

# SCHOOL LEADERSHIP AND QUALITY IN EDUCATION: SIMILARITIES AND DIFFERENCES ACROSS THE SELECTED EU COUNTRIES

Dr. sc. Tina Vršnik Perše  
Faculty of Education, University of Maribor, Slovenia  
Dr. sc. Ana Kozina  
The Educational Research Institute in Ljubljana, Slovenia  
Dr. sc. Marija Javornik Krečič  
Faculty of Arts, University of Maribor, Slovenia  
Prof. dr. sc. Milena Ivanuš Grmek  
Faculty of Education, University of Maribor, Slovenia

## Abstract:

The paper<sup>1</sup> focuses on different methods of school leadership and management styles. Effective school leadership is identified as crucial to students' outcomes, second only to the quality of the teacher (Augustine et al., 2009 in OECD, 2012). In the paper the results of secondary empirical research based on TALIS data (2008) are presented. The predictive value of selected variables (such as school size, principals' gender etc.) for different types of principals' leadership and management styles were evaluated with multiple regression analyses. The results of the analysis are placed in the international context since the paper focuses on comparison of data from principals questionnaires for Austria, Hungary, Slovak Republic and Slovenia. The analyses indicate that the predictors for different leadership and management styles are mostly country specific and only years of experience have significant influence in most indexes. The answer to what are the best school management and leadership styles isn't straightforward. Based on our research it is not possible to introduce or improve a specific indicator in order to achieve such school leadership.

**Keywords:** international comparative analysis, school leadership, school management, school principal

## CONTEXTUALISATION

The success and quality of school leading and management are dependent on both principal's competences and a sense of good governance. Namely the principal is the responsible person for implementing learning, teaching and also administrative managing of school. As highlighted by Moos, Mahony & Reeves (1998) the school governance is characterized by: (1) leadership means having a clear personal vision on what you want to achieve; (2) good leaders are in the thick of things, working alongside their colleagues and they lead by example; (3) leadership means respecting teachers' autonomy, protecting them from extraneous demands; (4) good leaders look ahead, anticipate change and prepare people for it so that it doesn't surprise or disempower them; (5) good leaders are pragmatic. Leaders should be able to grasp the realities of the political and economic context and be able to negotiate and compromise (MacBeath, 2002). Therefore the school governance, leadership and management (managed by the school leaders) is always a combination of all above mentioned factors and characteristics. In TALIS (Teaching And Learning International Survey, 2008) study (OECD,

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2009) the school leadership and management styles are identified as two poles: the instructional leadership style and the administrative leadership style.

Financial (as part of administrative leadership style) and pedagogical (as part of instructional leadership style) management of school are rather frequent (see Cole 2004). In the career of principals both responsibilities of manager and pedagogical leader are reflected and often it is difficult to draw a distinction between the two due to both being closely intertwined and depended. As indicated by Koren (2007) many attempt to define the differences between management (administrative) and (pedagogical/instructional) leadership while others question the benefit of that. The difference could be semantic but most agree that there are differences in performance. West-Burnham (2010) stated that leadership and management work in a symbiotic relationship but always with leadership driving management. He claims that in essence the difference is that management is focused on procedures, planning, administration, structures and leadership is focused on values and relationships. One could argue that leadership focuses on people and their motivation and management focuses on financial part but both need to relate to each other and intertwine. Often it is recognised that leadership and management need to be given equal prominence if schools are to operate effectively and achieve their objectives (Bush, 2005). The effectiveness and quality of schools, school leaders and teachers are not uniformly recognized as such in different education systems or even in different schools. Each has its own values and judge quality based on those values. The understanding of quality in education is also very much evolving. While in the past much of the emphasis on education quality related to cognitive understanding and development, there is now a need also to address the social and other dimensions of learning (Pigozzi, 2006). The social and emotional dimensions of learning are highly correlated with the relations and schools' climate which could be altered by different school governance (leadership and management) approaches.

However complex the debate about effective school governance there is a pragmatic argument that certain types of leadership behaviour do seem to be more effective than others in terms of a range of desired outcomes (West-Burnham, 2014). School leaders influence student achievement and school quality through two important pathways: the support and development of effective teachers and the implementation of effective organisational processes (Leithwood et al., 2004 v OECD, 2012). But regardless of the values supported the school leaders can have a major influence on school level factors such as teacher satisfaction, development, resiliency, interpersonal relationships,... and as well they can help as a buffer against the excesses of the mounting and sometimes contradictory pressures (Mulford, 2003). And even if we limit the scope of quality on an ascertainable measure, such as students' achievements, one can still confirm the significant effect of school leadership. The evaluation of school climate by school leaders significantly predicts students' achievements (Kozina, Rožman, Vršnik Perše, Rutar Leban, 2012). Effective school leadership is identified as crucial to students' outcomes, second only to the quality of the teacher (Augustine et al., 2009 in OECD, 2012). Even though some researchers argue that even the quality of teachers and quality of principals are not independent factors. Pastuović (2009), for example, stresses that high competence and motivation of teachers, qualification of the principals for leading, greater level of school autonomy and responsibilities of staff are factors that depend also on the total inflow of social and cultural capital of the parents whose children attend a particular school. Schools with high level of total inflow of social capital are more efficient according to PISA results. In those there is a better cooperation of parents and school, less discipline issues, unjustified absenteeism, the school climate is better, the orientation on higher school achievements is more pronounced, the realization of the program is accelerated, the students and teachers are more motivated, etc. (Ibid.)

It has been proven that the highest performing education systems across OECD countries are those that combine high quality and equity. Research on reforms in education systems as Boston (United States), England and Singapore demonstrate that good leadership in

schools is essential for fast and substantial changes in practices (Barber and Mourshed, 2007 in: OECD, 2012) and therefore could lead to better quality. But more emphasis has to be stressed on reforming the factors that could lead to more equity between schools. Considering the implication that school leadership can influence the students' achievements we believe that the school leadership can also influence the equity factors in school and therefore the school quality as such.

## METHOD

The present study uses framework from Teaching and Learning International Survey (TALIS, 2008), conducted under the auspices of OECD, to investigate different aspects of school leadership across different countries. Based on secondary analyses of principals' data gathered during the TALIS survey it is possible both to identify the current state on the field in question and to provide the guidelines for further development. In terms of fundamental research on school leadership and management characteristics the school principal is without the doubt the key participant for quality assurance.

In this paper we focus on different methods of leadership and management and these are briefly introduced. Hereafter we present the results of secondary empirical research based on TALIS data which determines how some factors (such as school size, principals' gender, principals' working experience and principals' age) will predict leadership and management approaches. The results of the analysis are placed in the international context since the paper focuses on comparison of data from principals questionnaires for Austria, Hungary, Slovak Republic and Slovenia. (Slovenia, Slovak Republic, Austria, Hungary). The countries were selected based on regional similarities.

## PARTICIPANTS

Target TALIS population were lower secondary education teachers "(ISCED 2 level) and the principals of schools where they teach. International sampling plan prepared for TALIS used stratified two-stage probability sampling design. This means that teachers (second stage units or secondary sampling units) were to be randomly selected from the list of in-scope teachers in each of the randomly selected schools (first stage units or primary sampling units)" (OECD 2009, pg. 277). To allow for reliable estimation and modelling, while allowing for some amount of non-response, the minimum sample size was set at 20 teachers within each participating school. A minimum sample of 200 schools was to be drawn from the population of in-scope schools. Thus, the nominal international sample size was a minimum of 4.000 teachers. In all countries included in the analysis for this paper the minimum was met.<sup>2</sup>

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<sup>2</sup> In Austria ISCED Level 2 education covers Grades 5 to 8. There are two major tracks (AHS – *Allgemeinbildende höhere Schulen* /Academic secondary school and HS – *Hauptschulen*/General secondary school) and another, smaller category of privately organised schools. Their teachers and principals were included in TALIS survey. In Hungary, ISCED Level 2 education corresponds to Grades 5 to 8. It is offered in both primary and secondary schools therefore teachers and principals of both were included. In the Slovak Republic these were teachers in grades 5 – 9 in elementary schools and 1 – 4 in grammar schools and their principals. In Slovenia there were teachers from grades 7 – 9 of basic schools and their principals included.

Table 1 *Principals sample characteristics*

	gender		age				Experience principal						Type of community				Σ participants
	♂	♀	> 40	40-49	50-59	60 +	1 <sup>st</sup> year	1-5	6-10	11-15	16-20	20 >	<3000 people	3.000 – 15.000	15.000 – 100.000	>100.000 people	
	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
SVN	73	105	5	78	82	12	16	43	37	11	19	30	47	81	28	21	178
SVK	72	108	9	54	99	18	14	45	41	36	40	4	36	50	64	29	180
AUT	175	67	5	36	157	43	20	73	72	32	27	17	47	93	32	69	242
HUN	87	95	11	74	84	14	18	41	43	39	25	16	34	46	46	57	182

Source: OECD, 2009.

Note: SVN = Slovenia; SVK = Slovak Republic; AUT = Austria; HUN = Hungary; ♂ = male; ♀ = female; f = frequency

## INSTRUMENTS AND PROCEDURE

TALIS Principal Questionnaire data were used for the purpose of secondary analyses for this paper. The Principal Questionnaire was applied on paper or on line (that were both identical in content and design). It was composed of several sections: (i) the principal and school background characteristics, (ii) school leadership and management, (iii) section on appraisal and feedback to teachers and (iv) section on school resources. This paper focuses on selected characteristics within the section of school leadership and management and section of principal and school background characteristics.

School leadership and management variables were partly based on PIMRS scale (Principal Instructional Management Rating Scale), which provided indicators of principals' emphasis on instructional leadership job functions associated with leadership in effective schools (Hallinger, 1994 in: OECD 2010, pg. 34). The final questionnaire therefore included 35 items on the management and leadership behaviour of principals. Using techniques of item response modelling and factor analysis, five indices of management behaviour were constructed from the responses of 4.665 school principals in the 23 countries (OECD 2009, pg. 193). These indices and the specific survey questions on which they are based are displayed in the TALIS Technical report (OECD 2010, pg. 155). The general overview is presented in the Figure 1.

In the section of demographic and basic school characteristics we have included the following variables: principals' gender, age, educational level, working experience and working experience as a teacher and also size of the community where school is situated, school size (number of students enrolled), students/teachers ratio, students/educational staff ratio and students/administrative staff ratio.

To address our research question we used demographics and school characteristics as predicting variables for leadership and management styles. Multiple regression analysis is used.

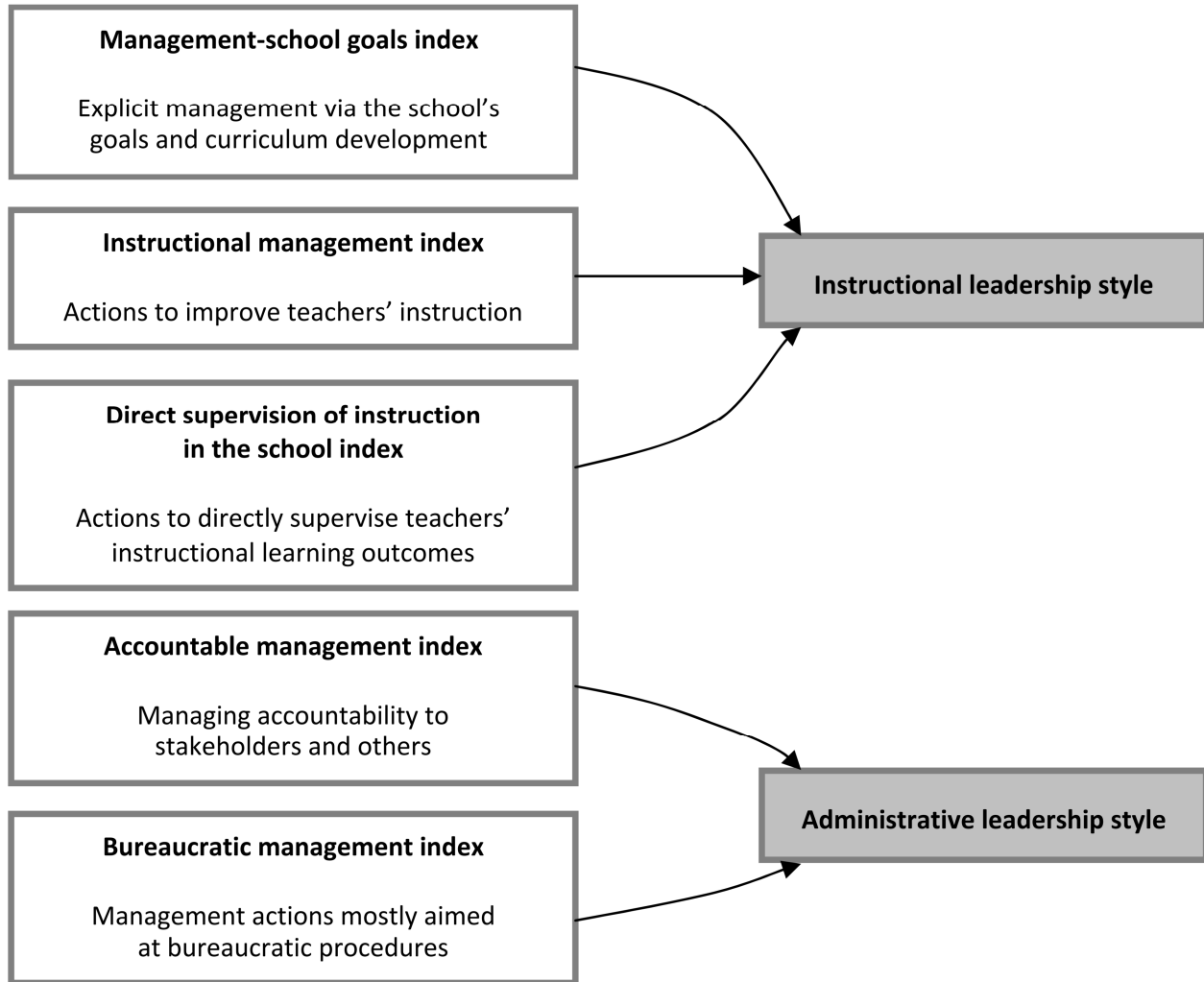


Figure 1. *Composition of the indices for instructional and administrative leadership (OECD 2009, p 195)*

## RESULTS

The predictive value of selected variables related to the school environments for different types of principals' leadership were evaluated with multiple regression analyses separately for all five included types of principals' leadership and separately for selected countries. The multiple regression analyses evaluate the predictive power of multiple predictor variables simultaneously for one independent variable. In order to determine which variable is best at predicting a certain type of principals' leadership, the stepwise forward method will be used as the entry method. Stepwise forward enables variables to enter the prediction model according to their predictive value, i.e. up to the level when their contribution to the model is still significant. To increase the generalizability of findings to the population, a corrected determination coefficient ( $R^2$ ) will be included in the results (Nunnally & Bernstein, 1994). Prediction models were thus be created separately for all five types of leadership. The predictive power of models were compared (based on the % of explained variance) and on the basis of included variables the relative predictive power will therewith be established.

Below we present the predictive values of selected demographic indicators for the indices of school leadership and management.

Table 2 *Multiple regression analyses predicting Management-school goals index from selected school variables – international comparisons*

	<i>b</i> (SE)	$\beta$	<i>t</i>	<i>p</i>	<i>R</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2*</sup>
Austria							
Constant	-1,583 (.156)						
Level of education	,094 (.032)	,125	2,927	,004	,108	,012	,010
Student/pedagogical support ratio	-,001 (.000)	-,250	-4,395	,000	,156	,024	,022
School enrolment	,001 (.000)	,178	2,933	,003	,197	,039	,035
Age	,123 (.045)	,101	2,729	,007	,221	,049	,043
Hungary							
Constant	-,028 (.087)						
Age	,183 (.016)	,218	11,549	,000	,254	,065	,064
Gender	-,265 (.022)	-,228	-11,946	,000	,317	,101	,100
Student/administrator ratio	,228 (.021)	,207	10,931	,000	,384	,147	,146
School enrolment	,000 (.000)	-,144	-7,705	,000	,410	,168	,166
Slovak Republic							
Constant	5,781 (1,695)						
Experience/teacher	,328 (.038)	,440	8,651	,000	,146	,021	,020
Experience/principal	,169 (.025)	,304	6,756	,000	,220	,048	,046
Age	-,308 (.056)	-,258	-5,482	,000	,251	,063	,059
Student/teacher ratio	-,030 (.009)	-,123	-3,373	,001	,285	,081	,077
Level of education	-1,652 (.425)	-,141	-3,887	,000	,311	,097	,091
Student/pedagogical support ratio	,000 (.000)	-,121	-3,376	,001	,331	,110	,103
Slovenia							
Constant	1,536 (.187)		8,207	,000			
Students/teacher ratio	-,068 (.016)	-,227	-4,129	,000	,224	,050	,047
Gender	-,195 (.069)	-,157	-2,828	,005	,258	,067	,061
Experience/principal	,051 (.018)	,159	2,798	,005	,290	,084	,075
Type of community	-,072 (.035)	-,114	-2,070	,039	,311	,097	,085

Notes. *R*<sup>2\*</sup> adjusted *R*<sup>2</sup>. Co linearity analyses (the highest correlation coefficients between predictors are presented): Slovenia: *r* = ,148; Slovak Republic: *r* = ,125; Austria: *r* = ,358; Hungary: *r* = ,097; final school weight (SCHWGT) is used.

In Austria the level of principals' education is the strongest predictor. The higher the level of education is the higher is *Management-school goals index*. The model as whole when compared to other models explains the smallest amount of variance of *Management-school goals index*. And on the other hand in Hungary the selected school related variables explain almost 17 % of total variance with age of the principal explaining the greatest part. The older the principal is the higher the *Management-school goals index* is. In Slovenia the strongest predictor of *Management-school goals index* is student/teacher ratio which together with gender, years of experience as principal and type of community explains 8.5 % of total variance. For instance, if student/teacher ratio decreases the *Management-school goals index* increases. In Slovak republic the years of experience, both as a principal and as teacher contribute most to the prediction model of *Management-school goals index*. With the years of experience also the *Management-school goals index* increases. The model together with other significant variables explains more than 10 % of total variance. The predictors of *Management-school goals index* vary between the selected countries. The only one that is significant in majority of countries (three out of four) is age, the older the principal is in Austria and Hungary the more he/she uses *Management-school goals index* leadership and on the other hand the older the principal is in Slovak Republic the less he or she uses this type of leadership.

*Instructional management index*

Table 3 *Multiple regression analyses predicting Instructional management index from selected school variables– international comparisons*

	<i>b</i> (SE)	$\beta$	<i>t</i>	<i>p</i>	<i>R</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2*</sup>
Austria							
Constant	,240 (.166)						
Student/pedagogical support ratio	,001 (.000)	,109	2,600	,010	,135	,018	,017
Experience/principal	-,045 (.021)	-,081	-2,161	,031	,161	,026	,023
Student/administrator ration	,001 (.000)	,102	2,666	,008	,183	,033	,029
Type of community	-,074 (.024)	-,123	-3,113	,002	,199	,040	,034
Level of education	,069 (.032)	,088	2,137	,033	,213	,046	,039
Gender	-,149 (.070)	-,084	-2,126	,034	,227	,052	,044
Hungary							
Constant	1,913 (.077)						
Gender	-,440 (.030)	-,273	-14,445	,000	,237	,056	,056
Students/teacher ratio	-,043 (.004)	-,230	-12,131	,000	,328	,108	,107
Type of community	-,113 (.011)	-,191	-10,077	,000	,385	,148	,147
Student/pedagogical support ratio	,001 (.000)	,138	7,282	,000	,409	,167	,165
Slovak Republic							
Constant	,448 (.127)						
Type of community	-,175 (.038)	-,172	-4,570	,000	,271	,074	,072
Students/administrator ratio	-,004 (.001)	-,120	-3,305	,001	,318	,101	,099
Experience/principal	-,114 (.025)	-,160	-4,505	,000	,342	,117	,113
Students/pedagogical support ratio	,000 (.000)	-,127	-3,207	,001	,358	,128	,124
Slovenia							
Constant	,269 (.149)		1,807	,072			
School enrolment	,000 (.000)	-,256	-4,384	,000	,166	,028	,025
Students/pedagogical support ratio	,001 (.000)	,199	3,449	,001	,258	,066	,060
Age	,125 (.055)	,126	2,254	,025	,285	,081	,073

Notes. *R*<sup>2\*</sup> adjusted *R*<sup>2</sup>. Co linearity analyses (the highest correlation coefficients between predictors are presented): Slovenia: *r* = ,286; Slovak Republic: *r* = ,180; Austria: *r* = ,313; Hungary: *r* = ,192; final school weight (SCHWGT) is used.

In all selected countries students/pedagogical support ratio is significant predictor of *Instructional management index* leadership. In all countries with exception of Slovak Republic the higher ratio is related to higher frequency of *Instructional management index* leadership. In Slovak Republic the relationship is other way around, the smallest the ration the higher the frequency of the *Instructional management index* leadership. Type of community is significant predictor in three out of four selected countries. The strongest predictor is in Slovenia school enrolment, in Slovak Republic type of community, in Austria student/pedagogical support ratio and in Hungary gender. If we compared the prediction models of selected countries the highest percentage of variance can be explained with selected school variables in Hungary, followed by Slovak Republic, Slovenia and Austria.

Table 4 Multiple regression analyses predicting Direct supervision of instruction in the school index from selected school variables– international comparisons

	<i>b</i> (SE)	$\beta$	<i>t</i>	<i>p</i>	<i>R</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2*</sup>
Austria							
Constant	-,729 (.135)						
Experience/principal	,064 (.012)	,225	5,321	,000	,114	,013	,012
Age	-,159 (.030)	-,244	-5,363	,000	,193	,037	,035
Experience/teacher	,072 (.022)	,145	3,295	,001	,227	,052	,048
Hungary							
Constant	,888 (.096)						
Gender	-,293 (.023)	-,246	-12,563	,000	,302	,091	,091
School enrolment	,000 (.000)	-,179	-8,842	,000	,370	,137	,137
Age	,204 (.018)	,238	11,215	,000	,409	,167	,166
Experience/principal	-,047 (.008)	-,122	-5,715	,000	,424	,180	,179
Student/teacher ratio	-,014 (.003)	-,099	-4,958	,000	,433	,188	,186
Level of education	-,061 (.022)	-,053	-2,767	,006	,436	,190	,188
Slovak Republic							
Constant	,943 (.130)						
Student/pedagogical support ratio	,000 (.000)	-,199	-5,479	,000	,147	,022	,020
Student/teacher ratio	,024 (.007)	,129	3,488	,001	,209	,044	,041
Gender	-,146 (.046)	-,115	-3,153	,002	,236	,056	,052
Slovenia							
Constant	1,875 (.170)		11,041	,000			
Gender	-,255 (.065)	-,218	-3,922	,000	,203	,041	,038
Student/teacher ratio	-,038 (.017)	-,136	-2,324	,021	,259	,067	,061
Experience/principal	,041 (.017)	,136	2,434	,015	,289	,083	,074
School enrolment	,000 (.000)	-,122	-2,095	,037	,310	,096	,085

Notes. *R*<sup>2\*</sup> adjusted *R*<sup>2</sup>. Co linearity analyses (the highest correlation coefficients between predictors are presented): Slovenia: *r* = ,179; Slovak Republic: *r* = ,291; Austria: *r* = ,102; Hungary: *r* = ,245; final school weight (SCHWGT) is used.

The variables with greatest predictive power (that are significant predictor in three out of four selected countries) are student/teacher ratio; years of experience as a principal and gender. In Hungary and Slovenia the student/teacher ratio is negatively related to *Direct supervision of instruction in the school index* and in Slovak Republic the relation is positive. The predictor years of experience indicates that the more experienced the principals are in Austria and Slovenia the more they adapt *Direct supervision of instruction in the school index* and exactly the opposite in Hungary – the more experienced the principals are the lower the *Direct supervision of instruction in the school index*. The results also show female gender as being more related to this type of leadership. The strongest predictor in Hungary and Slovenia is gender, in Austria years of experience as a principal and in Slovak Republic student/pedagogical support ratio. The model has the greatest predictive power for Hungary and the smallest for Slovak Republic and Austria.



Table 5 *Multiple regression analyses predicting Accountable management index from selected school variables– international comparisons*

	<i>b</i> (SE)	<i>β</i>	<i>t</i>	<i>p</i>	<i>R</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2*</sup>
Austria							
Constant	,976 (.226)						
Experience/teacher	-,213 (.036)	-,238	-5,918	,000	,181	,033	,031
Age	,153 (.047)	,130	3,240	,001	,219	,048	,045
Level of education	-,057 (.027)	-,078	-2,143	,032	,232	,054	,050
Hungary							
Constant	,898 (.142)						
Gender	-,290 (.027)	-,223	-10,595	,000	,198	,039	,039
Experience principal	-,136 (.011)	-,320	-11,897	,000	,255	,065	,064
Type of community	-,084 (.010)	-,177	-8,535	,000	,283	,080	,079
Experience/teacher	-,094 (.012)	-,194	-7,570	,000	,302	,091	,089
Age	,171 (.023)	,183	7,439	,000	,339	,115	,113
School enrolment	,000 (.000)	,083	3,971	,000	,350	,122	,120
Level of education	,071 (.026)	,056	2,728	,006	,354	,125	,123
Slovak Republic							
Constant	5,609 (1,285)						
Experience/principal	,182 (.019)	,427	9,558	,000	,244	,059	,058
Level of education	-1,522 (.322)	-,169	-4,718	,000	,262	,069	,066
Age	-,252 (.042)	-,275	-5,979	,000	,281	,079	,076
Experience/teacher	,166 (.029)	,290	5,769	,000	,332	,111	,106
Student/teacher ratio	-,018 (.007)	-,097	-2,754	,006	,345	,119	,114
Slovenia							
Constant	-,457 (.162)		-2,816	,005			
Experience/principal	,064 (.017)	,215	3,743	,000	,179	,032	,029
Experience/teacher	,055 (.023)	,138	2,399	,017	,223	,050	,044

Notes. *R*<sup>2\*</sup> adjusted *R*<sup>2</sup>. Co linearity analyses (the highest correlation coefficients between predictors are presented): Slovenia: *r* =,159; Slovak republic: *r* =,125; Austria: *r* =,137; Hungary: *r* =,275.

A variable that has the greatest predictive value for *Accountable management index* is years of experiences. With the exception of Austria (in Austria only years of experience as a teacher is significant predictor), both types of experiences, as a principal and as a teacher, are significant predictors. Interestingly the years of experience are in Slovenia and Slovak Republic positively related to *Accountable management index* and in Hungary and Austria the same variables are negatively related to the *Accountable management index*. The strongest predictor is in Slovenia and in Slovak Republic years of experience as a principal, in Austria years of experience as a teacher and in Hungary gender. When comparing the predictive power of models, again the model has the greatest predictive power for Hungary, followed by Slovak Republic, Austria and Slovenia.

Table 6 *Multiple regression analyses predicting Bureaucratic management index from selected school variables– international comparisons*

	<i>b (SE)</i>	$\beta$	<i>t</i>	<i>p</i>	<i>R</i>	$R^2$	$R^{2*}$
Austria							
Constant	-1,426 (,260)						
Age	,342 (,051)	,233	6,683	,000	,248	,061	,060
Educational level	-,210 (,032)	-,230	-6,591	,000	,323	,104	,102
Student/administrator ratio	,002 (,000)	,165	4,666	,000	,370	,137	,133
Student/teacher ratio	,062 (,022)	,101	2,870	,004	,383	,146	,142
Hungary							
Constant	1,924 (,085)						
Experience principal	-,126 (,011)	-,234	-12,008	,000	,278	,077	,077
Gender	-,332 (,033)	-,201	-10,214	,000	,324	,105	,104
Student/teacher ratio	-,030 (,004)	-,154	-7,442	,000	,346	,120	,118
School enrolment	,000 (,000)	,108	4,984	,000	,353	,124	,123
Type of community	-,057 (,012)	-,094	-4,599	,000	,363	,132	,130
Slovak Republic							
Constant	-,368 (,091)						
Gender	,294 (,050)	,224	5,898	,000	,173	,030	,029
Experience/principal	-,046 (,016)	-,105	-2,783	,006	,203	,041	,039
Student/pedagogical support ratio	,000 (,000)	,071	1,971	,049	,214	,046	,042
Slovenia							
Constant	-,321 (,110)		-2,902	,004			
Experience/principal	043 (,018)	,131	2,330	,020	,169	,029	,025
School enrolment	,000 (,000)	-,259	-4,062	,000	,216	,046	,040
Type of community	,110 (,040)	,172	2,789	,006	,271	,073	,064
Student/administrator ratio	,002 (,001)	,140	2,329	,021	,299	,090	,078

Notes.  $R^{2*}$  adjusted  $R^2$ . Co linearity analyses (the highest correlation coefficients between predictors are presented): Slovenia:  $r=,203$ ; Slovak Republic:  $r=,072$ ; Austria:  $r=,108$ ; Hungary:  $r=,253$ .

The predictors for *Bureaucratic management index* vary significantly between countries. The only predictor that is significant in majority (three out of four) countries is years of experience as a principal. The more the principals are experienced in Slovenia the highest the *Bureaucratic management index* and the more the principals are experienced in Hungary and Slovak Republic the lowest the *Bureaucratic management index* is. The strongest predictor in Hungary and in Slovenia is “years of experiences as a principal”, in Slovak Republic gender and in Austria “age”. When it comes to *Bureaucratic management index* the variables included explain the greatest amount of variance in Austria and in Hungary, followed by Slovenia and Slovak Republic.

## DISCUSSION AND CONCLUSIONS

We have analysed the predictors for different school leadership indexes that are indicating instructional leadership style or administrative leadership style. Regarding the fact that the predictors for management-school index vary between the analysed countries (which have very similar achievement scores on several different international surveys) one could argue that it is not possible to determine the most important indicators that could encourage school principals to use this explicit leadership style. Of course the question also remains if one or another leadership style could be declared as better than another. The indicators for

both leadership styles vary significantly and as the only consistent predictor *the years of experience* could be declared. Nevertheless even years of experience do not offer the same direction of relationship for different indexes indicating one of the leadership styles for different countries. Therefore we argue that school leadership styles are mostly country specific and for policy makers to consider influencing the leadership styles should firstly analyse and take into account all the country background specifics (even the suggestion that there is none leadership style that is universally applicable for all circumstances).

The paper has identified several important relationships. For Slovenia there are significant specifics noticed: almost 60 percent of school principals were female; only 2.8 percent of them were younger than 40 years and only 6.5 percent was older than 60 years; 16.9 percent had more than 20 years of experience with being a principal; only 27.7 percent are principals in schools from communities larger than 15.000 people. For Slovakia the specifics were: almost 60 percent of school principals were female; 55 percent of principals were between 50 and 59 years of age and 10 percent were older than 60 years; the principals have very diversified years of experience but less than 2.2 percent has more than 20 years of experience being a principal; 52 percent of principals work in communities larger than 15.000 people. For Austria the specifics were: 70 percent of principals were male; only 17 percent of principals were younger than 50 years of age, 55.5 percent of principals have 3 – 10 years of experience as being a principal; the principals are evenly diversified among the size of communities. For Hungary the specifics were: male and female principals are evenly participated; there is a great majority (86.3 percent) of principals between age of 40 and 59; the principals have very evenly diversified years of experience; the principals are evenly diversified among the size of communities. Besides the shown differences there are also well known differences between the analysed education systems than need to be considered in a decision making.

According to principals' reports, disadvantaged schools in OECD countries have lower student/teacher ratios but less experienced and qualified teachers. Since the literature on resourcing indicates that high quality teaching has a greater impact than some resource intensive practices such as smaller class sizes (Rivkin, Hanushek and Kain, 2005), it is likely that current arrangements are not optimal for disadvantaged students. (Equity and Quality in Education, OECD, 2012, str. 73). Also one could argue that the similar goes for the influence of experiences and quality of school principals. In the United Kingdom, for example, only 20 % of school principals leading disadvantaged schools had been a principal for three years or more (OECD, 2012). Therefore the question emerged how students perform in the analysed countries in different educational fields. The major limitation of this study was the fact that there was not possible to acquire any kind of achievement data that would be linked to the specific schools included in the TALIS survey. But on the country level there are average achievement scores available in several different international comparative studies.

The data from TIMSS 2011 (Trends in International Mathematics and Science Study) indicate that students from Hungary have scored above TIMSS average mathematics and in science achievements both in 4<sup>th</sup> and in 8<sup>th</sup> grade. Austria had only tested 4<sup>th</sup> grade students in TIMSS 2011 and they scored slightly above average achievements in mathematics and in science. Students from Slovenia have scored above average TIMSS achievements in both 4<sup>th</sup> and 8<sup>th</sup> grade in mathematics and in science. Slovakia had only tested 4<sup>th</sup> grade students in TIMSS 2011 and they scored, similarly as other investigated countries, slightly above average achievements in mathematics and in science. (TIMSS 2011 International Results in Mathematics, 2012 and TIMSS 2011 International Results in Science, 2012).

In the ICCS 2009 (International Civic and Citizenship Education Study) out of the analysed countries only Slovak Republic, Austria and Slovenia participated. Of those students from Austria have scored the achievements that did not differ significantly from average of all achievements and students from Slovenia and Slovak Republic have achieved above average achievements. (ICCS 2009 International report, 2010).

In PISA 2012 (Programme for International Student Assessment) students from Austria and Slovenia have scored above OECD average achievements in mathematics and science and students from Slovak Republic and Hungary have scored under OECD average achievements in mathematics and science. Students in all four countries have scored slightly below OECD average in reading. (PISA 2013 Results in focus, 2013).

There are also several studies that have shown direct effects of the principal's leadership style on students' achievement (i.e. Kythreotis and Pashiardis, 2006; Al-Safran, Wiseman & Brown, 2009; Yusuf, 2012) but the background of the governance styles was not considered in an international comparison study. Cultural differences are not to be overlooked and should be considered as relevant factor for local stakeholders when making the decisions.

For all four analysed countries one could confirm that students in general perform average in all tested fields of interest. Therefore further analyses should be conducted in order to establish the relationship between school leadership style and school achievement considering the background data and therefore the multilevel analyses would enable us to determine the factors and the influences even further. Also the background analyses of specific countries would be possible that would enable us to determine the relationships that are evident between the countries.

In this paper the theoretical framework indicates the leadership models and then the relationship between demographic background indicators and leadership styles is presented for selected countries (Austria, Hungary, Slovak Republic, Slovenia). The analyses indicate that the indicators for leadership styles are mostly country specific and only years of experience have significant influence in most indexes.

As conclusion we would like to highlight the focus that the answer to what are the best school management and leadership styles isn't straightforward. Based on our research it is not possible to introduce or improve a specific indicator in order to achieve such school leadership. The specifics of each countries' education system, the specifics of each school and the specifics of each school leader and the teachers should be considered. Nevertheless the aim should be universal: quality relationships and quality education. Although the TALIS survey has the limitation by not acquiring the student achievement data the survey clearly exposes the importance of the cultural and country specifics. Based on those the guidelines for further research and policy making are provided since the most significant finding of this study is the importance of determining both universal and country specific quality factors.

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## Vođenje škola i kvaliteta u obrazovanju: sličnosti i razlike u pojedinim izabranim EU državama

**Sažetak:** Članak<sup>3</sup> se fokusira na različite metode vođenja škole i stilove (načine) upravljanja. Efikasno vođenje škole pokazalo se kao ključno za uspjeh učenika, odmah nakon kvaliteta učitelja (Augustine i dr., 2009 u OECD, 2012). U članku su predstavljeni rezultati drugog empirijskog istraživanja, koji se temelje na podacima iz projekta TALIS (2008). Predviđene vrijednosti izabranih varijabli (kao što su veličina škole, spol ravnatelja škole itd.) za različite vrste vođenja i stilova upravljanja škole bile su analizirane višestrukom regresijskom analizom. Rezultate analize možemo primijeniti u međunarodnom kontekstu (prostoru), pošto smo usporedili podatke upitnika za ravnatelje škola iz Austrije, Mađarske, Slovačke i Slovenije. Analizom je utvrđeno da su pokazatelji (prediktori) za različite vrste vođenja i stilove upravljanja školom pretežno zavisni od specifične pojedinih država, značajan utjecaj na većinu indeksa imaju jedino godine radnog iskustva ravnatelja. Odgovor na pitanje koje su najbolje vrste vođenja i stilovi upravljanja školom nije jednoznačan. Na temelju našeg istraživanja nije moguće izdvojiti neki posebni indikator za postizanje dobrog upravljanja.

**Ključne riječi:** međunarodna komparativna analiza, vođenje škole, školska uprava, ravnatelj škole

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