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Teachers' Competencies for Inclusive Teaching: Relation to Their Professional Development and Personality

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Abstract

It is of utmost importance for quality and contemporary education process to study the significant determinants of teachers' competencies for inclusive teaching, such as teachers' professional development and their personalities. In order to organize suitable and quality teaching and learning process for diverse learners, teachers need to board range of competencies, positive attitudes towards inclusive education, training preparation and professional development regarding their various personalities. Therefore, the aim of this study was to explore the relationship between teachers' competencies for inclusive teaching, professional development and personality traits, and which predictors of inclusive teaching skills are significant. The national representative sample of 1195 Croatian teachers (F = 975; M = 198; Age = 41.96) from first to eight grade were included. The Scales to measure self-perceived teachers' competencies for individualized instruction in inclusive classrooms and professional development as well as The Ten Item Personality Inventory were used.

The results reflect a positive relationship between teachers' competencies for inclusive teaching and professional competencies and personality traits, and those with their demographic data such as age, working experience and working position. The hierarchical regression analysis revealed that the greatest predictors for inclusive teaching competencies are professional competencies, while openness to experience and work position have minor significance. The findings have discussed within the frame of their significant implications for enhancing the initial and continuing training and support of teachers as the key strategies for the realization of an inclusive and right-based education system.

Keywords: competency, inclusive education, teachers, professional development, personality traits.

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1. Introduction

Inclusive education, as a global agenda in the 21st century education policy (e.g., Ainscow, César, 2006; Pijl, Meijer, Hegarty, 1997), is defined as an ongoing process of understanding, addressing and responding to the diversity of needs and abilities, characteristics and learning expectations (UNESCO, 2005). Contrary to traditional education in homogeneous classrooms, inclusive education refers to education in regular heterogeneous classrooms of diverse learners whenever it is beneficial for a child. Although this implies that regular schools are prepared to accommodate and meet the different needs of all diverse students, inclusive education is a *far-reaching notion that concerns all students* (Artiles, Kozleski et al., 2006). Teaching diverse learners in the inclusive classroom, as a platform to promote and protect the right to quality education for all children, is a complex task. It should be highlight that successful implementation of the inclusive policy into inclusive practice depends largely on teachers' competencies for inclusive teaching acquired during teacher education.

Teachers' competencies for inclusive teaching refer to a broad set of competencies needed in inclusive classrooms, from the ability to respond to the challenges of an increasing social and cultural diversity in classrooms to specific competencies of tailoring the curriculum to the individual learning needs of students with disabilities (e.g., Choi, Mao, 2021; Skočić Mihić et al., 2020; Skočić Mihić et al., 2014; Skočić Mihić et al., 2016). One of the most important descriptors of the set of competencies of inclusive teachers, classified in four key areas: *"valuing learner diversity, supporting all learners, working with others and continuing personal professional development"* (European Agency for Development..., 2012: 7).

The competencies of inclusive teachers are based on a positive attitude and belief towards inclusive education, appropriate knowledge or level of understanding of diverse learners and teaching strategies in inclusive classrooms and then skills implementation of the acquired knowledge in educational practice.

Teachers' attitudes towards inclusive education have been the focus of much research and positive attitudes have been confirmed (e.g., Avramidis, Kalyva, 2007; Beacham, Rouse, 2012; Campbell et al., 2003; Sze, 2009; Cook et al., 2007; de Boer, Timmerman et al., 2012; Malinen et al., 2012; Sharma, Sokal, 2015; Wilde, Avramidis, 2011), as well as teachers' readiness to accommodate the learning needs of diverse students (e.g., Kurniawati et al., 2014).

Teachers' knowledge about diverse learners and appropriate teaching strategies have been significantly less researched, unlike teacher self-assessments (e.g., Skočić Mihić, 2017; Martan et al., 2017; Skočić Mihić et al., 2021). Nevertheless, teachers perceive themselves generally insufficiently prepared for a quality response to diverse students with complex educational needs in regular classrooms (e.g., Avramidis et al., 2000a), as well as for the other aspects, such as collaboration with different stakeholders, parents, professionals and others in the educational context (e.g., Skočić Mihić et al., 2015, Skočić Mihić et al., 2019).

In the study by Avramidis et al. (2000b), a description of inclusive teaching skills is proposed in terms of the application of teaching strategies and the Individualized Educational Plan (IEP) and professional cooperation. Teachers require a specific set of competencies for individualized instruction, such as the skills to plan, conduct, and evaluate IEP. As IEP is oriented towards students' learning strength and needs, it is expected that the teaching process will maximize its independence and involvement in the learning process (European Agency..., 2012).

It should be pointed out that research is consistently showing a positive relationship between teachers' competencies for inclusive teaching and their professional development in this field (e.g., Avramidis et al., 2000a; Avramidis et al., 2000b; Skočić Mihić, 2017; Tatalović Vorkapić et al., 2019), and the role of teacher education in the development of appropriate attitudes and values, pedagogical knowledge and skills thought reflection on inclusive issues has been widely acknowledged (e.g., UNESCO, 2008; Skočić Mihić et al., 2016). Furthermore, the quality of the educational process (Brunello, Schlotter, 2011) is connected with teaching children "in and for diversity," which includes teaching them to live together based on democratic relationships and the development of values that promote cooperation, solidarity, and justice (Guijarro, 2008).

Generally speaking, teachers' personality presents an important psychological aspect of the quality process of teaching and learning, so that numerous studies have revealed which personality traits have proved to be the significant determinants in the educational context (Tatalović Vorkapić, 2012, Tatalović Vorkapić, 2015, Tatalović Vorkapić, 2017). Vasconcelos (2002) and

Milner (2010) have accentuated that precisely the teachers' personality will determine what kind of relationship and class climate will be created with a certain class or group of children, and that the teacher's personality matters in the educational process (Tatalović Vorkapić, 2015). However, there is a lack of reliable and objective studies about the teachers' personality within the process of teaching and learning in preschool, primary, secondary schools, or faculties (Tatalović Vorkapić, 2012; Vizek-Vidović et al., 2014). Therefore, it is important to explore teachers' personality traits as an educational determinant and as one of the major aspects within the definition of teachers' professional competence (e.g. Petrovici, 2007, Diaconu, 2002, Jinga, 1998). As Schuh and Jorgensen (2006: 21) emphasized, personality traits that should be an integrative part of a successful inclusion facilitator are: committed, flexible and open-minded, collaborative, respectful of other's viewpoints, creative, friendly, and optimistic. All of these personality features could be easily recognized within the five personality dimensions described in the Big Five personality model (Goldberg, 1990) that has been used in this study as the theoretical framework for exploring teachers' personality traits. The Big Five model, the most empirically tested theoretical model, postulates that human personality is hierarchically structured into five major dimensions: extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience. According to the descriptors of the five personality traits, high levels of extraversion, agreeableness, conscientiousness, and openness to experience, and a low level of neuroticism are expected among teachers. The teachers' personality is significantly related to specific professional competencies that consequently influence the quality of the educational process (Brunello, Schlotter, 2011). In order to organize a suitable and quality teaching and learning process for diverse learners, teachers need to include a wide range of competencies.

Given all this, it is important to investigate the relationship between teachers' competencies for inclusive education, their professional development, and their personality traits. So, the aim of this study was to explore: (1) the relationship between the teachers' competencies for inclusive teaching, personality traits, and professional competency among elementary school and subject teachers in Croatia and (2) significant predictors of teachers' competencies for inclusive teaching (criterion variable) among predictive variables (personality traits, professional competence, gender, age, years of teaching, and position). Regarding the hypotheses and based on the theoretical models and previous research, it is expected to determine: 1) Significant relationship between inclusive teaching skills, personality traits and professional competence among primary and subject teachers in Croatia; and 2) Significant predictors of inclusive teaching skills are personality traits and professional competence.

2. Method

Participants. A national representative stratum sample of 1,195 elementary school Croatian teachers was included in the study. The average teacher age was 42 years (SD = 10.64; Min = 24, Max = 65) with 16 years of working experience (SD = 11.08, Min = 0, Max = 44). Of these, 39 % were elementary school teachers and 61 % were subject teachers. In terms of gender, female teachers dominated in the sample; 83.7 % of the total number of teachers were female teachers. Of all the teachers included, 5.3 % were teacher-trainees and most of those who responded to this question do not hold a positional title (62.8 %), 33.6 % of teachers hold a mentor title, and 3.6 % are advisers. The majority of all teachers in the sample (87.3 %) have permanent employment.

Measures. *The Scale of Teachers' Competencies for Individualized Instruction* measures teachers' competencies for inclusive teaching through the perception of the skills needed for teaching a diverse group of students in inclusive classrooms. The original Scale of teachers' perceptions of the skills for teaching students with the SEN (Avramidis et al., 2000b) includes 18 items. This short version includes eight items related to teachers' skills for teaching diverse students such as "I feel confident in writing/implementing/assessing/evaluating IEPs," "I feel confident in using information from specialists (e.g., educational psychologists, special therapists) to design, implement, and evaluate IEPs," and "I feel confident in managing a class to promote individual learning." Participants provided responses on a five-point Likert-type scale, with responses again ranging from 1 to 5 (from *1 – I do not feel competent* to *5 – I feel fully competent*). A one-factor structure was obtained, whereby the percentage of the explained variance in the Croatian sample amounts to 56.80%. The Cronbach alpha reliability coefficient for this investigation was 0.90 for the scale.

Scale of Teachers' Professional Competencies was used in constructing the teachers' perceived level of qualification for professional activity whereby the items were designed to review the theory and previous research on the fundamental fields of professional teacher activity (Marentič Požarnik et al., 2005; Muršak et al., 2011). The scale contains seven items referring to teachers' competencies to establish partnerships with other schools, institutions, and experts for the purpose of incorporating new insights into their educational work, serving a constructive role in research and development projects, cooperating with parents, analyzing positive and negative sides of their educational work, mentoring students in practice and for teacher trainees, and establishing a constructive dialogue with their peers. For each item, teachers should evaluate their competencies on a five-point scale (*1 – not competent, 2 – poorly competent, 3 – partially competent, 4 – quite competent, 5 – completely competent*). An exploratory factor analysis was used to check the factor structure and psychometric characteristics of teachers' qualifications scale for professional activity by means of major components.

According to the Guttman-Kaiser criterion (typical root greater than 1) and the scree-test criterion, the existence of one factor was verified, which explains 49.55 % of the total variance. A one-factor structure was obtained, whereby the percentage of the explained variance in the Croatian sample amounts to 51.27 %. The coefficient of internal consistency reliability indicates a high reliability of the scale, with Cronbach being 0.83.

The *Ten Item Personality Inventory* is a short version of the scale containing five traits that has been used in this study to measure personality traits. In other words, the *Ten Item Personality Inventory* (TIPI; Gosling, Rentfrow, Swann, 2003) was applied once it was adapted to the Croatian language (Tatalović Vorkapić, 2016). The short 10-item scale was used due to certain time restrictions and a planned big stratified sample. This measurement instrument is aimed at measuring the "Big Five" personality traits: Extraversion (E), Agreeableness (A), Conscientiousness (C), Emotional Stability (ES), and Openness to Experience (O), each of them with two items that are found in Appendix 1 of the original validation study (Tatalović Vorkapić, 2016).

The participants were asked to evaluate how they see themselves on a seven-point Likert scale (from *1 – strongly disagree* to *7 – strongly agree*). Even though the original Cronbach alphas were relatively low (Gosling et al., 2003), the same as those in the Croatian study (Tatalović Vorkapić, 2016), this short scale was applied due to the previously mentioned reasons.

Procedure. The survey began with the approval of the Croatian Ministry of Education, Science, and Sport to conduct the study. Schools were randomly selected from the national database of statistics for elementary schools representing each county and more than 10% of elementary school teachers. Information about the survey was delivered to the principals of these schools via email and telephone to confirm their participation. The number of sent-out questionnaires matched the number of the teaching staff in elementary schools (1,900 in total).

3. Results
To determine the relationship between teachers' competencies for inclusive teaching and sociodemographic data, the professional competencies and personality traits, the Pearson correlation was computed since the Skewness and Kurtosis for targeted variables are in the range of normal distribution values. The exception is the personality variable Conscientiousness, but since the calculated Pearson correlation coefficients are not significantly differing from Spearman, it is decided to present the Pearson correlation coefficients.

Mean scores on different scale are taken in consideration prior to analyzing the significant correlation between teachers' perceived competencies for inclusive teaching, professional competencies, and personal traits.

Croatian teachers (N = 1,117) perceive themselves just on the border between the moderate and greater extent level (M = 3.53; SD = 0.685) of The Scale of Teachers' Competencies for Individualized Instruction, ranging from 1 to 5. Teachers' mean score on the perceived professional competencies was 3.89, indicating average competencies for establishing professional communication and partnership with parents, analyzing and involving innovative approaches educational practice, and mentoring. In line with previous research, Croatian teachers demonstrated a high level of Extraversion (M = 4.77), Agreeableness (M = 5.64), Conscientiousness (M = 6.25), Emotional stability (M = 5.59), and Openness to experience (M = 5.97).

Table 1. Pearson coefficient of correlation between Inclusive Teaching Competencies and sociodemographic data, Professional Competencies and Personality traits

	M (SD)	Skewness	Kurtosis	Min-Max	Comp. for Inclusive teaching	Age	Teach. Exp.	Position taught
Competencies for Inclusive teaching	3.53 (0.68)	-,208	,237	1-5	1.00	.021	.031	**-.137****
Professional Competencies	3.89 (0,60)	-,309	,103	1.71-5	**.466***	**.201****	**.196****	-.037
Personality traits								
Extraversion	4.77 (1.35)	-,241	-,469	1-7	**.120****	-.023	-.025	**-.046***
Agreeableness	5.64 (1.10)	-,681	-,102	1.5-7	**.095***	-.045	-.037	**-.143****
Conscientiousness	6.25 (0.91)	-1,423	1,849	1.5-7	**.125****	.014	.033	**-.106****
Emotional stability	5.59 (1.18)	-,484	-,321	1-7	**.175****	**-.071****	**-.074****	-.039
Openness to experience	5.97 (1.04)	-1,023	,454	1-7	**.194****	.037	.032	**-.115****

Legend: Competencies for inclusive teaching and Professional Competencies: *1 – not competent, 2 – poorly competent, 3 – somewhat competent, 4 – quite competent, 5 – highly competent*; Personality traits: from 1 – I completly disagree to 7 – I completely agree; Position taught: 1 = primary classrom teacher from first to fourth grade, 2 = subject teacher.

As can be seen from Table 1, the statistical high positive correlation was established between competencies for inclusive teaching and professional competence (0.466; p < 0.001), indicating that higher perceived competencies for inclusive teaching are connected with higher professional competencies.

A small positive correlation was established among a summary of the results of parametric correlations between teachers' competencies for inclusive teaching with personality traits and those with demographic data (age and teaching experience).

Teachers' higher level of professional competencies are correlated with their higher age group and more years of teaching experience. A similar pattern was detected between teachers' competencies for inclusive teaching with higher extraversion, agreeableness, conscientiousness, emotional stability, and openness to new experiences. On the other hand, a negative correlation was determined between their perceived competencies for inclusive teaching and professional competencies with subject teachers position. Primary teachers, who are teaching students from grades 1 to 4, have a higher level of perceived competencies for inclusive teaching and professional competencies.

Therefore, the hypothesis that there is significant relationship between teachers' competencies for inclusive teaching, professional competencies, and personality traits between primary and subject teachers in Croatia was confirmed. It is obvious that professional competencies are strongly related to teachers' competencies for inclusive teaching.

Predicting inclusive teaching skills: Hierarchical regression

In order to provide an answer to the second research aim, a three-step Hierarchical Regression analysis was conducted. The assumptions of multiple regression were met: linearity, homogeneity of variance, and the residuals of the model are normally distributed. The aim of this analysis was to determine which variables could predict the criterion variable – self-perceived competencies for inclusive teaching. Independent variables were grouped into three models due to high correlations between them. All five-personality dimensions were placed in the first model, professional competencies in the second model, and the model socio-demographic variables such as teachers' age, teaching experience, and position taught in the third model (1= classroom teacher; 2 = subject teacher).

Table 2. Summary of the hierarchical regression analysis of predictors of competencies for inclusive teaching

Predictors	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Extraversion	.016	.018	.032	-.012	.016	-.024	-.012	.016	-.023
Agreeableness	.005	.024	.009	-.005	.021	-.009	-.016	.021	-.026
Conscientiousness	.032	.028	.042	-.009	.025	-.012	-.017	.025	-.023
Emotional stability	.032	.022	.055	.020	.020	.034	.023	.020	.039
Openness to experience	.086	.026	.128**	.023	.023	.034	.016	.023	.024
Professional Competencies				.572	.036	.495**	.584	.036	.505**
Gender							-.060	.056	-.033
Age							.006	.006	.094
Teaching experience							-.009	.006	-.142
Position taught							-.125	.045	-.089**
R	.191			.504			.514		
R²	.037			.254			.264		
F for change in R²	6.729**			257.301***			2.917*		

Legend: Position taught (1=classroom teacher; 2=subject teacher)

In step 1, only openness to experience among the teachers' five personal trails was a predictor of teachers' competencies for inclusive teaching (R^2 = 0.037, F (5, 889) = 6.729, p < 0.01), explaining 4 % of competencies for inclusive teaching, see Table 2. Entering self-perceived professional competencies accounted for an additional 21.7 % of the total variance of competencies for inclusive teaching, and openness to experience ceased to be a significant predictor (R^2 = 0.254, F (6, 889) = 257.301, p < 0.001).

Socio-demographic variables were examined to see if they over and above the perceived professional competencies predicted by competencies for inclusive teaching. By entering those three variables (age, teaching experience, and position taught), it was revealed that only "position taught" can significantly predict competencies for inclusive teaching but only with an additional 1 % of the total variance of competencies for inclusive teaching (R^2 = 0.264, F (9, 889) = 2.917, p < 0.01). So, a higher level of the teaching inclusive skills can be predicted by those teachers who taught from the first to the fourth grade. Obviously, openness to experience, as the only personality trait, stops being a predictor when the model has been added to perceived professional competencies due to the moderating effect. However, teachers' perceived professional competencies are the strongest predictor of inclusive teaching skills.

As it had been expected, in the first model of the hierarchical regression analysis, it was determined that openness to experience is a significant predictor of the inclusive teaching skills (R2 = 0.037, F (5,884) = 6.729, p < 0.01). The total contribution of personality traits is 3.7 %, the total contribution of openness to experience is 2.2 % and its independent contribution is 1.6 % in explaining the variance of competencies for inclusive teaching. As it could be observed in Models 2 and 3, this contribution is not so stable and high since it is no longer significant once other independent variables have been entered into the regression.

4. Discussion

According to the aforementioned theoretical and empirical findings, the organization of an individualized teaching and learning process in inclusive classrooms depends on teachers' competencies for inclusive teaching that are in accordance with a broad set of teaching competencies. It should be underscored that the focus in this paper is on the specific set of teachers' inclusive competencies to plan, conduct, and evaluate IEP, plan individualized assignments, manage classroom behaviors, cooperate with other staff and parents. In line with the previously published results of this investigation on a representative national sample (Skočić Mihić, 2017), Croatian teachers assess themselves as moderately high to competent in providing individualized instruction in inclusive classroom.

It should be pointed out that those results were generated from representative national sample and clearly articulate that teachers perceived themselves as well competent to manage classroom behavior, encourage the development of pupils' social skills, and cooperate with

professional experts and others, and moderately competent for implementing IEP (M = 3.30), individualized instruction of pupils (M = 3.29), evaluating IEP (M = 3.20), and writing IEP (M=3.13) (Skočić Mihić, 2017). Interestingly, almost the same mean score was established in the Avramidis et al. study (2000) on the sample of English teachers using the original 18-item scale (M = 3.54; SD = 0.44). Those competencies are key competencies in a teaching process that is focused on students' learning needs and strengths due to maximize independence and involvement in achieving learning aims through collaboration with parents and professional associates (e.g., European Agency..., 2012). It is evident that this set of competencies is related to teachers' ability to cooperate with professional associates and parents and analyzing and innovating the educational practice in the context of professional development, as elaborated in in the study by Čepić, Kalin, and Šteh (2019). The finding of that study confirmed a high correlation between that shared set of inclusive and professional competencies.

Similar results were obtained in the qualitative study by Olson, Chalmers, and Hoover (1997). According to the opinions of general education teachers, whom their principals and special education teacher colleagues identified as skilled at including students with disabilities, inclusive teachers show (1) personal dispositions as tolerance, reflectivity, and flexibility; responsibility for all their students, including those with disabilities and (2) skills for a positive collaborative relationship with special educators and time (that is insufficient) to implement strategies to model the acceptance of students with disabilities and to plan addition time for the students with disabilities to adapt to classroom routines and culture. Taking into consideration that Olson, Chalmers, and Hoover (1997) study was carried out two decades ago, the findings of this study on the high level of connection between the teachers' perceived competencies for inclusive teaching and professional competencies, open up space for questioning the quality of higher education system in preparing teachers for inclusive teaching.

On the other hand, research on teacher competencies is a complex construct that includes not only knowledge and skills, but also attitudes and beliefs. Namely, an unexpected relationship was found between participation in professional development in special education and teachers' beliefs and understanding of inclusion (Woodcock et al., 2017). The authors point out that the nature of the professional development experience of teachers to foster more inclusive pedagogy needs further analysis.

The analysis has a obtained positive correlation between the teachers' competencies for inclusive teaching and professional competencies with higher age and teaching experience, which had been expected. The small size of the correlation may indicate an insufficient quality of the professional development program.

Also, the identified negative relation with the secondary teacher position, as well as with openness to experience, had been expected.

Furthermore, it had been expected that the professional competencies are the strongest predictor of inclusive teaching skills. As mentioned before, competencies for inclusive teaching, such as instructional skills for individualized lessons, planning individualized assignments, managing classroom behaviors, cooperating with other staff and parents, who are part of the general organization and cooperation skills in the profession, they are part of the competencies that the teacher develops during professional development. In addition to the inclusive education policy, a systematic analysis of the teachers' own inclusive practice (experience) plays a key role in continuing teacher education, which can lead to the awareness of the teachers' subjective understanding and a gradual change in educational activities in the classroom, as well as in other fields of professional teacher activities (such as mentoring, exploring their own teaching, partnerships with external institutions, etc.). In line with previous research (e.g., Scruggs, Mastropieri, 1996; Cains, Brown, 1996; Lombardi, Hunka, 2001; Skočić Mihić, 2011), Croatian teachers feel inadequately prepared for teaching diverse students, that they have received insufficient initial training preparation (e.g. Skočić Mihić et al., 2014; Skočić Mihić, 2017). Recent research has shown that, in the study programs of teacher education, insufficient emphasis is given to the development of appropriate competencies in these areas, particularly in the area of classroom management and co-operation between teachers and parents (Muršak et al., 2015; Vizek-Vidović, Velkovski, 2013).

Traditional professional development, as Grimmett (2014, p. 163-164) pointed out, takes place beyond teachers' classroom practice; it occurs WITHIN the practice of professional

development WITH a teacher, IN their practice. The key question is, therefore, how do we encourage the development of new competencies (e.g. Čepić et al, 2015) in accordance with modern requirements so that we develop a more inclusive culture for diverse students (Ainscow et al, 2006, Skočić Mihić et al., 2020). We can and should start fostering and encouraging teachers' professional development from the outside; however, we must be aware that it is essentially a process of an individual's self-development in different areas. Quality teaching places teaching expertise at the very heart of teaching competencies, but these must not be limited to teaching alone. In a broader sense, these competencies include social and socio-moral competencies, the ability to diagnose and advise, to collaborate with colleagues, parents, and school leadership so as to develop the professional culture of schools. Finally, it includes the ability to observe oneself as a teacher. As such, the literature highlights that teachers are able to change/transform their practice only if they also question and change their own theories and notions about teaching and learning (e.g., Kalin, Čepić, 2019; Čepić et al., 2019, Čepić, 2020).

Teachers' readiness to participate in professional development is a statistically significant predictor that explains one-fifth of the competencies for inclusive teaching. Teachers who are willing to reflect on their practice will appropriately monitor requests for specific changes and will be more willing to respond to challenges in inclusive classrooms. It is this finding that indicates the exceptional importance that quality teacher pre- and in-service education has in acquiring a different set of competencies and developing a competent inclusive teacher. In particular, teachers' general professional competencies contribute to inclusive teaching competencies. Furthermore, a fundamental question arises as to what extent teachers have the opportunity to be educated for inclusive teaching primarily during pre-service teacher education and how teachers see themselves in the whole process of professional development. In Croatian higher education, with regards to teacher professional development, teachers acquire competencies for inclusive teaching through one course (7 ECTS) in the total study teacher program comprising 300 ECTS, which means that these competencies are represented by 0.023 %. A quality teacher pre- and in-service education for inclusion must include content and opportunities which are more extensive, including more courses that will provide competencies for inclusive teaching.

In line with the second hypothesis, the positive correlations between teachers' competencies for inclusive teaching and all personality traits have been determined as significant, which had been expected. Prior findings in the context of early and preschool education (Jančec et al., 2015; Tatalović Vorkapić, 2012; Tatalović Vorkapić, Lončarić, 2013; Tatalović Vorkapić et al., 2014; Tatalović Vorkapić, Jelić Puhalo, 2016; Tatalović Vorkapić et al., 2016; Tatalović Vorkapić, Peloza 2017) and in the context of elementary school education (Jančec et al., 2015; Tatalović Vorkapić, Peloza, 2017) showed preschool teachers' higher level of extraversion, openness to experience, conscientiousness, agreeableness, and agreeableness, and a lower level of neuroticism, same as in this study. However, in regression analyses, only openness to experience showed to be a significant predictor of inclusive teaching competencies, which explains 4 % of the criterion variable when personality traits are the only predictors in the model. The obtained results have confirmed the significant role of this particular teachers' personality trait as the facilitator of a successful inclusion (Schuh, Jorgensen, 2006, Tatalović Vorkapić, 2015). Since this is the only one study in Croatia that explored the described relationship, the lack of expected significance of other personality traits as predictors should be tested by applying other personality measures in future studies.

In conclusion, teachers' professional development programs should be in line with inclusive values and provide opportunities for in greater extend competent to moderately competent in classroom management, in supporting social skills development and using information from specialists (e.g., educational psychologists, special therapists) to design, implement, and evaluate IEPs, but moderately competent in writing, implementing, and assessing/evaluating Individual Educational Plans and managing a class to promote individual learning.

Limitation and future research directions

The first limitation of this study refers to the national self-reported statements of teachers, which leaves open the possibility that the results obtained reflect the tendency to provide socially desirable answers and that the actual competencies are lower. It is also dependent on study programs and continuing professional development programs in the Croatian educational context. In addition, as written before, a short version of the personality measure was applied, which, on the

one hand, was very practical but, on the other, less reliable and valid. So, it is recommended to apply a longer version of the personality measure in future research studies.

As the second limitation, we highlight the obtained correlation parameters, which showed statistical significance due to the sample size and the smaller standard error of the parameter.

In order for this relationship to be examined in a much more reliable and valid way, personality measures with higher quality psychometric properties should be used in future research.

It will be interesting to conduct tests with these questionnaires in other national educational contexts in order to determine the possible other factors influencing or connecting, for example, the quality of teacher education programs and professional development programs to teachers' degrees of perceived competencies.

5. Conclusion

Contemporary inclusive education emphasizes that the quality of teaching lies in the individualized approach that is in accordance with students' educational needs and teacher competencies. Today's highly heterogeneous classes require a high level of teacher competencies for individualized instruction, but research consistently points to missing competencies. The starting point is that teachers are consistently assessed as moderately competent for inclusive teaching. This paper, which relied on a representative national sample of Croatian teachers, investigated the rarely studied relationship between perceived teachers' skills for inclusive teaching (ITS) and professional competencies, personality traits, age, teaching experience, and position.

Even though socio-demographic and personality traits have demonstrated small positive and significant correlations with inclusive teaching competencies, as had been expected; a much stronger relationship was determined between the teachers' acquired professional competencies and inclusive teaching competencies. It additionally emphasizes the importance of professional development of teachers for inclusive education, i.g. the design of professional development programs in line with teachers' educational needs, conditions and possibilities, taking into account their self-perceived competencies as basic assumptions of program quality.

In this regard, the established relationship between the professional development and inclusive competencies, and the relationship with personality traits, confirms the findings of previous research on the importance of professional development for inclusion and obliges the professional community, teachers, and others to take into account teachers' self-perceived competence in practice and teacher professional development programs as a determinant. Without the implementation of these findings, as well as many previous ones, many of the challenges of inclusive teaching remain within the reach of teachers' willingness to respond to them, without systematic support.

However, the results offer several important practical implications for education policy makers. Implementation of an inclusive education policy in classrooms depends on teachers' competencies, which are strongly related with their competency for professional development, and to a lesser extent with personal traits. Although the educational paradigm has changed to an inclusive one, it seems that the educational needs, conditions, and possibilities of teachers' professional development in inclusive teaching have not been taken into account. In order to make an education system more inclusive, teachers need quality pre-and in-service education and strong professional support with the overwhelming task of transposing policies and directives into practice while safeguarding the best interests of the child.

Obviously, the initial and continuous training and support of teachers are key strategies for the realization of an inclusive and right-based education system.

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