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**IS THE EVALUATION OF CHILDREN'S TEMPERAMENT
INDEPENDENT FROM PRE-SCHOOL TEACHERS'
PERSONALITY?**

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Abstract

Considering the fact that pre-school teachers often evaluate children's characteristics as a part of their work, it is interesting to investigate the relationship between their own personalities and children's temperament. Therefore, the main purpose of this research is related to the following question: 'Are pre-school teachers' evaluations of children's temperament independent from their personality traits?'. Moreover, what will also be analyzed is the relationship between the preschool teachers' personality and the children's temperament, the level of work demands and how much the children like their pre-school teachers. Correlational research design included the application of two personality measures: the Ten Item Personality Inventory for preschool teachers' self-estimation of personality traits and the EAS questionnaire for the estimation of children's temperament. 10 pre-school teachers assessed their own temperament and the temperament of 128 children. The collected data were analyzed by using the descriptive and correlational statistical procedures. The descriptive statistics demonstrated the expected levels of pre-school teachers' personality traits and children's temperament, while the correlational analysis revealed a significant correlation between the pre-school teachers' extraversion, neuroticism and openness to experience and all children's temperament dimensions. The level of work demands was lower in children with low emotionality and activity levels and high sociability levels. Children liked those preschool teachers with higher conscientiousness and agreeableness levels more. This study clearly demonstrated that evaluation of children's temperament is not independent from preschool teachers' personality traits. The level of working demands assessed by pre-school teachers depends on children's temperament, just as the question of how much the children like their pre-school teachers depends on the preschool teachers' personality traits. The findings are discussed within the frame of the quality process of early and pre-school education.

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Keywords: Preschool teachers' personality traits, children's temperament, evaluation dependence, preschool education.



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1. Introduction

The learning and teaching process in educational institutions depends on a variety of factors (Vizek-Vidović et al., 2014). What determines the behaviour of both, the pre-school teachers and the children, and results in their behaviour within a group in pre-school institutions is their personality, which is not only specific to each pre-school teacher, but also to each child in particular. The personality indicates the characteristics of a person's behaviour, their reactions, motivations and actions, and it is therefore determined by that person's actions, interpretation, and experience (Fulgosi, 1994). Even though it is an extremely important part of human behaviour, there have only been a few studies about the personality of both the pre-school teachers and the children, as well as the relationship between these two. Moreover, even though the assessment of different aspects of children's behaviour in a group on the part of the pre-school teacher is a habitual part of their job done on a daily basis, there are almost no studies about whether or not the assessments of children's temperament differ according to the pre-school teacher's personality. In other words, there are no clearly defined answers to the question whether or not the assessments of children's temperament differ depends on the characteristics of the pre-school teacher's personality. Therefore, judging by the importance of achieving objective assessment of both the children's temperament and their other characteristics, it is of the utmost importance to obtain the answers to this question which are as reliable as possible.

1.1. Pre-school teachers' personality and children's temperament

Even though many studies have dealt with the issue of the pre-school teachers' successfulness, their educational methods, their pedagogical values and competences which directly affect the successful organization and the results of their work with pre-school children, there have only been a few studies dedicated to the analysis of the pre-school teacher's personality (Tatalović Vorkapić, 2012, 2015). The structure and the function of implicit pedagogy quite clearly points to the importance of particular characteristics which are not influenced or shaped by the compulsory education and the pre-school teacher's professional training, yet have a hidden and extremely significant influence on the group climate and the educational and developmental outcomes (Jančec, Tatalović Vorkapić & Lepičnik Vodopivec, 2015).

Contemporary studies have usually looked into the pre-school teacher's personality within the framework of the Big5 personality model (Tatalović Vorkapić, 2012, 2015). This is a hierarchical personality model which defines personality as a set of five basic personality dimensions: extraversion, neuroticism, conscientiousness, agreeableness, neuroticism and openness to experience (Costa & McCrae, 1992). Each of these five personality domains is made up of six specific personality aspects or traits (Costa & McCrae, 1992; 1995a; 1995b). Extraversion is a personality domain which denotes sociable, friendly, active, talkative and assertive people who like stimulation and excitement and are full of energy and optimism. Neuroticism is a domain with a high tendency towards fear, sadness, anger, guilt, anxiety, hurt and emotional instability, in general within its framework. Conscientiousness is a characteristic shared by the people who are strongly focused on the goal, who stand out because of their ability to exert self-control, plan, execute or organize their activities. Agreeableness arises from the basis of altruism and people who display this characteristic are usually likable, compassionate and willing to help. Lastly,

openness to experience is a characteristic of a person who owns and develops active imagination, independent thought, aesthetic sensitivity and intellectual curiosity, prefers diversity and is free-spirited. In other words, this person cherishes the divergence of opinions and likes experimenting and creating his/her own ideas. As it was expected, former studies have shown that pre-school teachers manifest high levels of extraversion, conscientiousness, agreeableness and openness to experience, and a lower level of neuroticism (Tatalović Vorkapić, 2012, 2015, 2016a; Tatalović Vorkapić & Lončarić, 2013; Tatalović Vorkapić, Vujičić & Čepić, 2014; Tatalović Vorkapić & Jelić Puhalo, 2016; Tatalović Vorkapić, Čepić & Šekulja, 2016). According to everything abovementioned, it is possible to conclude that pre-school teacher with a low level of neuroticism, high level of extraversion, openness to experience, conscientiousness and agreeableness is preferred in a group of children during the learning and teaching process. Because, the children need someone to joke and laugh with, someone who will work actively with them and encourage individual cooperative learning and exploration. Also, children prefer someone they will trust and feel safe with and someone with whom they want to share their opinions and deliberations.

On the other hand, the children's temperament is often analyzed within the framework of the EAS temperament model (Buss & Plomin, 1975, 1984). This model has a significant biological determination, defining temperament as a hereditary personality trait which is clearly visible and recognizable even from an early age. Emotionality, activity and sociability are dimensions measured by this model (impulsiveness has been suggested in a previous version of the model, but this dimension has only been confirmed in the sample of school children; Tatalović Vorkapić & Lončarić, 2015). Children's emotionality takes into consideration the high levels of excitement and the negative reactions which can appear in a range from slight disapproval and fear to extreme rage. Furthermore, energy use and the children pace characterize the dimension of activity. An extremely active child is physically more active than other children, needs more dynamic activities and is constantly looking for them. The last dimension of sociability refers to how much time a child wants to spend with others and how effectively he deals with the stimuli from his/her environment (Buss & Plomin, 1975). Sindik and Basta-Frljić (2008) have pointed out that a number of studies have shown that the children's temperament, i.e., its certain aspects, are quite stable over a period of time. Reports, questionnaires or structured interviews which are filled by parents or different "significant others", such as pre-school teachers are usually applied for measuring children's temperament (Sindik & Basta-Frljić, 2008).

Every pre-school teacher and every child function according to the characteristics of their personality which they express to a greater or lesser extent in their everyday lives. Some personality traits are more dominant than others, what should be taken into account in the learning and teaching process, so it could be adjusted according to the needs and abilities of all those who participate in it.

1.2. The importance of pre-school teachers' personality and children temperament in early educational context

The personality traits that are present in children and pre-school teachers have significant impact on creating the process of learning and teaching in a pre-school institution. They should not be left out because every child and every pre-school teacher are individuals determined by their personality traits

which influence their functioning with(in) their environment. The pre-school teacher is the one who should be aware of his or her characteristics and well acquainted with the characteristics of the children (s)he works with in order to ensure, in the best possible way, their overall growth and development in accordance with their needs and particularities. Rudolf Steiner (1965-1925) has stated that the temperament is in the center of the traits we inherit and what we achieve on an individual level. He emphasized that students display three different types of temperament. According to Steiner, melancholic children are those who spend a lot of time thinking, those who think everything is difficult and those who like the tragic. Phlegmatic children are those who like being on their own and can often be found sitting alone in the corner, but if something interest them, they can be very perseverant in what they do. The most energetic type of temperament used to differentiate between children is the choleric. Such children can easily fascinate others and also encourage them to get angry very quickly. By knowing the children and their temperament, the pre-school teacher can, for example, adapt the telling of a story according to their needs and in accordance with their temperaments. For instance, by reading a story to choleric children, the pre-school teacher can emphasize the consonants and show motivation, while melancholic children require the pre-school teacher to emphasize the vowels that express feelings. Sanguine children are those whose temperament requires them to know how to develop love and affection towards a certain person. All this is supported by the fact that it is once again pointed out that the pre-school teacher must first know his/her own temperament, overcome his/her one-sidedness and try to provide an example of balance of all four temperaments for all the children in the educational group (Seitz & Hallwachs, 1996).

Each profession consists of a variety of different personality structures which have to face the personal or professional obstacles. The job of pre-school teacher, along with the educational work with children of different mental and chronological age, with all their particularities and specificities, also includes working with parents, cooperation with fellow pre-school teachers, professional associates and the personnel of the educational institution. The pre-school teachers should firstly recognize and accommodate the needs of every child separately, because a child is an individual for him/herself, and thus deserves understanding and consideration. Moreover, the pre-school teacher has to adapt to different curricula and working methods which are specific and culturally contextualized (Tatalović Vorkapić & Lončarić, 2013). At the same time, every child reacts and communicates in his/her own way with his/her environment and his/her pre-school teacher. A child directs the pre-school teacher and shows him/her the way to making child's dreams and wishes coming true according to his/her preferences and needs determined by his/her personality traits. The pre-school teacher is the one who is supposed to recognize, recognize and accept a child's personality traits and therefore adjust the whole learning and teaching process in his/her own way and in the most suitable way. The relationship between the pre-school teacher and the child is reciprocal, what means that their interactional network creates a characteristic environment and atmosphere within the educational group.

Each pre-school teacher's practice is based on a personal theory or conception about: the educational facility; child and childhood; learning and teaching opportunities; and education in a given context. Through his/her actions and verbal and non-verbal communication with the child, the pre-school teacher transfers his/her beliefs, his/her conception of the child, his/her own opinion about each child separately and the educational institution. The image which the pre-school teacher creates about the child or about his/her individual relationship with that child is in a similar way reflected in the actions of that

pre-school teacher directed towards the child and vice versa (Miljak, 1996). The interactional approach states that the social interactions realized by the child, in this case with the pre-school teacher, depend on the level of compatibility of his/her own personality with that of the pre-school teacher (Vizek-Vidović et al., 2014). It is very important to mention that the pre-school teacher's everyday educational work includes different forms of evaluating children's characteristics and, consequently, their temperament. These evaluations usually rely on the pre-school teacher's ability and objectivity in observing children's behaviour. This is not always simple, especially because study programs do not include relevant practice and skill acquisition, so the future pre-school teachers do not know how to objectively observe. Therefore, studying the relationship between the pre-school teacher's personality and the child's temperament and analyzing the extent to which the evaluation of the child's temperament is not conditioned by the pre-school teacher's personality poses a great challenge for improving the pre-school teacher practice. And, not only practice, but also presents a great challenge for improving an early and pre-school education as the scientific discipline. Education is an open process which is conditioned by the dynamic institution of pre-school education created by overall conditions and living organisms that are specific per se, unique and developmental. Such comprehension of children and adults as researchers and individuals in this process represents one of the more important parts for a better understanding and adjusting of the learning and teaching process (Slunjski, 2009).

2. Purpose of the Study

Bearing in mind the importance of personality traits of all the participants within the learning process, the main purpose of this research is to analyze the relationship between the personality traits of the pre-school teacher and the temperament of the children. Therefore, the tasks of this research are as follows: a) to analyze the personality traits of the pre-school teachers; extraversion, neuroticism, conscientiousness, agreeableness and openness to experience, and the dimensions of the children's temperament (emotionality, activity and sociability); b) to analyze the relationship between the pre-school teachers' personality traits, the children's temperament dimensions, the level of easiness of working with children and their affection towards the pre-school teacher.

Based on the results of previous studies and the relevant literature, the following has been expected: a) the determination of the pre-school teachers' personality traits and the dimensions of children's temperament that are similar to those mentioned in previous studies; b) given the lack of former studies, no significant relationships between pre-school teachers' personality traits, children's temperament dimensions, the level of easiness of working with children and their affection towards the pre-school teacher (null hypothesis).

3. Research Methods

3.1. Participants

The study has been conducted on a sample of $N = 10$ pre-school teachers who have rated the temperament of $N = 128$ children (77 boys). All the pre-school teachers were female. The average age of pre-school teachers was $M = 40.56$ ($SD = 10.01$) in a range from 28 to 57 years. Their average working

experience was $M = 19.20$ ($SD = 11.58$) in a range from 5 to 37 years. The average age of the children participating in this study was $M = 4.97$ ($SD = 0.93$) in a range from 3 to 6 years. The average level of easiness of working with children in the group is $M = 4.23$ ($SD = 0.88$). In this case, the higher result means that pre-school teachers have the easier work the child which temperament has been rated. The range of the results of the estimated ease of work is from 2 to 5. The average grade children gave to their pre-school teachers depending on how much they like them is $M = 2.64$ ($SD = 0.67$), in a range from 1 to 3, with the higher level denoting children liking their pre-school teachers more. Lastly, the pre-school teachers estimated that their personality traits are very important for working with children ($M = 4.60$). However, it is also important to point out the fact that the children's personality traits cannot be dismissed, and so the pre-school teachers have considered them moderately important for their work ($M = 3.20$).

3.2. Measures

Two questionnaires have been used during this research. One self-assessment questionnaire was applied for the aim of assessing the pre-school teachers' personality and another one for the assessment of the children's temperament on the part of the pre-school teachers.

The personality self-assessment questionnaire was a short questionnaire directed towards measuring the dimensions of the Big5 Personality Model, named *Ten Item Personality Inventory* (TIPI, Gosling, Rentfrow & Swann, 2003), i.e., its adapted version (Tatalović Vorkapić, 2016b). The participants had to rate their personality on a Likert-type scale consisting of 7 points by entering the corresponding numerical values depending on whether they agreed or disagreed with the statements ($1 = I do not agree at all - 7 = I completely agree$). The questionnaire consisted of 10 items which measured: extraversion, emotional stability, conscientiousness, agreeableness and openness to experience. It has shown a satisfactory Cronbach's alpha reliability coefficient of $\alpha = 0.60$.

The pre-school teachers rated the children's temperament on the EAS questionnaire (Buss & Plomin, 1975, 1984) on a Likert-type scale consisting of 5 points by entering the value which is most in line with the child's personality traits ($1 = very rarely - 5 = quite often$). The questionnaire consisted of 15 items which measured: emotionality (E), activity (A) and sociability (S). The determined Cronbach's alpha coefficients for the temperament dimensions are: for emotionality $\alpha = 0.86$, for activity $\alpha = 0.70$ and for sociability $\alpha = 0.86$.

3.3. Procedure

The study has been conducted in agreement with three randomly selected kindergarten managers who had previously given their written consent. Furthermore, the pre-school teachers who participated in this study also gave their verbal consent, same as the parents of the children whose children's temperament have been rated. The collected data served as empirical results in writing a bachelor's thesis at the Faculty of Teacher Education, University of Rijeka. Taking into consideration the pre-school teachers' voluntary and anonymous participation and the guaranteed data confidentiality, the kindergartens are not named but they are enumerated instead (1-3). Four pre-school teachers and four

children's groups were encompassed in the first kindergarten ($N = 46$), two pre-school teachers and two educational groups in the second ($N = 23$) and four pre-school teachers and four educational groups in the third ($N = 59$).

When collecting data, the pre-school teachers were given two questionnaires along with the instructions: the questionnaire for the self-assessment of their personality and the questionnaire for the assessment of the children's temperament. After completing the questionnaire with the assigned codes for every child, the researcher asked each child a question about how much they liked their pre-school teacher, wanting to keep the study as objective as possible. The question was as follows: *"How much do you like your teacher? Not very much, to some extent, a lot?"*.

The computer program SPSS 20 was used for analyzing gathered data. Descriptive statistics was used to analyze the pre-school teachers' personality traits and the children's temperament. Correlation analysis was used to analyze the relation between the focus variables.

4. Findings

Table 1 shows the basic statistical parameters of the three dimensions within pre-school teachers' rates of children's temperament (emotionality = E, activity = A, sociability = S) and the personality traits of ten pre-school teachers (extraversion = E, neuroticism = N, agreeableness = A, conscientiousness = C and openness to experience = O). results for personality traits are presented for each pre-school teacher separately and for all of them as average result. In the same way, their rates for three temperament dimensions were presented. As it was expected, the results demonstrated that the dimensions of temperament of pre-school children and the dimensions and personality traits of the pre-school teachers confirm the results of previous studies (Tatalović Vorkapić, 2012, 2015, 2016a; Tatalović Vorkapić & Lončarić, 2015). By analyzing the individual results of the pre-school teachers on each of the five personality dimensions, as well as the average results, it can be seen that high levels of extraversion, emotional stability, agreeableness, conscientiousness and openness to experience are confirmed, too. These are expected findings regarding the desirable and needed personality characteristics that each pre-school teacher should possess. Regarding the children's temperament results, high sociability estimates, somewhat lower activity estimates and the low negative emotionality estimates have also been confirmed in previous studies.

The results of the correlation analysis aimed at analyzing the relation between the estimated dimensions of temperament in pre-school children and the self-assessed dimensions of personality in pre-school teachers are shown in Table 2. In general, it can be seen that the assessment of children's temperament is not independent from the dimensions of the pre-school teachers' personality. The established results show that this research has not confirmed the null-hypothesis, considering the fact that it had been expected that there would not be any significant relation between the self-assessed personality traits of the pre-school teacher and the estimated dimensions of temperament in children. Therefore, the estimation of the children's temperament is significantly related with the individual self-assessed dimensions of the pre-school teacher's personality. In other words, the assessment of temperament in

children in the learning and teaching process is not independent from the personality traits of the pre-school teachers who work with them in the educational group.

Table 01. Descriptives for three children's temperament dimensions evaluated by pre-school teachers and five personality traits self-evaluated by pre-school teachers, on individual (N=10) and group level (total)

Pre-school teachers	Mean (Standard Deviation)			Mean				
	Emo	Act	Soc	Ext	Neu	Agr	Con	Ope
1	3.52	2.98	4.06	7	1.5	4.5	6.5	6.5
	1.52	0.98	0.46					
2	1.62	3.37	4.63	5.5	1	7	7	7
	0.63	0.36	0.08					
3	2.85	3.17	4.18	5	4.5	6.5	7	6.5
	1.04	0.78	0.57					
4	2.4	2.64	3.83	7	2.5	7	7	7
	0.81	0.9	0.46					
5	1.86	3.21	4.26	6.5	1.5	4.5	6.5	7
	0.66	0.79	0.53					
6	2.31	3.06	3.92	3.5	3.5	6	6.5	4
	0.89	0.74	0.87					
7	3.46	2.77	4.09	7	2	7	7	7
	0.86	0.83	1.08					
8	2.43	3.25	3.86	6.5	1	7	7	7
	0.86	0.6	0.72					
9	2.15	2.57	4	4.5	1.5	7	7	7
	0.89	0.75	0.89					
10	3.18	3.04	4.19	4	1	7	7	7
	0.44	0.45	0.42					
Total	2.57	3.02	4.12	5.65	2	6.35	6.85	6.6
	1.12	0.77	0.65					

Note: *Emo-Emotionality, Act-Activity, Soc-Sociability, Ext-Extraversion, Neu-Neuroticism, Agr-Agreableness, Con-Conscientiousness, Ope-Openness to experience*

More specifically, the dimensions of openness to experience, neuroticism and extraversion have shown significant relationships with certain dimensions of temperament in children. In other words, the pre-school teachers who rated themselves as more open to experience tend to rate the children as less

emotional. Moreover, the pre-school teachers' extraversion is also significantly correlated with the children's emotionality, but in a completely different way. In other words, highly extraverted pre-school teachers had a tendency to rate the children as significantly more emotional. Therefore, what is more than interesting here is the contrasting relationship in the assessment of children's emotionality in cases where openness to experience or extraversion are more prominent in pre-school teachers.

Table 02. Correlational matrix of three children's temperament dimensions, five pre-school teachers' personality traits, the children level of liking pre-school teacher and the pre-school teachers' level of work easiness

EAS dimensions	Emotionality	Activity	Sociability	The children level of liking preschool teacher
TIPI dimensions				
Openness to experience	-0.191*	-0.004	0.097	0.095
	0.015	0.964	0.220	0.287
Neuroticism	0.096	-0.200*	-0.225**	-0.161
	0.245	0.015	0.006	0.081
Conscientiousness	-0.046	-0.034	0.079	0.275**
	0.566	0.668	0.323	0.002
Agreeableness	-0.088	-0.050	0.070	0.185*
	0.268	0.528	0.377	0.037
Extraversion	0.155*	-0.095	-0.146	0.152
	0.051	0.233	0.066	0.086
The preschool teachers' level of work easiness	-0.388**	-0.182*	0.317**	0.212*
	0.000	0.021	0.000	0.016

Note: * $p < 0.05$; ** $p < 0.01$

Furthermore, the results of pre-school teacher's assessments showed a significant negative correlation between the dimension of pre-school teachers' neuroticism and the dimension of children's activity and sociability. This means that the pre-school teachers who rated themselves as more neurotic, also rated the levels of activity and sociability in children are significantly lower. Considering the fact that this personality trait in pre-school teachers has shown a significant correlation with as many as two dimensions of children's temperament, it is of utmost importance to pay special attention to the analysis of this specific trait in relation to the assessment of children's temperament in future studies. Emotional stability is extremely important in the work of the pre-school teacher, and so this study demonstrated again, just how important it is to take account of such forms of professional support for the pre-school teachers which will enable them to acquire efficient stress management strategies to avoid elevated neurotic reactions at the work (Tatalović Vorkapić & Lončarić, 2013).

According to the results that were obtained, it can be concluded that the three dimensions of pre-school teacher's personality: openness to experience, neuroticism and extraversion, have a significant

effect on the three dimensions of children's temperament, i.e., children's emotionality, activity and sociability. Therefore, the dimensions of children's temperament depend on the dimensions of the pre-school teacher's temperament. Therefore, this raises a question about whether the pre-school teachers can even rate children objectively, i.e. independently from their personality traits? The results show that the pre-school teachers assess the dimensions of children's temperament according to their own personality traits. As Zentner and Bates (2008) emphasized, besides expectations, values and context, teachers' personality has a strong impact on the rates of children's temperament. A higher level of openness to experience in pre-school teachers is connected with lower emotionality levels in children. It is also interesting to point out that increasing the level of emotional instability in pre-school teachers would decrease the perception of activity and sociability in children. This poses a question whether it is possible to assess children's temperament independently from one's own personality traits which form and characterize us as human beings who function in their own unique way. How to train future pre-school teachers who, as experts in the learning and studying process, will be able to assess children independently from their own personality traits which they are aware of to a greater or lesser extent and which are more or less evident in their work? Can not only the pre-school teachers, but also other professionals who work with pre-school children even achieve this? Is it possible for us to observe children's temperament regardless of our "*personality glasses*"?

The results related to the connection between the estimated level of difficulty in the pre-school teachers' work with children and the dimensions of temperament show that those children who are significantly less emotional and less active and those who have significantly high level of sociability are the easiest to work with. This statement could be drawn from determined significant negative correlation between the estimated level of easiness of the pre-school teachers' work and the dimension of children's emotionality and activity, and the established significant positive correlation between the level of easiness of the pre-school teachers' work and the dimension of sociability. Such results are understandable, considering the fact that working with children who have positive emotionality, who are calm and not easily irritated, less active and more sociable, and have a higher tendency to cooperate and comfortably interact with others, is less demanding.

Lastly, the results which show an estimation of how much children like their pre-school teachers are as follows. The children liked the pre-school teachers who were significantly more conscientious and agreeable, much more than those who did not display such characteristics. The results show that the children like those pre-school teachers who are conscientious and use their work to make them feel safe, which is extremely important to the children. Moreover, the children want the pre-school teacher who is sensible and aware of their needs, one who understands them and one who can be trusted. The pre-school teachers with a high self-rates of the dimension of agreeableness are likable, altruistic, and as such attract children with their personality traits. Moreover, it has been established that the pre-school teachers find it easier to work with children who have decided they liked a particular pre-school teacher more. Therefore, the pre-school teachers find it easier to work with children who liked them and showed affection towards them.

5. Conclusion

The purpose of this research was to explore the relationship between the pre-school teachers' personality traits and the pre-school children's temperament in an early and pre-school educational context. Pre-school children have been rated as significantly more emotional by the highly extraverted pre-school teachers and by those who were less open towards new experiences. The pre-school teachers that were more emotionally unstable have rated the children as significantly less active and sociable. Moreover, the children have expressed that they liked significantly more pre-school teachers who were conscientious and agreeable, as well as those who assessed they were easier to work with much more. On the other hand, the pre-school teachers assessed that it is much easier to work with children who are significantly less emotional and active, but are significantly highly sociable.

Even though only ten pre-school teachers participated in this research by assessing themselves on a short personality scale (TIPI) which has limited psychometric properties, their contribution to this research is extremely valuable regarding the quality of an early and pre-school educational context. Therefore, even though the results were obtained from a small number of pre-school teachers, they are still significant for the educational practice. Judging by everything that has been mentioned, it can be concluded that the pre-school teacher's personality traits have a significant relationship with the dimensions of children's temperament in the learning and teaching process. It is important and useful for the pre-school teachers to start thinking about the individual factors which have a significant effect on or a significant connection with the assessment of children's temperament in a particular educational group. It would be interesting to conduct a study in a way in which both pre-school teachers (in educational groups work two pre-school teachers and this study has involved rates only from one pre-school teacher in the specific group) would assess their personality traits and the dimensions of temperament of the children in their groups and then compare them between themselves. In this way the existing analysis could be deepened even further because it would provide an insight into how objectively the pre-school teachers can rate the same children they work with in their group. Moreover, the analysis of the focus variables on a larger, random sample of pre-school teachers, with more reliable measurements of personality, would certainly provide a higher-quality answer to the questions posed in this study.

Just like the temperament itself is a combination of dynamical constructions, the learning and teaching process is similarly a dynamical system of different factors susceptible to the influence of its participants who manifest different personality traits and contextual conditions. The pre-school teacher and the child together construct and direct the educational process, with every similarity and difference in their personality traits being an opportunity for the enrichment of the whole of their co-existence and their interaction in the educational group. In cases where it is really not at all possible to assess the children's temperament independently from their pre-school teacher's personality traits, it is important to raise awareness about this issue and make the most out of every opportunity in the educational work where either the pre-school teachers' or the children's individual differences concur or differ.

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References

- Buss, A. H. & Plomin, R. (1975). *A temperament theory of personality development*. New York: Wiley.
- Buss, A. H. & Plomin, R. (1984). *Temperament: Early developing personality traits*. Hillsdale, NJ: Erlbaum.
- Costa, P. T. & McCrae, R. R. (1995b). Six approaches to the explication of facet-level traits: examples from conscientiousness. *European Journal of Personality*, 12, 117-134.
- Fulgosi, A. (1994). *Biološke osnove osobina ličnosti (Biological bases of personality. In Croatian)*. Jastrebarsko: Naklada slap.
- Gosling, S., D., Rentfrow, P., J. & Swann Jr, W., B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, 37, 504-528.
- Jančec, L., Tatalović Vorkapić, S. & Lepičnik Vodopivec, J. (2015). Hidden curriculum determinants in (pre)school institutions: Implicit cognition in action. In: Z. Jin (Ed.), *Exploring implicit cognition: learning, memory, and social-cognitive processes* (pp. 216-242). A Volume in the Advances in Psychology, Mental Health, and Behavioral Studies (APMHBS) Book Series. Zhengzhou Normal University, China & University of California, Davis, USA, IGI-Global, USA, doi: 10.4018/978-1-4666-6599-6.
- Miljak, A. (1996). *Humanistički pristup teoriji i praksi predškolskog odgoja (Humanistic approach to theory and practice of pre-school care and education. In Croatian)*. Velika Gorica, Zagreb: Persona.
- Seitz, M. & Hallwachs, U. (1996). *Montessori ili Waldorf (Montessori or Waldorf. In Croatian)*. Zagreb: Educa.
- Sindik, J. & Basta-Frljić, R. (2008). Povezanost karakteristika temperamenta i spremnosti djece za školu (Connection between temperament features and readiness of children to attend school. In Croatian). *Magistra Iadertina*, 3(3), 147-169.
- Slunjski, E. (2009). Postizanje odgojno-obrazovne prakse vrtića usklađene s prirodom djeteta i odraslog. *Život i škola*, 22(55), 104-115.
- Tatalović Vorkapić, S. (2012). The Significance of Preschool Teacher's Personality in Early Childhood Education: Analysis of Eysenck's and Big Five Dimensions of Personality. *International Journal of Psychology and Behavioral Sciences*, 2 (2), 28-37.
- Tatalović Vorkapić, S. (2015). How much personality is important in educational context? In: M. Orel (Ed.) *International Conference EDUvision 2015: "Modern Approaches to Teaching Ocming Generation"* (pp. 75-83). EDUvision, Stanislav Jurjevčič, Ljubljana, Slovenija.
- Tatalović Vorkapić, S. (2016a). Personality and Education: Contemporary issues in Psychological science about Personality in Teacher Education. In: C. Martin & D. Polly (Eds.), *Handbook of Research on Teacher Education and Professional Development Professional Development* (pp. 163-186). A volume in the Advances in Higher Education and Professional Development (AHEPD) Book Series. USA: IGI Global.
- Tatalović Vorkapić, S. (2016b). Ten Item Personality Inventory: A validation study on a Croatian adult sample. In: Z. Bekirogullari, M. Y. Minas & R. X. Thambusamy (Eds.) *The European Proceedings of Social & Behavioural Sciences* (ISSN: 2357-1330), (pp. 192-202). The 4th

icCSBs Abstract Book: The Annual International Conference on Cognitive-social, and Behavioural Sciences, Cyprus, 07-10. May, Future Academy, UK.

- Tatalović Vorkapić, S. & Lončarić, D. (2013). Posreduje li profesionalno sagorijevanje učinke osobina ličnosti na zadovoljstvo životom odgajatelja predškolske djece? *Psiholgijske teme*, 22(3), 431-455.
- Tatalović Vorkapić, S., Vujičić, L. & Čepić, R. (2014). Chapter 2: Pre-school Teacher Identity. In: P. Breen (Ed.), *Cases on Teacher Identity, Diversity, and Cognition in Higher Education* (pp. 22-60), A volume in the Advances in Higher Education and professional Development (AHEPD) Book Series, IGI Global, doi: 10.4018/978-1-4666-5990-2.
- Tatalović Vorkapić, S. & Lončarić, D. (2015). Measuring preschool children temperament: Implications for preschool care and education practice. *International Journal of Educational Psychology*, 4(3), 280-304. doi: 17583/ijep.2015.1483.
- Tatalović Vorkapić, S., Čepić, R. & Šekulja, I. (2016). Are there any differences in personality traits and life satisfaction between preschool and primary school teachers? *Journal of Research in Childhood Education*, 30(3), 361-373.
- Tatalović Vorkapić, S. & Jelić Puhalo, J. (2016). Povezanost osobina ličnosti, nade, optimizma i zadovoljstva životom odgojitelja predškolske djece. *Napredak*, 157(1-2), 205-220.
- Vizek-Vidović, V., Rijavec, M., Vlahović-Štetić, V. & Miljković, D. (2014): *Psihologija obrazovanja (The educational psychology, 2nd edition. In Croatian)*. Zagreb: IEP-Vern.
- Zentner, M. & Bates, E. J. (2008). Child Temperament: An Integrative Review of Concepts, Research Programs and Measures. *European Journal of Developmental Science [EJDS]*, 2(1/2), 7–37.