



A validation study of the leadership styles of a holistic leadership theoretical framework

Validation study
of leadership
styles

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Received July 2010
Accepted July 2010

Abstract

Purpose – The overall purpose of the European Union-funded Leadership Improvement for Student Achievement (LISA) project was to explore how leadership styles, as conceptualized in the developed dynamic holistic leadership framework, directly or indirectly affect student achievement at the lower secondary level of education in seven European countries. This paper seeks to address this issue.

Design/methodology/approach – In its methodological design the study is a mixture of research methods and collaborative action research shared by acting school leaders and researchers. A series of statistical analyses was carried out in order to gather evidence whether the data from the LISA project supported the initially developed holistic leadership theoretical framework. Consequently, first some descriptive statistics are introduced in order to acquaint the reader with the kind of data the survey used from the schoolteacher questionnaires. Further, some explanations are laid out with regard to the methodologies employed in order to analyze the data, such as the treatment of missing data and exploratory and confirmatory factor analysis structural equation models (SEM); then, a description of the main findings is offered through the analyses, which were conducted in order to predict school performance level from the relevant leadership style, followed by between-countries comparisons and analyses. Finally, an in-depth discussion and interpretations of the main findings – both integrative and conclusive in nature – are offered.

Findings – The quantitative analyses stemming from confirmatory factor analysis and SEM identified five robust underlying dimensions of practised leadership styles across the seven participating European countries. Furthermore, the findings stemming from the logistic regression analyses pointed out clearly the complementary inter-relationships of the main research questions of the study and analytical strands, especially with regard to the impact of certain intermediate variables on student achievement.

Originality/value – The expected results of this approach are predominantly assumed/seen as an enrichment in the grounding of hypothetical and theoretical ideas as well as professional development for both school principals and researchers. Such an equal contribution of school leaders and school leaders' organizations and researchers could probably provide a model for future professional development programs for both groups of professionals.

Keywords Leadership, Principals, Secondary schools, Students

Paper type Research paper



Introduction

At the beginning of the twenty-first century we are experiencing a rapidly changing environment with various shifts in every domain of human activity. Technological, scientific and economic advancements, globalization and immigration movements are

International Journal of Educational
Management
Vol. 25 No. 1, 2011
pp. 11-32
© Emerald Group Publishing Limited
0951-354X
DOI 10.1108/09513541111100099

just a few of the areas giving rise to complexity and uncertainty in the modern world. These societal changes have inevitably transformed the school environment into a more dynamic and complex one than in the past (Crow, 2006).

In this novel school environment, where various pressures and external challenges are identified, there is an increasing recognition of the importance of school leadership in supporting change and providing for educational quality. In fact, school leadership has been identified by a number of researchers as a key element in the effectiveness of school organizations (e.g. Brauckmann and Pashiardis, 2009; Marzano *et al.*, 2005; Kythreotis and Pashiardis, 2006; Kythreotis *et al.*, 2010). As a result, the various stakeholders have widened their expectations from schools principals demanding higher academic results and performance standards (Weindling and Dimmock, 2006). In this context, it is important to reorient the role of the school leader and identify which forms or sets of leadership perceptions, behaviors and practices influence the main purpose of a school's mission, which is enhancing student learning.

School leadership and student achievement

Researchers in the area of educational leadership have attempted to identify links between educational leadership and educational effectiveness research. This phenomenon is mainly due to the perception that educational leaders, especially school principals, affect school effectiveness. However, the empirical literature shows that both the nature and the degree of principal impact continue to be a subject of debate (Pitner, 1988; Van de Grift and Houtven, 1999). The reason for this is that previous research on the effects of school leadership on students' academic achievement has produced contradictory findings. On the one hand, a number of studies found some effects (Fuller, 1987; Mortimore *et al.*, 1988; Levine and Lezotte, 1990; Reynolds and Cuttance, 1992; Pashiardis, 1995, 1998, 2004). On the other hand, other studies found no statistically significant effects. For example, Hallinger and Heck (1996, 1998) reviewed more than 40 studies published about the principal's role in schools between 1980 and 1995. The general pattern of results drawn from these two reviews supports the belief that principals exercise a measurable, though indirect effect on school effectiveness and student achievement.

What are the reasons that lead to the production of these conflicting findings? It seems that some important conceptual and methodological factors differentiate the results among the various studies. First, there is no unique definition of the concept of a principal's leadership, which is broadly accepted (Hallinger and Heck, 1996, 1998; Witziers *et al.*, 2003). Second, there is no universal paradigm or theory for examining organizational behavior that is valid in all social or organizational contexts (Hallinger, and Heck, 1996, 1998; Pashiardis *et al.*, 2003). Third, methodological issues and research design affect the findings of the various studies. For example, the use of longitudinal data permits the examination of the progress of student achievement (Teddle and Reynolds, 2000). In addition, the presence or absence of either construct validity or generalizability or explicit measures of school performance as a dependent variable may lead to different findings (Hallinger and Heck, 1996, 1998). Moreover, the presence of a third variable between a principal's leadership could lead to different results than the absence of this variable (Hallinger and Heck, 1996, 1998; Witziers *et al.*, 2003). Finally, the use of statistical techniques such as structural equation modeling and multi-level analysis permit the examination of the complex relationships between a

principal's leadership and student achievement (Teddle and Reynolds, 2000; Witziers *et al.*, 2003).

Holistic leadership literature review and the Pashiardis-Brauckmann Holistic Leadership Framework

Based on the existing literature on school leadership, it is possible to discern a number of leadership practices or behaviors that are deemed critical for raising student outcomes, either directly or indirectly. These leadership practices and behaviors were used in order to formulate the Leadership Improvement for Student Achievement (LISA) theoretical framework (see Figure 1), which this study employed as its main point of reference.

The overall purpose of the LISA study (which is funded by the European Union) is to explore how school leadership, directly or indirectly, affects student achievement at the lower secondary level of education. This aim is also pursued through the adoption of a European, comparative approach in order to uncover the leadership differences within different educational systems. However, since the lack of consistency in findings on school leadership is largely owed to the use of varying frameworks and models, it was decided to devise a common framework that would act as a reference base for the comparative aspect of our project. In this project, leadership is treated as a multi-level construct that may affect school and student variables but is also likely to be influenced by contextual variables.

First, the framework entails five leadership domains or styles that school principals are likely to employ in their work. In our case, a leadership style is defined as “the nexus of all those behaviours and practices that school principals use in order to influence the behaviour of others” (Pashiardis, 2004). Therefore, across the leadership radius five styles may be distinguished:

- (1) instructional;
- (2) structuring;
- (3) participative;
- (4) entrepreneurial; and
- (5) personnel development.

Each leadership style consists of specific behaviors or practices that are likely to be exhibited by school principals. A more in-depth and detailed examination of these leadership styles is presented in the following sections of this paper.

In the framework, however, it is acknowledged that school leaders do not operate in a vacuum. On the contrary, their actions greatly depend on their perceptions of the particular context in which they work – that is, how they (the school leaders) interpret the external environment and legal framework that relate to their practices. The context, as we define it, is divided into two main levels:

- (1) system-level variables, which include patterns of centralization/decentralization as well as patterns of evaluation and accountability arrangements in each individual country; and
- (2) school-level variables, which consist of variables pertaining to the characteristics of the school as well as demographic information.

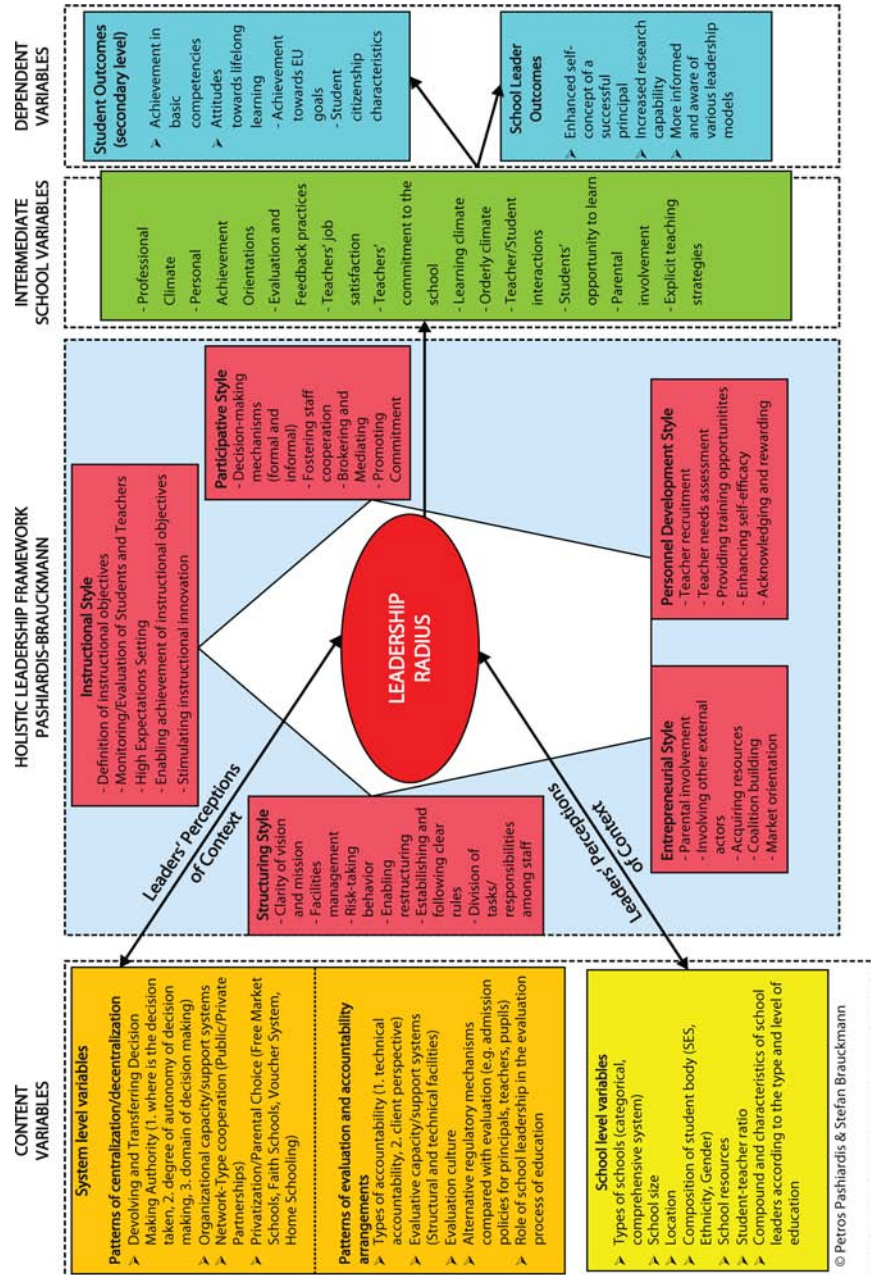


Figure 1.
The
Pashiardis-Brauckmann
Holistic Leadership
Framework

Furthermore, we were interested in investigating through which intermediate school variables school leaders affect the final school outcomes. Some of the most prominent mediating variables include:

- a learning and orderly climate;
- personal achievement orientation;
- evaluation and feedback practices;
- teachers' job satisfaction and commitment to the school;
- teacher/student interactions;
- students' opportunity to learn;
- explicit teaching strategies; and
- parental involvement.

These variables that operate at the school level are hypothesized to be influenced by the foregoing leadership styles and in turn to affect school outcomes; that is, they mediate the impact of leadership styles on student as well as leader outcomes.

Finally, the framework presents in detail the dependent variables in this research project. These variables entail both student and school leader outcomes. With regards to student outcomes, we focused on achievement in basic competences as well as attitudes towards life-long learning and citizenship (i.e. achievement towards EU goals, and student citizenship characteristics). Then, as a by-product of this research program we were interested in the participating school leaders' outcomes, which are deemed to emanate from their involvement in the project as action researchers. In particular, the focus lies on the enhancement of the leaders' self-concept, the increase in their research capability as well as their gain in knowledge and awareness of various leadership models and action research. Next, we provide a brief description of each leadership style as conceptualized in the specific Pashiardis-Brauckmann framework.

Instructional style

This leadership style has a strong focus on the improvement of the quality of teaching and learning. According to Hallinger (2005), school principals lead through building a learning mission and aligning teaching and learning activities with the defined purposes. In addition, effective instructional leaders develop a climate of high expectations for teaching and learning (Hallinger, 2005; Nettles and Herrington, 2007) and engage in monitoring and evaluation activities (Nettles and Herrington, 2007; Waters *et al.*, 2003). Finally, effective school leaders are constant stimulators of instructional innovation. According to Waters *et al.* (2003), the "optimizer role" adopted by school leaders contributes to an increase in student achievement.

Structuring style

The structuring style of leadership concerns the aspects of providing direction and coordination to the school. Research has shown that the principal's vision positively affects their instructional and strategic behavior (Kruger *et al.*, 2007), the task focus goals and the use of innovative and professional teaching practices (Barnett and McCormick (2004). The study of Waters *et al.* (2003) also indicates that the leadership responsibility of establishing standard procedures and routines in order to secure order

and discipline is positively associated with an increase in student achievement. According to Pashiaridis (1998), effective structuring leaders manage all school facilities effectively as well as efficiently supervise their maintenance to ensure clean, orderly, and safe buildings and grounds.

Participative style

The participative style recognizes that leaders can organize their management activities through others in many different ways according to their own preferences, the types of people with whom they are working and the culture of the organizations in which they work (Pashiaridis *et al.*, 2003). Much empirical evidence points to the importance of the specific style. For example, Pashiaridis (1995) found that elementary school principals in Cyprus consider their active involvement in decision-making and team building as the most important component of leadership effectiveness. Furthermore, Mulford and Silins (2003), within the LOLSO project, reached the conclusion that effective school principals promote administrative team leadership and teacher leadership, which in turn affect student outcomes through the mediating effects of organizational learning and the teachers' work. As a result, the members of the school develop greater commitment to accomplish organizational goals (Leithwood *et al.*, 2004).

Entrepreneurial style

The entrepreneurial style concerns the creative utilization of external networks and resources in order to aid the implementation of the school mission. Firstly, effective school leaders create partnerships with the parents and the wider community of the school. In the study of Pashiaridis (1998), effective principals created a positive climate between parents and the school that was conducive to learning. The principals stressed the fact children improved their behavior in school once they sensed that their parents had a close interaction with their teachers and the principal. Also, Dinham's (2005) detailed analysis of the case studies of secondary schools in Australia revealed that one of the components of effective leadership is the external awareness and engagement of the wider environment of the school. The external environment included other schools and systems, the community, society, business and government. External networks are also likely to secure adequate resources for the school activities. In a meta-analysis of 19 studies, strategic resourcing was identified as having a moderate indirect effect on students (Robinson, 2007).

Personnel development style

Developing school personnel constitutes a major area through which school leaders can influence school performance outcomes. Youngs and King (2002) assert that one of the ways "principals shape school conditions and teaching practices is through their beliefs and actions regarding teacher professional development" (p. 644). In this effort, they provide intellectual stimulation and individual support to the staff as well as appropriate models of best practice (Leithwood, 1994; Leithwood *et al.*, 2006). In a qualitative research in two suburban Flemish elementary schools, one group of teachers maintained that the school leader creates a culture of professional development "by passing through relevant information, by allowing teachers to participate in in-service training, by buying relevant professional journals, by discussing interesting innovations at meetings" (Clement and Vandenberghe, 2001, p. 47).

analyses we conducted in order to predict school performance level from the relevant leadership style; following this, we conducted between-countries comparisons and analyses, and finally, an in-depth discussion and interpretations of the main findings are offered.

Leadership styles questionnaire

Descriptive statistics. Participants in the present study were 1,287 teachers from seven countries:

- (1) the UK ($n = 264$);
- (2) Norway ($n = 112$);
- (3) Germany ($n = 203$);
- (4) Slovenia ($n = 174$);
- (5) Hungary ($n = 198$);
- (6) Italy ($n = 201$); and
- (7) The Netherlands ($n = 135$) (see Table I).

They were given the Leadership Styles Questionnaire, which was developed, piloted, and validated specifically for this study. The instructions to the teachers responding were simply to rate their school principal on the various items using a Likert-type scale.

In the total sample, 464 were males, 643 were females, whereas 179 did not report their gender. With respect to school location, 578 teachers were working in a rural school whereas 538 in an urban school.

With respect to years in the current school, 654 teachers (66.5 percent) indicated ten or fewer years, 221 teachers indicated between 11 and 20 years (22.4 percent), 88 teachers indicated between 21 and 30 years (8.5 percent), 22 teachers indicted above 31 years, whereas 303 teachers (23.5 percent) did not provide that information.

Finally, with regard to teaching experience, 429 teachers (43.6 percent) indicated ten or fewer years, 267 teachers indicated between 11 and 20 years (26.7 percent), 189 teachers indicated between 21 and 30 years (19.1 percent), 102 teachers (10.4 percent) indicted above 31 years, whereas 302 teachers (23.5 percent) did not provide that information. Finally, with respect to school performance level, 467 (36.3 percent) teachers worked in low-performing schools, whereas 820 (63.7 percent) worked in high-performing schools.

Country	Frequency	Percentage
UK	264	20.5
Norway	112	8.7
Germany	203	15.8
Slovenia	174	13.5
Hungary	198	15.4
Italy	201	15.6
The Netherlands	135	10.5
Total	1,287	100.0

Table I.
Sample of teachers by
country

Treatment of missing data. For each one of the 48 questions of the Leadership Questionnaire, we calculated the percentage of missing data values. We performed missing data values analysis to explore whether the missing data were missing at random. This analysis showed no systematic missing data patterns. To maximize the use of data, we performed imputation of the missing values using the series mean approach. This approach replaced 2.63 percent of the data.

Exploratory factor analysis. Responses to the Leadership Questionnaire items were scored in a numerical scale from 1 to 5, in such a way that a higher score always represented a higher degree of agreement with a statement. Exploratory factor analysis (EFA) was chosen as the data reduction technique. Thus, the 48 questionnaire items were factor analyzed to assess which items were inter-correlated and to establish internal reliability. The data reduction process followed two criteria. First, Kaiser's criterion that only factors with eigenvalues greater than one are retained (Child, 1990). Second, factors with only one item were excluded from the analysis.

Principal axis factoring with a Varimax rotation yielded, after careful examination of the scree plot, a five-factor solution involving 35 items with factor loadings above 0.40 that explained 62.43 percent of variance. The Bartlett test of sphericity indicated the presence of factor structure, $\chi^2(595) = 29,255.9, p < 0.0001$. The factor solution is presented in Table II.

The five factors extracted were labeled as:

- (1) instructional style;
- (2) participative style;
- (3) personnel development style;
- (4) entrepreneurial style; and
- (5) structuring style.

The first factor, named "instructional style", comprised six items (with a Cronbach's α equal to 0.85) representing leadership practices that enable achievement of instructional objectives (i.e. providing instructional resources, encouraging higher order forms of teaching and learning, promoting the implementation and use of knowledge in a variety of forms, monitoring standards of teaching and learning, providing concrete feedback to staff, and utilizing evaluation data in order to improve personnel). The second factor, named "participative style", comprised eight items (with Cronbach's α equal to 0.92) representing leadership practices that promote cooperation and commitment (i.e. promoting open communication with the staff, leaving instructional autonomy to teachers, creating a common vision for school improvement, actively involving staff in planning and implementing this vision, solving problems in cooperation with the teachers, implementing participative decision-making processes, facilitating decision making by consensus, and discussing school affairs with the teachers). The third factor, named "personnel development style" comprised seven items (with Cronbach's α equal to 0.88) representing leadership practices that promote training and development of teachers (i.e. providing recognition for excellence and achievement, rewarding teachers for their special contributions, encouraging the professional development of teachers, registering outstanding performance of teachers, making informed recommendations to personnel placement, transfer, retention and dismissal, complimenting teachers who contribute

Table II.
Exploratory factor
analysis for the
Leadership Styles
Questionnaire

	1	2	Component 3	4	5
	Participative	Entrepreneurial	Personnel development	Instructional	Structuring
Q3				0.523	
Q5				0.528	
Q6				0.523	
Q8				0.698	
Q9				0.666	
Q10				0.581	
Q11	0.697				
Q12	0.632				
Q13	0.649				
Q14	0.671				
Q15	0.692				
Q16	0.692				
Q18	0.675				
Q19	0.650				
Q21			0.641		
Q23			0.716		
Q24			0.578		
Q25			0.662		
Q27			0.456		
Q28			0.696		
Q29			0.438		
Q30		0.604			
Q31		0.674			
Q32		0.668			
Q34		0.662			
Q35		0.748			
Q36		0.663			
Q37		0.637			
Q39		0.601			
Q42					0.502
Q43					0.547
Q44					0.798
Q45					0.780
Q46					0.656
Q47					0.532

exceptionally to school activities, informing teachers about possibilities for updating their knowledge and skills). The fourth factor, named “entrepreneurial style” comprised eight items (with Cronbach’s α equal to 0.92) representing leadership practices that promote the involvement of external actors (i.e. encouraging relations between the school and the community and parents, promoting cooperation with other organizations and businesses, discussing school goals with relevant stakeholders, utilizing appropriate and effective techniques for community and parental involvement, promoting two-way communication between the school and the community, projecting a positive image to the community, building trust within the local community, communicating the school vision to the external community). The fifth factor, “named structuring style” comprised six items (with Cronbach’s α equal to

0.89) representing leadership practices that promote establishment and implementation of clear rules (i.e. ensuring clarity about the roles and activities of staff, ensuring clarity about work priorities, providing clarity in relation to student behavior rules, ensuring that school rules and consequences of misconduct are uniformly applied to all students, working on the creation of an orderly atmosphere, and providing clarity regarding policies and procedures to be implemented).

Confirmatory factor analysis. Confirmatory factor analysis (CFA) was performed using structural equation modeling (SEM; EQS Version 6.1). We tested a second-order factor model in which we hypothesized that the leadership radius is a second-order factor indicated by five first-order factors that corresponded to each one of the leadership styles extracted from the Exploratory Factor Analysis (i.e. instructional style, participative style, personnel development style, entrepreneurial style, and structuring style). Indicators for each of the five factors were the items extracted from the EFA. We adhered to the following criteria for evaluating good model fits:

- comparative fit indices (CFI) and Tucker-Lewis indices (NNFI) greater than 0.95;
- root mean square errors of approximation (RMSEA) below 0.05; and
- non-significant χ^2 values.

Finally, to improve the fit of the model, a number of error terms were allowed to co-vary.

The model had an acceptable fit to the data: $\chi^2(532, n = 1,287) = 2,121.47$, $p < 0.001$; CFI = 0.94; NNFI = 0.94; RMSEA = 0.049 (CI.90 = .047 to 0.051). The model tested is presented in Figure 3.

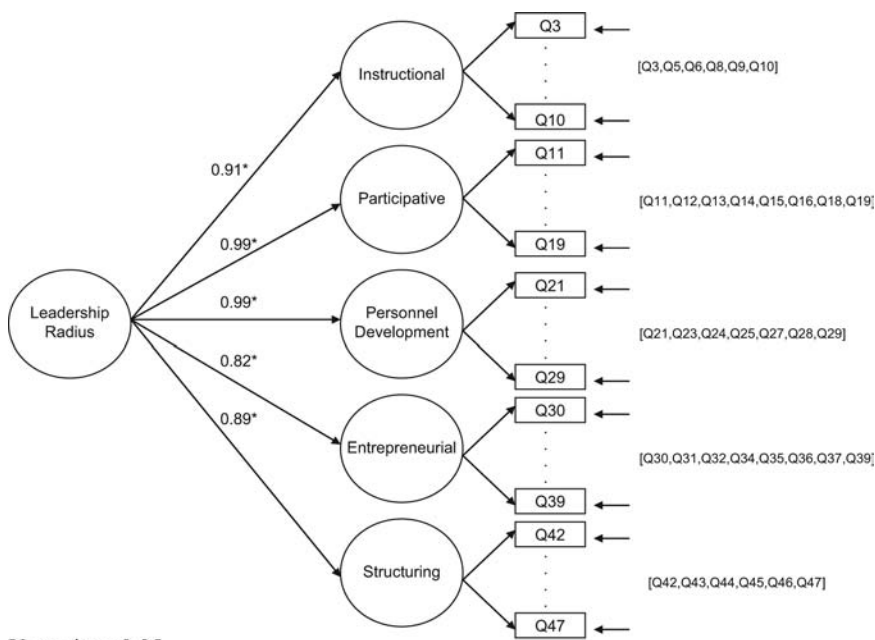


Figure 3.
Leadership styles model

Predicting school performance level from leadership style. Multiple logistic regression was used with school performance level of student achievement (high/low performing schools as reported by the school leaders participating in our study) as the dependent variable and each of the five leadership styles as the independent variables. The goal was to predict the probability that a teacher works in a low or high performing school given his/her beliefs about the leadership style(s) in his/her school. This analysis will begin to explore the degree to which leadership styles relate to student achievement.

The model was significant as indicated by the Hosmer and Lemeshow Test, $\chi^2(8, n = 1,287) = 21.56, p < 0.001$. The results showed that all but one leadership style (i.e. instructional) significantly predicted the odds of a teacher working in a low or high performing school performance school (see Table III). Specifically, for every one unit increase in participative or entrepreneurial styles, the odds of being in a high performing school (versus a low performing school) decreased by a factor of 0.581 and 0.484, respectively. However, for every unit increase in personnel development or structuring style, the odds of being in a high performing school (versus a low performing school) increased by a factor of 1.44 and 2.006, respectively.

Furthermore, ANOVA was used with each of the five leadership styles as the dependent variables and a categorical variable comprising of novice (0-5 years of teaching experience), somewhat experienced (6-15 years), experienced (16-29 years), and very experienced teachers (30-43 years) as the independent variable. This analysis showed no significant effects.

Between-countries comparisons. Factor scores were computed by averaging across the items that comprised each factor (leadership style). These scores were entered into an analysis of variance (ANOVA) as the dependent variables whereas independent variable was country (UK, Norway, Germany, Slovenia, Hungary, Italy, and The Netherlands). This analysis aimed at comparing the relative level of each leadership style across all seven countries and exploring possible similarities and differences. This analysis showed a significant effect of country for all five leadership styles (all p values < 0.001). See Table IV for more details. Follow-up *post hoc* tests explored country effects for each style. Only significant differences are discussed below (all p values < 0.05)

With respect to instructional style, pair-wise comparisons showed that Hungary, the UK, and Slovenia were not different from each other and had a significantly higher score than Germany, Norway, Italy, and The Netherlands (these countries also were not different from each other) (see Figure 4).

	<i>B</i>	SE	Wald	df	Sig.	exp(<i>B</i>)
Step 1 ^a						
Instructionalstyle	− 0.029	0.138	0.045	1	0.833	0.971
Participativestyl	− 0.543	0.133	16.573	1	0.000	0.581
PersDevelstyle	0.365	0.133	7.587	1	0.006	1.441
Entreprenstyle	− 0.726	0.150	23.336	1	0.000	0.484
Structurstyle	0.696	0.124	31.299	1	0.000	2.006
Constant	1.532	0.361	18.016	1	0.000	4.626

Table III.
Results from logistic
regression analysis

Note: ^aVariables entered in step 1: Instructionalstyle, Participativestyl, PersDevelstyle, Entreprenstyle, Structurstyle

					Validation study of leadership styles
Style	Country	<i>n</i>	Mean	SD	
Instructional	UK	264	3.8127	0.62611	23
	Norway	112	3.2956	0.58750	
	Germany	203	3.3235	0.70221	
	Slovenia	174	3.8819	0.86767	
	Hungary	198	3.6963	0.73866	
	Italy	201	3.5099	0.83248	
	The Netherlands	135	3.4068	0.59813	
	Total	1,287	3.5921	0.75104	
Participative	UK	264	3.4620	0.70277	
	Norway	112	3.6646	0.62272	
	Germany	203	3.2021	0.83170	
	Slovenia	174	3.8636	0.96567	
	Hungary	198	3.8567	0.72511	
	Italy	201	3.5239	0.86433	
	The Netherlands	135	3.5233	0.65096	
	Total	1,287	3.5697	0.81171	
Personnel development	UK	264	3.6433	0.697	
	Norway	112	3.2648	0.62512	
	Germany	203	3.4583	0.70085	
	Slovenia	174	3.8009	0.90152	
	Hungary	198	3.8766	0.69844	
	Italy	201	3.3392	0.88491	
	The Netherlands	135	3.4317	0.58272	
	Total	1,287	3.5687	0.77132	
Entrepreneurial	UK	264	3.7615	0.58375	
	Norway	112	3.5005	0.48393	
	Germany	203	3.7355	0.65988	
	Slovenia	174	3.9565	0.82560	
	Hungary	198	4.0238	0.63365	
	Italy	201	3.8128	0.80101	
	The Netherlands	135	3.7088	0.43492	
	Total	1,287	3.8039	0.67207	
Structuring	UK	264	3.6075	0.74328	
	Norway	112	3.6539	0.61293	
	Germany	203	3.3771	0.78437	
	Slovenia	174	3.8925	0.92055	
	Hungary	198	3.9997	0.77123	
	Italy	201	3.6542	0.80367	
	The Netherlands	135	3.6183	0.61884	
	Total	1,287	3.6825	0.79087	

Table IV.
Means and SDs per style
for countries

With respect to participative style (see Figure 5), pair-wise comparisons showed that Germany had a lower score than all other countries. Slovenia and Hungary had higher scores than all other countries and were not different from each other. The UK had a lower score than Slovenia and Hungary but was not significantly different from Norway, Italy, and The Netherlands (these three countries did not differ from each other). Norway was no different from all countries except Germany.

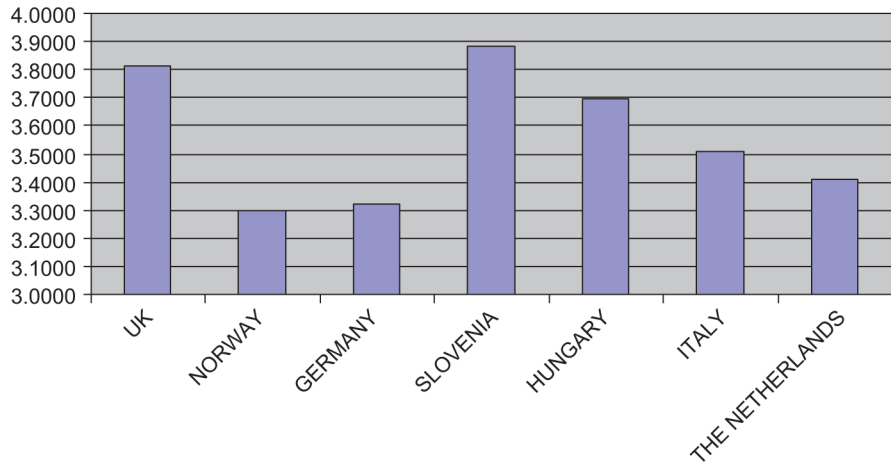


Figure 4.
Instructional style by
country

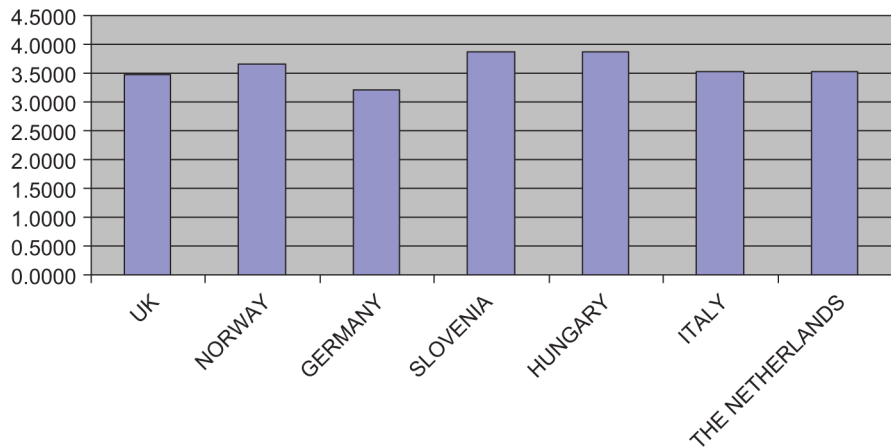
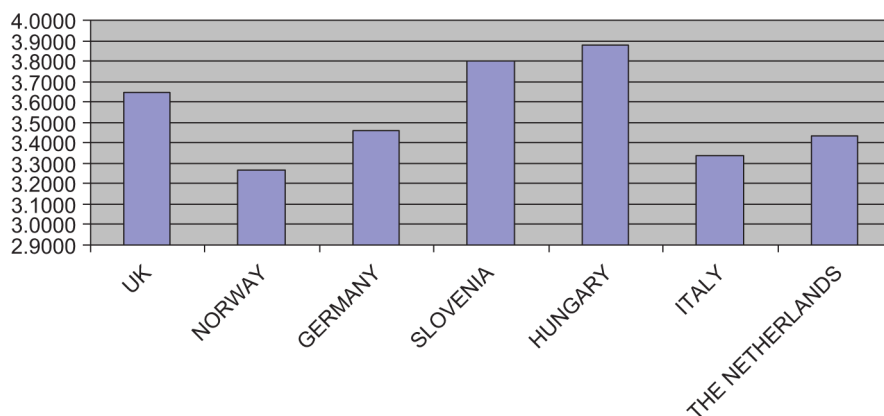


Figure 5.
Participative style by
country

With regard to the personnel development style (Figure 6), pair-wise comparisons showed that Hungary had a higher score than all countries but was not different from Slovenia. Slovenia also had a higher score than most countries but was not different from Hungary and the UK. Italy, Norway, Germany and The Netherlands were no different from each other.

In addition, pair-wise comparisons showed that Hungary had a higher score in the entrepreneurial style than all other countries but was no different than Slovenia. Slovenia also had a higher score than most countries but was no different from Hungary, Italy, and the UK. Norway had a lower score than most countries but was no different from Germany and The Netherlands. Germany, Norway, and The Netherlands were not different from each other (see Figure 7).

With respect to structuring style (see Figure 8), pair-wise comparisons showed that Hungary had a higher score than all other countries but was no different from Slovenia. Slovenia also had a higher score than most countries but was no different from



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Figure 6.
Personnel development
style by country

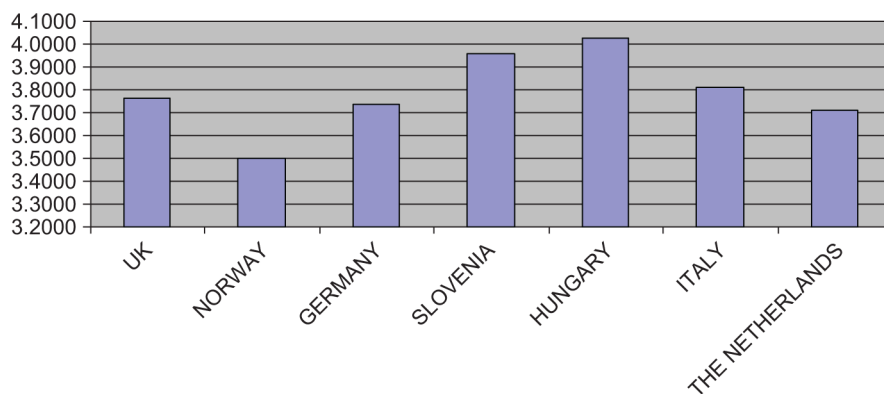


Figure 7.
Entrepreneurial style by
country

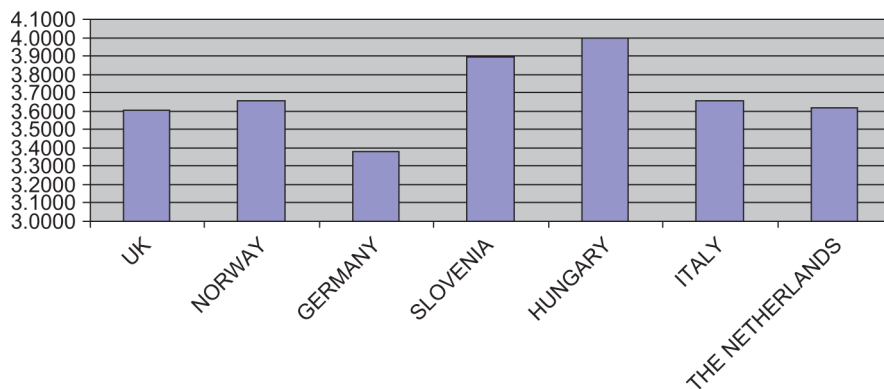


Figure 8.
Structuring style by
country

Hungary, Norway, and Italy. The UK, Norway, Italy and The Netherlands were not different from each other. Germany had the lowest score of all the countries.

Figure 9 shows the leadership styles by country.

Discussion

The analyses already presented shed some light on a number of issues related to the scope of the current project. Firstly, from a methodological point of view it is important to note that the initial Pashiardis-Brauckmann Leadership Framework was strongly supported by the exploratory and confirmatory factor analyses that followed. More specifically, the initial five factors (i.e. instructional style, participative style, personnel development style, entrepreneurial style, structuring style) were retained in the exploratory factor analysis, thus establishing construct validity of the model. In addition, the model became even more parsimonious by keeping 35 out of the 48 items included in the Leadership styles instrument. The reliability (Cronbach's α) of the items constituting each factor was especially high, with 0.85 being the lowest value. The confirmatory factor analysis indicated an acceptable fit of this model to the data ($\chi^2(532, n = 1,287) = 2,121.47, p < 0.001$; CFI = 0.94; NNFI = 0.94; RMSEA = 0.049, CI.90 = 0.047 to 0.051), directly supporting our hypothesized theoretical model of leadership styles, thus establishing the validity of the Pashiardis-Brauckmann Leadership Framework within the seven European countries participating in this research project.

Further analyses were conducted in order to establish relations between the leadership styles and the demographic school variables. Multiple logistic regression was carried out to find out whether the five leadership styles could predict the level of

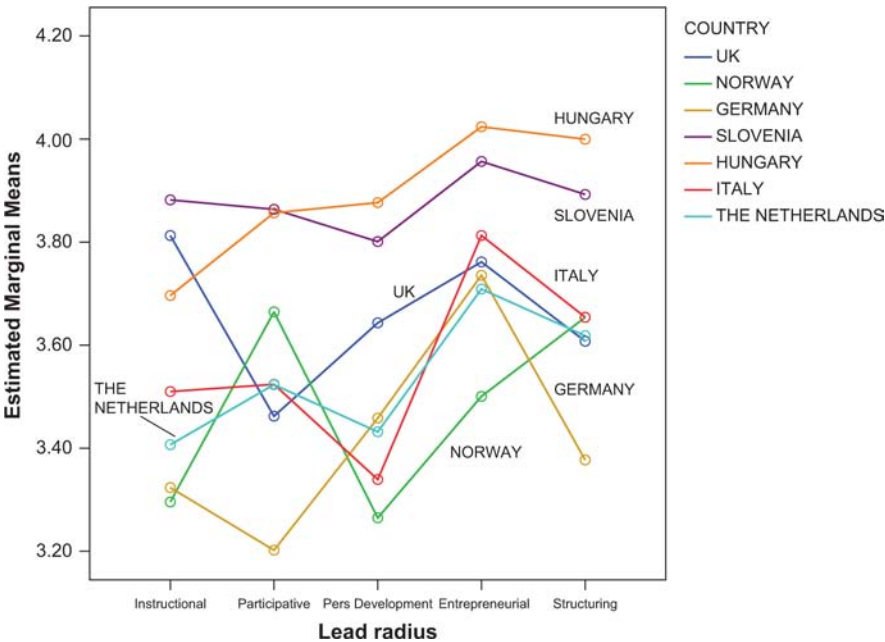


Figure 9.
Leadership styles by
country

student achievement as indicated by the school performance results at the European level. Our findings showed that all but one leadership style (i.e. instructional) predicted the odds of a teacher working in a high or low performing school. One possible explanation as to why the instructional leadership style was not related to the school performance level could be that instructional leadership behaviors are considered as an obvious course of action for a school principal to operate on. In fact, these behaviors are at the core of what a school is all about and therefore, it is probably implied they are present under any circumstances. The fact that the instructional style is considered as a foundation for school leadership in all seven countries of our project is further supported by the evidence gathered through the interviews process with the participating school leaders in our project. For instance, UK leaders mentioned that they use statistical analysis of students' results every year in order to set objectives for improvement and monitor teaching and learning through lesson observations carried out right across the school. In a similar fashion, school leaders from Hungary and The Netherlands mentioned that, when it comes to stimulating instructional innovations:

... the pupil's knowledge brought from the outside environment is used and connected with what takes place in classrooms". Moreover, "a connection is made between the education at the school and developments outside the school (especially other school sectors).

Similar comments were made by the rest of the participating countries. From the aforementioned, it can be deduced that indeed the instructional leadership style is evident throughout the schools that participated in our project.

In addition, it was found that the structuring style predicted to a greater extent than the rest of the leadership styles whether a teacher worked in a high-performing school. In fact, for one unit of increase in the structuring style the odds of being in a high-performing school increase by a factor of 2.006. This indicates that providing clear rules and policies as well as working in an orderly climate do matter in the context of European schools. This finding is further supported by what school leaders mentioned during the interviews. For instance, most of the school leaders mentioned that there is a clear vision for their school (except for the school leaders in Slovenia who mentioned that "vision is foggy"). Moreover, school leaders from Italy, Germany, The Netherlands, Norway, and Slovenia mentioned that overall they stick to the rules and regulations of the school and the Ministry when it comes to establishing and following clear rules; at the same time, they stressed that not all rules are applied to everybody in a uniform way and that it always depends on the situation and the specific circumstances, thus achieving a situational structuring leadership style. For instance, as a school leader from Germany mentioned:

... school has introduced a school contract, which is signed by parents and pupils who are new to the school. The school contract gives clear regulations about house rules (including a code of behavior). This contract is renewed every two years.

From the above comments of school leaders, it seems that in the countries participating in our research there is personalized enforcement of universal rules and regulations. At the same time, the school leaders, through their responses, exhibited some risk-taking behavior when applying rules. For instance, a school leader from Hungary said that he uses the relevant laws and rules creatively and "if they do not help the educational work he uses them sparingly". Similarly, a school leader from The Netherlands mentioned that:

... the school keeps to the rules of the government, but oversteps these rules without hesitation when the needs of the school or its students so require; the rules of the ministry are adjusted to the school's own situation.

And in Slovenia the advice from a school leader was "do not object to the Ministry, try to avoid conflicts in a smart way".

The personnel development style follows with a still high prediction of high performance. In particular, for one unit of increase in the personnel development style the odds of being in a high-performing school increases by a factor of 1.44. This means that rewarding teachers and providing opportunities for their professional development is strongly related to higher student outcomes. Thus, one could argue that the personnel development style does matter for school principals in the European countries participating in this project as a whole and it could be beneficial to lead their schools more through the personnel development style, namely providing training opportunities for their teachers, enhancing their teachers' sense of self-efficacy and finding ways in which to acknowledge and reward their teachers. These findings resonate with what school leaders mentioned during the interviews. For instance, with regards to teachers' professional needs, a school leader from the UK mentioned that:

... there is a bar half way through the teachers' pay scale (the threshold) which can only be crossed if teachers can demonstrate with documentary evidence that they are doing this (professional development). We offer and support a range of professional development, including a funded Master's degree in teaching and learning. We offer a weekly in-school professional development session with a pre-arranged programme of events and topics which teachers may attend – they pick the topics which fit their identified needs, through their annual performance management.

Similarly, a school leader from Germany said that:

... the place for personal feedback is the staff discussion (what do they see as a burden, how do they see their future work) resulting in components for professional development.

And finally, a school leader from Italy indicated how they initiate professional development by:

... getting advice from the best and more active teachers in order to know where there is a need for professional development and then act into that direction.

On the other hand, it was also found that the participative and entrepreneurial styles predict in a negative way the odds that a teacher works in a high performing school. In fact, for one unit increase in the participative and entrepreneurial styles the odds of being in a high performing school decrease by 0.581 and 0.484 respectively. Thus, it seems that the leadership practices which promote cooperation and commitment (participative style) as well as the involvement of external actors (entrepreneurial style) are not positively related to higher student outcomes. One possible interpretation is that it is more likely to find participative and entrepreneurial school leaders in low performing schools, thus suggesting that there is more need to employ these styles in cases where performance needs to be raised. In a sense, schools that are actually high achievers already do not need to exhibit these two styles, at least not to a large degree. One could further argue that the negativity associated with the participative style also has to do with the whole school being taken as the unit of analysis. What we mean is that getting the whole school to participate in everything just to enhance democratic

processes may not be so productive. For instance, in Norway, the participative style is exercised more at the small group level than that of the whole school; as a school leader from Norway mentioned:

... leader teams consisting of three teachers have meetings with the subject head every week; results from the leader teams are communicated back to the year groups and the discussion is meaningful.

Furthermore, in The Netherlands, a school leader put it in an eloquent way when she mentioned that “team determines the direction, departments the content”.

Our analyses also focused on carrying out between countries comparisons in order to identify the relative level of each leadership style across all seven countries. One of the main trends noted is that Hungary’s and Slovenia’s principals have the highest scores in all leadership styles. In fact, no significant differences were found between these two countries when considering each leadership style. At the same time, it should be noted that there are also no significant differences between the UK and the aforementioned countries with respect to the instructional leadership style, indicating that the emphasis on the instructional style is quite high in the UK as well.

On the other hand, it is interesting to note that Germany’s leadership scores are the lowest with regard to the participative and structuring styles. While the low score on the participative style may have been expected, it is quite odd to find out that German principals have a low score in the structuring aspects of leadership. This may be interpreted as follows: if we deem that the German teachers’ impression and standards of what it means to have a structuring leadership style are much more demanding than the other European teachers, then the teachers in our sample are not satisfied with the extent to which the structuring style is exhibited in the German schools that participated in our research. Thus, for example, a successful structuring leader in Hungary would not be as successful if he/she were working in a school in Germany. Once more, our interpretation highlights the fact that school leadership is highly contextual and cultural in nature.

Concluding remarks

In conclusion, one can note some obvious patterns concerning the leadership styles employed by European school leaders who participated in our research. Firstly, in most of the European countries the entrepreneurial leadership style has acquired the highest score. this means that the entrepreneurial behavior of principals can be regarded as a European dimension of successful school leadership. Then, the participative leadership style was found in most countries to be positively related to low-performing schools. This indicates that, at a European level, this kind of leadership style is present in cases where low performance is identified. Although it would be tempting to conclude that this style is either the cause or the consequence of low performance, such a conclusion cannot be drawn. More research is needed to begin to uncover the complex relations between each leadership style and student achievement. The current set of findings is a first step towards this direction.

In lieu of a conclusion, what is becoming increasingly more evident is that there is no best cocktail of leadership styles mix for all school leaders. School leadership is highly contextualized not only at the system level, but also (and particularly) at the school level. This, by itself, constitutes a major finding of this piece of research.

A school leader would be wise to look at just what the situation of his/her particular school context calls for and then act on it. Whether a school is rural or urban or high- or low-performing, a different mix of all those five leadership styles is needed. More of one style may assume less of another. It really depends on the situation, and our study has indicated this largely held assumption that, when it comes to leadership, the one size fits all approach, does not (and probably should not) work. What remains to be seen is whether we will ever reach a formula about what the best leadership styles mix looks like or whether it will remain a secret recipe for every individual principal who should be made aware of the necessary ingredients, but, in the end, the creation is unique and only his/her own. Thus, it can be concluded that the concept of leadership is a complex mixture of the five styles explored in our research, but the sum of the component styles does not really constitute the essence of leadership as a construct. On the contrary, it seems that the concept of leadership (at least for our study) is more than the sum of its constituent parts and should be investigated further bearing this fact in mind.

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