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CREATIVITY AND AXIETY IN ROMA AND SERBIAN ADOLESCENTS

Abstract: In this paper, we present a research whose aim was to investigate the relationship between creativity and anxiety during the period of early adolescence. Furthermore, we were interested in discovering potential differences among Roma and Serbian adolescents at the level of creativity, situational and general anxiety. The sample consisted of 60 adolescents aged 12 and 13 years. Members of the Roma nationality accounted for one half, whereas members of the Serbian nationality accounted for the other half. Out of 60 research participants, 26 are male and 34 are female. The State-Trait Anxiety Inventory (STAI) and The Alternative User Test for determining creativity were applied in order to collect data. For the data processing we applied Pearson correlation coefficient, t - test for pairedand independent samples and two- way ANOVA.
The results have shown that the participants' level of general and situational anxiety is below the theoretical average. Also, it indicated that there are differences between the students of Roma nationality and Serbian nationality when it comes to the level of situational anxiety (t= 2.73, p=0.008) and creativity (t=-3.72, p=0.001). Serbian female adolescents manifested higher levels of creativity in comparison with their Roma female peers (t=-3.91, p=0.00), but also in comparison with Serbian males (t=-2.07, p=0.047). It indicated that there is a difference in situational anxiety at the level of subsample of male participants between Roma and Serbian adolescents (t= 2.81, p=0.01).
Research results are partially consistent with theoretical and empirical assumptions about development of creativity and anxiety during the period of early adolescence.

Keywords: anxiety – situational and general, adolescents, creativity, Roma, Serbs.

Theoretical background

Multidimensional thinking, sensitivity, interest in people and environment, the ability to think and act flexibly, swiftly and independently, generating various conclusions are but a few traits of creativity from a myriad (Sagone& De Caroli, 2013). Reducing creativity to these traits only seems unjustified, but at the moment very convenient, for it illustrates why creativity is considered to be one of the most important traits for an individual to adapt to the environment successfully.

Assessing creativity represents a sort of challenge, not only for psychologists, but also for educators and artists (Velázquez, Segal&Horwitz, 2015). Part of the complexity of assessing creativity has its origins in various theoretical approaches, in methodological diversity of

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research but also in the addressing the problem itself (Vidanovic, 2005). What makes defining creativity difficult is the contention about the extent to which creativity is a product of heritage/nature or the product of environment. According to Ericsson (2014), the impact of environment is reflected in sustainable practices, and according to Shenk (2014, acc. Velázquez et al., 2015)in mutual partnership. The possibility of enhancing creativity through various practical activities testifies to the impact / influence of environment, as shown in the work done by the Cropleys(Cropley&Cropley, 2014). What they managed to do was to increase the level of creativity in engineering students by means of lectures and consultations.

It is widely accepted that creativity results in new, useful, convenient, meaningful, that is, valuable outcomes and that creativity can represent individual or mutual process influenced by various individual and external factors(Amabile, 1996; Craft, 2000, acc.Lassig, 2013; Hennessey &Amabile, 2010; Plucker, Beghetto& Dow, 2004; Sternberg &Lubart, 1995).Runco and Jaeger (2012) highlighted that standard definition of creativity includes two significant features, namely, novelty and utility. In addition to these elements, Simonton (2012) included surprise.

The standpoint of this research is that creativity can be determined as inner, latent strength possessed by every individual (Sagone& De Caroli, 2013)and that it is an important part of an individual's development. Referring to Winnicott, Beck-Dvorzak (1987) states that creativity represents creative perception of the exterior world that rewards an individual with the sense that it is worth living.Since creativity is considered to be a general phenomenon which at the same time means being alive, the authoress assumes that there are only relatively insufficiently creative persons, and that even in uncreative persons there lies a hidden realm of life where they are creative.

The research has shown that the development of creative problem-solving is determined by numerous factors, some of which being level of education (Simonton, 1984), knowledge acquired not only in school, but beyond it (Sak& Maker, 2006; Sternberg &Lubart, 1995), internal and external motivation (Hennessey, 2004), cultural and family factors (Niu&Sternebrg, 2001; Williams et al., 1995). Besançon's research (Besançon, 2006, acc. Maker, Jo & Muammar, 2008) has shown that different pedagogical practices affect development of creativity in various ways,indicating that teachers influence manifest of creativity in their students through the use of teaching and educational methods.

During individual life cycle the development of creativity undergoes various phases. It has been shown that the level of creativity decreases during the first years of formal education, but a slight level of improvement has been noted in adolescence (Claxton, Pannells& Rhoads, 2005; Gardner, 1982). During the transitory period from childhood to adolescence, imagination and creativity are transformed from a child's fantasy into a more mature creativity based on rational and objective thinking (Vygotsky, 2004). This transitory period of adolescence also implies an increase in knowledge and experience necessary for a high level of creativity (Craft, 2005, acc.Lassig, 2013). However, there is but a few research papersconcerned with the concept of creativity in adolescents that have not manifested a special talent in a certain sphere, not only in our environment, but worldwide. Lassig (2013) highlights that the significance of the period of adolescence, and especially the developmental differences in comparison to other age groups make it impossible to draw general conclusions and results that would refer to children and adults impossible. In accordance with that, studying creativity

at the sample of adolescents who have not manifested a special talent in a certain domain becomes a necessity and priority.

A literature review on creativity shows that creativity is often closely related to anxiety. But before we venture into considering the existing theoretical and empirical knowledge of the nature of this relationship, it is necessary to examine the concept of anxiety. Anxiety is defined as a subjective feeling of apprehension, worry and tension caused by perceiving a certain situation as psychologically or physically dangerous (Spielberger, 1972). Usually, researchers distinguish between situational anxiety and trait anxiety.Situational anxiety represents a temporary emotional state characterized by acute experiences and feelings of fear, tension and apprehension as a response to a danger perceived in the environment. Trait anxiety is a predisposition for a person to experience the state of anxiety.

The period of adolescence is most commonly accompanied by anxiety. The arousal of negative emotions has a complex origin due to a number of factors emanating from both inward and outward surroundings (Maric, 2010). Different personal traits and cognitive processes, hazardous and stressful experiences, inadequate support from the environment are just one layer of the fertile ground for development of anxiety in adolescence period. In addition to this, it is worth mentioning that internal factors denote a person's vulnerability to stress, whereas everyday stressors whose nature is chronic and important life events represent triggers for negative emotional responses. It is the stressful events that represent the main sources of anxiety in non-clinical population of adolescents. However, noticing the interrelation between the characteristics of the external events, subjective interpretation and individual manner of reacting seems to be even more significant (Karevold, 2008, acc. Maric, 2010;Zotovic, 2005).

Papers examining the relationship between creativity and anxiety are usually found in the field which studies renowned artists, starting from the insight that moderate or even high level of anxiety is a condition for creativity. The experience of negative emotions may lead to the need for problem-solving (Martin, Ward, Achee&Wyer, 1993). As a result of that, anxiety may motivate behavior that involves increased efforts and search for compensatory strategies, such as asking for help (Raffety, Smith &Ptacek, 1997). Artists and members of other creative professions are usually seen as highly emotional people(Runco&Bahled, 1986; Sternberg, 1985, acc. Byron &Khazanschi, 2011), and researchconfirmed that people engaged in creative professions are more anxious (Feist, 1998; Ludwig, 1995, acc. Byron &Khazanschi, 2011).

However, some research gave different results. While considering the interrelatedness of creativity and anxiety, it is not unusual to discuss it indirectly,through the influence anxiety has on cognitive functions. It has been shown that more anxious persons think not only in a different, but also less efficient manner (Eysenck, Derakshan, Santos &Calvo, 2007; Fales et al., 2008). It has been noticedthat anxiety may lead to a decrease in working memory (Byron &Khazanschi, 2011; Fales et al, 2008). Working memory is an important agent and precondition for creativity because it enables contemplation and combining more ideas at the same time, but also creation of mental images (Scott, Lonergan& Mumford, 2005). Moreover, anxiety may alter the content of the event. Research has shown that at the state of anxiety people usually remember the negative information in accordance with their current emotions and mood (Byron &Khazanschi, 2011). The negative influence anxiety has on creativity is reflected in disturbances of attention. Persons that consider themselves to be in danger or threatened,will direct their attention towards the source of anxiety. Narrowing of attention at

the level of perception is likely to cause a decrease in creativity since creativity requires a broad scope of attention and an extensive cognitive search, thus enabling an individual to contemplate and comprehend peripheral signs also (Ansburg& Hill, 2003). When anxiety narrows the scope/focus of attention, common ideas are more probable to appear than original ones.

Also, according to the results of the meta-analysis, anxiety exerts a detrimental influence on creativity (Byron &Khazanschi, 2011). It has been noticed that trait anxiety is in negative correlation with creative performance in comparison with situational anxiety. Even more negative relatedness between anxiety and creativity has been noticed on a sample of children. The relationship between anxiety and creativity may be approached from the point of view of discomfort tolerance (Kubie, 1958, acc.Vidanovic, 2005). Some authors (Smith & Van der Meer, 1990, acc. Vidanovic, 2006) classify creativity as one of the most successful defense mechanisms. According to them, creativity at the same time enables adaptation and successful conflict resolution and leads directly towards an original result. However, experimental research has shown that there seems to be an optimal level of tension above which anxiety inhibits creativity (Vidanovic, 2006).

At the point of examining the results given below, we have to emphasize that the results were obtainedpredominantly on a sample of gifted individuals and adults, and that there has been only a few research concernedwith the relatedness between creativity and anxiety on a sample of adolescents.

An important aspect of this paper refers to the inclusion of adolescents of Roma nationality into the process of this research. One of the reasons for including Roma adolescents into the research lies in the fact that Roma people represent the largest national minority in Serbia (2,1%) (Raduski, 2013). Starting from the cultural distinctiveness and differences, organization of social life and family functioning and different system of values of the Roma people, we were interested in finding out to which extent adolescents of Roma nationality feel anxious in the environment in where they represent a national minority, but also to reveal whether and to what extent they are dissimilar to their peers of Serbian nationality.

Method

Problem of present research

The aim of this study was examining relatedness of creativity and anxiety in early adolescence. Furthermore, we wanted to discover whether there are differences at the level of creativity, state and trait anxiety between Roma and Serbian adolescents.

Main problems are followed by some specific problems such as:

- Examining relatedness between creativity and state anxiety, and between creativity and trait anxiety on subsamples of Roma and Serbian adolescents and on the subsamples of male and female adolescents.
- Examining if there are difference at the level of, state and trait anxiety between Roma and Serbian adolescents and male and female adolescents.
- Examining if there are differences at the level of creativity, state and trait anxiety between Roma and Serbian adolescents concerningparticipants' gender.

Variables

Anxiety is defined as the subjective feeling of concern, worry and tension caused by the perception of the situation as a psychological or physical danger (Spielberger, 1972). Situational (state) anxiety represents a temporarily emotional condition characterized by acute experiences and feelings of fear, tension and concern as response to perceived danger in the environment. Trait (general) anxiety represents person's predisposition to experience the state of anxiety. We operationally define state and trait anxiety using (applying) STAI instrument (Spielberger, 1983).

In this research paper we define creativity as inner, latent strength possessed by every individual, and rely on Runco and Jaeger's (2012) suggestion that standard definition of creativity includes two important characteristics - novelty and usefulness. We operationally define creativity applying *The Alternative User Test* (Gilhooly, Fioratou, Anthony & Wynn, 2007; Djordjevic, 2005)

Significant sociodemographic variables in this study were **ethnicity** (Roma and Serbian) and **gender** (male and female).

Sample

The sample involved 60 primary students attending seventh grade. Members of the Roma nationality accounted for one half, whereas members of the Serbian nationality accounted for the other half. Out of 60 research participants, 26 are male and 34 are female. This researchwas conducted in elementary schools "Vuk Karadzic" and "Sveti Sava" in Nis.

Research instruments

Spielber's STAI (Spielberger, 1983) consists of two separate scales that self-report two separate concepts of anxiety: situational and trait anxety (Andjelkovic, 2008). STAI-S express how subjects feel at a given moment, and STAI-T indicates how subjects feel in general (Andjelkovic, 2008). (Andjelkovic, 2008).Form Y, its most popular version, has 20 items for assessing trait anxiety and 20 for state anxiety. All items are rated on a 4-point scale (from "Almost Never" to "Almost Always"). Points range from 40 to 80. Higher scores indicate greater anxiety. Being sensitive to testing conditions, scale STAI S is always applied first. Unlike STAI S, STAI-T is relatively independent of these conditions. Test-retest correlation for STAI-T was r=0.765 on sample of students, and tested on sample of high school pupils was r=0.695. Internal consistency reliability of subscales STAI S and STAI -T was tested and in this research and it has been found that for situational anxiety subscale α is 0.79, and for general anxiety α is 0.82.

The Alternative User Test (Gilhooly et al., 2007; Djordjevic, 2005) represents the prototype of the test of divergent thinking in which subjects have to find as many as possible unusual, extraordinary but applicable uses for the given objects (stimuli). The stimuli are: brick, tire, barrel, pencil, shoe (Gilhooly et al., 2007) and a piece of paper (Djordjevic, 2005). Common usage was given for every stimuli. It is expected from the subjects to list at least three alternative uses for every stimulus. Unusual and imaginative uses which are applicableare scored(Djordjevic, 2005).The estimation of the answers was done by two psychologists. Every

unusual usage was scored with one point. Points range was from 0 to 16. Reliability for the The Alternative User Test is expressed by Crombah alpha coefficient and it is $\alpha = 0.63$.

Procedure

The testing was done in groups. There were three sessions, each lasted for an hour. Three classes were involved, two from elementary school "VukKaradzic" and one from elementary school "Sveti Sava" in Nis. There were no problems reported during the testing, except for the fact that testing Roma children lased longer.

Results

Table 1: Descriptive analysis of the resultsobtained with The Alternative User Test and subscales inventory STAI – form Y

	N	M	SD	min	max	Theoretical min	Theoretical max
Creativity	60	5.47	3.06	1	16	0	16
State anxiety	60	36.7	7.78	25	57	20	80
Trait anxiety	60	39.5	9.2	22	61	20	80

On examining table 1 we notice that the scores of respondents throughout all dimensions are closer to the minimum values.

T test for pared samples indicates that there was a statistically significant difference between situational anxiety and general anxiety($t=-2.6$, $p>0.01$).

Table 2: Correlation between creativity, state and general anxiety regarding entire sample and subsamples of Roma, Serbs, male and female adolescents (Pearson correlation coefficient)

		State anxiety	Trait anxiety
Creativity	Entire sample	-0.21	-0.14
	Roma	-0.246	-0.321
	Serbs	0.06	0.132
	Male	-0.27	0.04
	Female	-0.21	-0.24

On inspecting table 2 we may notice that there is no statistically significant correlation between creativity, state and general anxiety regarding entire sample as well subsamples of Roma, Serbs, male and female adolescents.

Table 3: Determining the difference between the Roma and Serbian adolescents on the subscales of STAI instrument and creativity (t test)

		N	M	t	p
Creativity	R S	60	4.13 6.8	**-3.72**	**0.001**
State anxiety	R S	60	39.3 34.1	**2.73**	**0.008**
Trait anxiety	R S	60	41.06 37.9	1.34	0.184

Based on table 3 we see that there are statistically significant differences between Roma and Serbian adolescents regarding the level of creativity and situational anxiety. However, there is no statistically significant difference at the level of general anxiety.

Table 4: Determining differences in the level of creativity and anxiety as state and trait between male and female adolescents

		N	M	t	p
Creativity	M F	60	4.96 5.85	-1.12	0.26
State anxiety	M F	60	35.53 37.58	-1.011	0.32
Trait anxiety	M F	60	38.46 40.26	-0.75	0.45

Based on Table 4, we can notice that on the level of the entire sample there is no statistically significant differences between male and female adolescents when it comes to the level of creativity, situational and general anxiety.

Table 5: Determining differences in the level of creativity, states and trait anxiety between Roma and Serbs on the subsample of male and femalerespondents

		Males				Females			
		N	M	t	P	N	M	t	p
Creativity	R S	10 16	3.8 5.68	-1.83	0.08	20 14	**4.3** **8.07**	**-3.91**	**0.00**
State anxiety	R S	10 16	**39.9** **32.82**	**2.81**	**0.01**	20 14	39.0 35.57	1.19	0.24
Trait anxiety	R S	10 16	41.2 36.75	1.48	0.15	20 14	41.0 39.21	0.49	0.62

Based on table 5 we can see that there is a statistically significant difference in the state anxiety between male adolescents of Roma and Serbian nationality. Higher scores are observed on the sub-sample of Roma adolescents. Notice that there statistically significant differences on the sub-sample of female subjects in the level of creativity – higher scores are achieved by Serbian female adolescents. Other significant differences have not been found.

Table 6: Determining differences in the level of creativity, state and trait anxiety between male and female respondents in subsample of Roma and Serbs (t test)

		Roma				Serbs			
		N	M	t	p	N	M	t	p
Creativity	M F	10 20	3.8 4.3	-0.6	0.54	16 14	**5.68** **8.07**	**-2.07**	**0.047**
State anxiety	M F	10 20	39.9 39	0.27	0.78	16 14	32.81 35.57	-1.21	0.23
Trait anxiety	M F	10 20	41.2 41.0	049	0.96	16 14	36.75 39.21	-0.85	0.4

Based on Table 6, we can see that the only significant differences were found between male and female adolescents of Serbian nationality at the level of creativity, so that respondents achieved higher scores on this variable. Other significant differences have not been found.

Table 7: Determining differences in the level of creativity, state and general anxiety among adolescents of Roma and Serbian nationality regarding gender (two-way ANOVA)

	Creativity		State anxiety		Trait anxiety	
	F	P	F	p	F	p
Nationality	**15.7**	**0.00**	**7.02**	**0.01**	1.6	0.21
Gender	4.08	0.048	0.22	0.641	0.21	0.65
Nationality*Gender	1.74	0.19	0.85	0.360	0.29	0.59

On reviewing table 7, we can notice that the impact of the interaction of nationality and gender is not statistically significant for the level of creativity, state and trait anxiety.

Discussion

Conclusions of the previous research(Biro, Novovic&Tovilovic, 2006), in which the participants were Roma people,mostly indicated the inadequacy of the tests and scales applied in examining this population. The consequence of using non-standardized tests, inappropriate and biased questions is noticed in the form of a distorted image of the Roma population. A situation like this has contributed to expressing the view that "designing instruments and tools 'sensitive' to differences and specifics of the developmental flow of cognitive abilities is not only a challenge but also a necessity in multicultural societies that aspire to behave themselves towards all of their members in a humane and supportive manner"(Biro et al., 2006: 184).

It seems important to point at certain impressions we got during the situation testing, completed with the results obtained. During the assessment the participants of both groups did not have any requests for additional explanations while filling in the instrument STAI – Y and it seemed that they answered all the questions without experiencing any difficulties. Later on, the analysis of the data obtained showed that there is a slight difference between the adolescents of Roma and Serbian nationality on both subscales of the instrument STAI-Y. The possibility of choosing an answer randomly should be dismissed immediately, because certain questions from this questionnaire demand decoding. We could possibly interpret results like these from the perspective of the applicability of this instrument in a research concerned with members of Roma nationality. Naturally, an explanation like this requires an additional verification and we considered it was important to point at such a possibility.

On the other hand, the assignment in the Alternative User Test caused some perplexity, primarily in participants of Roma nationality. It may be assumed that not understanding what they were supposed to do contributed to the low level at this scale. Later on in the paper we will return to this outcome.

On examining the obtained results we noticed that the level of general and situational anxiety of the participants is below the average. In previous researches (Andjelkovic, 2005, 2008; Vidanovic&Andjelkovic, 2006), where the STAI questionnaire was also applied on the sample of adolescents, the results indicated a presence of higher levels of anxiety on both subscales of this instrument. Andjelkovic (2008) explains the obtained results within the context of social changes in which adolescents live. It encourages us to see that the trend noticed does not continue on our sample and that the scores are below the theoretical average. However, we have to bear in mind that the participants of this research are in their early adolescence (12-13 years) when the awareness of social affairs worldwideis not fully developed and

financial concerns are still left to the parents. On the other hand, the affairs in their immediate environment – school, family, peer group occupy the adolescents' attention. According to the existing theoretical and empirical findings we may assume that in several years' time concerns regarding money and employment (Maric, 2010),will enter the developmental image of these participants.

It has been shown that the level of general anxiety in students is higher than the level of situational anxiety. In the introduction we have mentioned that adolescence is a period when anxiety intensifies and numerous factors that originate not only in the individual himself, but also factors from the environment (Maric, 2010), contribute to it, hence the higher scores at the level of general anxiety.

The result that the level of creativity of students in their early adolescence is below the theoretical average was unexpected. A result like this encouraged us to question what contributed to that, especially if we bear in mind that the results of the previous researches showed that even though creativity decreases during the first years of formal education, a certain level of improvement is noted during adolescence (Claxton et al., 2005; Gardner, 1982). During the transitory period from childhood to adolescence, from a child's fantasy imagination and creativity are transformed into a more mature creativity based on rational and objective thinking (Vygotsky, 2004). The transitory period of adolescence also implies an increase in knowledge and experience necessary for a high level of creativity (Craft, 2005, acc.Lassig, 2013). One answer to the question posed may be the loss of interest and motivation (Maksic, 2006)for creative expression in early adolescence due to personal failure in this area. Furthermore, it may be assumed that the reason for that is the developmental period of the students, namely, the early adolescence period, when gradual dissociation and transition from childhood to the next stadium yet to be 'conquered' start. It may be that the increase in creative capacities happens in a later period of adolescence. It proved that there is no relationship between creativity and situational and general anxiety. A result like this is not consistent with the results obtained in previous research which showed that the relationship between creativity and anxiety is negative (Byron &Khazanschi, 2011), that is positive (Raffety et al., 1997). Reasons for inconsistencies with the previous results may be found in the specificity of the sample of this research, but also in the small number of participants.

However, it was shown that there are differences between students of Roma and Serbian nationality in terms of the level of situational anxiety and creativity, whilst there are no differences regarding the level of general anxiety. Situation testing for the students of the Primary School "Vuk Karadzic", may be one of the reasons for the presence of a higher situational anxiety in them. Students of Roma nationality make the larger percentage of the school, and the school's associate pointed out that researchers rarely choose to visit them and that there are not many occasions for the students to make contact with persons who are not part of the educational staff. On the other hand, the other school provided us with the information that research is often conducted in their school and that the students are accustomed to situation testing. Nevertheless, the fact that the level of situational anxiety in Roma students is not high is encouraging.

One interesting data is that no difference was found at the level of general anxiety between students of Roma and Serbian nationality. Different lifestyle conditioned not only by cultural differences between Roma and Serbs, but also by social and economic circumstances that make the Roma population live on the verge of existence (Stevanovic, 2013), did not

contribute to an increased level of anxiety in the students members of this nationality. Factors accounting for a situation like this are numerous, but not empirically confirmed. However, we should enumerate just a few. Let us start from the fact that these children go to school and attend the seventh grade. It may be assumed that the level of anxiety would be higher if our sample consisted of Roma children who do not attend school. It is expected that there is a difference in the functioning and the lifestyle between Roma families whose children attend school and those whose children do not, and who are likely to live at the verge of existence. On the other hand, it may be assumed that Roma people do not experience their way and style of life as stressful, whereas for the members of Serbian nationality such lifestyle, which implies living from hand-to-mouth, would be a source of fear, trepidation, insecurity and risk. However, it remains to empirically verify these assumptions.

As far as creativity is concerned, we notice that the results showed that higher levels of it are present in students of Serbian nationality, or we might say that they performed better when it comes to understanding the task given, which basically is a precondition for creative problem-solving. Students of Roma nationality required additional explanations in order to understand what they are supposed to do in that task/assignment. An understanding for such results may be found in the conclusion of the research conducted by Biro and associates (2006), in which they stated that the most conspicuous deficiency Roma children display is in the visual-motor coordination, and the authors explain this as a lack of experience in manipulating toys. But, playing is a precondition for creative expression in later stages of life (Nola, 1987). On the other hand, Todorovic[3] points at the significance that music has in the lives of members of Roma nationality, whereby the possibility of comprehending the obtained results in a different context is leftopen. "Together with craft work, sense and feeling for music is a centuries' old symbol of the Roma people status identification and existential subsistence throughout the oecumene"(p. 65). We may presuppose that the image would have been different had we examined creativity in adolescents in the area of music.

It was shown that the interaction between ethnicity and gender has no influence on the level of creativity, situational and general anxiety. Also, it was shown that there is no difference between male and female students regarding the level of creativity, but it is interesting to note that higher scores were achieved by the female students. The difference between boys and girls at the level of creativity was not confirmed on the subsample of Roma adolescents, but it was confirmed on the subsample of Serbian adolescents, so that statistically significant,girls achieved higher scores. Such a result is not consistent with the results of some previous research which showed that boys achieve higher scores at the creativity variable (Conti, Colins&Picariello, 2001). Nevertheless, it is consistent with the results obtained by Bart and his associates (Bart, Hokanson, Sahin&Abdelsamea, 2015), who point at the fact that girls elaborate on their ideas better, their responses are more detailed, they manifest higher levels of synthesis and organizational abilities, intellectual curiosity and open-mindedness in comparison to boys. These differences indicated that girls mature earlier compared to boys. Girls also achieved higher scores when it comes to situational and general anxiety, but that difference did not prove statistically significant, which is consistent with the results obtained in previous research (Andjelkovic, 2008).

[3]Todorovic, D. Kulturniidentitet Roma. Preuzetosahttp://www.npao.ni.ac.rs/files/584/VALENTINA_6e6b3.pdf (14.2.2016.)

It was shown that there is a difference in situational anxiety on the subsample of males between the students of Roma and Serbian nationality. This kind of difference was not found on the subsample of female participants. It seems that the situational testing was exceptionally stressful for the male adolescents of Roma nationality, but not for female adolescents of Roma nationality. What needs to be closely inspected is what contributed to the fact that male adolescents of Roma nationality manifested higher scores at the situational anxiety.

Conclusion

The conducted research represents a rare one that includes members of the Roma nationality in its sample. Lack of previous research and insights has limited our approach to the problem, which is primarily reflected in controlling a small number of variables. It seems important to say that the subsequent research should examine and control the parents' education, whether someone in the family is engaged in a creative occupation, the economic status of the family, the number of siblings, students' success at school. What also limits the possibility of generalizing the results is the small number of participants. Conducting a similar research with more participants would render a better and more precise image of the existent situation. The fact that we have tested adolescents' creativity using one instrument only is another drawback of the research.

One exceptionally prominent result of this research is the participants' low level of points at the variable of creativity. We hope that the future researches will give answers to the question of what contributed to results like these. The result we have not expected is that there is no difference at the level of general anxiety between students of Roma and Serbian nationality. We expected that different lifestyle and dissimilar values between members of Serbian and Roma nationality willaffect this variable also. We sincerely hope that the future studies will give an explanation for a result like this.

However, what can be done at this moment, and what seems to be extremely important bearing in mind the research results, is to draw attention towards the development of creativity in school children. Relying on the Cropleys' (2000) findings, itseems that educators, teachers and other specialists whose job involves working with children, perhaps are crucial figures in development of creativity in children. Therefore, we may expect that including creative activities into the curriculum will contribute to the development of creativity in children. However, what is even more important is to determine the field for which a child has a potential for creative expression, encourage him and cherish the sense of success, which results in their sense of adequacy in a multicultural school environment.

There are many prejudices about the culture of Roma people, but few scientific insights. We hope that this research is just a beginning of investigating this field and that it will give impetus to the future research.

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Reference:

- Amabile, T. (1996). *Creativity in context*. Boulder, Colorado: Westview Press.
- Andjelkovic, V. (2008). Anskioznost i samopostovanje u kontekstu uzrasta, pola i profesionalnog usmerenja. *Godisnjak za psihologiju*, 5(6-7), 111-130.
- Ansjelkovic, V. (2005). *Sam pred publikom*. Beograd: Art Press.
- Ansburg, P. I., & Hill, K. (2003). Creative and analytic thinkers differ in their use of attentional resources. *Personality and Individual Differences*, *34*, 1141-1152.
- Bart, W. M., Hokanson, B., Sahin, I., & Abdelsamea, M. A. (2015). An investigation of the gender differences in creative thinking abilities among 8th and 11th grade students. *Thinking Skills and Creativity*, *17*, 17-24.
- Beck-Dvorzak, M. (1987). Psihicka uvjetovanost kreativnosti, u: Dijete I kreativnost. *Zagreb: Globus.*
- Besançon, M. (2006). Development of creativity: The influence of school environment and cognitive factors. Unpublished doctoral dissertation, Universite Paris V—Rene Descartes Institut de Psychologie, Paris, France.
- Biro, M., Novovic, Z., &Tovilovic, S. (2006). Kognitivno funkcionisanje edukativno zapustene dece predskolskog uzrasta. *Psihologija*, *39*(2), 183-204.
- Byron, K. & Khazanchi, S. (2011). A meta-analytic investigation of the relationship of state and trait anxiety to performance on figural and verbal creative tasks. *Personality and Social Psychology Bulletin*, *37*(2), 269-283.
- Djordjevic, B. (2005). *Darovitost I kreativnost dece I mladih*. Vrsac: Visa skola za obrazovanje vaspitaca.
- Claxton, A.F., Pannells, T.C., & Rhoads, P.A. (2005). Developmental trends in the creativity of school-age children. *Creativity Research Journal*, 17(4), 327–335.
- Conti, R., Collins, M. A., &Picariello, M. L. (2001). The impact of competition on intrinsic motivation and creativity: considering gender, gender segregation and gender role orientation. *Personality and individual differences*, *31*(8), 1273-1289.
- Craft, A. (2000). *Creativity across the primary curriculum: Framing and developing practice*. London, United Kingdom: Routledge.
- Craft, A. (2005). *Creativity in schools: Tensions and dilemmas.* New York: Routledge.
- Cropley, D.H. & Cropley, A. J. (2000). Fostering creativity in engineering undergraduates. *High Ability Studies*, 11(2), 207–219.
- Gardner, H. (1982). *Art, mind, and brain: A cognitive approach to creativity*. New York, NY: Basic Books.
- Gilhooly, K.J., Fioratou, E., Anthony, S.H. & Wynn, V. (2007). Divergent thinking: strategies for generating alternative uses for familiar objects. *The British Journal of Psychology*, Vol. 4, No. 98, 611-625.
- Ericsson, K.A. (2014). Creative genius: A view from the expert-performance approach. In D.K. Simonton (Ed.), *The Wiley handbook of genius* (pp. 321–349). Chichester: John Wiley & Sons Ltd..
- Eysenck, M.W., Derakshan, N., Santos, R. & Calvo, M.G. (2007). Anxiety and cognitive performance: Attentional control theory. *Emotion*, *7*, 336-353.
- Fales, C.L., Barch, D.M., Burgess, G.C., Schaefer, A., Mennin, D.S., Gray, J.R., & Braver, T. S. (2008). Anxiety and cognitive ffiiciency: Differential modulation of transient and sustained neural activity during a working memory task. *Cognitive, Affective, & Behavioral Neuroscience*, *8*, 239-253.
- Feist, G. J. (1998). A meta-analysis of personality in scientific and artistic creativity. *Personality and Social Psychology Review*, *2*, 290-309.
- Hennessey, B. A. (2004). The social psychology of creativity: The begginings of a multicultural perspective. In S. Lau, N. N. A. Hui, & Y.C.G. Ng (Eds.), *Creativity: When East Meets West* (pp. 341–392). Singapore: World Scientific Publishing Co.Pte. Ltd.
- Hennessey, B. A., &Amabile, T. M. (2010). Creativity. Annual Review of Psychology, 61, 569–598.
- Karevold, E. (2008). *Family stress and child's temper extremes contribute to anxiety and depression in children and young people. Science Daily.* Folkehelseinstituttet, NIPH- Norwegian Institute of Public Health,Oslo. Published 20.06.2008, updated 08.07.2008., retrieved from http://www.fhi.no/artikler?id=69851.

- Kubie, L. S. (1958). Neurotic distortion of the creative process.
- Lassig, C. J. (2013). Approaches to creativity: How adolescents engage in the creative process. *Thinking Skills and Creativity*, *10*, 3-12.
- Ludwig, A. M. (1995). *The price of greatness: Resolving the creativity and madness controversy*. New York, NY: Guilford.
- Maker, C. J., Jo, S., & Muammar, O. M. (2008). Development of creativity: The influence of varying levels of implementation of the DISCOVER curriculum model, a non-traditional pedagogical approach. *Learning and Individual Differences*, *18*(4), 402-417.
- Maksic, S. (2006). *Podsticanje kreativnosti u skoli*. Beograd: Institut za pedagoska istrazivanja.
- Maric, M. (2010). Osobine licnosti, zivotni dogadjaji I anksioznost adolescenata. *Primenjena psihologija*, *3*(1), 39-57.
- Martin, L. L., Ward, D. W., Achee, J. W., &Wyer, R. S., Jr. (1993). Mood as input: People have to interpret the motivational implications of their moods. *Journal of Personality and Social Psychology*, *64*, 317-326.
- Niu, W., & Sternberg, R. J. (2001). Cultural influences on artistic creativity and its evaluation. *International Journal of Psychology*, 36(4), 269–288.
- Nola, D. Stvaralacke igre, u: Dijete i kreativnost. *Zagreb: Globus*.
- Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why isn't creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educational Psychologist*, 39(2), 83–96.
- Raffety, B. D., Smith, R. E., &Ptacek, J. T. (1997). Facilitating and debilitating trait anxiety, situational anxiety, and coping with an anticipated stressor: A process analysis. *Journal of Personalityand Social Psychology*, *72*, 892-906.
- Radusli, N. (2013). *Etnicki procesi i nacionalne manjine u Srbiji po popisu 2011. godine*. Preuzetosahttp://www.nspm.rs/kuda-ide-srbija/etnicki-procesi-i-nacionalne-manjine-u-srbiji-po-popisu-2011.-godine.html?alphabet=l (14.2.2016.g.)
- Runco, M. A. & Bahleda, M. D. (1986). Implicit theories of artistic, scientific, and everyday creativity. *Journal of Creative Behavior*, *20*, 93-98.
- Runco, M. A., & Jaeger, G. J. (2012). The standard definition of creativity. *Creativity Research Journal*, 24(1), 92–96.
- Sagone, E., & De Caroli, M. E. (2013). The Influence of Creative Personality Factors on Interpersonal Adjustment in Adolescents: What's the Relationship?. *Procedia-Social and Behavioral Sciences*, *82*, 131-136.
- Sak, U., & Maker, C. J. (2006). Developmental variation in children's creative mathematical thinking as a function of schooling, age and knowledge. *Creativity Research Journal*, 18(3), 279–291.
- Scott, G. M., Lonergan, D. C., & Mumford, M. D. (2005). Conceptual combination: Alternative knowledge structures, alternative heuristics. *Creativity Research Journal*, *4*, 91-122.
- Simonton, D. K. (1984). *Genius, creativity, and leadership: Historiometric inquiries.* Cambridge, MA: Harvard University Press.
- Simonton, D. K. (2012). Taking the U.S. Patent Office criteria seriously: A quantitative three-criterion creativity definition and its implications. *Creativity Research Journal*, 24(2–3), 97–106.
- Shenk, J. W. (2014). *Powers of two: Finding the essence of innovation in creative pairs*. Boston: Houghton Mifflin Harcourt.
- Smith, G. J., & Van der Meer, G. (1990). Creativity in old age. *Creativity Research Journal*, *3*(4), 249-264.
- Spielberger, C. D. (1972). Anxiety as an emotional state. *Anxiety-Current trends and theory*.
- Spielberger, C. D., Gorsuch, R. L. &Lushene, R. E. (1983). *STAI manual for the STAI-TRAIT anxiety inventory*. Palo Alto, Consulting Psychologists Press.
- Sternberg, R. J. (1985). *Beyond IQ*. New York, NY: Cambridge University Press.
- Sternberg, R. J., &Lubart, T. I. (1995). *Defying the crowd: Cultivating creativity in a culture of conformity*. New York: Free Press.
- Stevanovic, I. (2013). Deca ukljucena u zivot ili rad na ulici kao zrtve iskoriscavanja i zloupotreba. *Temida,* 93-112.

- Todorovic, D. *Kulturni identitet Roma.* Preuzeto sa http://www.npao.ni.ac.rs/files/584/VALENTINA_6e6b3.pdf (14.2.2016.)
- Vidanovic, S. (2005). *Odbrambeni stil likovno darovitih adolescenata*. Nis: Filozofski fakultet u Nisu-Prosveta.
- Vidanovic, S. & Andjelkovic, V. (2006). Ego development and the anxiety of gifted adolescents. *Facta Universitatis: Series Philosophy, Sociology and Psychology*, 5(1), 87-102.
- Velázquez, J. A., Segal, N. L., &Horwitz, B. N. (2015). Genetic and environmental influences on applied creativity: A reared-apart twin study.*Personality and Individual Differences*, 75, 141-146.
- Vygotsky, L. S. (2004). Imagination and creativity in childhood. *Journal of Russian & East European Psychology*, 42(1), 7–97.
- Zotovic, M. (2005). PTSP I depresivnost posle NATO bombardovanja: Cinioci individualnih razlika u reagovanju na stres. *Psihologija, 38,* 93-109.
- Williams, J. E., Saiz, J. L., FormyDuval, D. L., Munick, M. L., Fogle, E. E., Adom, A., et al. (1995). Cross-cultural variation in the importance of psychological characteristics: A seven-country study. *International Journal of Psychology*, 30(5), 529–550.

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