

Teachers' Optimism and Self-Regulation as Predictors of Readiness for Professional Development

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Abstract

This research examines the relationship between teachers' optimism/pessimism, primary and secondary control, and readiness for professional development in primary and secondary schools in Serbia. A total of 284 teachers participated in the study (82% female, $M_{age}=42.58$, $SD_{age}=9.40$), with an average of 17 years of teaching experience, and filled out the Teachers' Readiness for Professional Development Scale (RPD-Ts), the Optimism/Pessimism Scale (O/P), and the Primary and Secondary Control Scales (PSC). Optimism and Pessimism represent significant predictors of Primary ($F(2,277) = 36.12$, $p<.01$) and Secondary control ($F(2,277) = 23.76$, $p<.01$), with Optimism ($\beta = .388$) and Pessimism ($\beta = -.119$) as individual predictors of Primary control, and Pessimism ($\beta = .335$) as an individual predictor of Secondary control. Results of multiple regression analyses show that Primary and Secondary control, Optimism and Pessimism represent significant predictors of four intrinsically oriented subscales of teacher's readiness to develop professionally, and one subscale of extrinsically oriented motivation. Primary control and Optimism stand out as the strongest individual predictors of intrinsically motivated readiness to develop professionally, while Secondary control and Pessimism have the strongest predictive effect on extrinsic motivation for professional development.

Keywords: teachers, optimism, pessimism, primary and secondary control, readiness for professional development.

Introduction

In line with the concordant view of education experts, skilful teachers are the crucial factor in high-quality education (Yoshikawa et al., 2015). In recent years, the emphasis has

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been on having a 'high-quality teacher' in the contemporary classroom; one who is flexible, creative, and self-regulated. With these individual characteristics, 'high-quality teachers' have an individual approach to every learner and enable them to develop personally, become emancipated, learn independently and continuously, rather than transmit 'ready-made knowledge' to their learners (Van der Heijden et al., 2015). For teachers to be able to develop students' lifelong learning skills, the teachers themselves need to be oriented towards lifelong learning, i.e. professional development. Teachers' professional development is related to teachers' cognition, attitude, and professional identity, as well as orientation towards students, and pedagogical knowledge and skills (Kyndt et al., 2016; Vangrieken et al., 2017).

So, what makes a teacher ready to engage, and persevere in professional development during their career span? Is the answer in the social circumstances, or does it lie within i.e., in a teacher's personal traits and self-regulation mechanisms? Earlier research focused on investigating the effect of external factors on a teacher's professional development, such as the effect of motivational climate, leadership styles in institutions, accessibility of education and programs for further professional development, and wider social circumstances (Beara & Jerković, 2015; Daniels, 2017; Dickhäuser et al., 2021; Zhang et al., 2021). But even though external factor has a significant role in professional development, there is a need to examine and study how internal or psychological factors influence professional development and, more precisely how they may affect teachers' readiness to develop professionally.

Optimism and self-regulation are concepts that have been increasingly researched since the mid-eighties, and they fall under the related paradigm within the investigations into job motivation and achievement. As positive psychology gains more attention, investigation of optimism and self-regulation as factors for improving health and well-being (Carr et al., 2021; Helzer & Jayawickreme, 2015), but also teachers' professional commitment (Hong, 2016) and self-efficacy (Ghonsooly & Ghanizadeh, 2013) became more important.

Primary and secondary control in self-regulation

Self-regulation can be viewed as a multidimensional construct, that includes behaviours such as inclinations guiding someone towards a goal, i.e. inclinations that support the preservation of an individual's actions towards their integrated self-image (Lacković-Grgin, 2006); or as the ability to manage, activate, regulate and persevere with one's own behaviour, cognition and emotions (McClelland, et al., 2018). Further, those abilities are a response to internal or external cues for the person to attain personally relevant goals (Moilanen, 2007).

Even though self-regulation and self-control have some similarities, and in some way intervene, self-regulation represents an outgrowth of self-control (McClelland, et al., 2018), or more precisely, as Heckhausen and Schulz see it in their life-span theory of control, the concepts of primary and secondary control have a central role and represent self-regulatory mechanisms (Heckhausen, 2018). Heckhausen and Schulz (1995) define

primary control as a process that 'targets the external world', i.e. as 'attempts to achieve effects in the immediate environment' (Heckhausen & Schulz, 1995, p. 285), underlining both direct action (e.g. attempts to solve a problem) and cognitions (e.g. creating an action plan), whose main goal is a change of the environment external to the self. The authors define *secondary control* as a process that 'targets the self and attempts to achieve changes directly within the individual' (Heckhausen & Schulz, 1995, p. 285), whereby this type of control primarily employs cognitive mechanisms and processes within the individual (e.g., defence mechanisms in the event of failure), and some activities helping the individual to maintain self-esteem.

These two sub-processes are frequently intertwined in such a way that an individual 'switches on' one or the other depending on the situation, which would be desirable in terms of adaptive behaviours. Both primary and secondary control strategies are "good" – and individuals can shift between them where preferred strategies vary as stressors and individual constraints change (Haverstock et al., 2020).

Teachers' behaviours toward professional development arising from primary control would be setting goals of personal development, drawing up plans with a view to attaining the set goals, persisting in the realisation of the planned activities, deciding on appropriate strategies, keeping a record of one's own development, modifying one's steps with the aim of enhancing efficiency, implementing the acquired, and evaluating its effects. These behavioural strategies prevail in the case of primary control (selective and compensatory), which is why primary control may be characterised as behaviour-oriented (Hamm et al., 2013). For example, a teacher wishing to increase their own competences in devising and implementing an individual education plan for a student who needs additional educational support, will attend a workshop on inclusive education, seek further reference books and good practice examples, implement the acquired, then check the effects through self-evaluation or horizontal (peer) evaluation with their colleagues who also implement individual educational plans and employ their approach in case of inadequate results (Beara, 2012).

In the context of professional development, secondary control may be manifested in two basic forms, which can be viewed as 'cognitive' strategies (Hamm et al., 2013):

a) *Selective secondary control* – setting and focusing on goals. From a myriad of potential goals, a person singles out a goal and puts in sufficient effort and energy for its achievement. This aspect of secondary control directly supports primary control by managing its selectivity. The teacher from the previous example, i.e. the one who wishes to draw up an individual education plan and put it into practice successfully, would use selective secondary control by avoiding distractors and discouragement coming from their colleagues, strengthening positive representations of the gains that will be achieved once they attain their goal ('I will be very successful in helping children with learning difficulties, the children will progress, their parents will be pleased, my work will be a good practice example'), as well as strengthening their personal sense of control ('I can do it and will manage it'). These cognitive manoeuvres may sustain the teacher's perseverance to reach their goal and master the employment of appropriate teaching methods for children with learning difficulties (Beara, 2012).

b) *Compensatory secondary control*: compensations for failure and difficulty, in cases when primary control falls through. This type of secondary control functions as a self-protective strategy in case the goal is not achieved. For example, the above-mentioned teacher with a goal to become skilled at working with children with difficulties, in case of a failure may reason (with the aim of preserving their self-image), that mastering those skills is not of crucial importance to their work, or to others. In that way, they can now direct themselves towards some other goals, such as mastering classroom management skills. These self-regulation strategies may also be viewed as predominantly cognitive.

Based on the definitions provided above, we define self-regulation as *the ability to control and regulate one's own cognitions, emotions and actions which guide the teacher towards a certain professional goal, i.e. give support to the preservation of the individual's actions in the process of lifelong professional development*, and operationalise it through *measuring primary and secondary control in the event of failure to achieve goals connected with professional development*.

Optimism, pessimism and self-regulation

Dispositional optimism, conceived as a tendency towards positive outcomes in various life areas, is significantly correlated with applying adequate self-regulation strategies such as making plans and setting goals (Segerstrom et al., 2017), as well as psychological and physical well-being across the lifespan (Mens et al., 2016). Studies investigating the relationship between dispositional optimism and pessimism and control strategies (primary and secondary) are not numerous. For example, Wrosch and Scheier (2003) found that optimists are more persistent in their efforts to reach their goal and more willing to seek various modes and ways of reaching their goal (primary and secondary selective and primary compensatory control). The optimists would be more inclined to give up their objective when faced with unfulfilled goals, since they would have more confidence in their abilities to find an alternative aim, and thus direct their efforts towards achieving the alternative aim (Wrosch & Scheier, 2003). A significant positive correlation was found between pessimism and secondary control, whereas the correlation between primary control and pessimism was significantly negative (Lacković-Grgin et al., 2001). More recent research showed that optimism is associated with a higher perceived internal locus of control and thus more adaptive self-regulation (Renaud et al., 2019).

Research objectives

The main objective of this research is examining relationships between optimism/pessimism, and primary and secondary control, and teachers' readiness to develop professionally. In line with results obtained from previous research, we assume that primary and secondary control will be significantly correlated with readiness to develop professionally, as well as with optimism and pessimism. Furthermore, we assume that optimism and pessimism will be significant predictors of primary and secondary control, and that primary and secondary control with optimism and pessimism will be significant predictors of teachers' readiness to develop professionally.

Sample and procedures

The stratified random sample of teachers from primary and secondary schools in Serbia was defined. The questionnaires were distributed to teachers via school psychologists, during the school year of 2011. Every participant had previously signed the informed consent document, where the research purpose was explained. Participation in the study was voluntary and anonymous. The study recruited 284 primary and secondary school teachers in total from the territory of the Province of Vojvodina, Serbia, aged from 23 to 63 ($M=42.58$, $SD=9.40$) with an average of 17 years in teaching. The sample consisted of 18.1% male and 82.9% female participants, which is an adequate representation of the gender disbalance in the teaching profession in Serbia.

Instruments

Teachers' readiness for professional development scale – RPD-Ts

This instrument was developed based on the previously created instrument for measuring teachers' readiness for professional and horizontal development (Beara, 2006). Initially there were 35 items, but after determining the psychometric properties of the scale, the final scale consists of 17 items with good psychometric properties ($\alpha = .83$). Further, the results of factor analysis (principal component analysis, oblique rotation Promax) propose a five-factor structure that explains 60.19% of the variance: External motivation for professional development (4 items, $\alpha = .70$; item example: 'I'm ready to develop professionally because I'm expected and required to do so'); Awareness of the importance of development for the teaching profession (4 items, $\alpha = .72$; item example: 'The teaching profession requires constant professional development'); Awareness of the importance of development for quality teaching (reversed coding, 3 items, $\alpha = .67$; item example: I believe that I would be a successful teacher even without additional training); Keeping up with modern developments (3 items, $\alpha = .60$; item example: I keep up with the development of modern teaching methods.); Self-initiated development (3 items, $\alpha = .63$; item example: I have set goals and created a personal professional development plan.). Five-point Likert scales was used. The score for each subscale is calculated as the sum of items divided by the number of items.

Optimism/Pessimism Scale (O/P)

Optimism/pessimism are treated as dispositional traits, generalised anticipation of positive/negative outcomes of an activity, and as relatively separate and stable personality traits (Chang, 1998; Penezić, 2002). Chang's O/P scale, which reliably measures these two separate dimensions (optimism and pessimism), was adapted for the Croatian sample used by Penezić (2002). The Croatian version of the O/P scale represents a translation of Chang's fifteen-item scale, out of which 14 items were kept, 6 for assessing optimism ($\alpha = .75$) and 8 for assessing pessimism ($\alpha = .75$) (Penezić, 2002). We adapted the scale for

our Serbian sample and obtained the same factor structure with good reliability characteristics ($\alpha = .69$ for the optimism factor; $\alpha = .84$ for the pessimism factor), with obtained significant negative correlation between the scales ($r = -.49$), which suggests that these are rather two independent dimensions. Five-point Likert scales was used for measuring participants' level of optimism and pessimism. Item examples from the optimism scale: I always look on the bright side of things; When I start something new, I expect success. Items examples from the pessimism scale: If something can go wrong, it will; It is better to expect failure: you are less shaken when it happens. The score for each subscale is calculated as the sum of items divided by the number of items.

Primary and Secondary Control Scales (PSC)

The original scale for measuring primary and secondary control in our study has been adapted for assessing self-regulation in teachers' professional development. Primary control has been defined as agency towards the world, changing the world (Lacković-Grgin et al., 2001), which in our context would mean that this scale measures the ways in which teachers adapt their surroundings to their professional goals. The secondary control scale measures the construct of 'accommodation to the environment', i.e. 'adapting the self to the world' (Lacković-Grgin et al., 2001), which in our research would entail modified adjustment to failures in their professional aspirations.

The original primary and secondary control scales include basic instructions requiring the participants to read the given list of people's responses when they cannot achieve some goal. The primary control scale consists of 23 items (item example: I organise my time well, I learn new skills, I tend to keep up with the activity, etc.), measuring primary control mechanisms, while the secondary control scale comprises 15 items indicating secondary control (item example: I aspire to something I cannot achieve, I pursue other goals, I do something else, I believe I can do without it, etc.). The same factor structure was obtained with our sample with good reliability characteristics ($\alpha = .90$ for primary, and $\alpha = .86$ for secondary control). Five-point Likert scales was used for measuring participants' level of primary and secondary control. The score for each subscale is calculated as the sum of items divided by the number of items.

Data Analysis

To determine the relationships between optimism, pessimism, primary and secondary control and subscales of teacher's readiness to develop professionally, correlation analysis was performed. For determining the predictive role of optimism and pessimism in primary and secondary control, regression analysis was performed for primary and secondary control as criteria variables. To further examine the relationships between primary and secondary control, optimism and pessimism, and teachers' readiness to develop professionally, several regression analyses were conducted where primary and secondary control, and optimism and pessimism were predictors, and each subscale of readiness to develop professionally criteria variables.

Results

As we can see in Table 1, teachers from Serbia achieve above theoretical average scores on optimism, the subscales of importance of development for the teaching profession, importance of development for quality teaching, keeping up with modern developments, self-initiated development, and both primary and secondary control.

Table 1
Results of descriptive statistics

	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Optimism	270	1.83	5.00	3.90	.587
Pessimism	256	1.00	4.25	2.06	.724
External motivation for professional development	276	1.00	4.75	2.08	.783
Importance of development for the teaching profession	279	2.25	5.00	4.20	.546
Importance of development for quality teaching	281	1.33	5.00	3.93	.787
Keeping up with modern developments	276	2.00	5.00	3.79	.672
Self-initiated development	270	1.33	5.00	3.86	.668
Primary control	260	2.61	5.00	4.04	.435
Secondary control	257	1.00	4.67	2.68	.614

The first goal of the study is to determine the relationships between optimism, pessimism, primary and secondary control and the subscales of teacher's readiness to develop professionally.

Table 2
Results of Pearson test of correlation between subscales of RPD-Ts, and scores on primary and secondary control, and optimism and pessimism

	1	2	3	4	5	6	7	8	9
1. Optimism	*								
2. Pessimism	-.470**	*							
3. External motivation for professional development	-.216**	.392**	*						
4. Importance of development for the teaching profession	.322**	-.278**	-.383**	*					
5. Importance of development for quality teaching	.236**	-.288**	-.457**	.412**	*				
6. Keeping up with modern developments	.335**	-.248**	-.101	.388**	.088	*			
7. Self-initiated development	.254**	-.212**	-.068	.285**	-.018	.381**	*		
8. Primary control	.481**	-.312**	-.210**	.326**	.233**	.341**	.363**	*	
9. Secondary control	-.261**	.409**	.369**	-.230**	-.234**	-.075	-.136*	-.127*	*

Note. * $p < .05$, ** $p < .01$

As we can see in Table 2, primary control is negatively correlated with external motivation for professional development, while it is positively correlated with all other factors. Secondary control displays an opposite tendency: the greater the secondary control, the higher the external motivation for professional development, whereas 'intrinsic' factors relating to readiness to develop professionally negatively correlate with secondary control. It is similar with optimism and pessimism. Optimism is positively correlated with intrinsic subscales of readiness to develop professionally, as well as primary control, and negatively correlated with external subscale of readiness to develop professionally, secondary control and pessimism. The opposite correlation can be observed with pessimism in focus. Higher optimism and primary control are correlated with higher intrinsic readiness to develop professionally, and the opposite in the case of pessimism and secondary control.

The second goal of the study is to determine the predictive role of optimism and pessimism in primary and secondary control.

Table 3

Results of regression analysis of optimism and pessimism as predictors of primary and secondary control

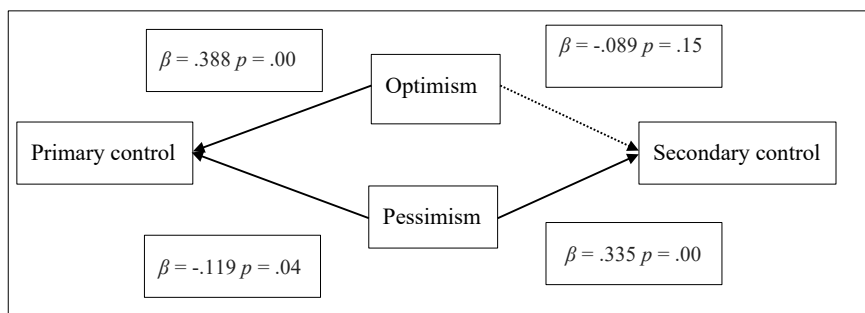
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F (2,277)	p
Primary control	.455 ^a	.207	.201	.37518	36.12	.000
Secondary control	.384 ^a	.147	.141	.54712	23.76	.000

Note. ^a Predictors: Optimism, Pessimism

Both optimism and pessimism represent significant predictors of self-regulation, more precisely they explain 20.7% of primary control, and 14.7% of secondary control of teachers (Table 3). The results show that both optimism and pessimism represent significant individual predictors of primary control, with optimism as a stronger predictor (Figure 1). Teachers who are more optimistic will be inclined to use primary control as a self-regulatory mechanism in their professional development. On the other hand, pessimism was singled out as an individual predictor of secondary control, which indicates that teachers who have a pessimistic viewpoint will more likely use secondary control as a regulatory mechanism in professional development (Figure 1).

Figure 1

Beta coefficients of optimism and pessimism as predictors of primary and secondary control



The third goal was to further examine the relationships between primary and secondary control, optimism and pessimism, and teachers' readiness to develop professionally.

Table 4

Primary and secondary control, optimism and pessimism as predictors of teachers' readiness to develop professionally

Model	<i>R</i>	<i>R</i> Square	Adjusted <i>R</i> Square	Std. Error of the Estimate	<i>F</i> (4,236)	<i>p</i>
External motivation for professional development	.444 ^a	.197	.185	.69854	17.020	.000
Importance of development for the teaching profession	.399 ^a	.160	.147	.50099	13.192	.000
Importance of development for quality teaching	.336 ^a	.113	.100	.74464	8.870	.000
Keeping up with modern developments	.390 ^a	.152	.140	.61559	12.462	.000
Self-initiated development	.372 ^a	.138	.126	.61014	11.146	.000

Note. ^a Predictors: Optimism, Pessimism, Primary control, Secondary control

As we can see in Table 4, both optimism and pessimism, as well as primary and secondary control represent significant predictors that explain between 11.3% and 19.7% of teachers' readiness to develop professionally.

However, to understand the nature of these predictor relations, it is necessary to determine which factors constituting teachers' readiness to develop professionally are predicted by these variables.

Table 5

Beta coefficient of predictor of teachers' readiness to develop professionally

Predictor	Dependent variable	β	<i>t</i>	<i>p</i>
Optimism	External motivation for professional development	.010	.155	.877
	Awareness of the importance of development for the teaching profession	.148	2.223	.027
	Awareness of the importance of development for quality teaching	.070	1.019	.309
	Keeping up with modern developments	.194	2.912	.004
	Self-initiated development	.080	1.181	.238
Pessimism	External motivation for professional development	.250	3.914	.000
	Awareness of the importance of development for the teaching profession	-.084	-1.287	.199
	Awareness of the importance of development for quality teaching	-.151	-2.252	.025
	Keeping up with modern developments	-.097	-1.484	.139
	Self-initiated development	-.049	-.746	.456

Predictor	Dependent variable	β	t	p
Primary Control	External motivation for professional development	-.098	-1.616	.107
	Awareness of the importance of development for the teaching profession	.207	3.351	.001
	Awareness of the importance of development for quality teaching	.125	1.968	.050
	Keeping up with modern developments	.214	3.443	.001
	Self-initiated development	.292	4.666	.000
Secondary control	External motivation for professional development	.249	4.274	.000
	Awareness of the importance of development for the teaching profession	-.126	-2.117	.035
	Awareness of the importance of development for quality teaching	-.134	-2.184	.030
	Keeping up with modern developments	.040	.660	.509
	Self-initiated development	-.058	-.955	.340

It was established through multiple regression analyses that primary control is a significant predictor of the subscales of Awareness of the importance of development for the teaching profession, Keeping up with modern developments, and Self-initiated development, intrinsically oriented subscales of readiness to develop professionally. On the other hand, secondary control is a significant predictor of External motivation for professional development and Awareness of the importance of development for quality teaching (negatively oriented correlation).

Pessimism is a significant predictor of External motivation for professional development and Awareness of the importance of development for quality teaching (negatively oriented correlation), and Optimism is a significant predictor of the subscale Keeping up with modern developments (Table 5).

Discussion

The obtained results indicate the important and intertwined relationship between self-regulatory mechanisms such as primary and secondary control, and psychological dispositions such as optimism and pessimism in teachers' readiness to develop professionally.

More precisely, primary control is positively correlated with all the intrinsic factors of teachers' readiness to develop professionally, and negatively with external motivation for professional development, while secondary control shows the opposite trend of correlation (Table 2).

A similar correlation trend can be observed when looking at optimism and pessimism (Table 2). Optimism is positively correlated with the intrinsic subscales of readiness

to develop professionally, and negatively correlated with the external subscale of readiness to develop professionally. The opposite correlation can be observed with regard to pessimism.

In line with previous research (Lacković-Grgin et al., 2001), pessimism and optimism are significantly correlated with primary and secondary control (Table 2) and represent significant predictors of these self-regulatory mechanisms (Table 3).

More precisely, optimism is a significant predictor of primary control, and pessimism of secondary control. Optimistic individuals are more persistent and tend to find alternative ways to achieve their goal, they see obstacles as challenges not as an inability to achieve a goal (Wrosch & Scheier, 2003), they are more likely to apply more adaptive self-regulation strategies such as making plans and setting goals (Segerstrom et al., 2017). In addition, since primary control may be interpreted as proactivity in the environment, it is reasonable to infer that greater assurance in positive outcomes of one's activities will lead onto the path of proactivity as well. Pessimism, on the other hand, was found to be a predictor of secondary control, which includes a mechanism for reducing a goal's value, giving up on goals that one cannot easily achieve and the like. The more we believe in negative outcomes of an activity, the less prepared we will be to persevere in our efforts, i.e. we will be inclined to apply secondary control instead of primary control strategies to 'explain' the failure to ourselves and minimise its effects. These results are in line with the theoretical standpoints and earlier research (Lacković-Grgin, et al., 2001; Segerstrom et al., 2017; Wrosch & Scheier, 2003).

How does this translate into teacher's readiness to develop professionally? The third goal of the study was to determine if primary and secondary control, and optimism and pessimism are predictors of teachers' readiness to develop professionally. The results of multiple regression analysis (Table 4) show that both regulatory mechanisms (primary and secondary control) and optimism and pessimism are significant predictors of five subscales of teachers' readiness to develop professionally. Primary control stood out in all intrinsically oriented subscales of teachers' readiness to develop professionally as the predictor with the greatest strength (Table 5). More precisely, teachers who use primary control will be more willing to develop professionally because they believe that professional development is important for them to be better teachers, but also because they believe it contributes to higher quality teaching. They will search for new methods and literature, show self-initiative in professional development. Primary control encompasses a selection of goals and procedures for their realisation, which are self-determined, i.e. they represent an exclusive agency of an individual, whereas external motivation for professional development actually 'denies' the individual their self-regulated power to a certain extent, since they conform to the expectations and objectives of others, not their own. This was expected since the higher the capacity and implementation of primary control in an individual is, the more capable they are of self-regulated professional development, i.e., the accomplishment of desired professional objectives.

Secondary control had a strong predictive effect on extrinsic motivation for professional development (Table 5). Teachers who use secondary control as a self-regulatory mechanism will see professional development as an obligation, something that they must

do - not to become a better teacher because of it, but to avoid punishment by an authority, to receive a reward or to fulfil obligatory conditions for licencing. Pessimism was also identified as a predictor of external motivation for professional development (Table 5). Pessimistically oriented teachers will tend to use secondary control as a protective strategy – to maintain their self-image, in the absence of belief in self-efficacy and the importance of personal development. As the level of pessimism rises, *External motivation for professional development* rises as well. Lack of it may in turn make professional development pointless and at the same time further reinforce their pessimistic view. Pessimism is also a good predictor of *Awareness of the importance of development for quality teaching* but negatively oriented, which would mean that more pessimistic teachers do not see the connection between professional development and the quality of immediate teaching, and do not take a further step, i.e. do not explore the purpose of professional development in terms of some 'higher' values, such as self-actualisation, professionalization, self-development.

Regarding the predictive 'power' of optimism and pessimism with regard to readiness to develop professionally, optimism and pessimism have been shown to be good, but with limited effect, predictors of teachers' readiness for professional development. Optimism is a significant predictor of the component *Awareness of the importance of development for the teaching profession* – the higher degree of optimism, the greater awareness of the importance of development for the teaching profession. Since some research (Beara, 2009; Beara & Muratović, 2022) has showed the achievement motivation component to be a significant predictor of the same component of readiness for professional development as well, we may infer that more optimistic teachers reflect on their profession and professionalization more, thus setting the goals that are vital for the enhancement of professionalism. This may be supported by the finding that optimism is also a significant predictor of the component *Keeping up with modern developments*, which points to a high level of self-regulation mechanisms in optimistic teachers, i.e. primary control, as determined in this study.

In view of practical implications for schools, we may say that more optimistic teachers who use primary control will aspire to develop professionally due to intrinsic motives, interest in the profession itself and its development, and will display a higher level of initiative and self-regulation. On the other hand, more pessimistic teachers who use secondary control will expect external motivation for professional development and will have a low awareness of the importance of professional development.

Bearing in mind the modest number of studies regarding self-regulation and teachers' motivation to develop professionally, this study represents one more step toward a better understanding of factors that have a significant impact on teachers' development, which in turn contributes to more quality teaching and a more adaptive atmosphere in the classroom.

Further research should investigate the mediating role of optimism and pessimism in the relationship between the self-regulation and motivation of teachers, and it should test for gender and age differences, as well as the effect of the institutional motivation climate on these factors. The limitation of this study is the predominantly

female population, even though this sample represents the gender ratio among teachers in Serbia, but it could have contributed to the results and should be considered. Also, these results represent a stepping stone for further research into today's teaching motivation in the post-Covid-19 era.

Conclusions and recommendations

Teachers exhibit a higher degree of agreement with the items on the primary control scale, in contrast to the items on the secondary control scale, which may imply that primary control is prevalent in the self-regulation of professional development. Primary control is a very strong predictor of all the factors constituting teachers' readiness to develop professionally, particularly the intrinsic ones. In other words, teachers who prefer primary control will simultaneously aspire more to self-initiated development, keeping up with modern developments, and will have developed awareness of the importance of professional development for the teaching profession and quality teaching, while at the same time relying less on external motivators for professional development. Secondary control is also an important factor among all the factors making up teachers' readiness to develop professionally, but in the reverse direction: greater secondary control calls for a greater presence of external motivating factors in professional development, and a lower presence of intrinsic factors. To sum up, the more teachers can employ primary control strategies, the more capable they are of self-regulating their professional development through internal factors. Nonetheless, the theory suggests that the link between performance goals and the employment of selective secondary control strategies is logically strong in the case of heightened levels of anxiety and a fear of failure, which are indicators of a perceived threat to teachers' goal pursuit (Hamm et al., 2013).

The importance of maintaining optimism in teachers has been confirmed by the finding that optimism is a significant predictor of primary control and readiness for professional development, whereas pessimism points to the increase of secondary control mechanisms, which again has a negative effect on readiness to develop professionally. A higher level of optimism predicts a higher degree of keeping up with modern developments, awareness of the importance of professionalization of the teaching job, all of which suggest a high level of self-regulation of professional development, i.e. primary control. Pessimism significantly predicts the extent to which teachers may rely on external motivators for professional development, as well as the importance of development for quality teaching, i.e., their day-to-day work with students. Lack of these motivators (e.g., salary increase, promotion, etc.) may additionally make professional development meaningless in the eyes of pessimistic teachers.

The central recommendation for the improvement of in-service training of teachers would be to provide teachers with ample opportunities to plan and guide their own professional development independently, by enabling them to employ primary control mechanisms more and preserve their dispositional optimism, as well as to respect their individual differences. This can be done without improving the economic conditions of the

teaching profession in Serbia, by reducing the external pressures on teachers and instead offering them thought-provoking and realistic challenges within the zone of proximal development, so that teachers may take greater responsibility for their success or failure and mobilise their own self-regulation mechanisms.

It may be said that teachers-optimists are dedicated to the development of their own professional competencies because they believe that they may be developed, thereby reaching a higher level of quality teaching and producing better effects in students (despite the difficulties), while teachers prone to dispositional pessimism might ('under coercion') work on their own professional development, mainly with a view to satisfying the minimum of externally imposed conditions, since they would actually doubt that anything can be changed in the quality of work and learners' achievement. Even when optimism and pessimism are considered personality traits, it is good to have in mind that personality characteristics are not necessarily fixed and unchangeable (Kuhl, 2018). In the light of everything stated and the results obtained in this study, Seligman's learned optimism idea (Seligman, 2006) appears fruitful, maintaining as it does that teachers and learners should be relieved of unpleasant emotions (such as fear of failure), and their capacity for primary control in self-regulated development should be enhanced. Some professional development programmes for teachers may thus aim to boost optimism in teachers.

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Optimizam nastavnika i primarna kontrola kao prediktori spremnosti za profesionalni razvoj

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Apstrakt

Ovo istraživanje ispituje odnos između optimizma/pesimizma nastavnika, primarne i sekundarne kontrole, i spremnosti za profesionalni razvoj u osnovnim i srednjim školama u Srbiji. U istraživanju je učestvovalo ukupno 284 nastavnika (82% žena, $M_{age}=42.58$, $SD_{age}=9.40$), sa prosekom od 17 godina nastavničkog iskustva. Nastavnici su popunjavali Skalu spremnosti nastavnika za profesionalni razvoj (RPD-Ts), Skalu optimizma/pesimizma (O/P) i Skale primarne i sekundarne kontrole (PSC). Optimizam i pesimizam predstavljaju značajne prediktore primarne ($F(2,277) = 36.12, p < .01$) i sekundarne kontrole ($F(2,277) = 23.76, p < .01$), pri čemu su optimizam ($\beta = .388$) i pesimizam ($\beta = -.119$) pojedinačni prediktori primarne kontrole, a pesimizam ($\beta = .335$) je pojedinačni prediktor sekundarne kontrole. Rezultati višestruke regresione analize pokazuju da primarna i sekundarna kontrola, optimizam i pesimizam predstavljaju značajne prediktore četiri intrinzički orijentisane subskale spremnosti nastavnika za profesionalni razvoj, i jedne subskale ekstrinzički orijentisane motivacije. Primarna kontrola i optimizam ističu se kao najjači pojedinačni prediktori unutrašnje motivisane spremnosti za profesionalni razvoj, dok sekundarna kontrola i pesimizam imaju najjači prediktivni efekat na spoljašnju motivaciju za profesionalni razvoj.

Ključne reči: nastavnici, optimizam, pesimizam, primarna i sekundarna kontrola, spremnost za profesionalni razvoj.