work has begun. An indicative timeline is provided below.

| | |
|---|-------------------|
| Start of work | 13 April 2015 |
| Submission of draft introduction chapter (literature review, research questions, framework) and extended outline and storyline of the analytical chapters | 1 May 2015 |
| OECD feedback on draft introduction chapter (literature review, research questions, framework) and outline and storyline of analytical chapters | 18 May 2015 |
| Submission of draft analytical chapters including the concluding chapter (summary of findings and policy implications), tables and graphs, technical appendix, executive summary, reference section | 26 June 2015 |
| OECD feedback on analytical and concluding chapters, tables and graphs, technical appendix, executive summary, reference section | 31 July 2015 |
| Submission of complete revised draft of report, tables and graphs to be submitted to Board of Participating Countries (BPC) | 28 August 2015 |
| BPC feedback on draft chapters, tables and graphs | 25 September 2015 |
| Submission of final report, tables, graphs, and analysis syntax | 9 October 2015 |

ANNEX A

Report on school leadership

Analyses

The report will address these research questions using the variables and the analyses proposed below.

Dependent variables: learning climate and professional community at school

Regarding learning climate three aspects are identified for this report: an orderly classroom environment, a collective focus on student learning, and positive teacher-student relations:

- An *orderly classroom climate* will be measured by means of the TALIS scale 'Classroom disciplinary climate' (TCDISCS). This scale indicates to what degree learning is hindered by noise and disruptions in the classroom.
- A *collective focus on student learning* indicates a high level of teachers' commitment to students' success. In TALIS several items and indices indirectly address this concept, but none directly assesses a collective focus among school staff directed towards the enhancement of student learning. As proxy the following item will be used: TT2G29A (When you receive feedback, what emphasis is placed on "Student performance"). As preliminary analyses indicate that TT2G29A is correlated to TT2G29B to 29E, it will be considered whether a scale could be constructed for measuring this construct instead of using a single item.
- Positive teacher-student relations will be measured by means of the TALIS scale 'Teacher-student relations' (TSCTSTUDS). This scale indicates to what extent teachers are willing to listen to the needs of students and are willing to give some extra help and assistance.

Next to the learning climate at school, the development of a professional community will be used as a dependent variable in the analyses. Professional community can be conceived as consisting of five factors: reflective dialogue, deprivatisation of practice or feedback on instruction, collaborative activity, a shared sense of purpose and a collective focus on student learning:

- *Reflective dialogue* refers to the extent of teachers engaging in professional conversations about specific educational issues. Items in TALIS 2013 that reflect this issue are TT2G30H to TT2G30L (Perceived positive change of feedback on "Your classroom management practices", "Your knowledge and understanding of your main subject field(s)", "Your teaching practices", "Your methods for teaching students with special needs" and "Your use of student assessments to improve learning"). Preliminary analyses indicate that this scale is measured reliably across participating countries in TALIS.
- *Deprivatised practice* refers to teachers observing other teachers' classes, with the goal of providing feedback on their teaching. This issue is measured in TALIS by means of the items TT2G28A ("Feedback following direct observation of your classroom teaching", of which particularly peer feedback seems relevant (TT2G28A4 and A5). As the other items of TT2G28

(B to F) reflect other forms of peer feedback, which serve a similar purpose as peer class observation, these will be taken into account as well, constructing an index representing the occurrence of peer feedback to teachers based on their performance.

- *Shared sense of purpose* represents the teachers' degree of agreement for the school's mission and its operational principles. This issue is measured in TALIS by means of the items TT2G44D ("This school has a culture of shared responsibility for school issues"), and TT2G44E ("There is a collaborative school culture which is characterized by mutual support"). Preliminary analyses indicate that this scale is measured reliably across participating countries in TALIS.
- *Collaborative activity* represents a temporal measure of the extent to which teachers engage in cooperative practices. This issue is measured in TALIS by means of two scales, representing the exchange and co-ordination for teaching (TCEXCHS) and professional collaboration (TCCOLLS). As both scales contain one specific item that better reflects either deprivatised practice (TT2G33B, "Observe other teachers' classes and provide feedback") or reflective dialogue (TT2G33E, "Engage in discussions about the learning development of specific students"), it will be considered to what degree the original scales need some adaptation.
- For a collective focus on student learning, the variables are described under "learning climate" (see above).

Independent variable: school leadership

The relations between a school leader's functioning and the learning climate as well as the development of a professional community will be examined, controlling for the context of the school, and teacher characteristics:

- School leadership will be examined using the two scales in TALIS 2013 on *instructional leadership* (PINSLEADS) and *distributed leadership* (PDISLEADS), as well as additional indicators for *educational leadership practices*. With regard to the latter, two separate indicators for educational leadership practices will be constructed: (i) the self-reported percentage of time principals spend on curriculum and teaching-related tasks and meetings (TC2G19B); and (ii) an index based on the self-reported engagement in developing the school's educational goals and programmes based on student performance and student evaluation results (TC2G20A) and the engagement in a professional development plan for the school (TC2G20B).

Using latent class analysis, it will be explored whether certain types of leadership can be identified. These types will be based on patterns in school leaders' scores on instructional leadership and distributed leadership. In the analyses it will be explored (in case meaningful types of leadership can be identified) whether these types provide some explanatory power over the single measures of educational leadership.

As determinants of educational leadership (Research Question 1), the relationship between principals' background factors, as well as context and teacher variables on the one hand, and distributed and instructional leadership on the other will be examined.

Distributed leadership is expected to be more prominent in larger schools (as the school leader will experience more difficulties in steering the school by himself or herself), in schools where teachers are able to take over responsibilities (as distributed leadership requires professional skills of those involved), in schools which are characterised by high principal-teacher trust, and in schools in which the principal feels confident (based on experience in his or her job) to share responsibility with the school staff. For that purpose, determinants taken into account to explain the degree of distributed leadership are (i) school size

(TC2G14) (context factor); (ii) the experienced lack of shared leadership with other school staff members (TC2G26I); (iii) the lack of parent or guardian involvement and support (TC2G26D), (iv) the number of years working as a principal (TC2G04B) and (v) the educational level of teachers (aggregate of TT2G10). Next to these, also the principal's gender (TC2G01) and formal education (TC2G03) as well an index of professional development activities (index of TC2G07A1, B1 and C1) will be used as predictors of distributed leadership.

Instructional leadership is expected to be dependent on the leader's content knowledge, his or her personal experience with teaching and the quality of the school staff. For that purpose, (i) the experience of the school leader in teaching (given by the years previously working as a teacher, TC2G04D); (ii) completion of an instructional leadership training or course (TC2G06C); (iii) having a teaching obligation him- or herself (based on TC2G05); and (iv) the educational level of teachers (aggregate of TT2G10) are taken into account, next to gender (TC2G01).

Control variables: school context and teacher characteristics

The relationship between school leadership and learning climate respectively between school leadership and a professional community at school will be assessed whilst controlling for school context factors, and teacher characteristics.

The following *school context factors* will be taken into account:

- school type (public, private dependent, private independent) (TC2G10 in combination with TC2G11A and TC2G11B)
- school location (city or large city versus other) (TC2G09)
- school size (TC2G14)
- percentage of students whose first language is different from the instruction language (TC2G15A)
- the percentage of SEN students (TC2G15B)
- the percentage of low SES students (TC2G15C).

The following *teacher characteristics* will be taken into account:

- teacher's gender (TT2G01)
- teachers' employment status (TT2G03)
- subject taught I (mathematics/science versus other) (TT2G15A-L)
- subject taught II (reading/social studies/foreign languages/religion versus other) (TT2G15A-L)
- number of years of teaching (TT2G05B)
- teacher's education (TT2G10)
- index of self-efficacy (TSELEFFS).

Other teacher characteristics available in TALIS 2013 will be considered for inclusion, taking the risk of multicollinearity into account. Furthermore, based on TC2G18, scales for teacher autonomy will be constructed.

The relationships will be analysed using multilevel analysis. Similar to the modelling strategy employed in the TALIS first results report, a two-step procedure will be used, in which the effects of the variables of each of the separate groups of factors are analysed, estimating separate models for each group of variables. This will be done separately for the various independent variables. Subsequently, for each of the separate models run in the first step, only significant variables will be selected for the final model. Variables will be removed stepwise from the model.

Issues regarding the two-stage sampling design will be handled similar to previous analyses on PISA data.

The following is a preliminary outline for the report:

- *Chapter 1: Introduction* (contains overview of the literature; research questions; and framework)
- *Chapter 2: Determinants of educational leadership in schools* (contains descriptive figures, results relationship determinants-distributed leadership; results relationship determinants-instructional leadership; analyses integrated leadership)
- *Chapter 3: School leadership and the establishment of a learning climate at school* (contains descriptive figures, results relationship distributed leadership-learning climate; results relationship instructional leadership-learning climate; results relationship leadership practices-learning climate; results integrated leadership-learning climate)
- *Chapter 4: School leadership and the development of a professional learning community at school* (contains descriptive figures, results relationship distributed leadership-professional learning community; results relationship instructional leadership- professional learning community; results relationship leadership practices- professional learning community; results integrated leadership- professional learning community)
- *Chapter 5: School leadership in primary education and upper secondary education* (contains descriptive figures, results relationship distributed leadership-professional learning community and learning climate; results relationship instructional leadership- professional learning community and learning climate; results integrated leadership- professional learning community and learning climate)
- *Chapter 6: Conclusion* (contains conclusion of findings and discussion of policy recommendations)

The Chapters 2 to 5 all will end with a short concluding section of the main findings, targeted at an audience of policy makers. The chapters will be preceded by an executive summary. In the Appendix additional tables, the operationalisation and construction of the variables used, as well as their psychometric quality, and the syntax will be included.

Report on teacher professionalism

Framework

This report will draw on a conceptual framework which outlines what teacher professionalism is, how it might be measured and compared cross-nationally, and how it affects the supply of high-quality teachers. This framework draws on theories of classic professionalism and its application to teaching to conceptualise teacher professionalism as having three axes: a professional knowledge base, autonomy, and responsibility for self-regulation:

- **Professional Knowledge Base:** Professional knowledge is a set of knowledge the professional uses in teaching and learning that is acknowledged through qualifications and memberships. Teachers' professional knowledge base requires advanced education and specialised knowledge of pedagogy and classroom management, typically acquired through participation in initial teacher training programmes and continuous professional development.
- **Teacher Autonomy:** Autonomy, or freedom to make decisions over one's work, is a core component of the classic professions. Autonomy represents empowerment in that it recognises teachers' capacity for sound professional judgment. In practice, autonomy means that teachers are able to make key decisions about their work, including decisions over curricular content, pedagogical practices, and assessment techniques.
- **Responsibility:** Peer-regulation is a core component of classic professionalism; peers are responsible for setting high standards and assuring that members are accountable to those standards. Supporting teacher professionalism requires a shift from viewing teaching as a solitary activity, owned by each teacher, towards a view of teaching as a professional activity open to collective observations, study, and improvement. In practice, this might look like active engagement through participation in school learning communities, peer feedback, membership in professional associations or participation in teacher induction programmes at the school level.

Although teacher professionalism requires knowledge, autonomy, and responsibility, professionalism varies significantly in actual practice. It is possible that professionalism in some schools or countries is associated with more professional development, while in others, responsibility and autonomy are prioritised. A better understanding of what teacher professionalism looks like within and between countries is needed. Because both levels shape professionalism, the report will account for both system-wide context factors and school-level practices in the measurement of teacher professionalism.

Analyses

The report will address these research questions using the variables and the analyses proposed in this section. A number of individual, school- and system-wide factors are associated with teachers' perceived status, self-efficacy and job satisfaction. In this report, the analyses will control for important individual and school-level factors while focusing on the relationship between teacher professionalism and perceived status, self-efficacy, job satisfaction, and commitment to the profession.

The analysis will rely on 2013 TALIS data and OECD's 2014 EDU GPS data. While TALIS 2013 focused on lower secondary teachers and administrators, it also offered participating countries the option of including primary and upper secondary teachers and school leaders, which will be used to examine how each domain of teacher professionalism varies across ISCED levels.

To address the complex sampling design of TALIS each analysis will include two sets of weights. Sampling weights will be used because individuals in the population were not given an equal probability of being sampled. Balance Repeated Replicate weights will be included to help overcome the clustering of teachers in schools which violates the assumption of independent observations.

RQ 1: What does teacher professionalism look like cross-nationally?

First, using selected indicators from TALIS 2013, the authors will construct an index gauging the extent of teacher professionalism along each axis: knowledge, autonomy, and responsibility. For example, the index of the professional knowledge base will include teachers' participation in a formal teacher credential programme and opportunities for continuous professional development. The autonomy index will include teachers' opportunities for decision-making, and the responsibility index will include variables such as participation in formal induction, feedback, and mentoring programmes, all of which support teachers in meeting high professional standards. Table 1 shows proposed items from TALIS to be used in developing indices of teacher professionalism.

Table 1. Constructs of Teacher Professionalism

| Domain | Indicator | Sample Variables |
|-----------------------|--|---|
| <i>Knowledge Base</i> | Participation in and content of teacher credential program; | TT2G11, TT2G12A, TT2G12B, TT2G12C |
| | Opportunities for continual professional development | TT2G21A1-2, TT2G21E1-E2 |
| | Access to, and participation in creation of expert knowledge and research | TT2G21H |
| <i>Autonomy</i> | Decision-making power in curricular content, pedagogical practices, and assessment | TT2G34J, TT2G34K, TT2G34L |
| | Hours spent on individual lesson planning and work | TT2G18A |
| <i>Responsibility</i> | Participation in formal induction programs | TT2G19A |
| | Opportunities to reflect on work through formal feedback and mentoring programs | TT2G33B, TT2G31H, TT2G20A, TT2G21I |
| | Participation in collaborative professional learning, teamwork, and dialogue with colleagues | TT2G33H, TT2G33G, TT2G18B, TT2G21G, TT2G44D |
| | Work with other teachers in my school to ensure common standards in evaluations | TT2G33F, TT2G44E |

The authors will carry out a descriptive analysis to compare country averages on each index. The analysis will ask: to what extent are these three axes of professionalism correlated with one another? Do some countries emphasise one axis over the others? As part of the descriptive analysis, the authors will generate a series of country profiles depicting what teacher professionalism looks like across OECD countries. These nation-specific profiles will indicate which aspect of professionalism each country prioritises and will reflect the extent to which high values on each index are correlated with high values on the other two.

Secondly, the authors will investigate whether between- or within-country variation is higher on each axis, to understand whether variance in the extent of teacher professionalism occurs at the school- or system- level.

Finally, the authors will also look into the feasibility of developing an indicator of teacher professionalism. If the three axes are highly correlated with one another, the authors will use factor analysis to determine how various items on the TALIS and PISA questionnaires are associated with one another across all countries and develop one composite indicator of teacher professionalism. The scale will be constructed using Confirmatory Factor Analysis and will be validated in each country using Multi-Group Confirmatory Factor Analysis (see TALIS 2013 Technical Report for more details on the methodology to be used to construct the scale).

RQ 2: How does teacher professionalism affect outcomes of interest?

To examine the second research question, the authors will examine how teaching professionalism is associated with important outcomes. The research will examine four dependent variables, asking what teacher-, school- and system-level factors affect each of our dependent variables of interest. The dependent variables will be drawn directly from TALIS 2013:

- teachers perceptions of the status of teaching
- teachers job satisfaction
- teachers commitment to the teaching profession
- teachers' perceptions of self-efficacy.

Cross-nationally, these outcomes may vary based on system-wide characteristics, such as the competitiveness of teacher education programmes and average salaries. As a result, the authors will examine how system-level factors shape teachers' perceptions. In addition to teacher professionalism, important variables will be the feminisation of the profession and average pay. Recognising the importance of system-wide accountability policies in shaping teachers' perceptions, the authors will explore the possibility of controlling for whether countries have merit-based pay or punitive pay schemes.

Additionally, within the same country, teachers' own perceptions of the status of their profession and job satisfaction may also vary significantly based on where they work, what subject they teach, and their school cultures. At the school-level, the authors will include indicators of school-based resources, the schools' student body composition, the school climate, and the school level.

At the individual-level, teaching tends to attract more women and alternative career options are more lucrative for those with degrees in hard sciences and mathematics. Therefore, important predictors which will be included in the analyses include: teacher age, educational background, subject taught and gender.

The four dependent variables will be drawn from key items on TALIS, as shown in Table 2. The unit of analysis for all dependent variables will be the individual teacher's perceptions.

Table 2. Teacher professionalism outcome variables

| Concept | Proposed Indicators | Variables | Variable Type |
|------------------|---|-----------|-----------------|
| Status | Teacher's level of agreement to the statement: "I think that the teaching profession is valued in society" | TT2G46H | Scale (1-4) |
| Job Satisfaction | Teacher's level of agreement to the statement: "All in all, I am satisfied with my job." | TT2G46J | Scale (1-4) |
| Commitment | Teacher's level of agreement to the statements: • "If I could decide again, I would still choose to work as a teacher" | TT2G46B | Composite index |
| | • "I regret that I decided to become a teacher." | TT2G46D | |
| | • I wonder whether it would have been better to choose another profession." | TT2G46F | |
| Self-Efficacy | Teacher's level of agreement to the statements: • "I am satisfied with my performance in this school." | TT2G46I | Composite index |
| | • "I have doubts about my ability to succeed as a teacher" | TT2G47C | |
| | • "I feel threatened by teachers who are very successful" | TT2G47D | |

The authors will conduct a multi-level regression analysis that accounts for the nested structure of the data, in which teachers are nested within schools, which are embedded within national educational systems. The dependent variables will be the following (refer to Table 2 for exact variables): Status; Job satisfaction; Commitment; Self-efficacy. The combined multi-level model will predict each of the outcomes (status, job satisfaction, commitment, and self-efficacy) as a function of individual, school and system-level variables. Because TALIS 2013 data were generated by utilising a stratified two-stage sampling design, the authors will use suggested individual and school-level weights in all models. The authors will also conduct post-estimation analyses as well, to examine whether variance is larger between schools or systems.

The authors will control for important covariates, as suggested by the literature. In addition to the TALIS data, the authors will draw on system-level data from the 2014 EDU GPS, which is drawn from the OECD's annual Education at a Glance publication, and include indicators such as the male-female teacher ratio (an indicator of feminisation of the profession), various teacher salary measures, teacher-student ratios, teaching hours per year, and the percentage of teachers by age bracket. All of these data are easily retrievable through OECD's stats.oecd.org database, and coverage across TALIS-participating countries is good. The authors may also draw on school-level factors from PISA 2012; variables from PISA 2012 may include indicators of school resources (e.g. equipment and infrastructure), and involvement of parents in supporting the school and the education of children. Table 3 presents an overview of control variables.

Table 3. Covariates for regression models

| Level | Control Variables | Sample Variables/Source |
|------------|--|-------------------------|
| Individual | Gender | TT2G01 |
| | Years Teaching Experience | TT2G05B |
| | Subject Taught | TT2G15A-L |
| | Highest level of education completed | TT2G10 |
| School | % of students from socioeconomically disadvantaged homes | TC2G15C |
| | School climate (relationship between teachers and students) | TT2G45A |
| | Public or private school | TC2G10 |
| | School level (ISCED level) | TC2G13D1 |
| System | Male-Female Teacher Ratio | (EDU GPS) |
| | Teacher salaries relative to earnings for full-time, tertiary-educated employees | (EDU GPS) |
| | Salary ladder (ratio of salary at bottom to top of scale) | (EDU GPS) |
| | % of all teachers with permanent contract | TT2G06 |

RQ3: Does teacher professionalism differ by school composition (school SES, percentage of second language learners, percentage of students with a disability), indicating inequitable access to teacher professionalism? Does the importance teacher professionalism for teacher's sense of satisfaction with the profession differ by school composition?

To examine within country equity concerns, schools within each national sample will be subdivided into four types of schools in three key categories, percentage of students from disadvantaged socioeconomic status homes, percentage of students with special needs, and percentage of students whose first language differs from the language of instruction. Descriptive results will identify how prevalent knowledge base, autonomy and responsibility are in each of the needs categories and one way ANOVAs will test for significant differences.

Additionally, William Smith will use a composite “more challenging schools” category based on the definition of the 2013 TALIS main report (schools with at least 10% of students whose first language is different than the language of instruction, 10% of students with a special learning need, and 30% of students from a socio-economically disadvantaged background). The inclusion of a “more challenging schools” category would allow to directly compare the distribution of teacher professionalism in such schools to the already reported percentage of teachers in such schools from the 2013 main report.

Finally, the full two level HLM model will be completed separately by each group allowing to examine differences in the importance of professionalism components on teacher outcome variables by comparing regression coefficients. Teacher variable outcomes will include those listed in Table 2.

The following is a preliminary outline for the report:

1. Executive Summary
2. Introductory Chapter
 1. Literature Review

1. Teacher Professionalism
2. Teacher Recruitment and Retention
2. Research Questions
3. Conceptual Framework
3. Analytical Chapter 1: The Nature of Teacher Professionalism
 1. Mapping Teacher Professionalism Cross---Nationally
 1. Descriptive statistics: components of professionalism
 1. Professional knowledge base
 2. Teacher autonomy
 3. Teacher responsibility
 2. Construction of the teacher professionalism index
 1. Country-specific profiles of teacher professionalism
 2. Distribution of teacher professionalism index across / within countries
4. Analytical Chapter 2: Effect of Teacher Professionalism on Outcomes of Interest
 1. Descriptive statistics
 2. Multi-level regression models
 3. Post-estimation analyses -- variance between schools and nations
5. Analytical Chapter 3: Equity and Teacher Professionalism
 1. Distribution of teacher professionalism components across school composition types
 2. Examination of differences in importance of teacher professionalism components in teacher outcome variables by school equity variables
6. Discussion and Policy Relevance of Results
7. Policy Recommendations
8. References
9. Technical Annex
 1. Data sources
 2. Sample and survey design
 3. Multi-level regression analyses