

HOW TO RECOGNIZE POTENTIAL SCHOOL LEADERS AMONG PRIMARY SCHOOL TEACHERS: FRAMEWORK BASED ON FINANCIAL LITERACY LEVEL AND TYPE OF MOTIVATION*

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Abstract. *The aim of this paper is to discuss the potential of primary school teachers for governing roles in schools. The level of teacher's financial literacy is used as a proxy for their managerial potential – managerial competences. Using the Competence Motivation Theory as framework, the authors postulate that teachers with the higher perceived competence in financial literacy are at the same time intrinsically motivated to achieve mastery in this field. Therefore, the teacher's perceived competence and type of motivation are combined with a set of individual and contextual determinants, highlighted in the previous research, and the framework for assessing teacher's potential or aptness for the governing position in the school is proposed. The design*

of this framework is based on data collected via survey which included 954 primary school teachers from Serbia, and analysed by linear and multinomial regression and cluster analysis. The results demonstrate that teachers can be categorized into four different groups, with variable degree of their potential for the governing roles. Clusters vary according to teachers' gender, subject they teach, location of the school, level of education and whether they are driven by extrinsic or intrinsic motivators.

Keywords: *Competence Motivation Theory, Financial Literacy, Management, Primary Schools, Principal, Teacher*

1. INTRODUCTION

High level of correlation between personal competences of the school managers and performances of the schools in the

region of Central and Eastern Europe has been established and consistently demonstrated (Vican et al., 2018). However, the need for systematic development of these

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competences, necessary for successful management of schools, seems to be rather neglected by the regional policy makers. Even though the ministries of education (e.g. in Croatia and Serbia) have been announcing the process of licencing for principals (who perform managerial functions in schools) for more than twenty years, and certain steps forward have been made recently (Damjanović, 2018; Kustura, 2017), the relevance of managerial competences for obtainment of these licences is still unspecified. Moreover, the set of new regulations introduced by Ministries of Education in Bosnia and Herzegovina and Serbia during the last decade redefines principal's role giving the priority to educational competences and functions over managerial expertise and targets (Ružičić, 2017).

Principals of the primary schools in the region have been exclusively appointed from the ranks of teachers (e.g. Republic of Serbia, 2017/2018). Thus, the performances of schools greatly dependant on the personal competences of the *teachers*, out of whom the principals are selected. The Ministers of education from EU countries have also pointed out that the knowledge, skills and commitment of teachers are among the most important factors in achieving high quality educational outcomes (European Commission, 2013). Nedzinskaitė and Barkauskaitė (2017) have added that well-trained and motivated teachers are necessary for successful performance of the schools, not only in terms of academic, but also in terms of market performances.

Within the discussion about the competences that teachers need to develop, *financial literacy* has been highlighted by EU countries' ministers of education, as necessary for efficient governing of educational institutions (European Commission, 2013). Namely, the concept of financial literacy

(FL) emphasizes empowerment of managers of various organisations, including schools, to make sound financial decisions and well informed choices (OECD, 2005). In the business context, Bruhn and Zia (2011) have discovered positive correlation between level of entrepreneurs' financial literacy and effectiveness of their business practices, as well as performances of their firms. Consequently, we can postulate that level of teachers' financial literacy can be used as a proxy for their "managerial potential", or aptness for the governing position in the school.

Therefore, in this paper the managerial potential of primary school teachers is assessed by means of their FL competences and their motivation to enhance those competences. To the authors' knowledge, no previous studies have attempted to profile the primary school teachers according to these competences, nor to identify the group of teachers with the highest potential for managerial roles in primary schools, as well as predictors of this potential. On a broader level, this study contributes to global debate on the *principalship* as a separate profession.

The paper is organized as follows. After the introductory section, the literature review is presented focusing on the prospective determinants of teachers' FL competences. It is assumed that these determinants would provide relevant inputs for the establishment of the various profiles of the teachers and serve as signals of each group's potential for performing the managerial position in the school. This section ends with formulation of research questions which address the identified research gap and which are based on the Competence Motivation Theory. In the third section we provide the description of methodology which was applied in the research conducted among primary school teachers in

Serbia, a South-East European country. In the fourth section, the results of the study are discussed; and four profiles of teachers, constructed based on various determinants and characterized by different potentials for governing positions in schools, are described. The fifth section offers concluding remarks, denoting the recommendations for both scholars and policy makers, and the final, sixth section, outlines the limitations of this study and directions for further research.

2. LITERATURE REVIEW

The determinants of FL competences identified in previous research can be classified into two groups: individual-level factors (e.g. gender, teaching experience and educational level obtained) and contextual factors (e.g. location of school and subject taught).

The body of literature on the individual-level determinants of FL provides a solid basis for discussion. Age, gender and spatial aspects appear to be the most thoroughly investigated. Several studies identify a relationship between the level of FL and an individual's age. According to those studies (e.g. Finke et al., 2011; Lusardi et al., 2010; Lusardi & Mitchell, 2014), FL is on the lowest level in the youngest age group, then it gradually increases before decreasing again amongst the elderly. Even though the influence of teacher's gender on their FL has not been specifically addressed in previous research, results of the household survey undertaken by Lusardi & Mitchell (2014) demonstrate that, regardless of their age, male respondents achieve better results in personal financial management. Additionally, there is evidence that the level of education of a woman is strongly correlated with the level of FL (Mahdavi

& Horton, 2014; Stamenković et al., 2015). Therefore, it can be assumed that teachers in different stages of their career, as well teachers of different gender, may have different knowledge and skills related to FL and hence – variable levels of aptness for the governing position in the school.

Regarding spatial aspects, studies conducted in Italy (Fornero & Monticone, 2011) and in Romania (Beckmann, 2013) identify significant differences in FL among citizens across regions within the countries. Given the regional variations in educational attainments in Serbia (Stamenković et al., 2015), it could be expected that teachers' FL competences will vary depending on school locations. Bucher-Koenen & Lusardi (2011, p.577) regard this as a process of observational learning, suggesting that "those exposed to financially knowledgeable people become more financially knowledgeable themselves". Apart from the fact that the level of local educational achievements may affect the FL of a person, the individual level of education can also have an impact (Lusardi et al., 2010; Walstad et al., 2010). Way and Holden (2010) report that the level of formal education is the main precondition for teacher's competence related to financial education. Additionally, it was established (e.g. Way & Holden, 2010; Walstad et al., 2010) that those who teach mathematics and natural sciences (individuals with an educational background in these fields) have better competences for teaching FL than teachers in the arts, humanities and social sciences. These findings, even though they need to be verified by future studies, may indicate and underpin the notion that teachers who are more knowledgeable about FL are also more successful managers than their peers, who possess more modest set of subject skills.

As mentioned, in addition to competence, commitment or motivation is another

factor which distinguishes effective and ineffective managers (Nedzinskaitė & Barkauskaitė, 2017). The motivation can be regarded as a twofold, extrinsic and intrinsic phenomenon. Extrinsic motivation arises from outside the individual and refers to behaviour driven by external rewards as money, grades, and praise. Opposite to that, intrinsic motivation originates from inside the individual and represents the desire to perform the task for its own sake (Benabou & Tirole, 2003).

However, *competence* (including knowledge and skills) and *motivation* are not unrelated concepts. According to competence motivation theory (CMT) (Harter, 1981), the perceived competence is integrally related to intrinsic motivation in the same domain. Numerous studies (Deci et al., 1981; Miserandino, 1996; Hayamizu, 1997; Davies et al., 2015) demonstrate that individual's perception of their proficiency in some fields significantly affects their motivation to get involved in that activity, as well as the level of mastery that they achieve in that endeavour. Further on, studies undertaken in the workplace (summarized in: Benabou & Tirole, 2003) have demonstrated that reinforcement of employee's intrinsic motivation by the manager

leads to the high-level working results and personal satisfaction of the employee in the long run, while extrinsic motivators have proven to be counterproductive in both the short and long run. Ryan and Deci (2000) declare that conditions supportive of intrinsic motivation reliably facilitated vital expression of the human growth tendency and that contexts supportive of competence are "of a great significance for individuals who wish to motivate others in a way that engenders commitment, effort, and high-quality performance" (p.76). In line with this, and given that principals of the schools need to motivate teachers in order to achieve good results, it can be concluded that school managers need to be driven by the intrinsic motivation.

The above analysis provides general framework of various prospective determinants of school teachers' managerial potential or aptness for the managerial position in the school, expressed by the level of their financial literacy competences. However, the existing body of literature does not offer a model, which organizes the mentioned determinants in a comprehensive system. Therefore, to address this research gap, we propose the conceptual model (Figure No. 1) and posit subsequent research questions:

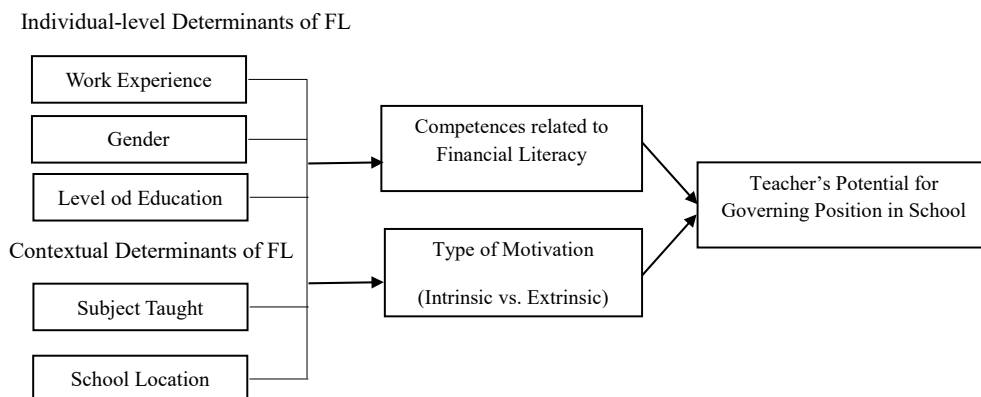


Figure 1. Model of individual teacher's potential for performing a governing role in schools

RQ1: Do teacher's gender, teaching experience, location, level of formal education and subject they teach predict their FL competences and motivation to develop those competences?

RQ2: Can the current levels of FL competences and motivation for their further improvement, be used to distinguish several types of teachers variably competent to perform governing roles in the schools?

RQ3: Does the competence to perform managerial roles in schools, expressed by the level of FL, vary across teachers' profiles according to the identified determinants - their gender, teaching experience, location, level of formal education and subject they teach?

3. METHODOLOGY

In order to provide answers to the research questions, the survey about teachers' FL competences and subsequently, their capability to undertake management positions, was conducted. The research was organized by the University of Belgrade and Serbian Ministry of Education. The research instrument was published on the e-platform of the Ministry of Education and principals of all primary schools in Serbia were informed and asked to invite teachers in their schools to complete the e-questionnaire. Therefore, the representatives of the whole population of 3,370 primary schools in Serbia (Republički zavod za statistiku Srbije, 2018), with approximately 71,000 employed teachers, were contacted. The data collection period lasted four weeks, from mid-May to mid-June 2017. During that period principals were contacted twice to invite and remind teachers to complete the questionnaire. Teachers were reassured that their participation in the research was voluntary, that non-participation would not

result in any negative consequences and that the data were collected anonymously. At the end of the research period, it was determined that a total of 954 primary school teachers (grades 1-8) had participated in the survey.

In the data analysis procedure, the first dependent variable, teachers' FL competences, was composed of 3 sub-variables and measured through respondents' answers to questions about their familiarity with FL as a concept, their self-evaluated knowledge about FL and related concepts and their opinion about importance of training for teachers in the fields of management and FL. Self-reporting was used, as according to the CMT theory, individuals' perception of their proficiency influences motivation and level of mastery in a specific field.

The second dependent variable, teachers' motivation to improve FL competences, was measured through answers to questions about the time they are ready to invest in the improvement of the subject competences and their preferred ways of motivation for this additional education (5 options, "financial gain", "points awarded for additional education"; "free seminars/trainings"; "free teaching materials"; "support in organizing projects for students"). It should be noted that in Serbia, teachers are awarded points for additional education. In order to secure their employment and/or promotion, they need to gain 100 points over the course of five years. Various additional education activities grant different number of points; hence the teachers are mostly interested in those opportunities that enable them to get the highest number of points in the shortest period. This stimulus (points) and financial gain were considered extrinsic motivators, as they bring evident rewards, while free seminars and teaching materials, possibilities to apply the learned in the teaching practice and projects for students,

are considered intrinsic motivators. The detailed description of the independent and dependent variables is provided in the Appendix 1.

According to the nature of variables and their predicted relations, data analysis techniques used for answering the research questions include: linear and multinomial regression for RQ1, cluster analysis for RQ2 and multinomial regression for RQ3. Further details are provided in the next section.

4. DISCUSSION OF THE FINDINGS

For the purpose of analysing *RQ1*, both dependent variables (teachers' FL competences and motivation to improve them) were cross-tabulated with all independent variables. A regression model that contains all predictor variables was tested (teacher's gender, teaching experience, location, level of formal education and subject they teach). However, the models that include only the variables with statistically significant effects were retained.

The linear regression has revealed that teacher's self-reported knowledge about management and FL has only one statistically significant predictor: subject taught (Model's $R^2=0.007$; $F=6.5$; $\text{Sig.}=0.01$). The predicted value of knowledge about FL for teachers teaching social sciences is 0.074 times lesser than for those who teach subjects other than STEM or social sciences. This supports findings of previous studies (Way and Holden, 2010; Walstad et al., 2010) that teachers with educational background related to STEM have fuller understanding of FL and higher competences for financial education. On the other hand, the results have not provided any support to

findings of previous studies related to influence of individual's age (Finke et al., 2010; Lusardi et al, 2010; Lusardi & Mitchell, 2014), location (Fornero & Moticone, 2011; Backmann, 2013) or level of education (Lusardi et al, 2010; Walstad et al, 2010; Way & Holden, 2010) on their level of FL.

By using the same type of analysis (linear regression), it has been established that the only significant predictor for teacher's motivation to engage in further development of FL competences is gender (Model's $R^2=0.005$; $F=5.2$; $\text{Sig.}= 0.023$). Predicted value of teacher's motivation for male respondents is 0.258 lesser than for female respondents. This result can be related to findings of Lusardi and Mitchell (2014) who have found that male respondents achieve better results in personal financial management than the female ones. Therefore, it might be worth exploring the influence of the level of perceived FL competences on motivation for further development of these competences. We could postulate that male teachers demonstrate less motivation for further training as they already feel knowledgeable and confident.

Teacher's preferences towards certain motivation enhancers are also influenced only by the gender of respondents. According to this model, based on multinomial regression, female teachers have: three times less chances to be classified into the group that prefers financial stimuli than into the reference category (the group that prefers support in organizing projects for students) ($\text{Sig}=0.00$, $\text{Exp (B)}=0.319$); 2.37 less chances to be classified into the group that prefers free training material than into the reference category ($\text{Sig}=0.025$, $\text{Exp (B)}=0.21$) and 2 times less chances to be classified into the group that prefers free trainings than into the reference category ($\text{Sig}=0.026$, $\text{Exp (B)}=0.475$).

Hence, the answer to the Research Question 1 is the following: The subject they teach might be used as a predictor of teachers' FL competences and gender as a predictor of their motivation to develop those competences.

Data analysis related to RQ2 was focused on evaluating the feasibility of classifying teachers into different groups, according to their FL competences and motivation for further development of those competences. Based on five original variables related to knowledge and motivation (familiarity and knowledge about FL; perceived importance of financial education; motivation and preferred stimulus for further education in this field), the cluster analysis is performed (K-means Cluster procedure in SPSS was applied) and all teachers are classified into four groups (Table 1).

Hence, the answer to the Research Question 2 is the following: Yes, the current levels of FL competences and motivation for their further improvement could be used to distinguish four types of teachers variably competent to perform governing roles in the schools.

Teachers in the first cluster, named *Leaders* are considered to have the greatest potential for performing managerial roles in schools. Their familiarity and self-evaluated knowledge about FL are higher than of teachers in other clusters. Their perceived importance of financial education is on significantly high level as well. This is also the only group which prefers intrinsic motivators (free of charge teaching materials) to extrinsic ones and it is ready to invest significantly more time (6-8 hours per month) than other teachers into additional

Table 1. Identified clusters and their characteristics

Independent variables	Clusters			
	1 – Leaders <i>Readers are leaders</i>	2- Slackers <i>Slackers aren't slackers</i>	3 – Earners <i>Learners are earners</i>	4 – Sleepers <i>Sleepers aren't builders</i>
Familiarity with FL (1-Heard, 0- Never heard)	0.83	0.78	0.71	0.73
Lack of teachers' education perceived as a relevant obstacle for introducing FL and entrepreneurial education into schools (1 – Not important at all, 5 –Very important)	4	5	4	2
Self-evaluated knowledge on FL (1-Very poor, 5 –Excellent)	4	3	3	3
Preferred stimulus for further FL and management education (options: financial gain; points for additional education; free seminars/courses; free teaching materials; support in organizing projects for pupils)	Free teaching materials	Points for additional education	Financial gain	Points for additional education
Time willing to invest monthly in further education on FL and management (options: none; up to 2 hours, 2-4 hours, 4-6 hours, 6-8 hours, more than 8 hours)	4-6 hours	none	up to 2 hours	none
Number of cases in a cluster	223	213	277	212

education on FL and management. The characteristics of teachers in this group are compatible with those highlighted by Nedzinskaitė and Barkauskaitė (2017) who pointed out that well-trained and motivated teachers are necessary for successful performance of the schools, i.e. they may be the best candidates for managerial positions in schools.

The teachers from remaining three clusters are all characterized by the high level of familiarity with FL and average self-proclaimed knowledge about it. Nevertheless, they differ according to other characteristics. The cluster called *Slackers* is considered to be rather controversial. They perceive the lack of appropriate teachers' training as the most important obstacle for introducing financial education to schools and their preferred motivator is extrinsic – points gained for additional education, securing teaching position and promotion. However, these teachers state that they are not willing to invest any time in their own education and training.

The largest cluster of all, named *Earners* includes teachers who perceive lack of training as a very important obstacle for introduction of financial education to

school programme, and hence they are willing to invest time in training, but not more than two hours monthly. Expectedly, they would prefer to get extrinsic stimulus in form of financial support.

Finally, the fourth cluster – *Sleepers*, are teachers who neither consider teacher's training to be important nor they are willing to invest any time into it. However, they would consider it to gain points for additional education. The lack of (intrinsic) motivation of *Slackers*, *Earners* and *Sleepers*, might be caused by a lower level of their perceived proficiency in FL (their self-proclaimed knowledge about FL is on the average level), which is consistent with the results of the mentioned previous studies (Deci et al., 1981; Miserandino, 1996; Hayamizu, 1997; Davies et al., 2015).

Additionally, in order to establish whether clusters differ according to other characteristics, bi-variant relations of clusters and each independent variable were tested. The results showed that clusters differ only based on the subject taught – there are more teachers from the STEM field within Leaders than predicted by the model, which is consistent with the findings of previous studies (Way &Holden, 2010;

Table 2. Effect of the subject taught on distribution of teachers into identified clusters

		Clusters				Total	
		Leaders	Slackers	Earners	Sleepers		
Field of subject taught	STEM	Count	79	55	65	53	252
		% within Cluster	35.4%	26.2%	23.6%	25.1%	27,4%
	Social Sciences	Count	132	134	192	146	604
		% within Cluster	59.2%	63.8%	69.6%	69.2%	65,7%
	Other	Count	12	21	19	12	64
		% within Cluster	5.4%	10.0%	6.9%	5.7%	7,0%
Total		Count	223	210	276	211	920
		% within Cluster	100%	100%	100%	100%	100%

Pearson Chi-Square=13.906, df=6, Sig.=0.31

Walstad et al., 2010). All other independent variables are distributed within clusters according to predictions (Table 2).

The aim of the final part of the analysis, related to *RQ3*, was to test the effects of original independent variables/predictors (teacher's gender, level of education, duration of employment; subject taught and location of the school) on distribution of teachers into identified clusters. In order to discover these effects, multinomial regression was employed, while belonging to the cluster was treated as a dependent variable. The analysis has revealed that teacher's gender and level of education, as well as location of the school have a statistically significant effect on the dependent variable. Further analysis (parameter estimates) showed that the correlation of a higher level of teacher's education and chances to be classified into a specific cluster was higher for Leaders than Sleepers taken as a referent (Sig=0.02, Exp (B)=1.486). It also showed that female respondents had 1.8 times more chances to be classified into Leaders (Sig=0.012, odds ratio=1.773) and 1.6 more chances to be classified into Earners (Sig=0.030, odds ratio=1.587) than into Sleepers. Therefore, female teachers are usually classified into Leaders, occasionally in Earners, then in Slackers and rarely in Sleepers. The analysis has also shown that teachers located in the capital – Belgrade, have 3 times less chances to be classified into Slackers, compared to Sleepers (Sig=0.011, Exp (B)=0.289).

Hence, the answer to *RQ3* is: Yes, the competence to perform managerial roles in schools, expressed by the level of self-assessed FL competences, may vary across teachers' profiles according to their gender and the level of formal education, as well as the location of the school.

5. CONCLUDING REMARKS

5.1. Theoretical implications

There is a significant body of literature in psychology, human resources management and sociology which highlights the central role played by intrinsic motivation in many social and economic interactions. Experts from these fields argue that explicit incentive schemes may sometimes backfire, especially in the long run. Benabou & Tirole (2003) called attention to the fact that this side of social psychology has been largely neglected by economists. Thus, the present paper represents an attempt to reconcile the views of economists and psychologists. Therefore, this research is underpinned by the Competence Motivation Theory (CMT) introduced to a new context of education management as a framework for understanding primary school teachers' capacities for managerial positions in the educational institutions, based on their level of financial literacy.

CMT serves as the ground theory for most of the research on drivers of the various actors to achieve established goals and it has been used in diverse contexts, from classroom to the workplace (Ryan & Deci, 2000; Benabou & Tirole, 2003). It explores how extrinsic and intrinsic motivators affect individual's willingness to exploit their career potentials, based on the person's obtained level of knowledge in the specific field.

In line with the CMT conclusion that the perceived competence is integrally related to intrinsic motivation in the same domain (Harter, 1981), our study suggests that the teachers who have the highest perceived competence related to FL, are those who are motivated by intrinsic motivators (the group of *Leaders*). At the same time, those whose motivation is lower and

of extrinsic nature (*Slackers, Earners and Sleepers*) have the lower perceived proficiency in FL. Furthermore, consistent with the findings of previous studies (Deci et al., 1981; Miserandino, 1996; Hayamizu, 1997; Davies et al., 2015), teachers who have higher confidence in their own abilities and perceive their capabilities to match the requirements of the position they hold appear to be more prone to devote further efforts to master the task (European Commission, 2013; Davies et al., 2015). Therefore, this paper emphasizes the importance of intrinsic motivation as an important prerequisite for the competent management of the school in the contemporary market conditions. Modern environment, in which schools operate, requires constant learning, informing oneself about and adapting the managerial structures, which is, as our study suggests, closely related to the type of the motivation that drives a person towards management positions.

Findings of our research offer potential contribution to previous studies about determinants of management capabilities, by providing additional evidence of the relevance of the subject taught for the leadership (Snaebjornsson et al., 2015; Walstad et al., 2010). Namely, by looking at the level of financial literacy as a proxy of managerial potential of teachers, results indicate that that teachers with educational background in the STEM field have fuller understanding of FL, higher competences for financial education and for governing educational institutions, which is in line with the previous research of Way & Holden (2010) and Walstad et al. (2010).

5.2. Managerial implications

Our research offers preliminary insights for practitioners in the field of human resources management and management of educational institutions, related to

the process of recruitment and selection of candidates for the managerial position in schools, based on the candidate's personal potential for these roles. In the study, less than a quarter of respondents (i.e. Leaders) expressed willingness for lifelong learning, enhancement of their competences and intrinsic motivation for proceeding in their career path. This group of teachers is distinctive in terms of gender, subject taught and the level of education. Without intention and ambition to provide the list of the criteria for the selection of school principals, we would like to draw attention to the findings of this study, as they offer interesting preliminary insights. Our findings imply that female teachers with higher level of formal education in the STEM field have higher perceived (self-assessed) competences related to FL and are more intrinsically motivated to improve those competences and achieve mastery. Even though these findings are supporting the conclusions of previous studies (Mahdavi & Horton, 2014; Way & Holden, 2010; Walstad et al., 2010), they should be carefully explored further, given the limitations of this research described in the following section. Regardless the limitations, our findings indicate that teachers with specific characteristics might be equally suitable for managerial functions in schools, as the professional managers.

The findings also indicate the importance of the municipality in which teachers work for their perception of potential to teach FL and management-related topics. Namely, teachers from the capital are significantly more doubtful in their own and peers' competences to deliver lessons on FL and management to students. Even though this result may appear opposite to conclusions of the observational learning theory (Bucher-Koenen & Lusardi, 2011), it can also suggest that teachers in more developed regions have a higher awareness of the

variety of competences that FL and management comprise, precisely due to their observations and experience typical for the more developed regions. Consequently, policy makers should take this into account when formulating legislation and tests for school principal's license. Thus, preparatory trainings for the principal licensing exams should be adjusted to participants coming from the capital and from other regions, to ensure the same degree of the FL and management topics awareness. The additional opportunities should also be provided to teachers, in terms of support and raising their self-confidence, after the course completion and obtainment of the license.

6. LIMITATIONS AND DIRECTIONS FOR FURTHER RESEARCH

Although this study draws on a large, cross-sectional dataset and identifies important determinants of teachers' potentials for governing roles in schools, future research should address several issues. First, as in other studies (e.g. Benabou & Tirole, 2003), teachers were not directly asked about their aspirations and motivators (where responses were likely to be biased due to social desirability) for performing managerial roles. However, their professional ambitions are likely to be important determinants of their career development.

Moreover, given the scope and provisions of the Ministry's permission required to conduct this research, the study investigated a limited number of determinants. Without these constraints, a more

comprehensive view could be established. In this study, the managerial potentials of primary school teachers are expressed by a proxy, financial literacy. Instead, a more comprehensive set of managerial competences of teachers should be measured to provide a more detailed insight into how the individual and contextual determinants affect their managerial potentials. Therefore, this study needs to be supplemented by further research. It would also be fruitful to analyse the degree of the exploited managerial potential amongst teachers, considering how this may relate to the type of their dominant motivation (intrinsic vs. extrinsic) and vary across demographic and socio-economic groups. Finally, longitudinal data charting changes in educational status, motivation drivers and career path would be informative.

Findings of this study also inform about some directions for further research. Namely, gender was found to be a predictor for teachers' motivation to engage in further development of their FL competencies. This result can be related to findings of Lusardi and Mitchell (2014), who have found that male respondents achieve better results in personal financial management than the female. Therefore, it might be worth exploring the influence of the current level of perceived FL competences on motivation for further development of these competences. We could postulate that male teachers demonstrate less motivation for further training as they already feel knowledgeable and confident. Teacher's preferences towards certain motivation enhancers seem to be also influenced by the gender of respondents, which could be explored further.

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APPENDIX I Description of variables and their items

In the data analysis procedure, the first dependent variable, *teachers' FL competences*, was composed of 3 sub-variables and measured through respondents' answers to questions about their familiarity with FL as a concept (Have you previously heard of FL? – binary variable, yes/no answers), their self-evaluated knowledge about FL and related concepts (What is your level of knowledge about FL and concepts related to it? – 5 point scale) and their opinion about importance of training in the field of management and FL (To what extent is introduction of FL and entrepreneurial education in school programme obstructed by the lack of appropriate teachers' knowledge and skills? – 5 point scale).

The second dependent variable, *teachers' motivation to improve FL competences*, was measured through answers to questions about the time they are ready to invest (How much time are you ready to invest monthly in the improvement of your FL competences? – 6 point scale: “not at all”, “up to 2 hours”, “2-4 hours”, “4-6 hours”,

“6-8 hours”, “more than 8 hours”) and their preferred ways of motivation for this additional education (5 options: “financial gain”, “points for additional education”; “free seminars/trainings”; “free teaching materials”; “support in organizing projects for pupils”).

The list of independent variables included: binary variable – teacher's gender (male/female); categorical variables: subject taught (3 categories: “science, technology, engineering and maths” – STEM, “social sciences” and “others” (teachers of grades 1-4, teachers of arts, physical education, etc.)), and location of school (4 categories; capital, cities with more than 100,000 inhabitants, towns with 30,000-100,000 inhabitants, other settlements) and ordinal variables: teaching experience (6 categories; less than a year, 1-5 years, 6-10 years, 11-15 years, 16-20 years, more than 20 years) and level of education (3 categories: college, undergraduate studies, post-graduate education (Master or PhD)) of respondents.

KAKO PREPOZNATI POTENCIJALNE ŠKOLSKE LIDERE IZMEĐU NASTAVNIKA U OSNOVNIM ŠKOLAMA: TEORIJSKI OKVIR ZASNOVAN NA RAZINI FINANCIJSKE PISMENOSTI I OBLIKU MOTIVACIJE

Sažetak

U ovom se radu raspravlja o potencijalu nastavnika osnovnih škola za zauzimanje upravljačkih pozicija u školi. Razina financijske pismenosti se koristi kao proxy varijabla za menadžerski potencijal (menadžerske kompetencije). Korištenjem teorije kompetencijske motivacije, autori pretpostavljaju da viša razina percipiranih kompetencija u području financijske pismenosti istovremeno podrazumijeva i višu razinu intrinzične motivacije za ovladavanje menadžerskih područjem. Stoga se percipirane kompetencije nastavnika i tip njihove motivacije, uz skupinu pojedinačnih i kontekstualnih odrednica, određeni prethodnim istraživanjima, smatraju značajnima za izradu teorijskog okvira, koji ukazuje na

potencijal nastavnika za zauzimanje ravnateljske pozicije. Teorijski se okvir oslanja na podatke, prikupljene anketom 954 nastavnika osnovnih škola u Srbiji te na statističku analizu, u kojoj su korištene linearna i multinomijalna regresija te analiza klastera. Rezultati istraživanja pokazuju da se nastavnici mogu grupirati u četiri skupine, s različitim menadžerskim potencijalom. Klasteri se formiraju u skladu sa spolom nastavnika, predmetom kojeg podučavaju, lokacijom škole, razinom obrazovanja te tipom motivacije (ekstrinzičnom ili intrinzičnom).

Ključne riječi: *teorija kompetencijske motivacije, financijska pismenost, menadžment, osnovne škole, ravnatelji, nastavnici*