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Original Scientific Paper

GRATITUDE AND LONELINESS AS PREDICTORS OF SUBJECTIVE WELL-BEING

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Abstract. *The main aim of this research is to analyze the role of loneliness found in previous studies as well as to examine the role of gratitude as one of the main factors contributing to subjective well-being. The sample is a convenience sample and consists of 219 respondents (78.99% women). The instruments used in this research were: the Social and Emotional Loneliness Scale for Adults (SELSA; di Tomasso & Spinner, 1993), the Life satisfaction scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), PANAS (Watson, Clark, & Tellegan, 1988) and The Gratitude Questionnaire (McCullough et al., 2002). The data were analyzed using a hierarchical linear regression where the criterion variables were components of subjective well-being, the predictor in the first step gratitude, and predictors in the second step three types of loneliness. The results of this research show that the only statistically significant predictor of positive affects is gratitude (model 1: β=.281, p<.01; model 2: β=.243. p<.01). Gratitude and loneliness explain 30.1% of the variance of positive affect. When it comes to negative affect, the first model explains 12.6% of the variance, while the second model explains 21.9% of the total variance. Only the second model is statistically significant (p<.05). The only statistically significant predictor is loneliness in the family (β=.143. p=.049). Finally, when it comes to life satisfaction, the first model explains 23.5% of the variance while the second model explains 38.6% of the total variance. When loneliness is added in the second model, an additional 15.1% of the statistically significant explained variance appears (p<.01). The best predictor in this regression analysis is social loneliness (β=-.297, p<.01). Based on these results we can conclude that both gratitude and loneliness are important variables for subjective well-being – but that some are more important for some and some for other aspects of subjective well-being.*

Key words: *Gratitude, subjective well=being, social loneliness, loneliness in the family, loneliness in love.*

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1. INTRODUCTION

Subjective well-being is a concept that researchers, as one of the key concepts of mental health today, are showing considerable interest in. By "subjective well-being" we think of what people most often call happiness or contentment (Diener, Oishi, & Lucas 2003). The very phrase "subjective well-being" was introduced because concepts such as happiness or pleasure are saturated with a large number of different meanings. Since it is new, at the same time neutral, this term gives the possibility for a more precise definition, which was not possible with the notions of happiness and satisfaction. Edward Diner says that the term subjective well-being is actually a synonym for happiness, only more scientific and less confusing (Diener & Scollon 2003). Accordingly, in this paper we will use both terms, treating them as synonyms. According to Diner's definition, subjective well-being is an "affective and cognitive evaluation of life." (Diener 2000) and consists of two components: 1. A cognitive (long-term) component which refers to a person's global assessment of his life satisfaction. Life satisfaction can be defined as a one-dimensional construct that refers to the extent to which the respondent is satisfied with life in general, that is, how close his life is to the ideal according to him; 2. An affective (short-term) component consisting of: positive affect and low-level negative affect. Positive affect implies frequent experience of pleasant emotions, while a low level of negative affect refers to rare experiences of unpleasant emotions.

Ruut Veenhoven, a sociologist and one of the prominent researchers in the field of subjective well-being, gives a similar definition of the term "subjective well-being". He also considers happiness to be synonymous with subjective well-being and defines it as "the overall assessment of life that comes from two sources of information: a cognitive comparison with the standard of good living and affective information about how one feels most of the time." (Veenhoven 2008, 45). Subjective well-being occupies a prominent place in modern models of mental health (Keyes 2006).

The definition of subjective well-being that we will be guided by in this research is the first mentioned definition, the one given by Edward Diner and his associates (Diener, Oishi, & Lucas 2003). The reason for choosing this definition is that it is actually the first more complete definition of happiness, which takes into account the affective component of happiness (simply how happy a person is), as well as its cognitive component (how satisfied a person is with different aspects of his life). This definition, therefore, takes into account both components of happiness, while earlier authors chose either one or the other component in their research.

Gratitude is considered to be one of the main constructs in Positive Psychology and a construct which has been neglected until the development of the area of psychology now mentioned (Emmons & McCullough, 2003). When it comes to what gratitude is, this construct can be interpreted both as a state and as a trait. Gratitude as a state refers to positive emotions when individuals experiences an act of kindness from another person (McCullough, Emmons, & Tsang 2002), while gratitude as a trait refers to individuals' disposition to experience this state (Chan 2010).

McCullough and associates (2002) write about the facets of a grateful disposition. These authors presume the existence of the following gratitude facets: Intensity – a dispositionally grateful person will feel gratitude with higher intensity; Frequency – a person prone to gratitude will feel it more often from those not so prone to it; Span – this facet refers to the aspects of life for which a person is grateful for; conversely, a person with a higher disposition towards gratitude will be grateful for a higher range of life aspects (e.g. family, job, life itself...) from individuals' not to prone to gratitude; and, the final gratitude facet is Density – referring to the number of persons' one feel grateful to.

Gratitude was shown to be a very important variable for subjective well-being (Chan 2010). For example, Chan (2010) showed that gratitude can predict social support, adaptive coping mechanisms and life satisfaction (as an aspect of subjective well-being). On the other hand, gratitude decreases an avoidant coping style and negative emotions. Further, research shows that gratitude can predict a substantial amount of well-being variance beyond the contributions of personality traits (Lin 2014; Wood, Joseph, & Maltby 2009) making it a uniquely important variable for subjective well-being. Gratitude provides us with a more optimistic point of view on both our general experiences (McCullough, Emmons, & Tsang, 2004) and our relationships (Gordon, Arnette, & Smith 2011). Furthermore, those with higher disposition towards gratitude were also found to be happier (McCullough et al. 2004; Wood, Froh, & Geraghty 2010). The important role of gratitude in subjective well-being was also found in a sample of Hong Kong teachers (Chan 2013).

It should also be stated that certain moderators between gratitude and well-being were found. So, for example, it was found that ambivalence towards emotion expression inhibited the effect of gratitude on happiness (Chen, Chen, & Tsai, 2012). Also, one more important theoretical finding for our study is the one which suggests that those individuals who are high in ambivalence towards expressing their emotions also perceive less social support (Chen et al. 2012).

Based on the aforementioned, the following variable in our research is loneliness. Loneliness refers to an individuals' perception of their relationships, characterized by those relationships being perceived as not the ones that individual expected (Nicolaisen & Thorsen 2014).

Further, when it comes to loneliness, it has been shown that gratitude, subjective happiness and life satisfaction are statistically significant predictors of loneliness (Caputo 2015). Gratitude was proven to be a protective factor against loneliness (Ni, Yang, Zhang, & Dong 2015). Loneliness was also proven to be a significant mediator between gratitude and physical health (O'Connell, O'Shea, & Gallagher 2016).

Another construct in this research is that of social relations, or more precisely, loneliness in different types of social relations (in a partnership, friendship, family relationship). To understand the importance of social relations for people and their mental health, it is necessary to return to the views of one of the most famous psychologists, more precisely, William McDougall and the gregarian motif. Man's need to associate with other people was first described by the aforementioned author and he called it a gregarian motif (Ognjenović 2005). McDougall considered this motif innate and attributed a relaxing effect to it (Ognjenović 2005). If McDougall's assumption about the aspiration to associate and, consequently, the relaxing effect of the same is correct, the question arises whether it is reasonable to assume that associating with others, through the relaxing effect it has on people, will lead to greater subjective well-being. Previous studies aimed at shedding light on the relationship between the quality of social relations and subjective well-being confirmed this assumption. Very happy people have been shown to have better romantic and other relationships than those who are less happy (Diener & Seligman 2002). They give better grades to their friendly, romantic and family relationships than people who consider themselves very unhappy. Very happy people also spend less time alone and more in company (Diener & Seligman 2002). In one study, people were asked at random periods during the day how happy they were. The results have shown that people are the happiest when they are with their friends, more than when they are with family members or when they are alone (Larson, Mannell, & Zuzanek 1986). Also, it has been shown that social relations do not lead to greater happiness only when we receive social support, but also when we provide it (Brown et al. 2003).

The problem with these studies is reflected in the fact that different authors have operationalized social and emotional loneliness in different ways. In a study by Diner and Seligman (Diener & Seligman 2002) the respondents' assessment of the quality of their social and emotional relationships was measured, while loneliness was measured by the question of how much time during the day the respondents spend alone and how much in society. In a study by Larson et al. (Larson, Mannell, & Zuzanek 1986) respondents filled out questionnaires at random periods during the day in which, among other things, they gave answers to questions about how happy they were at that moment, as well as what exactly they were doing at that moment. In this study, we decided to introduce a variable related to social and emotional loneliness. According to theory, loneliness in the domain of friendship is a construct of social loneliness, while loneliness in the domain of family and love relationships is emotional loneliness (Ćubela-Adorić & Nekić 2006). The main aim of this research is to check the role of loneliness found in previous studies mentioned above, as well as other studies conducted in our country (Jovančević 2019) as well as to examine the role of gratitude as one of the main factors contributing to subjective well-being – as it was shown in this introduction.

2. Method

2.1. Sample and procedure

The sample is a convenience sample and consists of 219 respondents from Serbia (78.99% women). The age of the respondents ranges from 18 to 61 years, and the average age is 25.28 (SD = 8.14).

The data were collected online, via google forms.

2.2. Instruments

2.2.1. Social and Emotional Loneliness Scale for Adults (SELSA; diTomasso & Spinner 1993). The scale was adapted for a Serbian linguistic environment (Ćubela-Adorić & Nekić 2006). The scale of social and emotional loneliness consists of three measurement subjects: Social loneliness (13 items), Loneliness in the family (11 items) and Loneliness in love (12 items). It is a seven-point Likert-type scale, where 1 = I completely disagree, and 7 = I completely agree.

The scale has adequate internal consistency reliability on this sample (Social loneliness: α=.92; Loneliness in the family: α=.92; Loneliness in love: α=.94). In a previous study (Ćubela-Adorić and Nekić 2006), the reliability was as follows: Social loneliness α=.88; Loneliness in the family α=.85 and Loneliness in love α=.91.

2.2.2. Life satisfaction scale (SWLS; Diener, Emmons, Larsen & Griffin 1985). The life satisfaction scale is used to measure the cognitive component of subjective well-being. It consists of five items that measure the individual's evaluation of life satisfaction in general. It is a seven-point Likert-type scale, in which 1 = I completely disagree, and 7 = I completely agree. The average score of the answers to the five questions represents the overall life satisfaction score.

The scale has a satisfactory internal consistency reliability on this sample (α=.91). In one of the previous studies in our linguistic environment (Vasić, Šarčević & Trogrlić 2011) the reliability of the scale was α=.88.

2.2.3. PANAS (Watson, Clark, & Tellegan, 1988). The PANAS scale refers to the measurement of the affective component of subjective well-being. It consists of twenty items. Ten items measure the expression of positive emotions (e.g.: enthusiasm, pride), while the other ten items measure the expression of negative emotions (e.g.: shame, sadness). The instruction that the respondents had in front of them required them to answer the questions taking into account their feelings in the past week, so that the positive and negative affect in this research were operationalized as a condition, and not as a personality disposition. It is a five-point Likert-type scale, where 1 = Very little or not at all, and 5 = Completely. The expression of positive affect was obtained by summing up the responses to items related to positive affect. The same goes for calculating the overall score for negative affect.

The scale has a satisfactory internal consistency reliability on the sample of this research (Positive affect: α=.85; Negative affect: α=.89). The reliability obtained in our sample coincides with the reliability reported by the authors of the scale (Watson et al., 1988), which is between α=.86 and α=.90 for positive affect and between α=.84 and α=.87 for negative affect.

2.2.4. The Gratitude Questionnaire (McCullough et al. 2002) is a 6-item measure designed to assess individual differences in the proneness to experience gratitude in daily life. The reliability of this questionnaire in our study was satisfactory (α=.605). In the original study (McCullough et al., 2002) the reliability of the Gratitude questionnaire was high (α=.85).

2.3. Data analysis

In this research correlation and hierarchical linear regression was used as a method of data analysis. In the regression analysis criterion variables were components of subjective well-being (positive affect, negative affect and life satisfaction) while predictor variables were Gratitude and three types of Loneliness (social, family and loneliness in love). Gratitude was a predictor in the first step because in this research it is defined as a trait, while loneliness is a state. Taking that into account, gratitude was a predictor in the first step of the regression analysis.

3. Results and Discussion

From Table 1 it can be seen that not all the intercorrelations are in accordance with the multicollinearity criterion. When it comes to the predictors, we can see all the intercorrelations are lower than .7, which is in accordance with the multicollinearity rule. On the other hand, when it comes to the relation between the predictors and criterion variables, not all the correlations are statistically significant and higher than .3 (this is true for positive affect and negative affect as criterion variables, but not for life satisfaction). These results suggest the possible effect of multicollinearity on the final results of this study – taking that into account, the statistical power will be calculated through Gpower software.

Table 1 Intercorrelation between study variables

Correlations	Loneliness in love	Loneliness in Family	Social loneliness	Gratitude
Loneliness in love				
Loneliness in Family	.205*			
Social loneliness	.279*	.357**		
Gratitude	-.250*	-.277**	-.426**	
Positive affect	-.044	-.109	-.206**	.285**
Negative affect	.065	.189*	.163*	-.125
Life satisfaction	-.340**	-.343**	-.507**	.489**

Note: ** - statistically significant at .01
* - statistically significant at .05

From Table 2 it can be seen that the only statistically significant predictor is gratitude (model 1: β=.281, $p<.01$; model 2: β=.243. $p<.01$). The first model explains 28.1% of variance of the positive affect, while the second model explains 30.1% of the total variance of positive affect. These results are in accordance with the previous studies (Chan 2010; Lin 2014; Wood et al. 2009; Gordon et al. 2011; Wood et al. 2010; Chan 2013) which all suggest that gratitude is one of the key variables for subjective well-being. On the other hand, it can be seen that Loneliness is not a very important variable for positive affect. These results are not in accordance with the previous studies (Jovančević 2019). For example, Jovančević (2019) showed that we can predict positive affect through loneliness and that social loneliness was a statistically significant predictor of Positive affect. Combining these results, we can assume that the variance the social loneliness predicted in that study was due to the gratitude trait, for when we insert gratitude into the equation – Social loneliness is not an important predictor anymore.

Table 2 Regression analysis: Predicting Positive affect by Gratitude and Loneliness

Model	Predictors	R	R^2	F	R^2 change	F change	p change	β	p
Model 1		.281	.079	18.413					.000
	Gratitude							.281	
Model 2		.301	.091	5.257	.011	.882	.451		.000
	Gratitude							.243	.001
	Loneliness in love							.051	.466
	Loneliness in the family							-.012	.868
	Social loneliness							-.112	.143

In order to check the hypothesis stated above, we tried a different sequence of predictors – Loneliness first, followed by Gratitude.

The first model, the model with only Loneliness, was statistically significant ($p<.05$) and Social loneliness was indeed a statistically significant predictor of positive affect (β=198; $p<.05$) but its significance was lost in the second model when gratitude was added (β=-.112; $p>.05$). So, on the basis of all these results we can assume that Loneliness is indeed a significant predictor of positive affect, and that gratitude is a mediator of that relation. The mediation is, presumably, a total mediation because loneliness stops to be a significant predictor when gratitude is added in the equation.

Taking all these results into account we can assume that those who are lonely are to a lesser extent prone to positive affect and those who are grateful are prone to positive affect to a higher extent. Further, previous studies show that gratitude was proven to be a protective factor against loneliness (Ni, Yang, Zhang, & Dong 2015). Based on those results, we can assume that loneliness is an important variable until gratitude is taken into account, because gratitude, as a protective factor against loneliness, changes an individual's perspective on how lonely he or she is – rendering gratitude a more important variable for positive affect proneness.

Statistical power for the first model was .98 and for the second model .95.

From Table 3 it can be seen that the first model explains 12.6% of the variance of Negative affect, while the second model explains 21.9% of the total variance of negative affect. But only the second model is statistically significant ($p<.05$). The only statistically significant predictor is loneliness in the family ($\beta=.143$. $p=.049$).

Table 3 Regression analysis: Predicting Negative affect by Gratitude and Loneliness

Model	Predictors	R	R^2	F	R^2 change	F change	p change	β	p
Model 1		.126	.016	3.458					.064
	Gratitude							-.126	.064
Model 2		.219	.048	2.664	.032	2.377	.071		.034
	Gratitude							-.048	.531
	Loneliness in love							-.002	.979
	Loneliness in the family							.143	.049
	Social loneliness							.092	.240

These results are in accordance with previous studies which suggest that poor relationship quality in the family circle is an important stressor which can take a toll on an individual's well-being (Thomas, Liu, & Umberson, 2017). Furthermore, some studies have shown that family loneliness is a significant predictor of subjective well-being (Hombrados-Mendieta, García-Martín & Gómez-Jacinto 2013; Jovančević 2019). In the study by Jovančević (2019) family loneliness was shown to be a significant predictor of negative affect. Taking all these results into account it can be concluded that family loneliness is indeed a significant predictor of negative affect. On the other hand, gratitude was not proven to be a significant predictor of negative affect although theory suggests that it is the most important variable for subjective well-being (Chan 2010; Lin 2014; Wood et al. 2009; Gordon et al. 2011; Wood et al. 2010; Chan 2013). We can assume that gratitude indeed is an important variable of subjective well-being in general, but when we look at the separate aspects of subjective well-being we can see more clearly what variables are the most important ones for what aspect of subjective well-being. From all this we can assume that when an individual feels lonely in family surroundings, that loneliness is what mostly impacts the negative emotions that individual experiences – trait gratitude becomes less important when family problems come to the light.

Since only the second model was statistically significant, and since the only significant predictor was loneliness in the family, we calculated the statistical power for that predictor. It was .99.

From Table 4 it can be seen that the first model explains 23.5% of the variance of life satisfaction, while the second model explains 38.6% of the total variance of life satisfaction. When loneliness is added in the second model, an additional 15.1% of the statistically significant explained variance appears ($p<.01$).

Table 4 Regression analysis: Predicting Life satisfaction by Gratitude and Loneliness

Model	Predictors	R	R^2	F	R^2 change	F change	p change	β	p
Model 1		.485	.235	65.648					.000
	Gratitude							.485	.000
Model 2		.621	.386	33.117	.151	17.279	.000		.000
	Gratitude							.283	.000
	Loneliness in love							-.160	.006
	Loneliness in the family							-.126	.032
	Social loneliness							-.297	.000

Gratitude β value drops significantly in the second model (from β=.485 in the first model to β=.283 in the second model) suggesting that one of the types of loneliness is the mediator between gratitude and life satisfaction. Since social loneliness is the best predictor (β=-.297, $p<.01$) we can assume that this is the mediator in the relation between gratitude and life satisfaction.

The best predictor in this regression analysis is social loneliness (β=-.297, $p<.01$). This is in accordance with some previous studies (Jovančević 2019).

These results are in accordance with studies suggesting that gratitude is an important variable for subjective well-being (Chan 2010; Lin 2014; Wood et al. 2009; Gordon et al. 2011; Wood et al. 2010; Chan 2013). They are also in accordance with previous studies suggesting that Loneliness is an important variable for subjective well-being (Hombrados-Mendieta et al. 2013; Diener & Seligman 2002; Larson et al. 1986). These results suggest that trait gratitude indeed leads to higher satisfaction with life, but that this relation is mediated by the social loneliness. We can now recall results which suggest that Loneliness was proven to be a significant mediator between gratitude and physical health (O'Connell et al. 2016). Furthermore, some studies suggest that very happy individuals spent less time alone and more time in the company of others (Diener & Seligman 2002). Also, Larsen et al. (1986) suggest that people show a higher level of happiness when in the company of others. All these results taken together suggest, firstly, that those with a higher gratitude trait level are indeed more satisfied with their life. According to McCullought and associates (2002), and their classification of gratitude facets, those who feel gratitude with higher intensity and more often, those who are grateful for more things in their life and those who are grateful to more people in their life will also be more satisfied with their life. On the other hand, since loneliness was proven to be an important predictor of life satisfaction, these results can be understood if other studies are taken into account. For example, authors suggest that loneliness is a mediator between gratitude and physical health (O'Connell et al. 2016), and if this is true for physical health it could also be true for life satisfaction. Furthermore, on the basis of the results given here, it is possible that social loneliness is a mediator between gratitude and life satisfaction, and since the results from the previous studies suggest that people are happy the most when around other people (Diener & Seligman 2002; Larson et al. 1986) this is also understandable.

Although we do not expect multicollinearity for life satisfaction as a criterion variable, we have calculated statistical power for both models of this analysis. It was .99 for the first model and 1 for the second model.

Finally, we can now assume that those who have a higher level of gratitude are more satisfied with their life, but, if they feel lonely, the impact of gratitude is not that strong.

In the end, we can conclude that this study is in accordance with previous results regarding importance of gratitude for subjective well-being, and with those studies suggesting the importance of loneliness for subjective well-being. On the other hand, this study shows for which aspects of subjective well-being the gratitude is most important for. Namely, Gratitude was proven to be important for two out of three aspects of subjective well-being (Positive affect and Life satisfaction), but its importance for life satisfaction decreases when loneliness is added in the equation. Furthermore, it was shown that loneliness by itself is not a significant predictor of positive affect, but that Family loneliness is the only important predictor of negative affect, suggesting that Family dissatisfaction could be that key thing leading to negative emotions in individuals. Finally, all three types of loneliness were found to be significant predictors of life satisfaction.

4. CONCLUSION

The results of this paper show that both loneliness and gratitude are important variables for subjective well-being. The best and only statistically significant predictor of positive affect was gratitude. The best predictor of negative affect was family loneliness while the best predictor of life satisfaction was social loneliness. So, in conclusion, both loneliness and gratitude are important variables for subjective well-being. However, on the level of different aspects of subjective well-being, we can see that each of these variables has a different impact on different aspects of the subjective well being.

The theoretical contribution of this paper consists in deeper knowledge regarding subjective well-being – as one of the key constructs in mental health.

The practical contribution can be found in therapy or in workshops for enhancing subjective well-being and its components. Namely, when we know which aspects of personality lead to enhancement of which aspects of the subjective well-being, it becomes easier to work with individuals with low levels of subjective well-being with the goal of enhancing it.

The limitations of this research pertain to the demographic characteristics of the sample. Namely, for future research we suggest the inclusion of the same number of respondents with different education levels and also the control of the socio-economic background of the respondents. Since the sample in this research was a convenience sample, for future research we suggest some other sampling method, which would give us a more representative sample (for example a stratified sampling method). Furthermore, since the research was done online, all age groups and respondents of all economic backgrounds were surely not accounted for in this research, for which reason we suggest conducting this research in offline conditions in the future. We also suggest adding a mediation analysis in future research.

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ZAHVALNOST I USAMLJENOST KAO PREDIKTORI SUBJEKTIVNOG BLAGOSTANJA

Glavni cilj ovog istraživanja je provera uloge usamljenosti u doživljaju subjetktivnog blagostanja, koja je pronađena u prethodnim radovima, kao i provera toga koju ulogu zahvalnost kao crta ima u doživljaju subjektivnog blagostanja – kao jednog od glavnih faktora ovog stanja pronađenog u prethodnim radovima. Uzorak je prigodan i čini ga 219 ispitanika (78.99% žena). Upitnici korišćeni u ovom istraživanju su sledeći: Skala socijalne i emocionalne usamljenosti za odrasle (SELSA; diTomasso & Spinner 1993), Skala zadovoljstva životom (SWLS; Diener, Emmons, Larsen, & Griffin 1985), PANAS (Watson, Clark, & Tellegan 1988) i Upitnik Zahvalnosti (McCullough et al. 2002). Podaci su obrađivani hijerarhijskom regresionom analiziom gde su kriterijumi bile kompoenente subjektivnog blagostanja, prediktor u prvom koraku zahvalnost a prediktori u drugom koraku tri vrsted usamljenosti. Rezultati ovog istraživanja pokazuju da je jedini statistički značajan prediktor pozitivnog afekta zahvalnost (model 1: β=.281, p<.01; model 2: β=.243. p<.01). Zahvalnost i usamljenost zajedno objašnjavaju 30.1% varijanse pozitivnog afekta. Kada je u pitanju negativni afekat, prvi model objašnjava 12.6% varijanse dok drugi objašnjava 21.9% varijanse negativnog afekta. Samo je drugi model statistički značajan (p<.05). Jedini statistički značajan prediktor je usamljenost u porodoci (β=.143. p=.049). Konačno, kada je u pitanju zadovoljsto životom, prvi regresioni model objašnjava 23.5% varijanse dok drugi objašnjava 38.6% varijanse zadovoljstva životom. Kad se usamljenost ubaci u drugi korak regresije, statistički značajno se objašanjava dodatnih 15.1% (p<.01). Najbolji prediktor u ovoj regresionoj analizi je socijalna usamljenost (β=-.297, p<.01). Na osnovu rezultata možemo da zaključimo da su i zahvalnost i usamljenost bitne varijable za subjektivno blagostanje, ali i to da kada je svaka od ovih varijabli u različitoj meri bitna za različite aspekte subjektivnog blagostanja.

Ključne reči: *zahvalnost, subjektivno blagostanje, socijalna usamljenost, usamljenost u porodici, usamljenost u ljubavi.*

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Original Scientific Paper

THE FACTORS OF THE LATERAL ORIENTATION OF PORTRAITS

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Abstract. *This paper analyses the portraits` aesthetic experience from side perspectives, including left and right orientation. Research was conducted by performing two experiments. The first experiment included 40 participants, the second had 26 participants of both genders who were not trained in the field of fine arts. The stimuli were 12 reproductions of portraits, profile orientation, of models made by famous painters. All the portraits represented adult persons, of different genders (male or female), spatial orientation (left or right) of the model and form (original or inverted). The participants assessed the presented portraits without time limitation on six scales, which measured two dimensions of aesthetic experience: evaluation and activity.*
The results support the hypothesis claiming that left side orientation (looking to the left) is valued higher with female portraits, while right side orientation with male portraits is valued higher. It has also been shown that the given differences in estimation were stable, keeping values in the same trend when the portraits were being inverted along a vertical axis.

Key words: *portrait, orientation, inversion, gender, activity.*

1. INTRODUCTION

Portraits are very often painted. They appear very often as subjects in art, appearing early in history, and are found in all cultures and civilizations.

Portraits usually have the characteristics of the represented persons, but also the main characteristics of style, historical periods, social and psychological elements present in the current periods, and the artists` style too. All of the abovementioned makes them the main subjects when researching art forms and the psychological characteristics of portrayed characters.

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Portraits, as the subject of painting, have double meaning: they reflect aesthetic impressions and social moments. Aesthetic and communication levels of expression can be experimentally divided, because based on different physiological fundaments (Gerger, Leder, and Tinio 2011).

It was noticed a while ago that there was tendency for doing portraits using mostly one perspective, one angle, which was confirmed later by various studies. Artists rarely make portraits en face, but instead more often lateral, left or right (Gordon 1974; Grusser, Selke, and Zynda 1988; McManus and Humphrey 1973).

Artists more frequently paint left lateral (Gordon 1974; McManus and Humphrey, 1973). Art students also more often paint left lateral, when they are asked to paint a portrait with lateral orientation (Skorc and Pejic 2012). This tendency is more often presented with female portraits (Conesa, Brunold-Conesa, and Miron 1995; Gordon 1974; Grusser et al. 1988; McManus and Humphrey 1973) and the whole figure (McManus and Humphrey 1973). Rhodes (1985) has a theory that is frequently cited because the left side of the face emphasizes the emotional side more with female characters. With time, this tendency decreased, making it almost not present in contemporary art (Grusser et al. 1988).

Research has shown that the social status of the portrait subject and social distance between the artist and model also affect portrait orientation. According to that, portraits of women from higher social backgrounds, or sovereigns, are more often done from the right lateral perspective (Grusser et al. 1988). On the other hand, some painters, like Rembrandt, more often did right lateral paintings of persons they were close with, or related to (Humphrey and McManus 1973).

Right lateral portraits are assessed as more powerful and more active than those made from the left side (Benjafield and Segalowitz 1993), and are preferred by spectators (McLaughlin and Murphy 1994).

2. The Research Objective

Based on the aforementioned studies, this research aimed to analyze the thesis about the dominant right lateral when perceiving portraits, i.e. the thesis that right lateral portraits are evaluated as stronger, more active and more pleasant. The research objective was to determine:

- whether lateral portraits, which differ by model gender and orientation, are differently estimated in terms of aesthetic dimensions of evaluation and activity; whether there are differences in estimation between various categories of portraits in favour of any individual category;
- the impact of inverted laterals along the vertical axes on the estimation of aesthetic dimensions of evaluation and activity, and whether there are differences in the assessment of inverted lateral portraits compared to the original version.

The following two experiments were performed in order to give answers to the questions above.

2.1. Experiment 1

The experiment was supposed to assess the estimation of portraits which differ by gender of the model and spatial orientation, in terms of evaluation and activity.

2.1.1. Method

Participants: The research included 40 participants, of both genders (30 female and 10 male), of an average age of 20. The participants were not formally trained in the field of fine arts.

Stimuli: Between many available painting prints, those representing the main characteristics of the portraits as artistic expressions well and strongly emphasizing their orientation were chosen. The stimuli were 12 reproductions of color portraits made by famous artists. All the portraits depicted adult persons of different gender (male and female) and space orientation (left and right) of the model. The categories were equated by stimuli number, with 6 female and 6 male portraits, and 6 from each lateral profile (3 female and 3 male portraits oriented to the left, 3 female and 3 male portraits oriented to the right). All portraits were from different epochs and artistic styles (see Fig. 1).

Fig. 1 Example of stimuli – left and right oriented female and male portraits

Instrument: 6 seven-degree scales were given in the form of a semantic differential, used as a part of Instrument for aesthetic assessment (Pejić 2007). The scales measured two dimensions:

- The dimension of evaluation (scales: cold – hot, rough – soft, repulsive – attractive), and
- The dimension of activity (scales: static – dynamic, slow – quick, passive – active).

Procedure: The participants were instructed to focus onto their personal impression, not on the specific characteristics of paintings, while assessing.

Each participant had the task to assess every stimulus on six scales. Their responses were on a scale from -3 to +3. Value 1 on the scale, positive or negative, always represented a minimal presence, while a value 3, positive or negative, denoted maximum presence of a characteristic.

The stimuli were displayed via an LCD projector, in random order. The time of exposure and assessment of the stimuli were not restricted. The participants were organized into groups.

Data analysis: The average values were calculated for each dimension. The differences were tested by the Analysis of Variance and t-test for Equality of Means.

2.1.2. Results

Dimension of Evaluation: Results Analysis

The analysis of variance indicated statistically significant effect of gender: $F(1;38)=171{,}519$, $p<.001$ and interaction between gender and orientation: $F(1;38)=25{,}083$, $p<.001$ on the dimension of evaluation. The basic effect of orientation did not show statistical significance: $F(1;38)=1{,}625$, $p>.05$.

Two partial analyses were also carried out, which tested the significant effects of orientation in each group of gender.

The analysis performed on assessments of female portraits, indicated a significant effect of orientation: $F(1;38)=18{,}404$, $p<.001$. Left orientation female portraits (left side faces) were valued higher than right orientation female portraits (right side faces) on the dimension of evaluation, (see Fig. 2 and Fig. 3).

The analysis performed on assessments of male portraits indicates a significant effect of orientation: $F(1;38)=7{,}514$, $p<.01$. Right orientation male portraits (right side of the faces) were valued higher than left orientation male portraits (left side of the faces) on the dimension of evaluation, (see Fig. 2 and Fig. 3).

Fig. 2 Assessments of left and right orientation female and male portraits on the dimension of evaluation

Also, two partial analyses were performed, testing the significant effects of gender in each group of orientation.

The analysis done on assessments of left orientation portraits indicates a significant effect of gender: $F(1;38)=167{,}418$, $p<.001$. Left orientation female portraits were valued more than left orientation male portraits on the dimension of evaluation (see Fig. 2 and Fig. 3).

The analysis done on assessments of right orientation portraits indicates a significant effect of gender: $F(1;38)=32{,}035$, $p<.001$. Right orientation female portraits were valued more than right orientation male portraits on the dimension of evaluation (see Fig. 2 and Fig. 3).

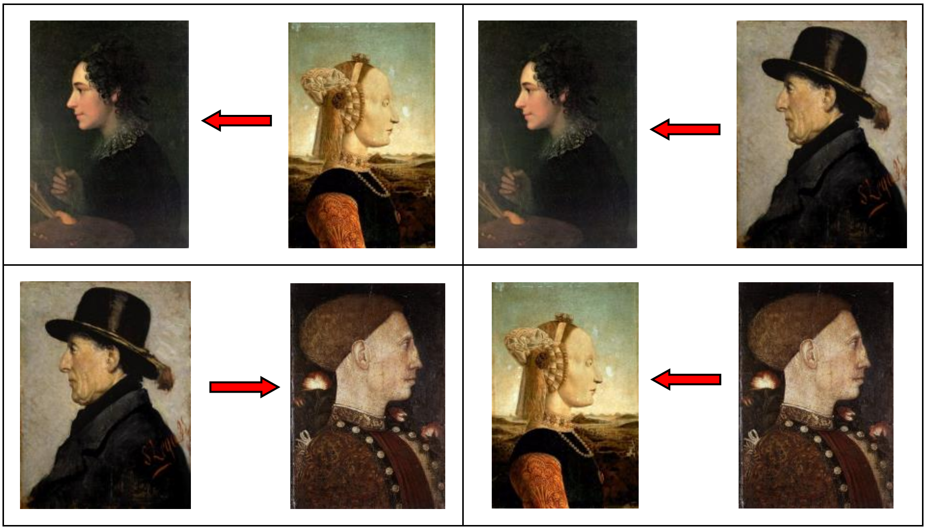

Fig. 3 The choice between left and right orientation female and male portraits on the dimension of evaluation

Dimension of Activity: Results Analysis

The analysis of variance showed a statistically significant effect of gender: $F(1;38)=13{,}971$, $p<.001$ and interaction between gender and orientation: $F(1;38)=3{,}827$, $p<.05$ on the dimension of activity. No statistically significant results on orientation were noted: $F(1;38)=0{,}919$, $p>.05$.

Two partial analyses were also carried out, testing the significant effects of orientation in each group based on gender.

The analysis done on the assessments of female portraits indicates a significant effect of orientation: $F(1;38)=4{,}851$, $p<.05$. Left orientation female portraits were valued more than right orientation female portraits on the dimension of activity (see Fig. 4 and Fig. 5).

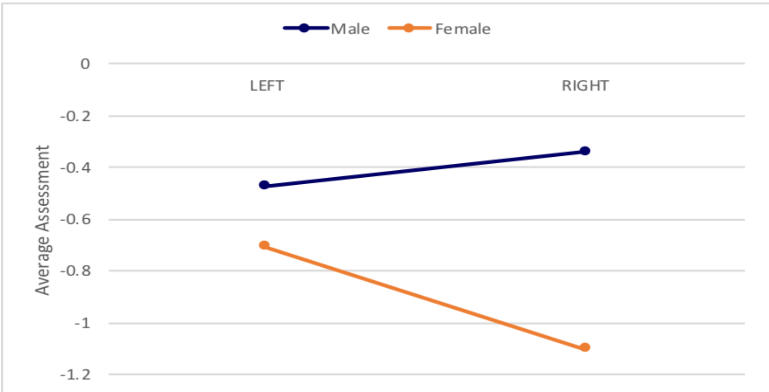

Fig. 4 Assessments of left and right orientation female and male portraits on the dimension of activity

The analysis done on assessments of male portraits indicates no significant effect of orientation: $F(1;38)=.443$, $p>.05$. The left and right orientation male portraits have same values on the dimension of activity, (see Fig. 4 and Fig. 5).

Also, two partial analyses were performed, which tested the effect of gender in each group of orientation.

The analysis done on assessments of left orientation portraits indicates no significant effect of gender: $F(1;38)=1{,}340$, $p>.05$. The left orientation male and female portraits have same values on the dimension of activity (see Fig. 4 and Fig. 5).

The analysis done on assessments of right orientation portraits indicates a significant effect of gender: $F(1;38)=19{,}868$, $p<.001$. The more active are right orientation male portraits than right orientation female portraits (see Fig. 4 and Fig. 5).

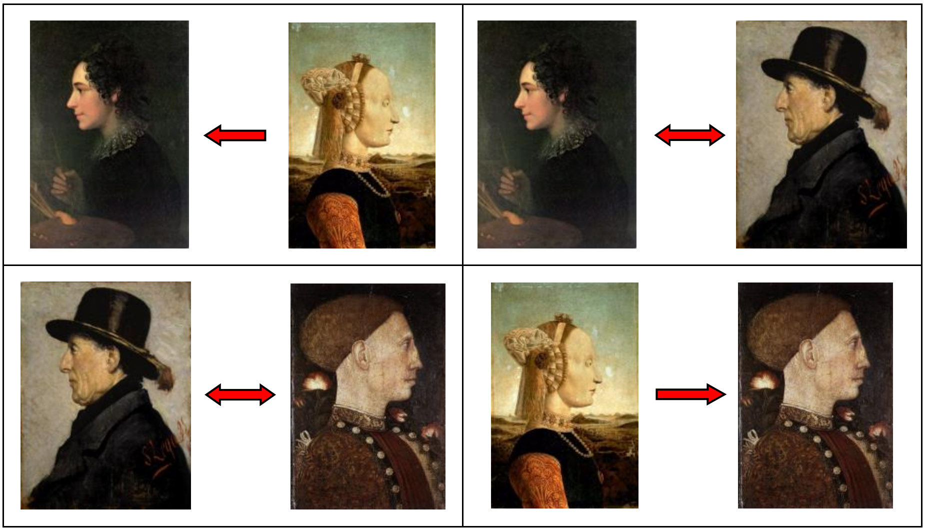

Fig. 5 The choice between left and right orientation female and male portraits on the dimension of activity

2.2. Experiment 2

This experiment objective was to test assessments of inverted versions of portraits, which differed based on gender and spatial orientation.

2.2.1. Method

Participants: The research included 26 participants, of both genders (17 female and 9 male), with an average age of 20. The participants were not formally trained in the field of fine arts.

Stimuli: The same stimuli from Experiment 1 were used with inverted versions added. All portraits were inverted along the vertical axis. A total of 24 reproductions of color portraits (12 original and 12 inverted forms).

Instrument: Scales from Experiment 1 were used.

Procedure: It was the same procedure like in Experiment 1. The only difference was that the participants were given instructions that the portraits will be shown in two versions: original and inverted, but without revealing which version is the original.

Statistical procedure: It was used the same methods as in Experiment 1.

2.2.2. Results

The Analysis of variance was calculated for original and inverted forms of portraits which differ based on gender and spatial orientation of the model. Similar results were obtained for original versions on the portraits as in Experiment 1. Regarding that, only results for invert forms will be presented.

Dimension of Evaluation: Results Analysis for inverted stimuli

The analysis of variance indicated significance only for the interaction between gender and orientation: $F(1;24)=15{,}358$, $p<.001$ on the dimension of evaluation for inverted stimuli. No significant results were determined for gender: $F(1;24)=3{,}226$, $p>.05$ or just orientation: $F(1;24)=.001$, $p>.05$.

Since the interaction between the gender of the model and orientation was confirmed, two partial analyses were also performed, testing the significance of orientation in each group based on gender.

The analysis done on assessments of inverted female portraits indicates a significant difference of orientation: $F(1;24)=9{,}042$, $p<.01$. Right oriented female portraits (in the original version they were left female portraits) were valued more than left orientation female portraits (in the original version they were right female portraits) on the dimension of evaluation, (see Fig. 6 and Fig. 7).

The analysis done on assessments of inverted male portraits indicates a significant difference between orientations: $F(1;24)=6{,}649$, $p<.05$. Left orientation male portraits (in the original version they were right male portraits) were valued more than right orientation male portraits (in the original version they were left male portraits) on the dimension of evaluation, (see Fig. 6 and Fig. 7).

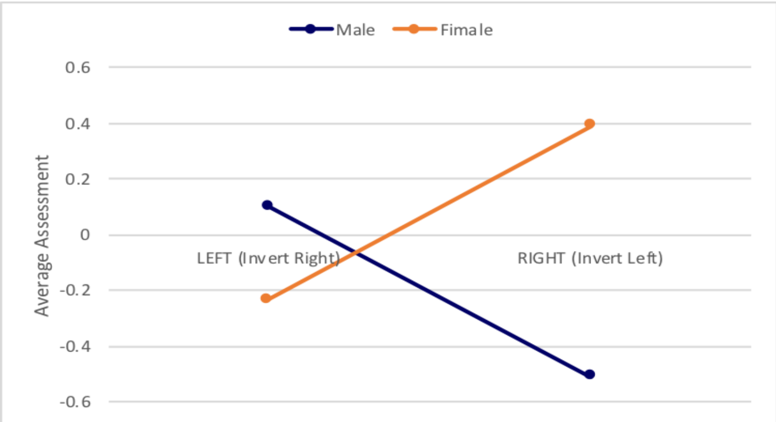

Fig. 6 Assessments of left and right orientation female and male portraits in inverted form on the dimension of evaluation

Regarding previous findings, two partial analyses were also performed, testing the effects of gender in each group of orientation.

The analysis done on assessments of inverted versions of left orientation portraits indicates no significant effect of gender: $F(1;24)=2{,}300$, $p>.05$. The left orientation male and female portraits in the inverted version were valued same on the dimension of evaluation (see Fig. 6 and Fig. 7).

The analysis done on assessments of inverted versions of right orientation portraits indicates a significant effect of gender: $F(1;24)=16{,}004$, $p<.001$. Right orientation female portraits in the inverted version were valued more than right orientation male portraits in the inverted version on the dimension of evaluation (see Fig. 6 and Fig. 7).

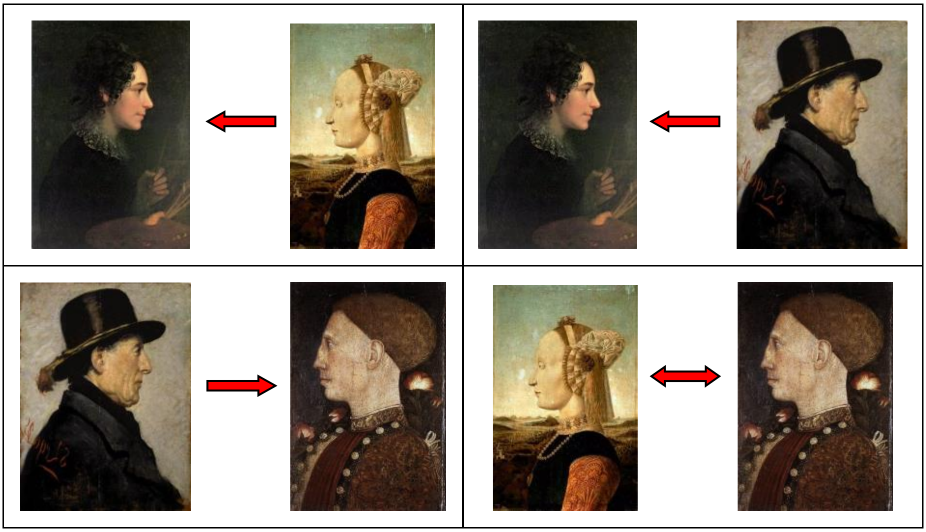

Fig. 7 The choice between left and right orientation female and male portraits in the inverted form on the dimension of evaluation

Dimension of Activity: Results Analysis for inverted stimuli

The analysis of variance indicated a significant difference only for the interaction between gender and orientation: $F(1;24)=35{,}891$, $p<.001$ on the dimension of activity for inverted stimuli. No statistically significant difference for gender effect: $F(1;24)=.820$, $p>.05$ and no significance for orientation effect: $F(1;24)=.003$, $p>.05$ were determined.

Two partial analyses were performed, testing the effect of orientation in each group based on gender.

The analysis done on assessments of inverted versions of female portraits indicates a significant effect of orientation: $F(1;24)=19{,}040$, $p<.001$. The more active are right orientation female portraits (in the original version they were left female portraits) than left orientation female portraits (in the original version they were right female portraits), (see Fig. 8 and Fig. 9).

The analysis done on assessments of inverted versions of male portraits, also, indicates a significant effect of orientation: $F(1;24)=16{,}939$, $p<.001$. The more active are left orientation male portraits (in the original they were right male portraits) than right orientation male portraits (in the original version they were left male portraits), (see Fig. 8 and Fig. 9).

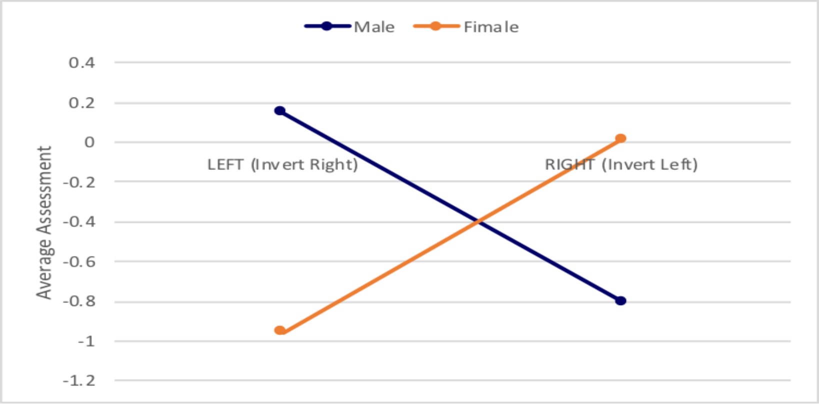

Fig. 8 Assessments of inverted forms of left and right orientation female and male portraits on the dimension of activity

Also, two partial analyses were performed, testing the effect of gender in each group of orientation in the inverted versions.

The analysis done on assessments of the inverted version of left orientation portraits indicates a significant effect of gender: $F(1;24)=23{,}301$, $p<.001$. The more active are left orientation male portraits in the inverted version, than left orientation female portraits in the inverted version (see Fig. 8 and Fig. 9).

The analysis done on assessments of inverted versions of right orientation portraits indicates a significant effect of gender: $F(1;24)=13{,}203$, $p<.001$. The more active are right orientation female portraits in the inverted version, than right orientation male portraits in the inverted version (see Fig. 8 and Fig. 9).

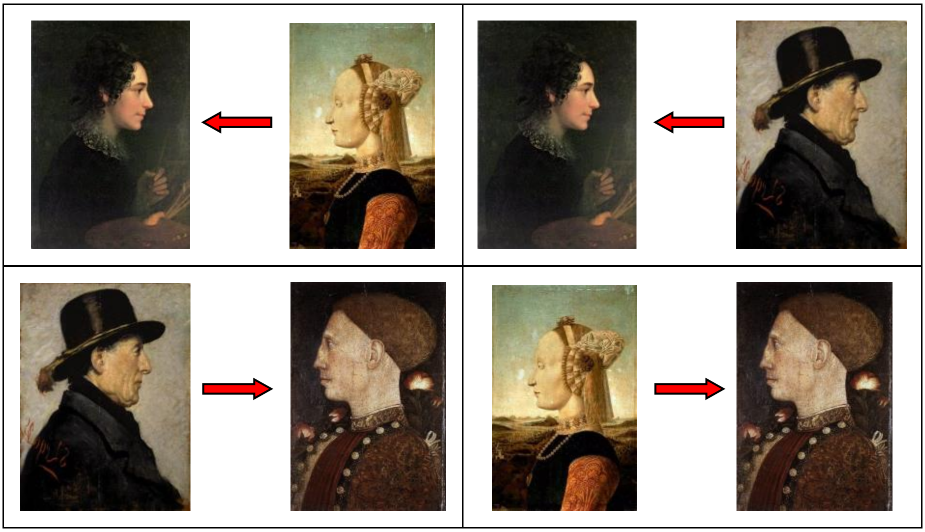

Fig. 9 The choice between invert left and right orientation female and male portraits on the dimension of activity

While analyzing the results, additional attention should be paid to the fact that the inverted right lateral portrait is actually originally a left lateral portrait and vice versa. According to data from the analysis we can see that the basic trend in assessment remains intact and similar to original form assessments, with the general aesthetic value reduced.

3. Discussion and Conclusions

Female portraits painted from a lateral perspective, showing left lateral, are perceived as more attractive and active, than right oriented female portraits. On the other hand, right oriented male portraits are perceived as more attractive and active than left oriented male portraits. Given results support findings about stronger dominance of left orientation on paintings representing females, and right orientation on paintings representing males.

Findings partly verify the thesis about an existing absolute dominance, i.e. aesthetic assessment of right oriented portraits, which is related to male models, while left orientation is dominant with female models.

The results also show that impressions of portraits, observed through dimensions of evaluation and activity, are not related just to formal characteristics such as orientation and model gender, but also to the artist`s general idea and composition of the painting. Regarding that, we found statistically significant differences on tested dimensions in the original and inverted versions.

Assessments of original versions by value evaluation – dimension of expression related to evaluative aesthetic judgment and dimension of pleasantness indicate differences favoring female portraits, no matter how oriented they are. Left oriented portraits are considered the most gentle, warmest and most attractive, while right oriented are perceived less consistently with those categories. On the other hand, male portraits are perceived as cold, rough and repellent.

Inverted versions assessed by the dimension of evaluation show a tendency to favour specific categories of male and female portraits. Contrary to original versions, right oriented inverted female portraits are seen as gentle, warm and attractive (left oriented in the original version), while left oriented inverted female portraits (right oriented in the original version) are seen as rough, cold and unattractive.

Left oriented male inverted portraits (right oriented in the original version) are seen the same as right oriented inverted female portraits with less intensity, while right oriented inverted male portraits (left oriented in the original version) are seen more in a negative way, like left oriented inverted female portraits.

Assessments of original versions by dimension of activity indicate that all categories of portraits are given below average values, but differences are found in the direction toward the artistic image of male portraits in both versions. Right oriented male profiles were seen as less static, slow and passive, and right oriented female portraits were seen as most static, slow and passive. The results indicate that activity as a dimension is more sustained with right oriented male portraits.

Assessments of the inverted version based on activity have higher values for left oriented inverted male portraits. Those (right oriented in the original version) are assessed as dynamic, fast and active. Right oriented inverted female portraits are assessed in a similar way (left oriented in the original version), although with less intensity. Right oriented inverted male portraits (left oriented in the original version) and left oriented inverted female portraits (right oriented in the original) are valued with a negative prefix by this dimension. They are seen as slow, static and passive, especially for female portraits, those who are left oriented inverted.

This topic opens an interesting question about what is happening on the impression level when untypical original portraits are inverted into something that is expected to be a typical form. This transformation in the mirror obviously does not give linear effects, but completely the opposite – the impression is polarized toward the negative. The findings are telling us that the original artist`s idea is not a coincidence, an atypical portrait orientation in the original version is aesthetically valued more than the inverted one.

The results can easily be related to many empirical results and interpretations.

According to some authors, there are differences in hemispheres regarding expression of emotion (Rhodes, 1985), the right hemisphere produces emotions which are manifested more on the left side of the face. Since artists are more sensitive by intuition, they showed women as emotional and more often portrayed by left side.

Other authors included an agent, model activator (Chatterjee 2002). According to this idea, the subject models are in a passive role, so artists show them more often from the left side. The cultural aspect (the traditionally submissive role of women) leads to women rarely being seen as "agents" unlike men, which is why they are painted more often from the left side. Men are presented from the right side in order to deliver a message about the "agent" more clearly, pointing to them as more active subjects.

Favoring female portraits on the evaluation dimension, especially those painted from the left side, is confirmed by the fact that artists showed female portraits more often as left oriented. Some authors created a habit and tendency for this orientation with their regular audience (McManus and Humphrey 1973). This is more likely to be explained by laws of perception processing visual forms in light of theory emphasizing the "pregnanz" quality of object – an optimal form of organization, since it is constantly present in many different studies.

Favouring male portraits, especially made from the right side, on the dimension of activity, confirms the thesis about the aesthetic dominance of right oriented portraits (Benjafield and Segalowitz 1993).

On the other hand, assessments of inverted versions of portraits indicating these two categories, left oriented female and right oriented male portraits, are less intact in way of balance, when inverted. Speaking of aesthetics, they are more stable. Even inverted, their balance and composition are not seen as distorted. Sometimes, in some cases, they are more valued than originals, as evidenced in assessments of activity.

The results on inverted forms are compatible with the thesis that male right-oriented profiles are more dominant, because the right side of the face is seen as more active whether shown in the original or inverted version.

At the same time, the sample structure makes us feel more careful, because it is uneducated artistic audience, without special interest in visual art. There is a strong influence of previous education in art on receiving art (Funch 1997; Pejić 2004; Pejić and Škorc 2009; Škorc 2012). It is also important to consider the modern explosion of visual communication within mass media, connected with a decreasing formal education for art, all affecting moving focus from a complex impression toward fast and superficial perception of "beauty" according to the attraction of the model, in this case this would be the human face. That is how "beauty" is separated from artistic production and values of cultural products, becoming fast ad hoc assessments of whether to meet the actual person or to put the painting on our wall. Superficial aesthetic judgment is based on the model`s characteristics, and cannot be separated from pragmatic thinking. Still, the results are not minimized because they are related to a typical assessor. The results given from a standard audience are related to the relevant public share (most of the general population), but without the certain conclusion that we are speaking about an audience that is relevant for making judgments on art, being capable of developing and analyzing its impression. As shown in Adorno`s work, a passive audience could not be audience at all – it is necessary to question different subgroups and systematically develop deeper communication layers between the audience and language of art (Škorc 2012).

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FAKTORI LATERALNE ORIJENTACIJE PORTRETA

U radu se ispituju komponente estetskog doživljaja portreta rađenih iz profila. Istraživanje je organizovano kroz dva eksperimenta. U prvom eksperimentu je učestvovalo 40, a u drugom 26 ispitanika oba pola, koji nisu posebno obučavani iz oblasti likovnih umetnosti. Stimulusni materijal se sastojao od dvanaest reprodukcija portreta lica iz profila poznatih likovnih umetnika. Portreti su predstavljali odrasle osobe. Razlikovali su se po modelu (ženski/muški); orijentaciji modela u prostoru (levo/desno) i formi portreta (originalni/invertovani). Ispitanici su bez vremenskog ograničenja procenjivali stimuluse na 6 skala, koje su merile dve dimenzije estetskog doživljaja: evaluaciju i aktivitet. Rezultati idu u prilog hipotezi o višem estetskom vrednovanju leve orijentacije (gleda na levo) kod ženskih portreta, odnosno desne orijentacije kod muških portreta. Takođe je pokazano da ova razlika u procenama između polova opada ali se zadržava u istom trendu kada se isti portreti invertuju po vertikalnoj osi.

Ključne reči: *portret, pol, inverzija, evaluacija, aktivitet.*

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Original Scientific Paper

THE RELATIONSHIP BETWEEN AFFECTIVE TEMPERAMENT AND PERCEIVED SOCIAL SUPPORT

UDC 159.923.4.072

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Abstract. *This paper examines whether people with different affective temperament (depressive, cyclothymic, hyperthymic, irritable, anxiety-cognitive, anxiety-somatic and mixed) differ in terms of perceived social support. The sample is a convenience one, uniform by gender, consisting of 200 people under the age of 35. The instruments used in the research are: the Serbian version of the TEMPS-A scale, which assesses five affective temperaments, and the Serbian version of the Social Support Scale of the Study of Medical Outcomes (MOS-SSS). The results show that the depressive temperament perceives social support to a lesser extent than the cyclothymic ($p <.05$), hyperthymic ($p <.01$), anxiety-cognitive ($p <.05$) and mixed temperament ($p <.05$). On the other hand, the hyperthymic temperament is more prone to perceiving social support than the cyclothymic ($p <.05$) and anxiety-somatic temperaments are ($p <.05$). The main conclusion of this research is that hyperthymic temperament, which is characterized by most desirable traits such as optimism, sociability, self-confidence and eloquence, perceives its social environment to be more supportive than other temperaments, which is a consequence of its characteristics and the adequate communication of its own needs.*

Key words: *affective temperament, perceived social support, social support dimensions.*

1. INTRODUCTION

1.1. Affective temperaments

The definition of temperament usually encompasses genetic-biological components of behavior, which are manifested through a series of signs and characteristics that include a certain stable mood, attitude towards the environment, sensitivity to external stimuli and

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a characteristic way of reacting (Ratković 2017). The elements of temperament are usually: motor activity, rhythmicity, adaptability, the irritability threshold, reaction intensity, mood quality and ability to direct and maintain attention (Goldsmith et al. 1987; according to Ratković 2017).

One's personality can be defined as a kind of "mixture" of temperament types. More precisely a person's experiences, feelings and emotional reactions, can be related to temperament. This explanation originates from Hippocrates and Aristotle (Dembińska-Krajewska & Rybakowski 2014). The following conception, relevant to the modern understanding of temperament, originates from Greece and Roman medicine, which assume that temperament is a constitutional pattern of emotional reactivity (Akisakl & Akiskal 2007; according to Dembińska-Krajewska & Rybakowski 2014). Krepelin's teaching continued this tradition and formed the theory of four types of temperament (depressive, manic, cyclothymic and irritable), which were conceptualized as subclinical forms of affective disorders (Dembińska-Krajewska & Rybakowski 2014). Hagop Akiskal accepted and further developed the aforementioned concept of temperament (2007; according to Dembińska-Krajewska & Rybakowski 2014). This author states that there are five affective temperaments - depressive, hyperthymic, cyclothymic, irritable and anxious.

Depressive temperament represents people who are shy, prone to being submissive, prone to routine and self-blame, sensitive to criticism, but also prone to self-denial, sensitive to the suffering of others, reliable and persistent (Akiskal & Akiskal 2007; Dembińska-Krajewska & Rybakowski 2014). In general, they are characterized by a lack of energy, which prevents them from participating in tasks that require a high level of activity (Ibid).

Hyperthymic temperament consists of the largest number of "positive" traits: they are optimistic, fun, sociable, prone to jokes, self-confident, full of ideas, eloquent, constantly on the move. They do not need a lot of sleep, they are full of energy, do not get easily tired, show the highest intensity of emotional reactions and have a propensity to leadership (Ibid). The bad traits of this type are that they look at the problem one-sidedly, are prone to taking risks and they do not accept criticism at the expense of their character and intrusiveness (Akiskal & Akiskal 2007; Dembińska-Krajewska & Rybakowski 2014).

The cyclothymic temperament is of variable mood, energy and self-confidence, and unstable in social relations. A positive feature of this temperament is the high level of creativity. However, these people are prone to superficial thinking, but also ready to make an intellectual effort to understand the situation. Intense feelings are a part of their experience, they have a tendency toward emotional outbursts and are ready to quickly enter into new relationships (Dembińska-Krajewska & Rybakowski 2014).

The irritable temperament has some desirable intellectual traits, like skepticism and criticism. On the other hand, it has the “darkest” nature of all, as these individuals often complain and are grumpy, dissatisfied, prone to anger, violence, and sexual jealousy (Akiskal & Akiskal 2007). The irritable temperament partially coincides with the cyclothymic, but differs from it by having a higher energy level and a lower level of empathy (Dembińska-Krajewska & Rybakowski 2014).

People with an *anxious temperament* are prone to worry and rumination, and experience constant physical and mental tension that can lead to somatic symptoms (Ibid). From the previous description, it can be concluded that all the temperaments have both positive and negative characteristics, and thus can either favorably or adversely affect quality of life and social interactions.

Research has shown that affective temperaments are stable over time (Kawamura et al., 2010, according to Oniszczenko & Ledzińska 2019) and that they have both universal and culturally specific characteristics (Vázquez, Tondo, Mazzarini & Gonda 2012, according to Oniszczenko & Ledzińska 2019). Temperaments underlie stable behavioral patterns and personality traits (Rovai et al. 2013b, according to Oniszczenko & Ledzińska 2019), but they can also play a key role in the predisposition for the development of affective disorders and addiction, especially when they are too intense (Ratković 2017).

The cyclothymic temperament shows great difficulties in interpersonal relationships (Rovai et al. 2013a). The depressive temperament is associated with a decreased ability to interact with others and problems in interpersonal relationships (Ibid), but also with a tendency to worry, and problems with concentration (Walsch et al. 2013). The depressive and cyclothymic temperaments have a manifested increased reactivity to stress (Ibid). On the other hand, the hyperthymic temperament was positively associated with the experience of pleasant emotions, high energy, carefreeness, sociability, a positive perception of everyday life, but also a grandiose perception of self (Ibid), as well as a high level of emotionality (Rovai et al. 2013a).

1.2. Perceived social support

Generally speaking, social support is defined as an act or process that provides help or support (Zvizdić 2000; according to Zvizdić 2015). One possible definition is that social support is support available to a person through connections with other individuals, groups, and the larger community (Lin et al. 1979; according to Zvizdić 2015). The previous definition emphasizes the importance that interpersonal relationships have on providing social support. One more comprehensive definition is that social support is emotional, informational, or practical help from significant others, such as family members, friends or colleagues, and that it can be received by others or perceived as available when needed (Thoits 2010; according to Nurullah 2012).

Two basic aspects of social support are structural and functional (Cohen & Wills 1985; according to Zvizdić 2015). Structural support refers to the network of social relations of a person, i.e. the number of people providing support and roles that those people have (e.g. spouse, friend, colleague, etc.). Sarason, Levine, Basham and Sarason (1983; according to Zvizdić 2000) define the structural type of support as the real existence of people that an individual can rely on, i.e. people who value, care and love him/her. On the other hand, functional social support consists of perceived support, which is the belief of an individual that he has a common network of significant and interested supportive others (Zvizdić 2015) and receives support from a person.

One of the models of perceived social support was developed as part of a longitudinal study of medical outcomes, which aimed to examine the quality of life of people suffering from chronic diseases such as hypertension and diabetes (Tarlov et al. 1989; according to Jovanović & Gavrilov Jerković 2015). The MOS-SSS was developed within the mentioned study, and distinguishes five dimensions of perceived social support:

1. emotional, or the availability of a person who understands us and our problems and who is willing to listen to us and with whom we can share concerns;
2. informational – the availability of a person to whom we can turn for advice or information;

3. tangible – the availability of a person who can help us when we are sick;
4. affectionate – the availability of a person who loves us and who shows us love and attention;
5. positive social interactions – the availability of a person with whom we can have a pleasant time and with whom we can relax and enjoy ourselves.

Previous definitions and explanations clearly show that social support is one of the most important types of social interactions. In any situation where there is the possibility that we will be negatively assessed by others, stress levels will rise (Dickerson & Kemeny 2004). Lazarus (1966; according to Frisch et al. 2014) states that the experience of stress, including behavioral and bodily reactions, takes place through a two-step appraisal process: the first, called primary appraisal, involves assessing the harmfulness of a stressful situation, and the second (secondary appraisal), the assessment of one's own potential to overcome a stressful situation. Frisch et al. (2014) state that social support can have a positive effect on both assessment steps, more precisely on the prevention of the stressor reaction and on the mitigation of the stress response effects on the body.

However, although perceived social support has been shown to be more significant than received social support in adjusting to stressors, social support may not always have a positive effect (Nurullah 2012). Sometimes, social support not only insufficiently reduces stressful reactions, but can intensify them and make them more undesirable for the individual, especially if the support is perceived as imposed (Deelstra et al. 2003; according to Nurullah 2012). Some explanations of these findings can be found in the literature. One of them states that the connection between received social support and stress is often blurred by the fact that people who experience the most stress usually receive the most support and have the worst mental health (Lakey & Orehek 2011). Other explanations state that receiving social support can create a feeling that a person is indebted to the provider, it can lead to impaired self-confidence or guilt in the recipient, or support may be inadequately given (Nurullah 2012).

There are studies showing that the personality of the recipient is crucial for the manner of perception and the effect of social support. A longitudinal study of women living in Islington showed that social support at a time of significant loss or disappointment reduces the chances of developing clinical depression (Brown et al., 1986; according to Andrews & Brown 1988). However, a longitudinal study in Canberra failed to find a similar link, and it was concluded that such findings led to the interpretation of adequate support as “inadequate” by those who develop depressive symptoms over time (Henderson et al. 1981; according to Andrews & Brown 1988). So, the quality of the support itself is not important. What matters are personality traits or a person’s needs (Andrews & Brown 1988).

The importance of factors originating from the recipient, which directly determine the quality of social support provided, is further indicated by observations that some people are not assertive enough when seeking help, that some do not want to be a burden to others, do not feel comfortable while dependent on others or they simply do not know who to turn to (Sarafino 1998; according to Zvizdić 2015). Bolger, Zuckerman & Kessler (2000; according to Frisch et al. 2014) state that emotional support can be perceived as a danger to an individual's self-confidence and can lead to feelings of inefficiency. Therefore, the authors further argue that social support will have more benefits for the individual if it is interpreted without distrust and with a general positive attitude towards others who provide support.

Temperament, as the biological basis on which a personality is built, makes individuals to varying degrees sensitive to stressors from the environment. More precisely, temperament influences the experience of stress and its consequences, by determining the way people perceive and react to stressors and the way they cope with a stressful situation (Strelau & Zawadzki 2011; according to Rzeszutek, Partyka, & Gołąb 2015). Adverse temperament characteristics can predispose an individual to have negative social interactions with significant others (Thomas & Chess 1977; according to Katainen et al., 1999), which can further result in depressive reactions. Windle (1992; according to Katainen et al. 1999) reported that part of the influence of temperament on the propensity for depressive reactions can be attributed to a reduced level of perceived support from friends and family. There is also an opinion in the literature (Finch & Graziano 2001) that temperament influences the expression of the structure and personality traits, which predispose a person to a certain type of social exchange, both positive and negative. These exchanges, consequently, affect the mental health of the individual and the eventual development of certain distress symptoms.

Based on all of the above, we can conclude that the literature emphasizes the importance of permanent dispositions of personality in determining how to respond to stress, as well as the perception of available social support. Among these permanent dispositions, temperament characteristics including Askikal's affective temperaments play a significant role. With all that being said, and being in line with the authors' knowledge of this topic, the relationship of these concepts was not examined on a Serbian sample. The main goal of this research is to examine whether people of different affective temperament differ in terms of the degree of perception of available social support. It is assumed that there is a statistically significant relationship between temperaments and the propensity to perceive social support, more precisely that the hyperthymic temperament will largely perceive available social support, given that these individuals are optimistic, social, like to take the lead (Dembińska-Krajewska & Rybakowski 2014), as well as show a tendency towards a positive perception of everyday life (Walsch et al. 2013). Also, people with depressive temperament are expected to be less likely to perceive available social support, given that they have difficulties in interpersonal relationships (Rovai et al. 2013a) and are inhibited compared to others (Signoretta et al. 2005).

2. METHOD

2.1. Instruments of the research

For assessing temperaments, the Serbian version of the temperament scale Temperament Evaluation of Memphis, Pisa, Paris and San Diego-autoquestionnaire – TEMPS-A (Ristić-Ignjatović et al. 2014) was used. The questionnaire contains 41 questions that respondents answer by circling T (true) or N (false) depending on whether or not they agree with the statement. The items are grouped into 6 categories, depending on the temperament they are referring to: depressive, cyclothymic, hyperthymic, irritable, anxiety-cognitive or anxiety-somatic. The authors of the Serbian validation study (Ristić-Ignjatović et al. 2014) separated the unique anxiety factor into: anxiety-cognitive, referring to a tendency to worry and largely coincides with depression, and anxiety-somatic, referring to somatic correlates of anxiety and including stress-induced symptoms such as: headache, trembling hands, abdominal discomfort, nausea, diarrhea, frequent visits to the toilet, etc. In this study, the reliability coefficient (Cronbach's α) for these scales is: depressive α = .75, cyclothymic α = .82, hyperthymic α = .69, irritable α = .69, anxiety-cognitive α = .78 and anxiety-somatic α =

.66, which is in line with the results obtained in the domestic validation study (Ristić-Ignjatović et al., 2014). The instrument also contains an additional question about the global subjective impression, in which the respondents are asked to complete one of the 6 offered statements which, in their opinion, best describes their temperament traits.

The scale of social support of the Study of Medical Outcomes – MOS-SSS (Jovanović & Gavrilov Jerković 2015) is an instrument which consists of 19 items, referring to five dimensions of social support: emotional, informational, tangible, affectionate and positive social interactions. Respondents express the degree of agreement with the content on a five-point Likert-type scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always). The authors of the domestic validation study (Jovanović & Gavrilov Jerković 2015) state that the results of the initial verification of the scale structure, conducted by Sherbourne & Stewart (1991), showed that the Emotional and Informational Support subscales have a very high correlation, and that items are grouped within a subscale called Emotional / Information Social Support. The mentioned validation study on the Serbian sample showed that the structure of the scale is best described by a bifactor model, which assumes the existence of one general factor of social support and four specific factors: Emotional / Informational support (8 items), Tangible support (4 items), Affectionate support (3 items) and Positive social interactions (3 items), but it is only possible to reliably interpret the total MOS-SSS score. The questionnaire also contains an additional item under the ordinal number 13. The value of Cronbach's coefficient for the entire scale in this study is $\alpha = .96$, and the reliability coefficients of individual subscales have the following values: Emotional / Informational support $\alpha = .94$, Tangible support $\alpha = .87$, Affectionate support $\alpha = .87$ and Positive social interactions $\alpha = .87$.

2.2. Sample

The sample is a convenience sample and consists of 200 people (100 men and women) under the age 35, of different levels of education. The age of the respondents ranges from 17 to 35 years (M = 25.02, SD = 4.535).

3. Results

3.1. Descriptive statistics

The temperament to which the respondent belongs was obtained by collecting the T (correct) answers of the respondent on all items related to one type. Then the number of correct answers was divided by the total number of items of that temperament, and then the values obtained in that way on all the temperaments were compared to each other. Belongingness to one of the temperaments was determined on the basis of the highest numerical value. The range of all values ranged from 0 to 1. All of the respondents who had the same score on two or more temperaments were classified as belonging to the category of mixed temperament. Most of the respondents characterized themselves as hyperthymic, the smallest number characterized themselves as depressive, while a certain number of respondents were classified as mixed. The structure of the sample in relation to the dominant temperament can be seen in Table 1.

Respondents also answered an additional question in which they were asked to express a global subjective impression of their own temperament by choosing one of the statements. The results in Table 2 show that the largest number of respondents consider themselves persons of a balanced temperament, while the smallest number of them consider themselves almost always sad.

Table 1 Number of respondents of a certain affective temperament

Temperament	Number of participants	Percentage
Depressive	4	2.0%
Cyclothymic	27	13.5%
Hyperthymic	85	42.5%
Irritable	9	4.5%
Anxious-cognitive	35	17.5%
Anxious-somatic	22	11.0%
Mixed	18	9.0%

Table 2 Global impression of temperament

Which of the following statements best describes your personality?	Number of participants	Percentage
I'm almost always sad.	7	3.5%
I am a completely cheerful person full of energy.	27	13.5%
I have a lot of emotional ups and downs.	45	22.5%
I get annoyed easily and the little things can throw me off balance.	36	18.0%
I'm almost always worried.	16	8.0%
I am a person with a balanced temperament.	69	34.5%

The relationship between temperaments and the answer of the question about global impressions was examined using the Chi-square test of independence. The results are shown in Table 3. It can be concluded that there is a significant correlation between temperament

Table 3 Relationship between affective temperament and global subjective impression

Subjective experience of personality ↓	Temperament →	Depressive	Cyclothymic	Hyperthymic	Irritable	Anxious-cognitive	Anxious-somatic	Mixed
I'm almost always sad.	Participants No.	1	2	1	0	0	1	2
	%	14.3%	28.6%	14.3%	0%	0%	14.3%	28.6%
I am a completely cheerful person full of energy.	Participants No.	0	1	15	0	3	5	3
	%	0%	3.7%	55.6%	0%	11.1%	18.5%	11.1%
I have a lot of emotional ups and downs.	Participants No.	1	10	11	1	9	6	7
	%	2.2%	22.2%	24.4%	2.2%	20.0%	13.3%	15.6%
I get annoyed easily and little things can upset me.	Participants No.	0	8	9	5	9	4	1
	%	0%	22.2%	25.0%	13.9%	25.0%	11.1%	2.8%
I'm almost always worried.	Participants No.	1	1	3	1	8	1	1
	%	6.3%	6.3%	18.8%	6.3%	50.0%	6.3%	6.3%
I am a person with a balanced temperament.	Participants No.	1	5	46	2	6	5	4
	%	1.4%	7.2%	66.7%	2.9%	8.7%	7.2%	5.8%
			χ^2 test = 74.54 p = .000**			Cramer's V = .273 *p* = .000**		

**p<0.01

type and global impression of personality ($p < .01$). The value of Kramer's V shows that the large effect size is obtained (Pallant 2009). The grouping of respondents is most prominent for the answer "I am a person with a balanced temperament". Out of a total of 69 respondents who gave this answer, two thirds belong to the hyperthymic temperament.

Descriptive statistics of the data and results of the test of normality of distribution of perceived social support dimensions can be seen in Table 4. It can be noted that the variables do not have a normal distribution.

Table 4 Descriptive statistics

Variables	Min	Max	AS	SD	Sk	Ku	K-S
Emotional/Informational	1	5	4.04	0.95	-1.053	.364	.171**
Practical	1	5	4.18	0.90	-1.205	.798	.181**
Affective	1	5	3.96	1.16	-1.019	-.011	.185**
Positive Social Interactions	1	5	3.88	1.01	-.801	-.143	.181**
Perceived social support (general score)	1	5	4.03	0.85	-.974	.499	.132**

**p<0.01; K-S = Kolmogorov- Smirnov test of normality of distribution

Considering the authors of a Serbian validation study (Jovanović & Gavrilov Jerković 2015) pointed out that it is only possible to reliably interpret the total score on the MOS-SSS scale, differences between temperaments in the degree of the perception of available social support will be tested on the whole scale only. The results of the Kruskal-Wallis test show a difference between affective temperaments in the degree of perception of social support, which is shown in Table 5.

Table 5 Difference in the degree of perception of social support (Kruskal-Wallis test)

Temperament	Mean rank	Kruskal-Wallis test	P
Depressive	32.25		
Cyclothymic	83.43		
Hyperthymic	113.15		
Irritable	83.78	16.49	.011*
Anx-cog.	108.24		
Anx-som.	78.73		
Mixed	101.44		

*p<0.05; Anx-cog. = anxious-cognitive; Anx-som. = Anxious-somatic temperament

In order to establish which of the temperaments are statistically significantly different from one another in the degree of perception of available social support, all of the temperaments were compared to each other. Table 6 only shows pairs of temperaments with statistically significantly different results. It can be seen that the depressive temperament perceive support to a lesser extent than the cyclothymic, hyperthymic, anxiety-cognitive and mixed temperament. On the other hand, the hyperthymic temperament perceives social support to a greater extent than the cyclothymic and anxiety-somatic temperament. The values of Cohen's d show that the difference in the results between the types of temperament is small, since its values range between 0.1 and 0.2 (Pallant 2009).

Table 6 Comparison of different temperaments (Man-Whitney U test)

Temperament	Mean rank	Man-Whitney U test	p	Cohen's d
Depressive Cyclothymic	7.50 17.26	20	.046*	0.14
Depressive Hyperthymic	12.25 46.54	39	.006**	0.18
Depressive Anxious-cognitive	8.13 21.36	22.50	.024*	0.16
Depressive Mixed	5.63 12.81	12.5	.045*	0.14
Cyclothymic Hyperthymic	43.59 60.60	799	.018*	0.17
Hyperthymic Anxious-somatic	57.74 39.57	617.5	.014*	0.17

*$p<0.05$; **$p<0.01$

4. Discussion

The prevalence of certain temperaments in the sample is such that most people have a hyperthymic temperament, followed by anxiety-cognitive, cyclothymic, anxiety-somatic, irritable and, finally, depressive. The respondents also answered an additional question related to the global impression they have about their temperament. The Chi-square test for independence showed the existence of a significant relationship between temperaments and the global subjective impression about temperament. The largest percentage of respondents consider themselves to have a balanced temperament, and of the total number of respondents who gave this answer, two thirds belong to the hyperthymic temperament. The result can be explained by the fact that the hyperthymic temperament is characterized by optimism and self-confidence (Dembińska-Krajewska & Rybakowski 2014), but also grandiose self-perception (Walsch et al. 2013) and excessive self-confidence (Ratković 2017), which are traits that can lead to such an answer. An additional interpretation is that the respondents choose this answer because of its social desirability and aspiration to present themselves in the best possible light (Ristić-Ignjatović et al. 2014). The offered explanations are supported by the tendency of the hyperthymic temperament to choose another answer that clearly contains socially desirable traits, and, at the same time, contributes to a positive image of oneself. That answer reads: "I am a completely cheerful person, full of energy". Other temperaments do not show a clear tendency to choose a particular answer to an additional question. This is probably due to the very small number of respondents by categories of variables.

The results indicate that people with a depressive temperament perceive social support to a lesser extent than the cyclothymic, hyperthymic, anxiety-cognitive and mixed temperament, which can be explained in several ways. First of all, the opinion of depressed people is characterized by what is known as Beck's cognitive triad, which refers to a negative assessment of oneself, current events and expected future (Golubović 2014). Similar thinking tendencies are measured by using the TEMPS-A scale (Ristić-Ignjatović et al. 2014). These people, because of the prediction that the current difficulties will continue indefinitely and that their immediate environment will continue to make excessive demands on achieving life goals (Possel & Thomas 2011), can easily ignore the available social support from loved ones. The result can be related to the concept of learned helplessness, which belongs to the behavioral theories of depression, and suggests that depressed people will not avoid unpleasant states and situations, although they are given the opportunity to do so (Marić 2005). One of the possibilities in overcoming unpleasant situations could be the help of close others, i.e. available social support. Thus, these people can possibly deny important information in a stressful situation (informational support) or ignore the readiness of a person to listen to them and show them love and attention (emotional and affective support). Given that the depressive temperament and clinical forms of depressive disorders have similar manifestations, the previous explanations could be applied not only to clinical forms of depression, but also to the depressive temperament itself. All of the above is in line with the findings of previous research that suggests that the depressive temperament is associated with experiencing depressive symptoms (Walsch et al. 2012), but also with bipolar affective disorder (Iasevoli et al. 2013). The result is also consistent with research that has shown that depressive temperament partially coincides with behavioral inhibition, which is a risk factor in the development of social anxiety (Biederman et al. 1990; according to Signoretta et al. 2005), that it is related to a low ability to relate to others and problems in interpersonal relationships (Rovai et al. 2013a). There is, also, an explanation that adverse temperament dimensions, which are characteristic of the depressive temperament, may predispose an individual to having negative social interactions with significant others, which could be attributable to a reduced level of perceived support from friends and family (Windle 1992). In turn, a reduced level of social support contributes to the maintenance of depressive tendencies.

On the other hand, the hyperthymic temperament perceives social support to a greater extent than the cyclothymic and anxiety-somatic temperaments. The hyperthymic temperament is turned towards other people and easily expresses his needs and feelings (Dembińska-Krajewska & Rybakowski 2014). According to the afore mentioned, it can be expected that these people will easily communicate their own need of help to others from their immediate surroundings. Their eloquence and sociableness will result in a clear articulation of needs which will make it easier for others to provide better and more precise support, which will, in return, make people with hyperthymic temperament perceive it more easily. The aforementioned confirms the protective effect of the hyperthymic temperament, which has been highlighted in previous studies (Karam et al. 2010). All these findings confirm the results of previous research that temperament plays a significant role in experiencing stress, determining the way people cope with a stressful situation (Rzeszutek, Partyka, & Gołąb 2015; Tomas & Chess 1977).

The limitations of this research should be taken into consideration. The research was conducted on a convenience sample, which is a type of non-probability sampling method, so the results cannot be generalized to the target population (Milas 2009). Also, it does not examine the relationship between perceived social support and other socio-economic factors, such as: unemployment, retirement, belongingness to vulnerable and marginalized groups, i.e. groups that are in a state of increased need for social support. The foregoing is particularly relevant to the way NEET youth perceive social support. This category includes all young people who are not unemployed, not in school or vocational training, which prevents them from acquiring competencies and job skills. This category has the opposite characteristics compared to the sample of young people from this research, which mainly includes students. The next limitation concerns the hyperthymic, irritable and anxious-somatic temperament scales which did not meet a minimum level of reliability, which is .7 for Cronbach's alpha (Pallant 2009). Finally, the number of respondents per temperament is very small, like in the depressive (4 respondents) and irritable temperament (9 respondents), which further complicates the drawing of reliable conclusions about the degree to which different temperaments perceive social support.

5. CONCLUSION

This research has shown that people with a predominantly depressive temperament are more likely to neglect available social support. The findings can be explained by a negative assessment of oneself and future events (Golubović 2014), as well as a negative assessment of a close environment, which is perceived as excessively demanding (Possel & Thomas 2011). At the same time, these individuals will not avoid unpleasant states and situations, although such a possibility exists (Marić 2005), because of their inhibited behavior (Biederman et al., 1990; according to Signoretta et al., 2005). On the other hand, people with predominantly hyperthymic characteristics are able to easily establish communication with others (Dembińska-Krajewska & Rybakowski 2014), which leads to better use of available resources in situations when they need help and support. Nevertheless, the relationship of the concepts from this research should be further investigated on larger samples, which should have different sociodemographic characteristics.

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ODNOS AFEKTIVNOG TEMPERAMENTA SA PERCIPIRANOM SOCIJALNOM PODRŠKOM

Osnovni cilj ovog rada je da ispita da li se osobe sa različitim afektivnim temperamentom (depresivni, ciklotimni, hipertimni, iritabilni, anksiozno-kognitivni, anksiozno-somatski i mešoviti) razlikuju u sklonosti percipiranju socijalne podrške. Uzorak je prigodan, ujednačen po polu, a čini ga 200 osoba mlađih od 35 godina. U istraživanju su primenjeni instrumenti: srpska verzija skale TEMPS-A, koja meri afektivne temperamente i srpska verzija Skale socijalne podrške Studije medicinskih ishoda (MOS-SSS). Rezultati pokazuju da depresivni temperament percipira socijalnu podršku u manjoj meri dostupnom od ciklotimnog ($p < .05$), hipertimnog ($p < .01$), anksiozno-kognitivnog ($p < .05$) i mešovitog ($p < .05$). Sa druge strane, hipertimni temperament je percipira dostupnijom od ciklotimnog ($p < .05$) i anksiozno-somatskog temperamenta ($p < .05$). Osnovni zaključak ovog istraživanja je da hipertimni temperament, koga odlikuje najveći broj poželjnih osobina poput optimizma, društvenosti, samouverenosti i elokventnosti, svoje socijalno okruženje percipira u većoj meri podržavajućim u odnosu na ostale tipove, što je posledica njegovih osobina i dobre komunikacije sopstvenih potreba.

Ključne reči: *afektivni temperament, percipirana socijalna podrška, dimenzije socijalne podrške*

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Original Scientific Paper

PERFECTIONISM IN THE CONTEXT OF THE REVISED REINFORCEMENT SENSITIVITY THEORY

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Abstract. *The main goal of this research was to examine the role of personality traits in predicting the two aspects of perfectionism – maladaptive evaluation concerns and positive strivings. Personality traits were postulated by the Revised Reinforcement Sensitivity Theory, while the dimensions of perfectionism were defined by the Model of Perfectionism developed by Frost et al. The sample consisted of 299 students of the Faculty of Philosophy in Niš (79.3% were female), aged 19 to 29 years (M = 20.34; SD = 1.83). The instruments used were: the Reinforcement Sensitivity Questionnaire (RSQ), and the Multidimensional Perfectionism Scale (MPS). The main takeaways of this research indicate that the Behavioural Inhibition System (BIS) is the strongest and positive correlate of maladaptive evaluation concerns, followed by Freeze and Fight. Unlike personality defence systems, the Behavioural Approach System (BAS) shows a negative correlation with the abovementioned criterion. The total percentage of explained variance for maladaptive evaluation concerns is 23%. When positive strivings are used as the criterion, BAS is seen as a positive correlate only in the first step of the hierarchical regression analysis. However, Flight and Fight represent consistent and positive correlates of this criterion. The total percentage of explained variance for positive strivings is 6.9%. The findings are consistent with the Revised Reinforcement Sensitivity Theory and available empirical findings from previous studies. Moreover, the results indicate that in the context of the abovementioned personality theory, maladaptive evaluation concerns and positive strivings can be understood as maladaptive forms of perfectionism, which deviates from previous understandings of perfectionism.*

Key words: *perfectionism, maladaptive evaluation concerns and positive strivings, the Revised Reinforcement Sensitivity Theory.*

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1. Introduction

Although there are numerous definitions of perfectionism, this personality trait is mostly defined in the context of accomplishment. Therefore, perfectionism represents a tendency towards high standards of accomplishment and perfection in various areas of life (Stojiljković 1998; Stojiljković, Todorović, Dosković, & Todorović 2011). This is a multidimensional construct, and perfectionism can be seen through different dimensions, intrapersonal and interpersonal context, but also as a negative and positive personality trait.

Perfectionism can manifest itself in the form of an adaptive aspiration for personal growth and development or accomplishment but also in the form of non-adaptive, neurotic and defensive traits (Hamachek 1978; Flett, Hewitt, Blankstein, & Mosher 1991; Flett, Blankstein, Hewitt, & Koledin 1992; Milojević, Stojiljković, Todorović, & Kašić 2009; Shafran & Mansell 2001, Stojiljković 1998; Stoeber & Otto 2006). Many studies around the world and in our country have confirmed the dual structure of this phenomenon by indicating its adaptive and maladaptive aspects (Frost, Marten, Lahart, & Rosenblate 1990; Frost, Heimberg, Holt, Mattia, & Neubauer 1993; Slade & Owens 1998; Slaney, Rice, Mobley, Trippi, & Ashby 2001; Todorović, Zlatanović, Stojiljković, & Todorović 2009).

In order to better understand the adaptive and maladaptive aspects of perfectionism, Slade and Owens (Slade & Owens 1998) postulated a Dual Process Model of Perfectionism based on the reinforcement theory. These authors make a distinction between positive and negative perfectionism, whose common feature is setting high standards, and the key difference relates to cognitive processes, emotional states and goals that are linked to positive and negative reinforcement. Positive perfectionism is focused on gaining success, while negative perfectionism is oriented towards avoiding failure, because it is based on the fear of failure. Therefore, from the aspect of positive perfectionism, cognition and behaviour are aimed at achieving high standards, which is usually accompanied by positive reinforcement, i.e., the person achieves success, which in turn results in the increase of self-esteem and positive emotional states (e.g., pleasure, happiness, pride, euphoria) (Saboonchi & Lundhb 2003). On the other hand, negative perfectionism is characterized by cognition and behaviour that is aimed at setting unrealistically high goals and behaviour standards, in order to ultimately avoid negative consequences (e.g., criticism, rejection, etc.).

In addition to the indisputable adaptive and maladaptive nature of perfectionism, there are concepts that observe this construct through the intrapersonal and interpersonal dimension. Thus, for example, Hewitt and Flett (1991) identify three types of perfectionism: 1) self-oriented perfectionism; 2) socially prescribed perfectionism, and 3) other-oriented perfectionism. Self-oriented perfectionism has both a positive and a negative association with psychological well-being (Hewitt & Flett 2004), as well as a positive association with conscientiousness (Klibert, Langhinrichsen-Rohling, & Saito 2005) and rumination (Randles, Flett, Nash, McGregor, & Hewitt 2010), but also a negative association with self-actualization, unconditional self-acceptance, and tolerance for failure (Flett, Besser, Davis, & Hewitt 2003). Other-oriented perfectionism does not correlate with psychological well-being (Hewitt & Flett 2004). Socially prescribed perfectionism is a maladaptive form of perfectionism because it is a positive correlate of depression, suicidal thoughts, anxiety, stress, motivation to avoid failure and rumination (Blankstein, Lumley, & Crawford 2007; Randles et al. 2010).

Frost et al. (Frost, Marten, Lahart, & Rosenblate 1990) define perfectionism as the pursuit of high standards, appreciating order and organization, and the tendency to avoid mistakes, which entails indecision in taking action. According to these authors, perfectionism involves attaching great importance to past and present parental evaluations. In this way, perfectionism is defined as a construct that encompasses six dimensions, which can be further classified into two higher-order factors. The first factor is called "maladaptive evaluation concerns" and it includes four lower-order factors (concern over mistakes, parental expectation, parental criticism, and doubts about actions). This factor reflects the negative type of perfectionism because, above all, it correlates with negative affectivity. The second factor is called "positive strivings" and it includes two aspects - personal standards and organization, which indicates the setting of high standards, as well as the preferences for order and organization. Therefore, this factor indicates positive perfectionism (Frost, Heimberg, Holt, Mattia, & Neubauer 1993). This Multidimensional Model of Perfectionism can also be interpreted in relation to the intrapersonal and interpersonal dimension. Personal Standards, Doubts about Actions, Concern over Mistakes, and Organization belong to the intrapersonal dimension of perfectionism, while Parental Expectations and Parental Criticism refer to the interpersonal aspect of this construct (Lo & Abbott 2013). When comparing the concepts and operationalizations of perfectionism proposed by Hewitt & Flett (1991a) and Frost et al. (Frost et al., 1990), the results show that there are two common and basic dimensions (Frost, Heimberg, Holt, Mattia, & Neubauer 1993). The first dimension, which can also be called perfectionist strivings, includes personal standards, organization, self-oriented perfectionism, and other-oriented perfectionism. The second dimension, or perfectionistic concerns, refers to concern over mistakes, doubts about actions, socially prescribed perfectionism, parental expectations, and parental criticism. Moreover, the results of a study conducted by Frost et al. (Frost et al. 1993) show that only maladaptive evaluation concerns are positively associated with negative affectivity and depression (and are not associated with positive affectivity). In contrast, positive strivings are positively correlated with positive affectivity (and are not associated with negative affectivity and depression). Numerous studies, whose detailed and thorough overview is provided by Stoeber and Otto (2006), support the fact that perfectionist aspirations are positively correlated with various positive characteristics (e.g., positive affectivity, life satisfaction, active coping styles, accomplishments), and are not associated or are negatively associated with negative characteristics (e.g., negative affectivity, maladaptive coping styles, and interpersonal problems). On the other hand, perfectionistic concerns are positively correlated with various negative characteristics.

In order to thoroughly explain and understand perfectionism, it is very important to examine the dimensions of perfectionism in the context of personality theories and models, based on the psycholexical and psychobiological paradigm (Stoeber, Corr, Smith, & Saklofske 2018). The Revised Reinforcement Sensitivity Theory (rRST; Gray & McNaughton 2000), which represents the psychobiological personality theory, was chosen as the reference framework of this research. The rRST provides an opportunity to explain individual differences in personality and psychopathology. Individual differences in sensitivity to positive and negative reinforcement may be a determinant of adaptive or maladaptive aspects of perfectionism (Slade & Owens 1998). Therefore, the rRST represents a suitable theoretical framework for research because it postulates the existence of three emotional-motivational systems that are at the core of cognitive and motivational processes, as well as emotions associated with negative and positive reinforcement. Those are the following systems: 1) Behavioural Approach System (BAS); 2) Behavioural Inhibition System (BIS) and 3) The Fight-Flight-Freeze System (FFFS).

BAS activates in response to reward signals and all appetitive stimuli, and is the basis of approach behaviour that aims to obtain a reward, but also to avoid punishment. At the level of personality traits, BAS above all corresponds to impulsivity (Gray 1987), but also to positive emotionality and extraversion (Corr & Cooper 2016; Depue & Collins 1999; Smillie, Pickering, & Jackson 2006). Emotions associated with the activation of this personality system are "anticipatory pleasure" or hope, that is, something resembling an "excitement attack'" or high pleasure (joy) (Corr & Cooper 2016). New and exciting situations provoke reactions from the domain of the approach behaviour system. BIS is a defensive approach system, which aims to assess the threat, control behaviour and resolve various types of conflicts. Therefore, the subjective assessment of the threatening componential situation is related to the BIS and can, but does not have to, be based on reality (Smederevac, Mitrović, Čolović, & Nikolašević 2014). At the level of personality traits, BIS corresponds to anxiety. FFFS is a defensive avoidance system and is activated by a wide range of aversive stimuli. It includes three subsystems, each with its own specific emotional and behavioural reactions. These are Fight (anger), Flight (fear), and Freeze (panic). The main role of FFFS is to protect oneself from danger, and behavioural responses related to this personality domain largely depend on the social context (Krupić & Dinić 2017; Ranđelović 2016; Ranđelović, Smederevac, Čolović, & Corr 2018) and subjective threat assessment. Thus, while BAS is associated with approach behaviour, positive reinforcement, and positive affectivity – BIS and FFFS represent defensive personality systems (different defensive actions – approach/avoid), associated with negative reinforcement and negative affectivity.

The following findings emerged after the review of available studies on the relationship between oRST/rRST and perfectionism. In a study conducted by Flett et al. (Flett, Hewitt, Oliver, & Macdonald 2002), all three types of Hewitt's and Flett's tripartite model of perfectionism (1991) show positive correlation with BIS. Self-oriented perfectionism has a positive correlation with BAS (reward responsiveness and drive). These findings were replicated in a larger sample by O'Connor and Forgan (2007). In contrast, Kaye, Conroy, and Fifer (2008) claim that there is a positive correlation between BIS and self-oriented perfectionism and socially prescribed perfectionism, but not with other-oriented perfectionism. Moreover, BAS (reward responsiveness, drive, and fun seeking) is positively associated with self-oriented perfectionism, but is negatively associated with socially prescribed perfectionism. In two samples from the student population, Randles et al. (Randles, Flett, Nash, McGregor, & Hewitt 2010) noticed a positive correlation between BAS reward responsiveness, BAS drive, and BIS, while socially prescribed perfectionism showed only positive association with BIS. Unlike these findings, results relating to other-oriented perfectionism and personality systems are mixed. In one sample, other-oriented perfectionism had a positive correlation with BIS, BAS reward responsiveness, and BAS drive, while it had a negative correlation with FFFS. In the second sample, there was no significant correlation between other-oriented perfectionism and personality systems within rRST. Moreover, an unexpected finding of a positive association between socially prescribed perfectionism and BAS reward responsiveness was observed. Results of a research conducted by Stoeber and Corr (Stoeber & Corr 2015, 2017) suggest that self-oriented perfectionism shows a unique positive association with BAS goal-drive persistence, BAS reward reactivity, and BIS. Other-oriented perfectionism has a unique positive association with defensive fight, and a unique negative association with BIS. Socially prescribed perfectionism showed a unique positive association with BAS impulsivity and BIS, and a unique negative association with BAS goal-drive persistence. Taking these results into account, Stoeber and Corr (2015) conclude that self-oriented perfectionists are driven by goals and persistent in the pursuit of goals. At the same time, these perfectionists are highly reactive to both positive and negative reinforcing stimuli. Socially prescribed perfectionists are highly reactive only to negative reinforcing stimuli, and their approach-related behaviours are impulsive. Other-oriented perfectionists appear to show a reduced reactivity to negative reinforcing stimuli. Hence, both self-oriented and socially prescribed perfectionism were associated with higher BIS levels, while other-oriented perfectionists reported lower BIS levels. This means that both self-oriented perfectionists and socially prescribed perfectionism are prone to experience anxiety, while other-oriented perfectionists are not prone to experience anxiety. Moreover, other-oriented perfectionists show highly defensive fight and low anxiety (underactive BIS). These combinations of results indicate that other-oriented perfectionism shows links with aggression and psychopathy (Stoeber 2014, 2015).

While most studies on the relationship between oRST/rRST and perfectionism are based on the tripartite model of perfectionism by Hewitt and Flatt (1991), there is one study that refers to MPS by Frost et al. (1990). Chang et al. (Chang et al. 2007) claim that personal standards, which are similar to self-oriented perfectionism, show a similar structure of results as in previous studies, while only Doubts about actions is positively associated with BIS. Moreover, a review of the available literature showed that there are no studies on this particular topic in our region. Therefore, this research has potential theoretical significance because it can serve to verify the assumptions arising from rRST, but also to verify previously obtained empirical findings. Given that the study of MPS and rRST is much less common, the purpose of this study is to examine the relationship between personality systems postulated by rRST and higher-order factors within MPS (maladaptive evaluative concerns and positive pursuit of success), as well as individual dimensions within these factors (concern over mistakes, parental expectation, parental criticism, and doubts about actions, personal standards, and organization). More precisely, the main goal of this research is to examine the role of BIS, BAS, Fight, Flight and Freeze in predicting the adaptive and maladaptive aspects of perfectionism. By relying on rRST and the results of previous studies, the following hypotheses were set: 1) BIS is the strongest positive correlate for maladaptive evaluative concerns, while BAS has a negative association with this factor; 2) BIS and BAS represent positive correlates of positive striving; 3) Flight and Freeze are positive correlates of maladaptive evaluative concerns, and 4) Fight is a positive correlate of maladaptive and adaptive aspects of perfectionism.

2. METHODOLOGY

2.1. The sample of participants and procedure

The sample of this research included students of undergraduate studies from different departments at the Faculty of Philosophy in Niš (psychology, pedagogy, social policy and social work). Out of a total of 299 survey respondents, 79.3% (237) were female. The age ranged from 19 to 29 years (M = 20.34; SD = 1.83). The respondents filled out the questionnaires using the paper-pencil method, and the survey was done in a group. It was anonymous and voluntary. The instructions to the survey respondents were given verbally and in writing. All of them were informed about the purpose of the research and their consent to participate in the research was obtained.

2.2. Instruments

The Reinforcement Sensitivity Questionnaire (RSQ; Smederevac et al., 2014) was used to assess personality systems postulated by the revised Reinforcement Sensitivity Theory. The questionnaire contained 29 items that included five measurement subjects, i.e., scales: 1) Behavioural Inhibition System (BIS) (7 items; e.g., "I often worry about being criticized"); 2) Behavioural Approach System (BAS) (6 items; e.g., "When I want something, I never think about possible obstacles"); 3) Fight (6 items; e.g., "When someone attacks me, I fight back without hesitation"); 4) Flight (5 items; e.g., "When I find myself in a dangerous situation, I look for all possible ways to escape"), and 5) Freeze (5 items; e.g., "I simply 'freeze' when I'm very scared"). The response format was a 4-level Likert scale (1 – completely disagree; 2 – somewhat disagree; 3 – somewhat agree; 4 – completely agree). With the exception of Flight, other scales incorporated within the RSQ showed satisfactory measurement reliability (BIS: $\alpha = .75$; BAS: $\alpha = .72$; Fight: $\alpha = .77$; Flight = .52; Freeze: $\alpha = 71$). The unsatisfactory reliability of the Flight scale measurement can be partly explained by the small number of items. The lowest reliability of Flight measurements in relation to other RSQ scales was obtained in the research conducted by Smederevac et al. (Smederevac et al., 2014).

The Multidimensional Perfectionism Scale (MPS; Frost et al., 1990). The scale was translated and adapted to our linguistic environment by Stojiljković and Maksić in 1997. The MPS contains a total of 35 items with a five-level Likert scale as a response format (1 – completely disagree; 2 – somewhat disagree; 3 – indecisive; 4 – somewhat agree; 5 – completely agree). The scale includes 6 subscales, which are: 1) Concern over mistakes COM (9 items; e.g., "I should feel bad whenever I make a mistake"); 2) Personal standards PS (7 items; e.g., "It is important to me to be fully skillful in everything I do"); 3) Parental expectations PE (5 items; e.g., "My parents set very high expectations for me"); 4) Parental criticism PC (4 items; e.g., "I feel I have never met my parents' expectations"); 5) Doubts about actions DA (4 items; e.g., "Even when I do something very carefully, I often feel that it is not good enough"), and 6) Organization O (6 items; "I am someone who is well-organized"). The MPS provides information on the total score (all subscales are taken into account, except for Organization), as well as on individual scores within the subscales. Moreover, the scale provides data on two factors of perfectionism, and those are: 1. Maladaptive evaluation concern – MEC (22 items), including the following subscales: Concerns about mistakes, Parental expectation, Parental criticism and Doubt about actions, and 2. Positive striving – PSt (13 items) which includes the subscales Personal standards and Organization. The reliability of the measurement scale as a whole is .90, while the values of the internal consistency coefficient for individual scales in this study range from .73 to .88 (CM: $\alpha = .84$; PS: $\alpha = .77$; PE: $\alpha = .86$; PC: $\alpha = .86$; D: $\alpha = .73$; O: $\alpha = .88$). The measurement reliability of the MEC subscale is .92, and the PSt subscale is .84. Therefore, this is satisfactory measurement reliability, regardless of whether we are talking about the scale as a whole, or individual subscales. Such data have been obtained in previous studies in our region in a sample that included students (e.g., Milojević et al., 2009; Stojiljković et al., 2011; Todorović et al., 2009).

3. RESULTS

3.1. Descriptive indicators and intercorrelation of the main research variables

Table 1 shows the main descriptive indicators of the variables used in this research such as minimum, maximum, means, standard deviations and Skewness and Kurtosis coefficients (Sk and Ku). Regarding personality traits, the respondents showed a similar degree of acceptance of items which represent different personality systems. By reviewing the mean values of dimensions of perfectionism, we notice that the respondents showed a somewhat higher degree of agreement with items denoting Personal standards, Organization, and Positive strivings. Sk and Ku indicate that almost all the research variables (except for Parental criticism due to Skewness value) show normal distribution (Skewness and Kurtosis +/- 1). None of the score normalization methods was applied for the purpose of further analysis, since we are talking about minor deviations. Therefore, one of the basic requirements for the usage of the proposed statistical technique for data analysis (hierarchical regression analysis) is met.

Table 1 Descriptive indicators of the values of research variables

	N	Min	Max	M	SD	Sk	Ku
BIS	299	1.00	4.00	2.39	.60	.028	-.452
BAS	299	1.00	4.00	2.71	.55	-.045	-.242
Fight	299	1.00	4.00	2.36	.64	.192	-.376
Flight	299	1.00	3.80	2.64	.56	-.333	-.012
Freeze	299	1.00	4.00	2.13	.63	.293	-.195
Concern over mistakes (CM)	294	1.00	4.44	2.28	.79	.567	-.232
Personal standards (PS)	299	1.43	5.00	3.29	.75	.058	-.662
Parental expectations (PE)	297	1.00	5.00	2.13	1.03	.955	.046
Parental criticism (PC)	297	1.00	5.00	1.83	1.02	1.283	.694
Doubts about actions (DA)	299	1.00	5.00	2.74	.93	.381	-.441
Organization (O)	299	1.00	5.00	3.91	.89	-.962	.628
Maladaptive evaluation concern (MEC)	299	1.00	4.38	2.25	.75	.814	.171
Positive striving (PSt)	299	1.29	5.00	3.60	.68	-.508	-.027

Note. symmetry coefficient –Skewness (Sk); tailedness coefficient – Kurtosis (Ku).

The next step was to do a correlation analysis, to check if the second basic requirement for the usage of hierarchical regression analysis is met (significant correlation between a set of predictor variables (personality traits) and a set of criterion variables (dimensions of perfectionism), as well as the absence of multicollinearity (high correlation between predictors). However, bearing in mind that there is a noticeable disproportion between the number of male and female survey respondents, partial correlation was applied. In that way, statistical control of gender was possible. The results are shown in the following table.

Based on the abovementioned results of the correlation analysis, it can be concluded that there is no multicollinearity, i.e., no high correlation between predictor variables (personality traits). Moreover, there is a significant correlation between personality traits and perfectionism dimensions, ranging from .117 (BAS and Positive strivings) to .525 (BIS and Doubts about actions). Therefore, basic requirements for the application of the main statistical analysis in this research are met. When it comes to the intercorrelation between certain dimensions of perfectionism, they range from -.036 (MEC and O) to .866 (p <.001; O and PSt). The correlation between MEC and PSt is .169 (p <.01).

Table 2 Inter-correlations between the research variables (partial correlations)

	BIS	BAS	Fight	Flight	Freeze
BIS		-.235***	-.053	.407***	.562***
BAS			.279***	-.044	-.249***
Fight				.011	-.111
Flight					.377
Concern over mistakes (CM)	.456***	-.233***	.107	.239***	.365***
Personal standards (PS)	.149*	.220***	.281***	.190**	.046
Parental expectations (PE)	.188**	-.059	.102	.129*	.219***
Parental criticism (PC)	.209***	-.157**	.071	.055	.258***
Doubts about actions (DA)	.525***	-.238***	.023	.176**	.394***
Organization (O)	.068	-.007	-.005	.107	.054
Maladaptive evaluation concerns (MEC)	.407***	-.212***	.091	.179**	.370***
Positive strivings (PSt)	.126*	.117*	.151**	.174**	.060

3.2. Predicting perfectionism dimensions based on personality traits

A step further in the data analysis was the hierarchical regression analysis. There were two reasons for this. Firstly, although there was no high correlation between different personality traits, there is still some variance that they share (Table 2). Therefore, hierarchical regression analysis is a suitable statistical technique for examining the predictor role of certain variables (Flight and Freeze) after the statistical control of the contribution of other predictors (BIS). Secondly, the results of the correlation analysis in this study (Table 2), but also in some previous studies (e.g., Chang et al., 2007; Randles et al., 2010), indicate that personality traits within oRST and rRST have different correlation values and contribute to the prediction of certain perfectionism dimensions. Therefore, there is justification that relies on empirical findings (e.g. Flett et al. 2002; O'Connor and Forgan 2007; Stoeber & Corr 2015, 2017) that predictors should be included in a different order. Based on that, BIS was included in the first step of the first hierarchical regression analysis in this research (the criterion was Maladaptive evaluation concerns). Fight, Flight and Freeze were added in the second step. BAS was included in the last step. A slightly different order of predictor insertion was used in the second analysis, where the criterion was Positive strivings (first step –BAS; second step – Fight, Flight and Freeze, and third step – BIS). It is important to note that, due to uneven sampling with respect to gender, the prediction of personality traits and personality dimensions based on gender was performed first, and then the residuals were recorded. In that way, statistical control of gender was performed, and once that portion of the total variance that is explained by gender was removed, the variables were used in the main analysis. Therefore, the findings were not confounded by the prevalence of female respondents in the sample. The results are shown in Table 3 and Table 4.

Insight into the findings obtained shows that all three prediction models are significant. Moreover, the results justify the order of inclusion of predictors because they indicate the following: 1) As the only predictor, BIS explains most of the variance of MEC (Maladaptive evaluation concerns) (16.5%); 2) The addition of Fight, Flight and Freeze reduces the independent contribution of BIS to MEC prediction, and the added predictors explain the additional 4.7% variance of the criteria, and 3) By including BAS, the percentage of explained

MEC variance increases by another 1.8%. Thus, when all personality systems are included as predictors of MEC, the percentage of explained variance is 23%. When it comes to the direction and strength of the independent contribution of personality systems in the prediction of MEC, the data show that BIS is a consistent and the strongest positive correlate of the maladaptive aspect of perfectionism. It is followed by Freeze and Fight, and BAS makes a negative and the smallest contribution in predicting MEC. Flight does not have a significant role in predicting this criterion.

Table 3 Prediction of Maladaptive evaluation concerns based on personality dimensions

Model	Predictors	Model summary	Independent contributions of predictors ß
1	BIS	$R = .407$; $R^2 = .165$; $F_{(1,298)} = 58.639$; $p < .001$	.407***
2	BIS Fight Flight Freeze	$R = .461$; $R^2 = .212$; $F_{(4,298)} = 19.787$; $p < .001$ R^2change = .047 Fchange$_{(3,294)} = 5.820$ $p < .001$	.298*** .133* -.030 .228***
3	BIS Fight Flight Freeze BAS	$R = .480$; $R^2 = .230$; $F_{(5,298)} = 17.512$; $p < .001$ R^2change = .018; Fchange$_{(1,298)} = 6.841$ $p < .01$	.274*** .169** -.019 .205** -.145**

Table 4 Prediction of Positive strivings based on personality dimensions

Model	Predictors	Model summary	Independent contributions of predictors ß
1	BAS	$R = .117$; $R^2 = .014$; $F_{(1,298)} = 4.091$; $p < .05$	.117*
2	BAS Fight Flight Freeze	$R = .247$; $R^2 = .061$; $F_{(4,298)} = 4.780$; $p < .01$ R^2change = .047 Fchange$_{(3,294)} = 4.955$ $p < .01$	.098 .126* .163** .037
3	BAS Fight Flight Freeze BIS	$R = .262$; $R^2 = .069$; $F_{(5,298)} = 4.313$; $p < .01$ R^2change = .007; Fchange$_{(1,293)} = 2.357$ $p > .05$	.111 .123* .137* -.012 .109

The results of the second hierarchical regression analysis also show the significance of all three prediction models. However, when BAS is the only predictor of Positive striving (PSt), then the percentage of explained variance of this criterion is only 1.4%. By adding Fight, Flight and Freeze, the contribution of BAS to the prediction of this criterion decreases, and it also becomes an insignificant predictor. When controlling the contribution of BAS to the PSt prediction, there is a significant change in the percentage of explained variance of the criterion for FFFS, increasing it to another 4.7%. And lastly, by including BIS in the last step of the analysis, the percentage of explained variance increases by 0.7%, but this increase is not statistically significant. When observing this model with all personality systems as predictors, the explained percentage of PSt variance is 6.9%.

If the direction, size and significance of predictive contributions of the personality system are taken into account, then the following can be observed: 1) BAS is neither consistent nor the strongest positive correlate of PSt; 2) When controlling the contribution of BAS to PSt prediction, Fight and Flight are seen as positive correlates of PSt; 3) By adding BIS to the model, Fight and Flight still retain the significance of their predictive contribution, with the same direction, but slightly lower regression coefficients compared to Model 2, and 4) BIS is not a significant predictor of PSt.

4. Discussion and Conclusions

The main goal of this research was to examine perfectionism in the context of the Revised Reinforcement Sensitivity Theory. In other words, we were interested in which personality traits from rRST can explain two aspects of perfectionism – Maladaptive evaluation concerns and Positive strivings. Therefore, two separate hierarchical regression analyses were performed. These analyses had the same set of predictors, but a different order of inserting the predictors into the models, which was conditioned by different criteria. The results show that BIS is a robust and positive predictor of Maladaptive evaluation concerns. It is followed by Freeze and Fight. There was no significant predictive role of Flight observed. Unlike personality defence systems, BAS is a negative correlate of the criterion in question and has the smallest independent contribution in predicting it. This structure of results was generally expected.

These findings above all indicate that people with expressed maladaptive evaluation concerns are actually people with hypersensitive BIS. This means that these people are prone to experiencing tension, worry and anxiety. They often worry that they will be criticized and receive negative evaluation from others, and find it difficult to make decisions that require a choice between several options, as well as uncertainty. Since BIS is a system of defensive approach to risk assessment, this would mean that maladaptive perfectionists often overemphasize the threatening component of certain events and situations and that this evaluation may be irrational. Moreover, in people with prominent maladaptive evaluation concerns, the irrationality of the assessment may also be directed towards the assessment of their own results and actions. It is well-known that such people are overly critical of themselves, the standards of their actions and accomplishments, and that they are often dissatisfied with their own achievements (Shafran & Mansell 2001; Slade & Owens 1998). Furthermore, one of the functions of BIS is behaviour control by initiating reactions from other personality systems. In this regard, reactions within Freeze and Fight (as predictors that are second in order of importance) may represent favoured attempts by dysfunctional perfectionists to defend themselves from threatening reality. More specifically, these individuals set unrealistically high standards and goals for themselves (Shafran & Mansell 2001; Slade & Owens 1998), and their failure to achieve these causes frustration which can further trigger panic and aggressive reactions. Moreover, based on these results, it can be concluded that maladaptive perfectionism is associated with assessments of the impossibility to avoid threats (Freeze), and uncertainty about defence against threats (Fight). In other words, feeling that it is uncertain or impossible to avoid unachieved parental expectations and criticism, as well as concern about one’s own mistakes and doubts about one's actions makes a person prone to panic and hostile reactions. This is consistent with the understanding of the maladaptive character of perfectionism by Rice and Slaney (Rice & Slaney 2002). These authors claim that the dysfunctionality of perfectionism is reflected through the inability to achieve and sustain high goals (expressed, for example, through parental expectations). The findings obtained also indicate a positive association between negative affectivity (BIS:Anxiety, Freeze:Panic, and Fight:Anger) and MEC, which is consistent with numerous findings from previous studies (e.g., Frost et al., 1993; a detailed review of these studies can be found in Stoeber & Otto 2006).

One of the initial premises of this research was that Flight will be an important predictor of maladaptive perfectionism, because the fear of failure and the tendency to avoid failure and its consequences are the basis of the dysfunctional component of perfectionism. Although it could seemingly be concluded that the findings of this study do not support the above premise, it should be noted that the findings should be taken with a grain of salt. Here is why. The results of the correlation analysis show that there is a significant positive but low correlation between Flight and MEC, but also with certain dimensions of perfectionism within MEC; however, Flight does not have significant role in predicting this criterion. In contrast, at the correlation level there is no significant correlation between Fight and certain dimensions of MEC, as well as MEC itself. However, the results of the regression analysis show that Fight is a significant predictor of MEC. This set of findings could indicate the complexity of the relationship between the personality system from rRST, but also the possible moderating effect of certain variables on the relationship between personality traits and maladaptive perfectionism. Therefore, specifying the conditions under which there is an association between two variables is a very important and complex task. In other words, such result structure can be a guideline for researchers to specify and study possible moderators in the relationship between these constructs in their future studies on the relationship between Gray's model of personality and perfectionism. Properly defined and tested moderators of the relationship between personality traits and perfectionism can represent the very essence of the connection between these phenomena.

The negative association between BAS and maladaptive evaluation concerns indicates that elevated BAS activity is a protective factor in neurotic or dysfunctional perfectionism. In other words, a more pronounced tendency towards positive emotions, approach behaviour that is impulsive, as well as increased sensitivity to reward signals and punishment avoidance will reduce the negative effects of maladaptive perfectionism. This is an important finding, because in combination with the previously presented results, it indicates that people with increased BIS and FFFS activation and reduced BAS reactivity are more prone to the maladaptive form of perfectionism. Therefore, in the context of rRST, maladaptive perfectionist aspirations can be explained as simultaneously increased sensitivity to negative reinforcement with decreased sensitivity to positive reinforcement. More precisely, from the perspective of Gray's model of personality, maladaptive perfectionism can be described as an increased tendency towards negative feelings, resulting from impossibility or insecurity that it might be possible to avoid failure, along with a reduced tendency to experience positive emotions which is an accompanying component of reduced sensitivity and reactivity to positive reinforcement (such people do not enjoy their accomplishments). This is consistent with what other authors call neurotic, negative, or dysfunctional perfectionism (e.g., Frost et al. 1993; Slade & Owens 1998; Stoeber & Otto 2006). Moreover, the findings obtained are partly in line with past empirical evidence (Flett et al. 2002; Kaye et al. 2008; O'Connor & Forgan 2007; Randles et al. 2010; Stoeber & Corr 2015, 2017). Given that previous studies focused on the relationship between the oRST/rRST personality system and Hewitt and Flett's model of perfectionism, future research efforts need to be directed toward verifying the relationship between rRST and the model of perfectionism developed by Frost et al. This would contribute to supplementing and verifying empirical data on this research problem.

Considering Positive Strivings as a criterion, the findings are somewhat different. Although all three predictive models are significant, there are differences compared to the previously explained results. These differences are related to: 1) different significant predictors of PSt in relation to significant predictors of MEC (in the first model - BAS with only 1.4% of the explained variance of the criteria, and in the second and third model Flight and Fight with 4.7% of the additional explained variance of PSt); 2) lower percentage of explained variance of criteria in models that include all personality systems (MEC as a criterion: 23%; PSt as a criterion: 6.9%), and 3) BIS is not a significant predictor of PSt.

Given that PSt refers to the positive or adaptive aspect of perfectionism, the assumption was that BAS would be its strongest and most consistent positive predictor, but the findings do not confirm this. Instead, the results show that Flight and Fight explain PSt the most, and the direction of their correlation is positive. The fact that BAS stands out as a significant predictor only in the first step of the analysis, with a very small percentage of explained variance, can be explained by defining and operationalizing BAS and personal standards as a dimension that is part of Positive strivings. Namely, BAS is activated when there are sufficiently challenging stimuli that a person perceives as a potential reward. It is personal standards that have these characteristics (for example, I have extremely high goals). However, the Personal Standards subscale is not defined by impulsive approach behaviour, which is an essential part of BAS. On the other hand, Personal Standards are operationalized through behaviours that relate to the perseverance and persistence in achieving goals (e.g., I can direct my energy to achieve a goal). Moreover, BAS is operationalized through behaviours related to the tendency not to miss any pleasure in life. On the other hand, Personal Standards refer to setting high demands and standards, which can be at odds with the hedonistic lifestyle. Overall, the assumption is that a small part of the explained variance of PSt can be attributed to the part of the BAS that is responsible for accepting new and exciting situations. Although BAS is not a robust correlate of PSt, the direction of their correlation is consistent with data from previous studies (Flett et al. 2002; Kaye et al. 2008; O'Connor & Forgan 2007; Randles et al. 2010; Stoeber & Corr 2015, 2017).

When looking at the data from the correlation analysis, it can be seen that BAS is positively correlated with Personal Standards, but not with Organization. Also, it is interesting that no personality system from rRST correlates with this dimension of perfectionism. The reason for this may be that Organization is defined and operationalized in a similar way as the facet of Conscientiousness dimension from the FFM – Five-Factor Model (Order – orderliness, good organization) and which refers to the character of the person. Since Gray's model of personality covers only the dimensions of temperament, these findings were to be expected. Therefore, for a complete explanation of perfectionism, it is necessary to include some of the psychobiological models that postulate the dimensions of temperament and character. Therefore, the recommendation for further studies is to choose Cloninger's psychobiological model of personality as a suitable reference framework for studying perfectionism.

Data on Flight and Fight as consistent and positive correlates of PSt suggest a somewhat different view of the nature of this aspect of perfectionism. Activation of Flight is accompanied by fear and avoidance of danger, while activation of Fight is associated with anger and defensive aggression due to the assessment of insecurity to avoid threats. This means that setting high goals and standards of achievement is motivated by fear and danger avoidance (fear of failure and avoiding its consequences), which is an indicator of the negative side of perfectionism. This can interfere with the accomplishments of perfectionists and can lead to procrastination due to the fear of failure. Constant postponement of obligations due to the fear of failure is what makes perfectionism a potentially maladaptive personality trait (Milojević et al., 2009; Stojiljković et al., 2011). Furthermore, people who are prone to setting the highest requirements and criteria of perfection are more likely to experience anger and express defensive aggression. The assumption is that such people are more inclined to set unrealistically high demands that are not easy to fulfil, and they react with anger and aggression in order to defend themselves from failure. Due to the characteristics of adaptive, that is, positive perfectionism, different results were expected (negative association between these personality systems and PSt). Adaptive perfectionism is associated with a high level of aspiration and pursuit of perfection, but not in order to defend one's self-image, but in order to realize one's own potential. However, the findings of this study indicate that in the context of rRST, Positive strivings can be explained as a neurotic personality trait. It should be emphasized that there is a significant low but positive correlation between MEC and PSt, which may suggest that these two aspects of perfectionism share somewhat common characteristics. This is understandable because these are two aspects of the perfectionism phenomenon. In this case, this can refer to the negative implications of this personality trait.

Practical implications of the results of this research can be reflected in the design and organization of workshops, seminars and courses for parents and students. The main goal of such education would be to learn to recognize the positive and negative aspects of perfectionism, as well as to adopt techniques that would reinforce the functional aspects of this personality trait, and reduce the dysfunctional ones. Parents should be made aware of the importance of setting high goals and standards of achievement for their children, in order to encourage the development of their potential. However, parents should master the skills which will help them not to set unrealistically high goals for their children, not to show excessive criticism, as well as dissatisfaction and fear of failure. This is especially important for children who by nature have a greater tendency to experience negative emotions, and a reduced tendency to experience positive emotions. As a reminder, the findings of this research indicate that people with such temperament traits are a risk group for the development of negative aspects of perfectionism. Finally, students can gain insight into the origins of unrealistic expectations and imperatives of perfection (parental expectations and/or high competitiveness in the wider social context). They can also learn to set goals that are in line with their abilities and desires, as well as to enjoy their own accomplishments.

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PERFEKCIONIZAM U KONTEKSTU REVIDIRANE TEORIJE OSETLJIVOSTI NA POTKREPLJENJE

Osnovni cilj ovog istraživanja bio je ispitivanje uloge osobina ličnosti u predikciji dva aspekta perfekcionizma – maladaptivne evaluativne brige i pozitivna stremljenja. Osobine su postulirane revidiranom Teorijom osetljivosti na potkrepljenje, dok su dimenzije perfekcionizma definisane modelom perfekcionizma Frosta i saradnika. Uzorak je činilo 299 studenata Filozofskog fakulteta u Nišu (79.3% je ženskog pola), starosti od 19 do 29 godina (M = 20.34; SD = 1.83). Od instrumenata korišćeni su: Upitnik osetljivosti na potkrepljenje (UOP) i Multidimenzionalna skala perfekcionizma (MPS). Glavni podaci istraživanja su da je Sistem bihejvioralne inhibicije (BIS) najjači i pozitivni korelat maladaptivnih evaluativnih briga, a slede ga Blokiranje i Borba. Sistem bihejvioralne aktivacije (BAS), za razliku od odbrambenih sistema ličnosti, ostvaruje negativnu vezu sa pomenutim kriterijumom. Ukupni procenat objašnjene varijanse maladaptivnih evaluativnih briga iznosi 23%. Kada je kriterijum pozitivna stremljenja, BAS samo u prvom koraku hijerarhijske regresione analize predstavlja pozitivni korelat. Međutim, Bežanje i Borba predstavljaju dosledne i pozitivne korelate ovog kriterijuma. Ukupan procenat objašnjene varijanse pozitivnih stremljenja je 6.9%. Nalazi su u skladu sa revidiranom Teorijom osetljivosti na potkrepljenje i dostupnim empirijskim nalazima prethodnih istraživanja. Takođe, rezultati ukazuju da se u kontekstu pomenute teorije ličnosti, maladaptivne evaluativne brige i pozitivna stremljenja mogu shvatiti kao maladaptivne forme perfekcionizma, što odstupa od dosadašnjih shvatanja perfekcionizma.

Ključne reči: *perfekcionizam, maladaptivne evaluativne brige i pozitivna stremljenja, revidirana Teorija osetljivosti na potkrepljenje.*

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Review Paper

GOALS AND OBJECTIVES OF EDUCATION FOR SUSTAINABLE DEVELOPMENT AS MODERN CURRICULUM INNOVATION IN SERBIA, MONTENEGRO AND CROATIA

UDC 37.011.33(497.11+497.13+497.16)

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Abstract. *Education for sustainable development, as an imperative of this day and age, has become an integral part of the curriculum in many education systems. The focus of this paper is education for sustainable development in Montenegro, Croatia and Serbia, with a particular emphasis on the goals and objectives of education for sustainable development. After presenting the specifics of sustainable development at the primary and secondary level of education in these countries, a comparative analysis of learning goals and objectives was conducted between the curriculum of the elective course Education for Sustainable Development in Serbia, interdisciplinary area Education for Sustainable Development in Montenegro and interdisciplinary topic Sustainable Development in Croatia. This comparative analysis established that the goals of education for sustainable development in all three cases are aimed at developing an active and responsible attitude of students towards other people, the environment, taking into account the future perspective, and that the goals and objectives of education for sustainable development in Montenegro and Croatia are more extensive and meaningful compared to the goals and objectives of the elective course Education for Sustainable Development in Serbia. Even though the goals and objectives of the new elective course, interdisciplinary topics and interdisciplinary areas specifically focused on sustainable development represent curriculum innovation in Serbia, Montenegro and Croatia, defining them is only a starting point for activities aimed at educating students to live and work in a modern society that is required to become sustainable.*

Key words: *education for sustainable development, curriculum, Serbia, Montenegro, Croatia.*

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1. INTRODUCTION

A goal as an intention indicates "a point, a limit to be reached, approaching a certain state or relationship to be achieved, a goal to be reached in an activity or behavioural situation" (Милутиновић 2007, 376). In the pedagogical, i.e., educational context, the goals provide an answer to the question of what the school strives to achieve, what it strives for, what it expects and considers desirable and possible in education (Ђорђевић 2014). It is the knowledge, abilities, and other personality traits that are the end goal in the development of students in the process of education (Максимовић 2013). On the other hand, objectives are defined as statements that speak about what a student needs to know, understand and demonstrate after the learning process (Микановић 2014). Therefore, objectives represent "behavioural repertoires that the student acquires through learning; they are predicted at the beginning of the learning process, they are guided by expectations, and later in the course of learning they gradually develop, shape and become real, lasting student achievements" (Бјекић и др. 2012, 150). An important framework for defining the education and learning goals in the context of the new education policy is provided by the concept of *sustainable development*, which in recent decades has placed focus on the problems facing modern society (Николић и Ђуровић 2012).

Starting from the fact that we are living in times characterized by numerous global issues, such as climate change, gender inequality, human rights violations, hunger, poverty, depletion of natural resources, etc., modern man has faced a challenge: how to save the planet Earth and achieve prosperity, a better and fair life for all people. Thus, the concept of sustainable development was developed, which, through the economic, social and environmental dimensions, provides insight into the problems and consequences of current *unsustainable* development, and encourages the search for solutions that will lead to future *sustainable* development.

Sustainable development as a concept[1] requires consideration of the boundaries of natural resources, ecosystem capacity, and the interaction between social, economic, political and environmental systems (Stanišić 2016). Sustainable development goals are focused on achieving equality with regard to poverty, hunger, education, health care, environmental protection, but also to issues such as sustainable production and consumption, proper governance, open-minded and accountable government and policies that mitigate the effects of conflict, violence and disruption of human rights. The achievement of these goals requires that people become active and responsible citizens, decision-makers who think about the future, with such attitudes and values relying on proper knowledge of the concept of sustainable development (Benavot 2014).

Since these goals define "the type of person to be formed and the type of society that seeks to achieve this" (Ђорђевић 2014, 28), there was a need to redefine the goals and objectives of education and learning, i.e., to align them with modern requirements of sustainable development. This has to do with "shaping the sensibility, the profile of an active, global citizen of the world" (Андевски 2016, 23). Therefore, there was a demand that environmental education, that is, education for environmental protection should be

[1] The term sustainable development is linked to the 1980 World Conservation Strategy, which aimed to integrate conservation and development to ensure that changes on the planet ensure allow the survival and well-being of all people (IUCN, UNEP and WWF 1980); while sustainable development as a concept was formulated in 1987 in the report "Our Common Future", and is defined as the *development that meets the needs of the present without compromising the ability of future generations to meet their own needs* (WCED 1987).

supplemented with the problems faced by modern society: human rights, equality, justice, etc., that is, the modern education system demands that the values contained in the sustainable development goals must become an integral part of education programs. A complete shift has been made in this regard, a shift from environmental education to education for sustainable development, which aims to enable current and future generations to live in modern society, to encourage sustainable behaviours, to guide them towards nurturing values such as peace, justice, equality, respect for diversity and respect for nature, the environment in which they live, but also the planet as a whole, and an active and responsible attitude in approaching the issues of modern society with a focus on seeking the solutions for these issues.

In 2017, UNESCO published the *Education for Sustainable Development Goals: Learning Objectives*, which included 17 global sustainable development goals[2] and each of them further included goals in the cognitive, socio-emotional and behavioural domain, topics and examples of learning approaches and methods, which serve as guidelines for all those who plan goals of education for sustainable development. The ultimate goal of the publication is to develop sustainability competencies for all learners and empower everyone to contribute to achieving the SDGs (UNESCO 2017). Leicht et al. (2018) indicate that these are competencies such as systemic thinking, joint decision-making and a willingness to take responsibility for present and future generations. Successful realization of the above-mentioned requires that students come into contact with sustainable development. Therefore, this concept has become an integral part of the curriculum in many education systems.

2. Education for Sustainable Development and the Curriculum

Education for sustainable development implies the inclusion of core development issues (poverty, peace, local and global responsibility, democracy, justice, human rights, etc.) into the teaching and learning process by using participatory methods that motivate students to change their behaviour towards sustainable development, whereby competencies such as critical thinking, imagining future scenarios and joint decision-making are promoted (UNECE 2005a). Education for sustainable development is significantly different from education about sustainable development. When talking about education *about* sustainable development, one usually refers to the inclusion of new issues or subjects in the curriculum, in order to acquaint students with sustainable development issues (Woo et al., 2012). Education *for* sustainable development means "promoting the values and behaviours prescribed by sustainable development policies" (Lončar 2011, 249). When it comes to education for sustainable development, education is seen as a tool or instrument for achieving sustainability (Николић 2011).

The transition from education about sustainable development to education for sustainable development can be achieved by innovating curricula and teaching methods (Woo et al. 2012), and, in addition to revising existing curricula, the requirements of the

[2] No Poverty; Zero Hunger; Good Health and Well Being; Quality Education; Gender Equality; Clean Water and Sanitation; Affordable and Clean Energy; Decent Work and Economic Growth; Industry, Innovation and Infrastructure; Reduced Inequalities; Sustainable Cities and Communities; Responsible Consumption and Production; Climate Action; Life below Water; Life on Land; Peace, Justice and Strong Institutions; Partnerships for the Goals (UNESCO 2017).

sustainable development concept must be taken into account during curriculum design (Veinović 2017). It is important to keep in mind that sustainable development is not just another topic that needs to be incorporated into the curriculum (Barth and Rieckmann 2012), and that education for sustainable development cannot be reduced to a specific subject which would address the sustainable development concept. It is necessary to reorient the education system, curriculum and teaching methodology towards sustainable living (Vidojević, 2011). Reorienting education to address sustainability is highlighted in Agenda 21, Chapter 36, entitled *Promoting Education, Public Awareness and Training*. One of the goals of this reorientation is the need to integrate the concept of environment and development into all education programs (UN 1992). Thus, educational communities were required to recognize the knowledge, issues, perspectives, skills and values crucial for sustainable development in each of the dimensions – environmental protection, society, economy, and to integrate them into the curriculum (UNESCO 2012). However, as Milutinović and Nikolić said, strategic documents in the field of sustainable development (national strategies of sustainable development, education strategies for sustainable development, etc.) in South-East Europe "strictly followed the orientation toward the *education about sustainable development*, instead the *education for sustainable development*" (Milutinović and Nikolić 2014, 108). Since education for sustainable development promotes values and behaviours that are in line with sustainable development principles, while education about sustainable development implies the acquisition of knowledge about this concept, politics, policies and sustainable development theories (Milutinović and Nikolić 2014), in addition to knowledge about sustainable development, curricula should also include sustainable development skills, perspectives, values and issues (McKeown 2002). However, it is important to emphasize that the distinction between education about sustainable development and education for sustainable development is often not clear enough, and that the terms "green", "environmentally friendly" and "sustainable" are often used as synonyms in the literature, so one dimension of sustainable development may be prevalent in the curriculum (Sherren 2005).

Another big issue is the fact that the integration of sustainable development into the curriculum often comes down to "copying" the curricula of other countries. The *Education for Sustainable Development Sourcebook* published by UNESCO (2012) emphasized that a properly reoriented curriculum respects local environmental, social, and economic contexts because this ensures that the curriculum is locally relevant and culturally appropriate, and that "copying" the curriculum in the case of education for sustainable development is inappropriate, because in that case national sustainable development goals and the local context will not be well targeted (UNESCO 2012). For this reason, it is important to keep in mind that none of the integration models for sustainable development education goals into the curriculum are perfect, universal and applicable to all situations, systems and school subjects (Veinović 2016). The need to create education programs for sustainable development that are locally (and regionally) relevant is highlighted in the above-mentioned chapter 36 of Agenda 21, where the following is stated: the integration of sustainable development into education programs must take into account the analysis of the causes of crucial environmental and development issues in the local context; when creating national strategies for integrating sustainable development into the education system, it is necessary to do a detailed curriculum analysis with a special focus on environmental and social development issues and their socio-cultural and demographic aspects and linkages; when creating work plans in the field of environment, schools should involve students into local and regional research on environmental health and in appropriate activities; it is necessary to find a way to mobilize different sectors of society, in order to assess and meet their educational needs in the field of environment and development; educational tools should include regional issues of sustainable development, with the use of learning materials and resources that are in line with regional requirements, etc. (UN 1992).

Woo et al. (2012) indicate that curriculum design based on sustainability requires a multidisciplinary approach, i.e., the inclusion of different disciplines in solving the problem of sustainability. Similarly, Lozano (2010) says that a more successful inclusion of sustainable development in the curriculum depends on a change of perspective: fragmentation, excessive specialization and reductionism must be replaced by perspectives based on greater balance, synergy, trans-disciplinary approach and holism.

The need for an interdisciplinary and multidisciplinary approach for a thorough understanding of sustainable development is also highlighted in the UNECE Strategy for Education for Sustainable Development (UNECE 2005b), stating that the traditional education focus on individual subjects should be maintained while opening the door to multidisciplinary and interdisciplinary consideration of real-life situations. According to Osman et al. (2017), a valid curriculum is one that provides students with the opportunity to be engaged, to analyse and explore the environment and the world, while building knowledge and skills that will make it easier for them to understand and deal with complex society and environmental issues now and in the future. Therefore, it is necessary to shift the focus away from solely transmitting information, towards dealing with the problems of sustainable development and finding possible solutions (UNECE 2005b), i.e., to "shift the focus from teacher-centered education, i.e., content-centered education, to student-centered and learning process-centered education" (Vukelić 2020, 152). This means that education for sustainable development requires a change in the role of teachers and the development of their professional competencies. Vukelić (2020) points out that the readiness of teachers to implement education for sustainable development requires competencies related to the ability to help those who learn. The teachers' task is to create a student-centered learning environment, to encourage students to be active and cooperative, as well as to base the teaching process on problem-based, anticipatory, innovative, self-regulated and self-directed learning (Ibid).

In addition to the fact that education for sustainable development can be implemented as a part of existing subjects or as an interdisciplinary topic, it can also be implemented as a general framework or platform for the entire school or education system, in order to (re)consider its attitude towards the environment, economy and social community (Benavot 2014). Regardless of how sustainable development is integrated into the curriculum, sustainable development should be its backbone. In other words, it is necessary for education for sustainable development to move from the margins to the center of the curriculum (Jucker 2011), i.e., sustainable development must be the core of the curriculum (Martins et al. 2006).

Starting from the need for sustainable development to become an integral part of the curriculum, education for sustainable development has been implemented in the educational systems of Serbia, Montenegro and Croatia. This paper will present the specifics of education for sustainable development in modern curricula of these countries, as well as a comparative overview of the goals and objectives of elective courses, interdisciplinary areas and interdisciplinary topics that are specifically oriented to sustainable development in these education systems.

3. METHODOLOGY

The aim of the paper is focused on the analysis of education for sustainable development in Serbia, Montenegro and Croatia in order to: (1) consider the specifics of sustainable development in primary and secondary schools in education systems of these countries, and (2) conduct a comparative analysis of learning goals and objectives which are contained in the curricula specifically focused on sustainable development: the elective course *Education for Sustainable Development* in Serbia, interdisciplinary area *Education for Sustainable Development* in Montenegro and the interdisciplinary topic *Sustainable Development* in Croatia. The theoretical analysis method was used, where the primary documentation sources were used as samples for the conducted analysis, as follows: guidelines on curricula for primary and secondary schools in Serbia, and especially Guidelines on the curriculum for the first grade of grammar school (Serbia), Interdisciplinary areas in subject curricula: general grammar school and Methodological instructions for the implementation of the Education for Sustainable Development program (Montenegro), and Decision on the adoption of the curriculum for the interdisciplinary topic Sustainable development for primary and secondary schools in the Republic of Croatia (Croatia). The following comparative analysis components were used: goals and objectives of the elective course Education for Sustainable Development for the first grade of grammar school (Serbia), interdisciplinary area Education for Sustainable Development (Montenegro) and interdisciplinary topic Sustainable Development (Croatia). These were taken as key didactic categories that allow us to better understand the specifics, and the similarities and differences between these courses/interdisciplinary areas/topics that are specifically oriented towards sustainable development.

4. RESULTS AND DISCUSSION

4.1. Specifics of education for sustainable development in Serbia, Montenegro and Croatia

Viewed from the perspective of education for sustainable development, one of the main goals of primary education in Serbia is "developing awareness of the importance of sustainable development, protection and preservation of nature and the environment and environmental ethics, protection and welfare of animals" (Правилник о плану наставе и учења… 2017, 2). Moreover, other goals have been set that can be linked to sustainable development, such as developing competencies for coping with and active participation in modern society, developing feelings of solidarity, understanding and constructive cooperation, fostering friendship, developing and respecting racial, national, cultural, language, religious, gender, and age equality, developing tolerance and having respect for diversity (Ibid). However, it is important to emphasize that primary education does not include any special subject that refers exclusively to sustainable development, students are actually introduced to this topic within other subjects. These contents are studied in the subjects: *World around us* (1^{st} and 2^{nd} grade), *Nature and society* (3^{rd} and 4^{th} grade), *Civic education* (1^{st}, 2^{nd}, 3^{rd}, 4^{th}, 5^{th}, 6^{th}, 7^{th}, and 8^{th} grade), *Geography*, *Biology*, *Engineering and Technology* (5^{th}, 6^{th}, 7^{th}, and 8^{th} grade), *Physics* (6^{th}, 7^{th} and 8^{th} grade) and *Chemistry* (7^{th} and 8^{th} grade).[3] Also, foreign languages curriculum for the first and second cycle of primary education (Ibid) includes certain thematic areas that belong to the field of sustainable development.

In addition to the general education goals, secondary vocational education also includes individual goals that are related to sustainable development: ensuring a motivating and safe environment; developing and practicing healthy lifestyles; developing awareness of the importance of sustainable development and environmental protection (Правилник о изменама и допунама... 2017). In most educational profiles in secondary vocational schools in Serbia, students are introduced with the sustainable development topic within the *Ecology and Environmental Protection* subject. Moreover, according to their specifics, some areas, i.e., educational profiles include several subjects specifically dedicated to sustainable development. It is important to emphasize the following ones: *Sustainable development in construction* (geodesy and construction), *Sustainable development* (chemistry, non-metals and graphics), *Energy efficiency and sustainable development* (geology, mining and metallurgy), *Sustainable design* (forestry and wood processing) (Правилници о плану и програму наставе и учења у средњим стручним школама… 2015, 2017, 2018). Moreover, there are also other subjects which cover sustainable development topics, but they are mostly focused on environmental protection: *Health and environmental protection* (geodesy and construction), *Climatology, Meteorology of air pollution* (mathematics), *Renewable energy sources* (electrical engineering and informatics); *Protection of work and natural environment*, *Environmental protection in the oil industry, Sources of environmental pollution*, *Water pollution and protection*, *Soil pollution and protection*, *Air pollution and protection* (chemistry, non-metals and graphics), *Environmental protection* (mechanical engineering and metal processing), *Renewable energy sources* (geology, mining and metallurgy), etc. (Правилници о плану и програму наставе и учења у средњим стручним школама… 2010, 2013, 2015, 2017, 2018).

When it comes to general secondary education, to grammar schools, one of the goals is dedicated to sustainable development: "developing awareness of the importance of sustainable development, protection and preservation of nature and environment and environmental ethics" (Правилник о програму наставе и учења за први разред гимназије 2018, 94). Students are introduced to sustainable development in *Geography, Biology and Chemistry* classes, but also in the multidisciplinary elective course *Education for Sustainable Development*, which, starting from the 2018/2019 school year, has been part of the curriculum for all four grades of grammar school. This course is implemented through group work of students who, according to their interests and guided by the content presented by the teacher, choose a topic to explore (e.g., students can visit an institution that adheres to sustainability principles, they can collect data from websites and relevant literature, or examine attitudes of peers and fellow citizens, etc.). Based on the obtained results, the project problem is defined, and all students participate in its implementation. The aim of the project is to reflect on one's behaviour in the context of sustainable development, as well as to undertake and propose activities aimed at the well-

[3] For more details please refer to guidelines on the curriculum for primary school from 2017, 2018 and 2019, which we refer to in the paper.

being of the environment (e.g., information on water saving, film on illegal dumps, letter to the mayor to find a place for electronic waste disposal, etc.) (Ibid).

In Montenegro, contents in the field of sustainable development have been introduced as an interdisciplinary area of *Education for Sustainable Development* through the entire general education curriculum (primary school, grammar school and general education subjects in secondary vocational schools), emphasizing that the focus remains on individual subjects, while simultaneously analysing the problem from different perspectives (Čabrilo et al. 2015). This interdisciplinary area was adopted by the National Council for Education in 2015. It is realized on the basis of cross-curricular topics (Climate change, Green economy, Environmental protection, Spatial evaluation and planning – sustainable cities and settlements, Biodiversity, Health education, Education for and about human rights, Entrepreneurial learning), in accordance with the defined goals, contents, interdisciplinary correlations, learning objectives and didactic recommendations given for each of them. When planning lessons, the teacher starts from the goals of his/her subject and includes in the annual plan those operational goals of education for sustainable development, which can be achieved in the same way as the goals of the subject. The identification of the goals of education for sustainable development is supported by correlations which indicate the connection between the goals of interdisciplinary topics and individual subjects (Čabrilo et al. 2015).

Starting from the 2019/2020 school year, in primary and secondary schools in Croatia, the curriculum for the interdisciplinary topic *Sustainable Development*, which is incorporated into all education cycles, has been applied[4]. The topic is focused on all three dimensions of sustainable development (society, economy, environmental protection) in order for students to acquire knowledge about the diversity of nature, the need for sustainable management of natural resources, personal and shared rights and responsibilities, etc., skills to act towards personal and general well-being, values such as solidarity and responsibility, and to develop a personal identity while respecting diversity (Odluka o donošenju kurikuluma… 2019).

Within the domains *Connectivity* (fundamental principles of sustainability and interdependence in ecosystems), *Action* (knowledge and skills for a sustainable living) and *Wellbeing* (responsibility and rights in the context of well-being for all people, environment and future generations) key contents are presented (mandatory and recommended), as well as educational expectations and recommendations (correlations) for their realization in each education cycle (Ibid).

4.2. Goals and objectives of education for sustainable development in Serbia, Montenegro and Croatia – a comparative review

As stated in the methodological part of the paper, the comparative review of education for sustainable development in Serbia, Montenegro and Croatia is focused on presenting and analysing the goals and objectives of the elective course, interdisciplinary area and interdisciplinary topic specifically oriented toward sustainable development. The elective course in Serbia, *Education for Sustainable Development*, aims to develop among the students a "critical, active and responsible attitude towards themselves and the

[4] 1st, 2nd and 3rd cycle refer to primary education, 4th cycle includes 1st and 2nd grade of four-year-long high school, and 1st grade of three-year-long high school education; the 5th cycle includes the remaining grades of four-year and three-year-long high school education

environment in which they live and to see the present through the perspective of the future" (Правилник о програму наставе и учења за први разред гимназије 2018, 230), exploring the interdependence between human activities and their immediate environment. Within the education system of Montenegro, the goal of education for sustainable development is more thorough, pointing to the need for active participation of students in the development not only of their immediate environment, but also their country, and the development at the global level. The Methodological Guide for the Implementation of the Education for Sustainable Development program points out that the goals and principles of education for sustainable development largely coincide with the general education goal in Montenegro, which should enable students to "actively participate and contribute to social, economic and cultural development of their country, their birth place, and also the planet as a whole" (Čabrilo et al. 2014, 29). When it comes to the interdisciplinary topic *Sustainable Development*, no general goal is given; however, several education goals are presented in the Decision on the adoption of the curriculum for the interdisciplinary topic *Sustainable Development* for primary and secondary schools in the Republic of Croatia (Narodne novine 7/2019): (1) to acquire knowledge about nature and understand the relationship between people and the environment, develop critical thinking, personal and social responsibility; (2) to get acquainted with the causes and consequences of human impact on nature in order to influence the development of thinking, especially creative, and problem-oriented thinking; (3) to develop solidarity and empathy, as well as responsibility and motivation to act correctly in relation to nature and other people; (4) an active approach in school and community with the aim of identifying needs, devising solutions and specific contribution to the community, and (5) to encourage thinking about future generations and develop responsibility towards them. It can be concluded that these individual goals are partially similar to the goals of education for sustainable development in Serbia and Montenegro. Their similarity is reflected in the emphasis on the need for an active and responsible attitude of the individual towards the environment and other people, today and in the future, which is at the same time the main precondition for development that can be considered sustainable. On the other hand, it can be noticed that the goal of education for sustainable development is most specifically defined in Serbia and is not oriented towards the global context as is the case in Montenegro, nor towards the development of empathy and broad social responsibility as in Croatia. Objectives of the interdisciplinary topic *Sustainable development* in Croatia are defined through educational expectations by education cycles and domains: connectivity, action, well-being. The main objectives of primary education in these domains are oriented towards: recognizing the importance of well-intentioned actions towards people and nature; consideration of the impact of the use of different energy sources on the environment and people; analyzing ecosystem values and principles; explaining the connection between economic activities and the situation in the environment and society; assessing the importance of righteousness in society, etc. (Odluka o donošenju kurikuluma… 2019). The outcomes of secondary education for sustainable development in Croatia are given in Table 1, for the purposes of a clearer overview and comparison with the same level of education in Serbia and Montenegro.

As we can see from the table, the objectives of *Education for Sustainable Development* at this level of education in Croatia are focused on competencies in the fields of environmental protection (natural balance, ecosystems), economy (production and consumption, economic models) and society (identity, social justice, social differences).

Table 1 The outcomes of secondary education for sustainable development in Croatia

Domain	Connectivity	Action	Wellbeing
4th cycle (1st and 2nd grade of four-year-long high school and 1st grade of three-year-long high school education)	▪ distinguishes personal from collective identity, and has a sense of belonging to humanity ▪ explains the importance of establishing natural balance ▪ assesses how the state of the ecosystem affects the quality of life ▪ collects, analyses and evaluates data on the impact of the economy, state policy and everyday consumption of citizens on sustainable development	▪ acts in accordance ▪ with the principles of sustainable development with the aim of protecting nature and environment ▪ acts in accordance with the principles of sustainable development with the aim of promoting social justice	▪ considers the importance of sustainable development for the common good ▪ analyses indicators of quality of life in a society and explains differences between societies ▪ analyses and compares the causes and consequences of social differences in some societies from the point of view of individual's well-being ▪ describes the impact of different economic models on welfare
5th cycle (3rd and 4th grade of four-year-long high school and 2nd and 3rd grade of three-year-long high school education)	▪ critically considers the connection between one's own way of life and the impact on the environment and people ▪ analyses the principles of sustainable production and consumption ▪ analyses power relations at different levels of government and explains their impact on sustainable development	▪ critically reflects on the impact of our actions on Earth and humanity ▪ designs and uses innovative and creative forms of action to achieve sustainability ▪ participates in activities inside and outside of school aimed at the common good	▪ explains the connection between resource consumption and equitable distribution to ensure the common good ▪ suggests ways to improve personal and general well-being

Source: Odluka o donošenju kurikuluma za međupredmetnu temu Održivi razvoj za osnovne i srednje škole u Republici Hrvatskoj. *Narodne novine* 7/2019.

Regarding the objectives for the interdisciplinary area of *Education for Sustainable Development* in Montenegro, no general expectations are given, but for each of the proposed topics (Climate change, Green economy, Environmental protection, Spatial evaluation and planning – sustainable cities and settlements, Biodiversity, Health education, Education for and about human rights, Entrepreneurial learning) operational goals are suggested.

In Serbia, within the elective course *Education for Sustainable Development*, general objectives (objectives at the end of the course) and special objectives for each of the planned topics are suggested: "Water", "Air" and "Sustainable Cities and Settlements". At the end of the elective course, students will be able to critically consider the impact of man on the environment, and to distinguish between positive and negative attitudes towards it, and predict the future consequences of irresponsible behaviour, as well as to reduce their own negative impact on the environment. Moreover, students will be able to consider the needs of modern people from the perspective of sustainable development and to participate in activities aimed at improving the quality of life in the environment (Правилник о програму наставе и учења за први разред гимназије 2018).

Table 2 shows those operational goals related to grammar school education in Montenegro (Čabrilo et al. 2014, 29) and education objectives in Serbia (Правилник о програму наставе и учења за први разред гимназије 2018) for the same thematic areas.

The topics “Water” and “Air”, which are included in the elective course *Education for Sustainable Development* (Serbia) are presented as sub-topics within the topic “Environmental Protection” in the interdisciplinary area *Education for Sustainable Development* (Montenegro), while the topic “Sustainable Cities and settlements” is part of the topic “Spatial evaluation and spatial – sustainable cities and settlements”.

Table 2 Learning objectives and operational goals in Serbia and Montenegro

Serbia Elective course *Education for sustainable development*	Montenegro Interdisciplinary area Education for sustainable development
Learning objectives	**Operational goals**
WATER	
At the end of the first grade, the student will be able to: ▪ participate in the adoption of rules of behaviour and work in groups ▪ explain the importance of the concept of sustainable development in modern society ▪ rationally use and protect water from pollution ▪ connect the survival of wildlife and water quality ▪ assess the consequences of human activities that lead to water pollution ▪ assess the pros and cons of household chemicals and advocates for their reduced use	▪ Students are supposed to: ▪ understand that access to safe drinking water and sanitation facilities are one of the fundamental human rights ▪ learn that water is a global issue and that everyone needs a responsible, safe and continuous water supply ▪ view water as a natural resource for generation of energy ▪ understand the importance of using water for agricultural and industrial purposes ▪ understand that ecosystem change has a key role to play in maintaining water quantity and quality ▪ learn about chemical ways to purify water ▪ propose scientific concepts for efficient water use that are necessary for a sustainable future ▪ have personal responsibility for the use of water in the local community, participate in local actions and make a positive impact to water conservation, etc.
AIR	
▪ predict the consequences that the use of different types of energy sources used for heating/cooling has on air quality ▪ critically analyse monthly energy consumption in his/her household ▪ find and evaluates relevant data related to air quality in his/her surroundings ▪ discuss the impact of various factors on air pollution and human health ▪ arguably advocate for the improvement of air quality in his/her immediate surroundings by undertaking activities at home, in school and environment	▪ understand the importance of air for human health, ecosystems and materials ▪ understand the functions of air ▪ know the sources of pollution (natural and artificial) ▪ analyse the impact of various pollutants on air quality ▪ compare air quality in open and closed spaces ▪ propose measures to reduce anthropogenic air pollution ▪ familiarize themselves with measures to protect the air from pollution ▪ critically analyse air quality in different parts of Montenegro

Serbia Elective course *Education for sustainable development*	Montenegro Interdisciplinary area Education for sustainable development
Learning objectives	**Operational goals**
SUSTAINABLE CITIES AND SETTLEMENTS	
▪ explain how the basic needs of the people around him/her are met ▪ connect the main principles of sustainable planning and development with the possibilities of improving the sustainability of the place where he/she lives ▪ critically analyse the decisions of the local community on the use, protection and preservation of the common space ▪ compare his/her own needs with the needs of other people living in the same settlement ▪ promote the preservation of the immediate environment through his/her own activities ▪ use his/her own activities to promote sustainable space planning in his/her immediate environment	▪ become familiar with the characteristics of sustainable cities and settlements ▪ identify the characteristics and principles of sustainable community development ▪ raise awareness of a holistic approach to planning and building sustainable cities and urban settlements ▪ recognize different approaches to sustainable community movement and contribute to the sustainable development of the community and local population ▪ analyse the functioning of cities in the past, present and predict the functions of future cities - learn how to make decisions on public spending to provide public places and facilities for recreation ▪ raise awareness of improving local communities and cities to become more pleasant places to live (healthy, attractive and economically successful) ▪ recognize the ways in which the environment can respond to the needs of community diversity, etc.

Sources: “Правилник о Програму наставе и учења за први разред гимназије” 2018, 230; Čabrilo et al. 2014, 24–27, 32–35.

Despite the essentially same objectives, i.e., operational goals related to water protection, identification of air pollutants, analysis of air quality and measures for its protection, and understanding of the relationship between sustainable cities and settlements and people’s needs, local community responses to these and individuals’ actions taken, operational goals for the interdisciplinary field of *Education for Sustainable Development* (Montenegro) are much broader because it is an interdisciplinary area that requires a holistic, interdisciplinary approach, while providing the opportunity to consider various aspects of sustainable development (from different perspectives) in the context of the presented topics.

A broader analysis of the presented operational objectives and consideration of the specific thematic framework in Montenegro (human rights, health education, entrepreneurial learning, green economy) indicates their orientation not only towards the dimension of environmental protection, but also the social and economic dimension of sustainable development.

Despite the specific framework of presenting the objectives of education for sustainable development in these educational systems, it can be concluded that the objectives of education for sustainable development in Serbia, Montenegro and Croatia are oriented to all three dimensions of sustainable development (economy, society, environment).

Previous studies in the field of education for sustainable development in Serbia, Montenegro and Croatia are mainly focused on (1) the representation, role and importance of education for sustainable development (Андевски 2016; Borić et al. 2008; Jelić-Muck and Pavić-Rogošić 2002), (2) content at individual levels and in individual education systems (Andevski 2006; Andevski and Kliček 2008; Kostović-Vranješ 2015; Минић и Јовановић 2019; Veinović 2016; Вукић 2019) and (3) teacher education and implementation of this concept in schools (Anđić 2015; Nikolić et al. 2017; Орловић-Ловрен 2016; Raditya-Ležaić et al. 2018; Веиновић 2015), etc. Sustainable development is presented from a comparative perspective in a paper dedicated to the national strategies of sustainable development of Serbia, Montenegro and Croatia (Надић 2012). However, comparative research on education for sustainable development, and more specifically – the goals and objectives of education for sustainable development are lacking in the countries of the region, so it is not possible to compare and discuss the presented results in the context of similar research.

4. CONCLUSION

Starting from the fact that education at the international level has been identified as a precondition for achieving sustainable development, many countries have incorporated it into their education systems. This paper presents the specifics of sustainable development at the primary and secondary school level in the education systems of Serbia, Montenegro and Croatia and provides a comparative overview of the goals and objectives of the elective course and interdisciplinary topics/areas specifically oriented to sustainable development. The subjects of the comparative analysis were: (1) the elective course *Education for Sustainable Development* in Serbia; (2) interdisciplinary area *Education for Sustainable Development* in Montenegro and (3) interdisciplinary topic *Sustainable Development* in Croatia.

In Serbia, students are introduced to the concept and characteristics of sustainable development in primary and secondary schools, in accordance with the field of education, as part of subjects such as Nature and society, Biology, Chemistry, Geography, Civic education, etc. The subject specifically focused on sustainable development called *Education for Sustainable Development* has become available as an elective course from 2018/2019 school year to grammar school students.

In Montenegro and Croatia, sustainable development is an integral part of the curriculum, as an interdisciplinary area in primary and secondary schools.

The main unit of the comparative analysis of education for sustainable development in these education systems were the goals and objectives as the main didactic categories. The analysis has shown that the goals of education for sustainable development in all three countries are aimed at developing an active and responsible attitude of students towards other people and the environment, taking into account the perspective of the future. When it comes to education objectives, within the elective course *Education for Sustainable Development* (Serbia), general objectives were presented that refer to a critical consideration of the relationship between man and the environment with an effort to reduce the negative impact of man on the environment and improve quality of life; however, specific objectives for the topics “Water”, “Air” and “Sustainable cities and settlements” were provided as well.

The comparison of specific objectives and operational objectives for grammar schools (for the same topics as in the curriculum of the interdisciplinary area of *Education for Sustainable Development* in Montenegro) suggests that in Montenegro the operational objectives are much broader because it is an interdisciplinary area, which requires a broader approach to the given topics, from the perspective of different subjects, i.e., disciplines. The curriculum for Montenegro does not provide general education objectives.

In Croatia, education objectives are presented through educational expectations by education cycles and domains (connectivity, action, well-being) in the interdisciplinary topic *Sustainable Development.* The presented objectives refer to both primary and secondary schools and are much more extensive in comparison to the education objectives provided for the elective course *Education for Sustainable Development* in grammar schools in Serbia.

Despite the fact that education for sustainable development as an integral part of the curriculum in the education systems of Serbia, Montenegro and Croatia is an innovation (in Serbia, the elective course has been available since 2018, the interdisciplinary area was introduced in Montenegro in 2015, while in Croatia that happened during the 2019/2020 school year), these efforts represent a significant step forward in preparing students for modern society and the society of the future, as future representatives of civic activism who will responsibly and conscientiously seek answers to the many problems of modern civilization.

It is important to emphasize that the implementation of education for sustainable development in the given countries is in line with the two main tendencies of integrating sustainable development into the curricula as suggested by Ceulemans and De Prins (2010). This is a horizontal and vertical integration of sustainable development, where horizontal integration implies a kind of intertwining of different subjects with sustainable development, as in the case of Montenegro and Croatia, while vertical integration refers to the design of specific subjects focusing on sustainable development, as in the case of Serbia. Moreover, for the successful establishment of a new, sustainable, education system, it is necessary to be guided by recommendations for the improvement of existing education. Such are, for example, the guidelines given in the National Strategy for Sustainable Development of the Republic of Serbia, which, we believe, also apply to other countries. Thus, the Strategy recommends sustainable education in the Republic of Serbia that will be "competitive in accordance with the scientific, economic and technological potentials of the Republic of Serbia; accessible to all, especially children and members of socially vulnerable social groups; adaptable and in line with labour market needs; attractive enough and in line with socio-economic changes; included in the European education system; subject to modern financing based on the model of the European financial system; based on the system of modern management, certification, licensure and accreditation" (Влада Републике Србије 2008, 37). Given the fact that the presented elective course and interdisciplinary areas/topics represent an innovation in the curricula of the given countries, their improvement and development can be expected in terms of expanding and deepening the defined goals, content and outcomes.

The results obtained should be viewed as a potential to improve this area of education in terms of regional integration in relation to educational activities regarding this issue that is significant at the global level. Collaboration and coworking should be based on the adoption and implementation of positive experiences and the prevention of identified risks. Therefore, this comparative overview can serve as a foundation for mutual empowerment in the process of developing more modern and thorough approaches to education for sustainable development. Moreover, it should be emphasized that the mere fact that comparative studies of goals and objectives of education for sustainable development in the countries of the region do not exist further suggests that this paper is a valuable attempt to initiate the idea of related studies and the need to conduct research on other important issues related to this field, which were only mentioned in this paper.

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CILJEVI I ISHODI OBRAZOVANJA ZA ODRŽIVI RAZVOJ U SRBIJI, CRNOJ GORI I HRVATSKOJ KAO INOVACIJE SAVREMENOG KURIKULUMA

Obrazovanje za održivi razvoj, kao imperativ vremena, postalo je sastavni deo kurikuluma u mnogobrojnim obrazovnim sistemima. U fokusu rada je obrazovanje za održivi razvoj obrazovnih sistema Crne Gore, Hrvatske i Srbije, sa posebnim osvrtom na ciljeve i ishode obrazovanja za održivi razvoj. Nakon predstavljanja specifičnosti održivog razvoja na osnovnoškolskom i srednjoškolskom nivou obrazovnih sistema ovih zemalja, izvršena je komparativna analiza ciljeva i ishoda u okviru kurikuluma izbornog programa Obrazovanje za održivi razvoj u Srbiji, međupredmetne oblasti Obrazovanje za održivi razvoj u Crnoj Gori i međupredmetne teme Održivi razvoj u Hrvatskoj. Komparativnim prikazom utvrđeno je da su ciljevi obrazovanja za održivi razvoj u sva tri slučaja usmereni na razvijanje aktivnog i odgovornog odnosa učenika prema drugim ljudima, životnoj sredini, *uzimajući u obzir perspektivu budućnosti, kao i da su ciljevi i ishodi obrazovanja za održivi razvoj u Crnoj Gori i Hrvatskoj obuhvatniji i sadržajniji u odnosu na ciljeve i ishode izbornog programa Obrazovanje za održivi razvoj u Srbiji. I pored toga što ciljevi i ishodi novog izbornog programa, međupredmetnih tema i međupredmetnih oblasti koje su specifično orijentisane na održivi razvoj predstavljaju inovaciju kurikuluma u Srbiji, Crnoj Gori i Hrvatskoj, njihovo definisanje je samo polazna osnova za aktivnosti usmerene ka obrazovanju učenika za život i rad u savremenom društvu pred kojim se postavlja zahtev da postane održivo.*

Ključne reči: *obrazovanje za održivi razvoj, kurikulum, Srbija, Crna Gora, Hrvatska*.

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Review Paper

THE ENVIRONMENT – A *TERRA INCOGNITA* FOR MOST SOCIOLOGISTS IN SERBIA

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Abstract. *The issue of future societal development has captured the attention of scientists and experts from different fields and it is increasingly associated with environmental capacity and quality. The reach and the topicality of the issue were identified more than 40 years ago, while the solution materialized years later as a new paradigm of societal development – sustainable development. Considering the subject of study of sociology and its significance for steering societal development, this author was faced with the question of how and to what extent Serbian sociologists deal in their theoretical and empirical studies with the nature-society relationship and with sustainable development as a globally accepted development model. The discussion in this paper is based on the articles published in leading Serbian national journals in the fields of sociology and multidisciplinary sciences. The first findings reveal that sociologists less frequently deal with the environment and sustainable development than other social scientists, such as jurists, economists, psychologists, pedagogists, or andragologists. In this author's opinion, one of the reasons for the relative marginalization of sociological research on the society-environment relationship is the relatively belated inclusion of specialized sociological disciplines such as social ecology or environmental sociology in the curricula of sociology academic programmes.*

Key words: *society, environment, sustainable development, sociologists, periodicals*.

1. INTRODUCTION

Until the mid-20th century, the prevalent view among scientists from various fields was that of an infinite societal growth and progress accompanied by the glorification of the power of science and technology. However, indications of the limited amount of natural resources and the disrupted ecological balance as the limiting factors of societal development led to a different perception of the nature-society relationship. Facing the

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issues of social progress, which were also associated with growing environmental issues, sociologists, initially only American sociologists, began to explore society and nature as a unity, or a socio-ecological system (SES).

Discussions about the necessity of establishing a new sociological discipline that would study the SES began in the 1980s, even though social ecology had been established several decades earlier within the Chicago School. In their examinations of metropolitan issues, Robert E. Park, Ernest W. Burgess, Roderick D. McKenzie, and Louis Wirth indicated that the differentiation between what is natural and what is social was no longer possible and that social segregation, rising crime rates, ethnic conflicts, and deteriorating health of the population were consequences of a disbalance between the natural and the societal (see e.g. McKenzie 1924; Park 1915).

1.1. Sociologists' interest in studying SES relations

The increasingly pronounced disruption of the ecological balance is commonly associated with the development of industrial civilization, even though industrial development accompanied societal development throughout human history. However, owing to scientific and technological development, the natural potential was turned into natural resources and the human lifespan increased, contributing to environmental pollution, which threatens all life on earth. It was found that natural resources are limited and that unlimited growth is impossible with the constant global population rise, the development of profit-oriented technology, and the anthropocentric worldview. Accordingly, phenomena including demographic explosion, lack of natural resources and energy, and disruption of the ecological balance, referring to the pollution, endangerment, and destruction of ecosystems, were identified as the anthropogenic causes of the ecological crisis. Almost simultaneously, in the second half of the 20th century, biologists, rather than sociologists, specifically Rachel Carson, Barry Commoner, Paul and Anne Ehrlich, and Garrett Hardin put the spotlight on the growing environmental issues, which can be and which are a limiting factor for societal development. Their publications drew attention to various issues, such as the harmful effect of using chemicals in agriculture (Carson 1962), the connection and interdependence of nature and society (Commoner 1971), and population growth as one cause of environmental issues (Ehrlich, Ehrlich 1970; Hardin 1968). Their work also influenced public opinion and incited social movements, politicians, as well as some Western sociologists to bring into focus the question of how we should perceive the interdependence and mutual influence of nature and society.

The encouragement to place the environment in a sociological perspective in the context of societal development was provided by international associations of sociologists, the UN, and the research conducted within the Club of Rome.

The seventh World Congress of Sociology in Varna (1970) launched the initiative to establish the Research Committee on Social Ecology – RC24 with an aim of adding a sociological perspective to environmental issues. The International Sociological Association (ISA) officially recognized the Committee in 1971 and appointed Mattei Dogan as the first provisional president of the Committee. Several years later (1974), at the Toronto World Congress, RC24 had more than 100 members and established several task forces: Spatial Differentiation, Level of Aggregations, Area Analysis, Political Ecology, and Pollution and Environment (ISA 1982).

There were many difficulties with how to organize sociological research of the environment. The task forces changed and two years after the official establishment of RC24 and its task forces, the task forces were reorganized as follows: Theory and Methodology in Ecological Research, Ecological Analysis and Social Change, Microecology, Ecological Aspects of the Quality of Life, and The Automobile and the City. The Research Committee on Social Ecology was trying to respond to the contemporary environmental issues through continuous formation of new task groups, leading to a name change in 1992 into the Research Committee on Environment and Society.

The growing interest of sociologists to explore the society-environment relationship is evidenced by the number of sessions and papers presented at ISA congresses. For instance, immediately after the establishment of RC24, at the eighth World Congress of Sociology in Toronto (1974), sociologists presented 31 papers by one or more authors within four sessions; at the most recent, nineteenth World Congress in Toronto (2018), there were 20 sessions with over 120 presented papers (ISA 1982, 10–11; ISA 2018, 246–253). The awareness that sociologists had neglected the "habitat" and that the primary considerations of the social environment had suppressed the consideration of physical circumstances (Michelson 1976, 17) led to the first publications that encouraged sociologists to consider SES relationships in a different manner[1] and to initiate the creation of a new sociological discipline.

Of equal significance is the publication of the paper by W. R. Catton and R. E. Dunlap, Environmental Sociology: A New Paradigm (February 1978), who state that the reasons for insufficient research of the nature-society relationship lie in the Dominant Western Worldview, a fundamental anthropocentrism underlying all theoretical claims of modern sociology,[2] as well as the widely accepted Human Exceptionalism Paradigm (HEP).[3] They advocated the introduction of the New Environmental Paradigm (NEP) in sociology,[4] which would enable the creation of a new sociological discipline, Environmental sociology,[5] in

[1] E.g. M. Dogan and S. Rokkan, Social Ecology, 1974; Z. Mlinar and H. Teune (eds.), The Social Ecology of Change. From equilibrium to Development, 1978; L. K. Milbrath, Quality of Life: Values, Lifestyles and Beliefs, 1980 (ISA 1982, 11).

[2] "Not only have sociologists been too unmindful of the fact that our society derived special qualities from past abundance; the heritage of abundance has made it difficult for most sociologists to perceive the possibility of an era of uncontrived scarcity" (Catton and Dunlap 1978, 43). Dunlap later listed the four postulates of the Dominant Western Worldview: „DWW1 People are fundamentally different from all other creatures on Earth, over which they dominion. DWW2 People are masters of their destiny; they can choose their goals and learn to do whatever is necessary to achieve them. DWW3 The world is vast, and thus provides unlimited opportunities for humans. DWW4 The history of humanity is one of progress; for every problem there is a solution, and thus progress need never cease" (Dunlap 2002, 333).

[3] The four postulates of HEP: "(1) Humans are unique among the earth's creatures, for they have culture. (2) Culture can vary almost infinitely and can change much more rapidly than biological traits. (3) Thus, many human differences are socially induced rather than inborn, they can be socially altered, and inconvenient differences can be eliminated. (4) Thus, also, cultural accumulation means that progress can continue without limit, making all social problems ultimately soluble" (Catton, Dunlap 1978, 42–43; see also Dunlap 2002, 333).

[4] "(1) Human beings are but one species among the many that are interdependently involved in the biotic communities that shape our social life. (2) Intricate linkages of cause and effect and feedback in the web of nature produce many unintended consequences from purposive human action. (3) The world is finite, so there are potent physical and biological limits constraining economic growth, social progress, and other societal phenomena" (Catton, Dunlap 1978, 45).

[5] In Serbia, the efforts to establish a new sociological discipline that would study the SES relationships resulted in the creation of two scientific and educational disciplines – Social Ecology and Environmental Sociology. Their subjects of research are almost identical (see Marković 2015 and Pušić 2001). The differences in the

which the SES relationships would be treated differently, through the interaction between society and nature.[6] According to Dunlap, there are four reasons why the NEP should be accepted: "While humans have exceptional characteristics (culture, technology, and so on), they remain one among many species that are inter-dependently involved in the global ecosystem. Humans live in and are dependent on a finite biophysical environment that imposes potent physical and biological restraints on human affairs. Although the inventiveness of humans and the powers derived therefrom may seem for a while to extend carrying capacity limits, ecological laws cannot be repealed" (Dunlap 2002, 333).

The European Sociological Association (ESA) also spurred sociologists to tackle the issues in the SES by forming the Research Network Environment and Society – RN12. The importance of sociological considerations of SES issues is validated by the fact that, as early as at the First Conference in Vienna in 1992, a topic at one of the sessions involved environmental issues (ESA 1992), and that a session at the very next conference (1995) was entitled Ecology in Europe (ESA, 1995). At the most recent conference, held in Athens in 2017, RN12 had 26 sessions with four to five papers each (Gross 2017).

At the UN conference in Stockholm (1972), dedicated to the human environment, the environment was defined as a set of natural and social components and the connection between natural capacities and societal development was emphasized. The report by Barbara Ward and René Dubos entitled *Only One Earth*, adopted at the UN conference, not only indicates the connections within the SES from a scientific standpoint, but also stresses the necessity of accepting responsibility for the survival of humankind and the entire planet. Accordingly, revealing a link between the environment and societal development provides an opportunity for a new study field in sociology. Equally instrumental are the conferences dedicated to the environment and sustainable development in Rio de Janeiro (1992 and 2012) and Johannesburg (2002). The interest of sociologists to study the SES was particularly sparked after the adoption of the concept of sustainable development (SD) at the 1992 UN Conference on Environment and Development in Rio de Janeiro (1992), which was based on the Brundtland Report, published in 1987 under the title *Our Common Future*, identifying the three pillars of sustainable development (economic, social, and environmental) and emphasizing the idea of intergenerational equity.

The reports by the Club of Rome also significantly influenced the sociological considerations of environmental issues. In 1968, industrialist Aurelio Peccei and Scottish scientist Alexander King, concerned over the rapid societal development, environmental degradation, and differences in the degree of development between different countries, gathered over 30 scientists from various fields and initiated discussions that were supposed to lead to a proper consideration of the nature-society relationship. For that purpose, thanks to the efforts from Jay Forrester, a computer model, called the World3 model, was developed and used by a group of MIT scientists to write a report entitled *The Limits to Growth*, which indicated the unsustainability of continuous societal growth. The authors of the report, Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens III, investigated the relationship between population, industrial growth, agricultural production, and environmental pollution, concluding that the limits

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names of the disciplines can be explained by the influence of North American, Russian, and Frankfurt sociology and by the translation of the noun-adjective pair environment/environmental.

[6] Catton and Dunlap's opinion that the roots of the new sociological discipline cannot be found among the classical sociologists sparked a heated exchange with F. H. Buttel, who published a paper under the same title in 1978, refuting their claims (Buttel, 1978; see also Pajvančić-Cizelj 2015, 2–24).

to growth are determined by the material and energy resources and the capacity of the planet to absorb waste. They also concluded that exponential economic growth exhausts resources and that if the current growth trends in the population, industry, food production, and consumption of natural resources were to continue unchanged, a rapid decline would ensue around 2020. In order to achieve ecological and economic stability, it is necessary to do the following: stabilize population growth by approximating the birth and mortality rates; limit the consumption of natural resources to the 1970 level; restructure national income from material to non-material services, healthcare, education, and so on; decrease environmental pollution to ¼ of the 1970 level; extend the period of using material resources for long-term exploitation; and invest in soil quality improvement (Meadows, Meadows, Randers & Behrens III 1974). Their predictions and proposed measures triggered a plethora of reactions, followed by a number of less pessimistic reports. The first of those reports, as well as the others that ensued,[7] might be considered stimulatory for sociologists, as they stressed specific problems of societal development, associating them with global inequalities, population growth, industrial growth, and environmental condition and capacity.

In the second half of the 20th century, sociologists from former Yugoslavia were not far behind the Western sociologists in terms of actively promoting different views of SES relationships. Zdravko Mlinar actively participated in the work of RC24, being appointed a Board member at the Toronto congress in 1974, and a Vice-President in 1979. In 1974, the Eighth Scientific Conference of Sociologists of Yugoslavia took place, with Industrialization and Protection of the Human Environment (Ecological Issues in Our Country) being one of the topics. In 1976, an international workshop entitled “Comparative ecological analysis of social changes” was held in Ljubljana, chaired by Zdravko Mlinar, resulting in 67 presented papers. In the same year, the term human environment found its way into the Small Lexicon of Self-Managers (Serb. Mali leksikon samoupravljača), while 1982 saw the first publications to consider environmental issues from a sociological perspective. Likewise, during the 1980s, the first textbooks entitled Social Ecology were published, one by professor Danilo Ž. Marković (1986) in Belgrade and the other by professor Ivan Cifrić (1989) in Zagreb.

In this author’s opinion, since the 1990s and the dissolution of former Yugoslavia, the environment has been relegated to the sidelines among Serbian sociologists. The conferences held by two Serbian sociological associations were primarily dedicated to the ‘burning’ issues in our society (the dissolution of Yugoslavia, the civil war aftermath, transitional processes, etc.), which suggests that Serbian sociologists, or at least the majority of them, as opposed to foreign sociologists, still believe that environmental issues should be tackled by someone else. If one accepts that periodicals are “a reflection of the spirit of the times” (Golubović 1989, 207) and “one of the most significant expressions of the institutional and professional development of a science” (Bogdanović 1989, 215), and that “the versatility of content and ideas on which the articles in scientific journals are focused paints a picture of the maturation stages of a science” (Petrović J. 2012, 960), it is then justified to turn to social science journals to determine how much Serbian sociologists theoretically and empirically consider and investigate the SES relationships and sustainable development.

[7] The following seem to be the most relevant to the present discussion: Mankind at the Turning Point (1975); Rio: Reshaping the International Order (1977); Beyond the Age of Waste (1978); Beyond the Limit to Growth (1989); Beyond the limits: Global collapse or a sustainable future (1992); The Limits to Growth: The 30-year Update (2004); and 2052: A Global Forecast for the Next Forty Years (2012).

2. Material and Method

This research focuses on the 1991-2019 issues of *Sociologija* (Sociology) and *Sociološki pregled* (Sociological Review), as the leading Serbian sociological journals, as well as *Zbornik Matice srpske za društvene nauke* (Matica Srpska Journal of Social Sciences) and *Teme* (Themes), as the leading journals in the field of interdisciplinary sciences.[8]

The research was conducted in several steps. The first step was to separate the published papers dealing with SES based on their titles, abstracts, and key words in order to determine the share of papers that deal with these issues. Based on the authors' affiliations, with additional inspection, we selected the papers written by sociologists and PhD holders from other fields who teach sociological courses at Serbian universities. The purpose was to determine the share of papers written by sociologists within the corpus of previously selected papers. The following step was to analyze the selected papers' content in order to identify their thematic focus and the key topics that the sociologists tackled within the nature-society relationship. The papers selected for analysis had to include at least one of the following terms: environment and society; environmental awareness; environmental issues/problems; environmental policy; environmental management; environmental risks; sustainable development; quality of life and environment; environmental needs, bioethics; ecocentrism; agriculture and sustainable development; and sustainable city.

3. Results and Discussion

3.1. A quantitative analysis of SES papers published in Serbian journals

From 1991 to 2019, a total of 3,906 papers were published in the four analyzed Serbian journals (both original research and review papers), of which only 2.87% dealt with the various aspects of the nature-society relationship (sociological, legal, psychological, economic, etc.), while less than a half (39.28%) were papers by sociologists. Regardless of the finding that almost one in three published papers, whether theoretically or empirically examining the SES relationships including SD, was written by sociologists, there are at least two reasons such a result cannot be considered satisfactory. First, the research involved two sociological journals, one of which had an issue that was thematically oriented toward environmental protection and sustainable development. Second, the number of papers dealing with SES relationships and SD published by sociologists in the two sociological journals was 0.28% higher than the number of similar papers published in the two journals of interdisciplinary studies.

The analysis of published papers in all four journals revealed that the total number of papers was increasing but that the number of sociological papers was decreasing. From 1991 to 2000, the fewest published papers were on the nature-society issues, but 50% of those were written by sociologists. In the following decade (2001-2010), the number of papers tripled, but now the share of papers by sociologists was reduced to 42.31%. Even though the last analyzed decade (2011-2020) is still ongoing, there is a noticeable increase of papers that discuss the SES relationships and SD from the perspective of

[8] Since 2008, the journals are categorized as M24 – journals of international significance verified by a special decision – in the official list of journals by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

disciplines other than sociology. The total number of papers increased by more than two and a half times compared to the previous decade and more than sevenfold compared to the first analyzed decade, but the share of sociological papers was considerably reduced to only 36.84% (see Fig. 1). It would be justified to assume that this share will not significantly increase and reach the shares from the previous two decades by the end of the current decade.

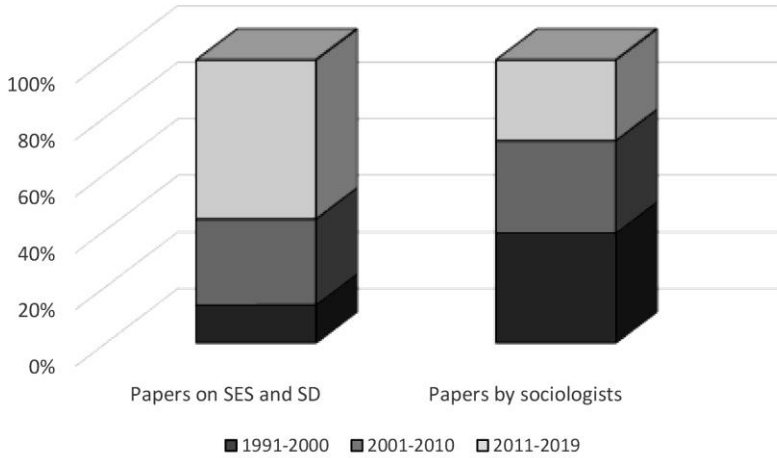

Fig. 1 Papers focusing on SES and SD in four leading Serbian journals

The by-decade analysis has shown that the number of papers dealing with SES and SD issues in interdisciplinary journals increased more than fivefold during the current decade (5.08%) compared to the first decade (0.96%) and almost tripled compared to the second decade (2.95%). The number also increased in sociological journals compared to the first and second decade by more than double and double, respectively (1.05% and 1.33% vs. 2.64%). Such results can be explained by the fact that the papers in sociological journals are predominantly authored by sociologists.

Another noteworthy finding is that there were no papers dealing with the SES and SD in any of the journals during the seven studied years, specifically in 1992, 1993, 1997, 1998, 2001, 2003, and 2005.

A total of 1,631 papers were published in the two sociological papers, *Sociologija* and *Sociološki pregled*, 840 in the former and 791 in the latter. Out of that number, only 1.29% were papers dealing with the SES and SD and 85.71% of these were written by sociologists. A third of all published papers on these topics were published in *Sociologija* in 2012. Yet, these journals together had zero published papers on environmental topics for more than years. In accordance with the socio-economic and political situation in Serbia (the dissolution of Yugoslavia, civil war, and transition), politics and the economy were the chief interests of sociologists, as evidenced by their publications (see also Vuletić and Stanojević 2012, 47–68 and Petrović and Miltojević 2019, 112–128).

The first volume of *Sociologija* for 2012 was dedicated to the topic of SES issues and SD, or to "one of the youngest sociological disciplines – environmental sociology" (Petrović M., 2012, p. 1). The analysis revealed that 60% of the papers in this journal were theoretical discussions about the different aspects of SES relationships and SD from the perspective of urban sociology, as well as analyses of biopolitics. The empirical papers presented research results about the degree of citizens' environmental awareness and involvement in dealing with environmental issues in urban and rural areas.

All papers published in the *Sociološki pregled* were theoretical, discussing topics such as the establishment of the sociological discipline studying the nature-society relationship, sustainable development including urban sustainable development, deep ecology, management of international environmental issues, environmental activism, and climate change.

The two interdisciplinary social science journals contained a total of 2,275 papers, of which 3.69% discussed the nature-society relationship and sustainable development. Less than a third of those papers were written by sociologists (27.38%).

The data show that significantly fewer papers were published in the *Zbornik Matice srpske za društvene nauke* – out of 900 papers, 1.55% discuss the SES relationships and SD. Out of the total number of papers dealing with SES relationships and SD, 14.28% were written by sociologists, on the topics of environmental protection, sustainable development, and environmental awareness.

In the journal *Teme*, the share of the papers dealing with theoretical and empirical SES issues and SD was almost five times larger than in the *Zbornik Matice srpske za društvene nauke*. Out of the total of 1,373 published papers in *Teme*, 5.09% were papers dedicated to the said topics, less than a third of which were written by sociologists. It must be noted that the editorial staff of *Teme* were sufficiently attuned to the circumstances to recognize the topicality of environmental issues and sustainable development, which is why they dedicated separate journal issues to these topics in 2002, 2006, 2012, and 2019. The topics discussed in the papers published in *Teme* included urban development and ecology, sustainable development, environmental awareness, as well as the examination of the relationship between globalization and ecological crisis, environmental ethics, bioethics, gender, and climate change.

Even though the data indicate that the share of papers increased over the analyzed period in the sociological and interdisciplinary journals, in terms of the number of sociologists who teach or used to teach at sociology departments of the four Serbian faculties of philosophy, it would appear that relatively few of them dealt with environmental topics, beginning only around 2012. The affiliations of the authors of the analyzed papers indicate that environmental topics were prevalently covered by sociologists who teach at other faculties or departments not specializing in sociology, as only 39.58% of the authors came from the specialized sociology departments at the faculties of philosophy.

3.2. Key topics of sociological studies

Compared to the results obtained in the present research, the data on papers published by sociologists in foreign journals were considerably different. Sociologists' interest in studying the nature-society relationship began much earlier in foreign journals, in the 1980s, with the first considerations of establishing a separate sociological discipline, and found its footing after 1990, especially after the 1992 UN Conference on Environment and Development in Rio de Janeiro (Scott, Johnson, 2017). In Serbia, the absence of discussions on establishing a sociological discipline that would study the nature-society relationship, coupled with the sporadic theoretical and empirical studies published in the analyzed domestic journals from 1991 to 2019, only confirm the opinion of Mina Petrović that the new sociological discipline in Serbia, as well as in other "post-socialist academic communities", is "in its infancy" (Petrović M. 2012, 4).

As regards the results of the studies in papers published in foreign journals, there is a difference in both the time at which sociologists began to deal with SES issues and the topics the authors discussed.[9] Our analysis of the papers published in domestic journals identified nine key topics discussed by Serbian sociologists: *sustainable development; urban development and the environment; environmental policy; environmental issues and society; environmental awareness and environmental activism; ethics and the environment; climate change; rural development and the environment; and environmental culture* (Fig. 2).

Sustainable development and *environmental issues and society* were the two most frequent topics in domestic journals over the analyzed period. The authors critically examined the model of SD at the macro, socio-cultural, political, economic and technological, and ecological and demographic level and stressed the importance of accepting the four-pillar model of SD, the connections between globalization, neoliberalism, ethics, and SD, and between SD and urban/rural development (see e.g. Magdalenić 2010; Miltojević 2011; Mitrović V. 2012; Pušić 2012 and 2013). Environmental issues and how they affect society were the focus of both theoretical and empirical studies, wherein sociologists discussed the various causes and effects of the ecological crisis, emphasizing and juxtaposing the different viewpoints on the issue (see e.g. Čikić 2012). In their examination of the nature-society relationship, the authors mostly highlighted the impact of globalization, scientific and technological development, the economy, and the dominant systems of values as the major causes of disturbing the balance in the system (see e.g. Milošević 1996; Marković 2002; Vuković 2008; Pušić Pajvančić-Cizelj 2012) (Fig. 2).

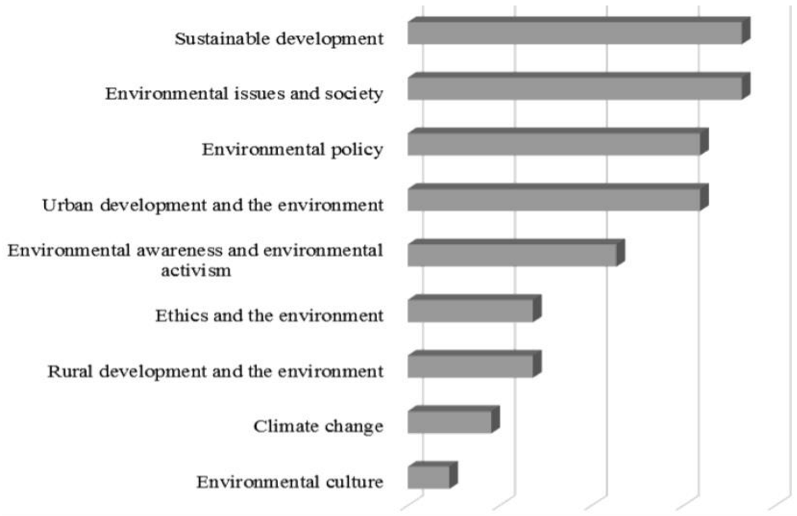

Fig. 2 Key topics of sociological studies

[9] Bohr and Dunlap identified 25 key topics published in sociological journals included in the SSCI list: Environmental Concern, Climate & Society, Environment & Society, Political Economy, Agriculture, Environmental Inequality, Values, Attitudes & Behavior, Natural Resources, Social Theory, Policy & Planning, Governance, Local Environment, Social Movements, Politics, Risk & Risk Perception, Political Ecology, Demography, Sustainability, Health & Wellbeing, Development, Tourism, Emissions, Gender, Culture (2018, 181–195).

Environmental policy and *urban development and the environment* were the next most frequent topics. The papers focusing on environmental policy emphasize the importance of local, national, and international participants in the creation and implementation of environmental policy and different concepts of its creation (see e.g. Nadić 2006; Vuković 2008a; Nadić 2012; Petrović M. 2012a). Urbanization and environmental protection came into focus in the 1990s, paving the way for their various aspects to be examined in the papers by urban sociologists at the beginning of the 21st century (see e.g. Naumović 1994; Mirkov 2012; Petrović M., Toković 2016).

Environmental awareness, as a prerequisite for resolving any issues concerning the nature-society relationship, was examined theoretically and empirically. The link between quality of life and environmental awareness was emphasized, with special focus given to the studies of people's perception of environmental issues, their environmental awareness in urban/rural environments, and environmental activism as a major manifestation of environmental awareness (see e.g. Pajvančić & Markov 2011; Šarković, Cvejić, Bogdanov 2016; Mirkov 2016).

Ethics and the environment and *rural development and the environment* are ranked fourth according to their frequency in the analyzed papers. The papers dealing with *ethics and the environment* focused on deep ecology, bioethics, ecocentrism, and anthropocentrism (see e.g. Đorđević 2002; Mišković 2016). The papers dealing with *rural development and the environment* discussed the relationship between modern agricultural practices and environmental issues, emphasizing the importance of the environmental dimension for the development of rural areas (see e.g. Mitrović M. 1994; Janković 2012).

Climate change and *environmental culture* were the least discussed topics in the analyzed papers (see Cvetković, Tomašević, Milašinović 2019; Ilić Krstić, Živković, & Milutinović 2019; Miltojević 2002).

A comparison of the topics examined by sociologists in the analyzed domestic journals with the key sociological topics discussed in leading foreign journals regarding the nature-society relationship and the current national and international socio-political situation suggests that sociologists in Serbia should give more attention to the study of the nature-society relationship. The possible fields of study include the following: structural changes and protection of the environment; climate change and society; influence of formal and informal education on the acceptance of environmental and ethical principles; environmental awareness and pro-environmental behaviour; rural development and agriculture within the context of sustainable development; environmental culture; citizens' participation in the creation and implementation of environmental policy; social movements and environmental protection; and inequalities and the environment (natural resources).

4. Conclusion

Based on the presented results, which should be considered preliminary, as a more comprehensive conclusion would require analyzing not only the leading social science journals, but all the others as well, including monographic publications and conference proceedings, this author is inclined to believe that the following statement by professor Ljubinko Pušić is still valid after ten years: "[…] sociology manifested all signs of indifference towards the new intra-disciplinary changes pertaining to the 'matters of the environment'", while "some social sciences, such as psychology, economics, political science, law, and philosophy, and even pedagogy, have seized the opportunity and began to integrate the 'matters of the environment' into their subject of study" (Pušić 2009, 31).

Insufficient interest in SES issues and sustainable development and the prevalent share of authors from non-sociology-specialized faculties can be explained by two facts. First, there is the late introduction of courses such as Social Ecology or Environmental Sociology at the sociology departments of the faculties of philosophy (FOP). Most authors of the analyzed papers were from the University of Novi Sad and the University of Belgrade, whereby sociologists from the FOP in Novi Sad have a longer tradition of dealing with environmental topics, primarily thanks to professor Ljubinko Pušić and the early introduction of Environmental Sociology in the pre-ECTS undergraduate syllabus of the Department of Sociology. In contrast, the FOP in Kosovska Mitrovica introduced the course Social Ecology and the FOP of the University of Belgrade introduced Environmental Sociology in their basic academic studies later, for their first ECTS accreditation in 2009. The FOP of the University of Niš was the last to introduce an environmental course, specifically Social Ecology, but only as a master academic studies course, even though professor Miomir Naumović from the Niš Department of Sociology published a paper on the topic as early as in 1994. Second, thanks to professor Danilo Ž. Marković, the course Social Ecology was introduced at other faculties, such as teacher training faculties, the Faculty of Political Science, and some faculties from the field of technical and technological sciences.

In addition to the aforementioned reasons, it appears that the lack of interest among sociologists is also aided by the fact that public policy makers insufficiently acknowledge the findings from sociological studies, including findings from a small number of studies dealing with environmental issues. Assuredly, sociologists have plenty to offer in terms of solutions for the problems in the man-society-nature relationship. With their theoretical considerations and empirical studies, highlighting how the way of living, production, and consumption are linked with the future directions of development, they can offer, if not definitive, then at least partial, answers to the challenges of modern society, environmental issues, and sustainable development. In this author's humble opinion, the establishment of special environmental branches in Serbian sociological associations and the organization of separate environmental sessions in sociological conferences would help promote sociological research of the socio-ecological system and sustainable development and help impose the inclusion of sociologists in public policy development.

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ŽIVOTNA SREDINA *TERRA INCOGNITA* ZA VEĆINU SOCIOLOGA U SRBIJI

Pitanje daljeg razvoja društva zaokupljuje pažnju naučnika i stručnjaka različitih profila i sve češće se povezuje sa kapacitetima životne sredine i njenim kvalitetom. Na povezanost i aktuelnost pitanja je ukazano još pre više od četrdeset godina, da bi se godinama kasnije rešenje otelotvorilo u novoj paradigmi društvenog razvoja – održivom razvoju. Polazeći od predmeta istraživanja sociologije i njenog značaja za usmeravanje društvenog razvoja, autorki se nametnulo pitanje u kojoj meri i na koji način se sociolozi Srbije u svojim teorijskim i empirijskim istraživanjima bave pitanjem odnosa društvo-priroda i održivim razvojem kao modelom razvoja koji je prihvaćen na *globalnom nivou. Osnovu istraživanja činili su publikovani prilozi u vodećim nacionalnim časopisima Srbije u oblasti sociologije i multidisciplinarnih nauka. Prvi nalazi pokazuju da se sociolozi ređe bave životnom sredinom i održivim razvojem u odnosu na poklonike drugih društvenih nauka, recimo pravnike, ekonomiste, psihologe, pedagoge, andragoge. Jedan od razloga relativne marginalizacije istraživanja odnosa društvo – životna sredina sa sociološkog stanovišta, prema mišljenju autorke je relativno kasno uključivanju posebnih socioloških disciplina poput Socijalne ekologije ili Sociologije okruženja u kurikulume studijskih programa sociologa.*

Ključne reči: *društvo, životna sredina, održivi razvoj, sociolozi, periodika*.

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AESTHETIC EDUCATION AND THE AESTHETIC EXPERIENCE OF MUSIC IN NEW MODES OF TEACHING: CAN MUSIC BE TAUGHT ONLINE?

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Abstract. *The paper focuses on the aspects of aesthetic education and aesthetic experience of music under the conditions of online teaching of music due to the COVID-19 pandemic. The new mode of teaching affected the teaching process, particularly in the field of performance arts which involves direct experiencing of music, stage performances and direct cooperation of musicians. Aside from certain advantages, mostly regarding the organization of teaching and more time for practice, the results show that students were for the most part deprived of a comprehensive experience of music during the teaching process, and particularly of a specific aesthetic experience. A general conclusion is drawn that direct contact between the student and the professor in face-to-face teaching practice is an irreplaceable segment of music education.*

Key words: *aesthetic education, aesthetic experience, teaching practice, music education.*

1. INTRODUCTION

A drastic change of the way of life of the inhabitants of Serbia that started in March 2020 due to the COVID-19 pandemic has affected all social aspects of their lives. Isolation, physical distancing, limited movement, and a disrupted way of life have given rise to the change in the organization of teaching (for the last few months most of the teaching has been carried out online using various platforms). This prompted us to explore the ways in which teaching has been implemented under the new circumstances in fields where direct contact is either necessary or substantial, and the ways in which art, i.e. music education has been carried out. Upon embarking on the unknown territory, both students and teachers had to figure out various 'transitional solutions' for the implementation of the teaching process. But as time went by, it turned out that the online period would not be short, but several months

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long. This fact also prompted the question of educating music performers in home conditions, without stage performances or contacts with fellow students, conductors or orchestras. Besides, as a consequence of such a mode of work, we also opened the issue of competency of the students educated under such circumstances, primarily in terms of their readiness to stand up to the requirements of their profession.

2. Theoretical Framework of Research

Taking into consideration the problems of teaching music, it is important to point out that this line of education is on the one hand connected with the realm of aesthetics, and on the other hand with art education. Aesthetic education is more comprehensive and superior to the notion of art education. More importantly, it is not only associated with art but also with man's entire environment. The goal of aesthetic education is, in the full meaning of the word, to make a subject receptive to artwork and susceptible to aesthetic feelings (Zurovac 1997). In order to develop this power, it is significant to maintain a permanent contact with artwork as well as with other content that enhances the development and refinement of reception sensitivity to artwork. Such a direct connection with one or more arts remains an irreplaceable component of aesthetic education. On the other hand, art education is more concrete and oriented towards getting the student acquainted with certain types of art or with art in general.

Although one can at times come across different attitudes regarding the objectives and means of aesthetic education, it can be asserted that there is general consent among researchers regarding the fact that music education is one of the forms of aesthetic education (Eliott 1995; Plummeradge 1999; Finny 2002), even that the program of music education should first and foremost be based on aesthetic education (Leonhard and House 1972 according to Goolsby 1984, 15).

One of the leading theoreticians of education, John Dewey (1998), bases his attitudes on the theory that genuine education is achieved through experience. Talking about the role of experiencing art in education, he emphasizes that students can understand facts through metacognition or through upgrading their previous experiences, preconceptions and knowledge, thus increasing the significance of the educator's role, as he is the one supposed to cultivate experience. According to Dewey's theory experience arises from the interaction of two principles – continuity and interaction. Continuity means that each experience takes from the past and has an effect on the future experience of the individual, while interaction refers to the situational and educator's influence on students' experience.

As far as musical arts are concerned, it can be asserted that researchers agree about the huge influence of music on emotions. They also agree that the intensity and comprehensiveness of experiencing music depend on several factors, including external (atmosphere and environment), subjective (sensitivity to music, previous experience and general music education), the person's current psycho-physical condition, as well as cultural and social effects (Juslin and Vastfjall 2008; Brattico at al. 2009; Fossum and Varkøi 2012; Brattico et al. 2013; Popović Mlađenović et al. 2014).

Subjective experiencing of music is a complex phenomenon which involves and integrates various components that play a part in a distinctive musical experience. In spite of the fact that there are numerous studies in the field of subjective experiencing of music, it cannot be asserted that there is a consensus on the precise definition of subjective experiencing of music (Živanović et al. 2018, 398). Yet, the omnipresence of music, from various art forms to everyday life, can be definitely explained by one of its dominant properties – the emotional echo that music produces.

Taking into account the researchers' attitudes, as well as our own pedagogical experience, we were particularly interested in the issue of interaction, because the newly encountered social circumstances have significantly altered the former modes of teaching practice. The paper rests on a detailed consideration of the essential tasks of aesthetic education such as the ability to perceive, the ability to experience, the ability to evaluate and the ability to implement (Grandić 2001; Grandić and Zuković 2004; Rojko 2012; Denac 2014). The mentioned tasks have a particular significance in the sphere of art education, because music education, aside from allowing for emotional reactions to music, must have other properties too, including intellectual evaluation of music content.

The ability to perceive refers to the individual's capacity to perceive and comprehend the elements of beauty in nature, as well as in different fields of art or other segments of life. In this context certain education, i.e. foreknowledge, is very important because aesthetic qualities cannot be perceived unless one knows the basic characteristics of a specific type of art or art movement. Without such preconditions man is but a naive observer of the beauty surrounding him. Hence, the ability to perceive aesthetic values is developed gradually, with the help of a teacher who guides the process.

Experiencing a piece of artwork is a phenomenon that has been for the most part dealt with by philosophers (Ingraden 1975; Hanslik 1977; Tatarkjevič 1980 and many others), although it has recently become a research subject of (experimental) psychology. Although there are numerous explanations and interpretations of art experience, it can be asserted that there is a prevailing agreement about the fact that full experience is possible only when one is aware of the aesthetic values of a piece of artwork and ready for a certain experience.

Aesthetic experiencing of art stands out as an exceptional phenomenon. It is a special state of mind which is qualitatively different from the 'normal' everyday mental state. In such a mental state one is fascinated by a certain object, while the environment fades away, self-awareness diminishes and the sense of time gets distorted. Some analyses and results indicate that aesthetic experiencing can be generated in two forms, such as fascination with something out of the ordinary, uncertainty, ambiguity and opposing information (as in modern art) and admiration of perfect expression (as in a perfect essay), complex compositional regularity and sophisticated quality on several levels of a symbolic narrative (as in classical art) (Marković 2012).

Despite different theories and understandings of aesthetic experience, it can be argued that it encompasses the functions of two groups of closely related phenomena, such as some exceptional experiences (e.g. ultimate pleasure, flow, etc.) and experience of beauty (e.g. satisfaction, attraction, harmony, etc.). Hence, some researchers also point out the importance of the entire spatial context in which one listens to music, so that sound atmosphere, the musical environment, melody and rhythm can be connected with some ambience in which musical sensations have already taken place (Atali 2007, 35). So far many papers have been written on perception and musical memory, as well as on other aspects (e.g. stimulus, reflex or perception and hearing); however they do not shed light on the aesthetic side of experiencing of a piece of music. So, such studies have certain limitations as they do not go beyond the reception of a sound stimulus in the so-called organ of Corti and its transmission to the brain in which context listening is considered "isolated from the overall experience" (Filipović 1982, 44). On the other hand, educators point out that the increase of knowledge in certain fields also increases the chances for a better quality of aesthetic experience. Such development does not depend solely on biological factors or on the structure and functions of the body, but also on life circumstances and conditions where it develops together with other spheres of the psyche (Grandić 2001).

Evaluation of an artwork comes as a result of conscious perception and aesthetic experience of a particular artwork. Continuous permeation of the learner's intellectual and emotional aspects of personality is undoubtedly a part of the education process in the field of art, but it must be emphasized that the learner's training for proper judgment and evaluation of an artwork is particularly important for the development of aesthetic taste. Hence, learners need to adopt knowledge, skills and value criteria in order to be able to tell a piece of artwork from quasi art or kitsch. This practically means that evaluation of a piece of artwork requires certain prior knowledge (e.g. evaluation of some literary work or even of a piece of music would be wrong without the adequate knowledge of literary theory; musical forms are often associated with certain architectural solutions etc.). Predrag Ognjenović also points to this problem, because the results of some of his studies (Ognjenović and Morača 1994 according to Milićević 2019, 184) testify that the modes of an aesthetic decision depend on the level of general education and culture.

The ability to implement aesthetic values mostly refers to the area of creativity. The basis for the development of the ability of artistic, i.e. musical creativity lies in the ability to perceive and experience aesthetic values, which should constantly be stimulated and developed. This implies internalization of the gained knowledge, as well as the development of the learner's creative abilities. Aside from the work on interconnecting specific styles in different arts, which is necessary for understanding specific art movements, it is important that learners (students) show more creativity and imaginativeness in their creative attempts.

3. The Methodology

Unlike previous similar studies dealing with the implications of aesthetic education and aesthetic experience under 'regular' conditions of music education (Bogunović 2008; Jović Miletić 2010; Stojanović and Zdravić Mihailović 2014; Živanović at al. 2018; Zdravić Mihailović 2020), this research focuses on similar problems but in utterly specific conditions. The shift of the entire teaching process to the realm of online communication is a challenge for all music educators, but also a new experience for students of music. Although the raised issues are significant for all educational profiles, we were guided by the fact that direct contact with a teacher, as well as with the audience, is particularly important for music performers who were deprived in the referral period of this, for them an essentially important, mode of teaching.

For this kind of qualitative research we opted for the so-called key informant interview[1] because we wanted to explore the standpoint of a small group of selected examinees regarding the mentioned problem (Anderson 2005, 203). Our representative sample included nine students of the Bachelor program in Music Performance at the Faculty of Arts of the University of Niš, equally distributed over the second, third and fourth year of study (three from each). We opted for students with excellent results in their previous studies, assuming that they would be motivated for work, ambitious, and ready to continue their education with the same success under the new circumstances.

[1] The researcher is not interested in statistical analysis of a large number of responses, but wants to probe the views of a small number of elite individuals.

As the first step in our research, we focused on making the concept of the interview and its structuring. Well thought of and planned interviews were carried out from May to December 2020.

4. The Analysis and Interpretation of the Research Results

The results, based on the descriptive processing of the collected material, are presented in clusters around the formulated questions and were systematized according to the examinees' age.

Experiencing and understanding music arts is vitally significant for music education. Successful implementation of teaching first requires provision of adequate technical conditions (a good Internet connection, good quality of reproduction devices, good quality of loudspeakers, etc.) where, unlike in regular teaching, educators face limitations set by the capacity of their own technical devices on the one hand and by the capacity of the devices used by the students attending online teaching on the other. Before the interview the examinees were instructed that the questions would mostly apply to the teaching of their major subject as well as their professional subjects (e.g. chamber music, concert practice), which constitute the core of the professional education of young musicians.

Taking into account the above-mentioned facts, the first group of questions was structured around the possible technical problems during online teaching and their impact on class quality. Out of three second-year examinees, two pointed out that they had technical problems, while one did not mention such problems. The third- and fourth-year students did have occasional technical problems that partially disturbed the course and quality of online teaching. Also, such technical problems would occasionally could lead to a part of the class being lost.

The second group of questions referred to the chances to perceive aesthetic values of the compositions included in the syllabi, and to reach a full aesthetic experience during the teaching sessions (fascination or ultimate pleasure induced by a certain composition). The youngest examinees claimed they could perceive the aesthetic properties of some compositions, but complained of not reaching the expected aesthetic experience. Asked for the possible reasons why, the students specified external factors which prevented them from reaching the ultimate experience (the absence of a 'live' performance or listening to music, the lack of higher-quality reproduction devices, etc.). The third- and fourth-year students gave similar answers, pointing out that the aesthetic experience of music remained 'muffled', while one of the examinees (one of the best students of the Faculty of Arts in Niš) presented a different attitude. Namely, in his opinion, online teaching did not significantly disarrange perception of aesthetic values, nor interfere with the full aesthetic experience of music. Although this answer was somewhat surprising, we think that it can be partially explained by the fact that the student who gave it is a multiple recipient of awards, extremely ambitious, always motivated and ready to work, circumstances which most probably defined his attitude regarding the new mode of teaching, and consequently of his experience of music.

As expected, the examinees generally agreed about the importance of the entire environment for the process of listening to music. This can indicate an already established relationship regarding acceptance of a musical object, as well as a very refined taste regarding experiencing music, be it by listening to it or by interpreting it.

During the interview each of the examinees was asked to give their opinion on the quality of online teaching, as well to compare it with the usual 'face-to-face' teaching. While one of the examinees pointed out that there is no difference between them in terms of quality, the others took the stance that online teaching is generally of poorer quality, lacking certain elements of 'face-to-face' teaching. The students mainly emphasize that they miss direct exchange of (sometimes utterly different) attitudes and opinions with their professors[2] and that due to the very nature of online communication (the sound signal received with a slight delay, or not completely accurate regarding various elements like timbre, emotion during performance and the like) this mode of teaching cannot be compared to traditional teaching.

Our next question referred to the quality of education of professional musicians in home conditions. This question did not give rise to different attitudes; on the contrary, all the examinees had a negative attitude (although one of them did not have a clear attitude regarding this issue). The examinees' explanations reveal that some significant aspects of teaching (e.g. chamber performance, concert practice and the like) cannot be developed in isolation. Also, stage and public performance are more difficult if there is a longer break, as with some students fighting stage fright is connected with gradual adjustment to appearance on the stage.

In line with the above-mentioned, our next question opened the issue of possible replacements for stage performance and contacts with the conductor, orchestra, and fellow students. All the examinees took the same standpoint emphasizing the irreplaceability of the mentioned activities, with almost no chance to make up for the lost cooperation. Their deliberate attitude and direct answer to this question showed that there was no room for any additional questions about the reasons for such an attitude.

We left the question regarding the advantages and disadvantages of online teaching for the end of the interview. Talking about advantages, the second-year students pointed out their better personal organization, time management (regarding the time they needed to come to the Faculty, longer breaks between classes and the like), gaining independence, availability of work materials. One of the examinees pointed out the easier studying of theoretical subjects as an advantage (while, as he put it, that does not apply to performance subjects), as well as the practical side of online teaching – attendance in bad weather conditions or travelling from other towns (for the students who are not residents of Niš or who do not have adequate means of transport). Talking about advantages, the examinees also mentioned lower cost of living, both one the individual and general levels.

The third-year students mentioned as an advantage of online teaching a chance to record and replay teaching materials, particularly those pertaining to less familiar teaching units. Also, talking advantages, they pointed out the surplus of free time which they used to practice their instrument and work on each composition in greater depth. One examinee stated something that we found very interesting – that he had a chance to get acquainted with his professors in a "slightly different way".

The older examinees pointed out yet another advantage showing, in compliance with their age, a higher degree of responsibility and care for others – a chance to attend classes even when one is not feeling well, without any worry of transmitting the disease to other fellow students or professors[3]. Also, one of the advantages of online teaching applies to

[2] This applies to the major subject (Piano, Guitar, Violin, Flute, Solo Singing).
[3] Referring obviously to Covid-19.

easier organization of teaching or consultations with professors (rescheduling the class if the teacher is prevented from giving a lecture or if the students cannot attend). Here again all the examinees were consensual regarding the excess time in the light of the fact that aside from better chances to make advancements (in terms of playing or singing), this allowed for more family time.

Talking about the disadvantages of online teaching in professional music education, all the examinees pointed out insufficient contacts with their professors[4]. Although the teaching took place regularly, it was obvious that the mentioned contacts and cooperation were not sufficient. This throws light on one specific feature of teaching in professional music education, particularly in the field of music performance. Namely, the relationship between the educator and the learner established in the early phases of music education corresponds to the relationship between 'a sufficiently good mother' and 'the mimicking environment' (Winnicott 1973 according to Andjelković 2006). The quality of that relationship appears in this context as one of the most important factors for achieving high and even top levels of performance by well prepared and talented performers. What lies at the heart of this specific, strong transfer relationship, is the problem of separation – individualization, because a performer under the eye of his supervisor, just like a kid with his mother, goes through the process from magic unity in the early preparatory period to a fear of such unity, i.e. to the fear of the loss of one's idiosyncrasies by the end of the preparatory period. Hence, the issue here is a specific interconnectedness between the educator and the student which is significantly disturbed after shifting to online platforms, a circumstance that was recognized by the students as "insufficient contacts with professors". Faced with that experience, the students conclude that direct, face-to-face cooperation during classes is irreplaceable, and mention poorer quality of the classes of the major subject as a disadvantage of online teaching. As for the group of the youngest examinees, it was noticed that they had a problem with motivation and attention during the teaching sessions which resulted in poorer achievements. One of the examinees pointed out huge efforts made by the professors, as well as a fact that a considerable period of time was lost in the phase of initial organization of online teaching, in terms of adaptation of both sides.

The fourth-year students also mentioned the difficulties regarding organization of one's own time, frequent loss of motivation and problems to maintain it. Besides, they also pointed out some more delicate reasons seen as the weak points of online teaching. For instance, even in cases of the highest quality of sound on the net, the transmission affects the factual sound of an instrument (as compared to the 'live' sound). It was also noticed that a certain percentage of significant sound details get lost when students perform a certain composition, that dynamic differences and timbre cannot be heard and that there is no interaction and expression of emotions shown by movement, facial expressions or gesticulation visible in direct contact.

5. Discussion and Conclusion

Aesthetic education and aesthetic experience play a significant role in all spheres of education, but it is notable that they constitute the core of teaching in professional music education.

[4] Referring the teachers of the major subject.

In online teaching, perception of aesthetic qualities of a piece of music unavoidably depends on the technical support, but it proved to be unreliable rather often. That fact alone is indicative enough of the partial impairment of the quality of teaching, as technical conditions are a sine qua non condition for successful communication. The available teaching materials intended for independent study at home, as well as listening to musical pieces on YouTube can be useful in multiple ways, but they cannot substitute good face-to-face communication. This kind of a problem is unstimulating for students, so that they do not attend class, although the platform registers their presence.

Since experiencing music is connected with its understanding and with the perception of aesthetic qualities, a part of the interview was focused on this aspect. The examinees agreed about the possibility of perceiving aesthetic qualities, just as much as about the impossibility to reach full aesthetic experience in terms of fascination or ultimate pleasure. The reasons for such results can be numerous, but according to the students' attitudes, the key is in some kind of 'restricted' acoustic and physical space where one cannot reach a certain level of experience.

As for the question if music performers can be educated in 'home' conditions, most of the examinees expressed disagreement and had a negative attitude. This is indicative of their consciousness regarding all aspects of art education, including jeopardizing of certain competencies, particularly those connected with stage performance. This stood out as one of the weakest points of distance learning.

The general conclusion is that this new mode of teaching offers numerous advantages (more time for practicing, a chance to attend classes even when students are sick, flexibility of the schedule, more comfortable studying for non-residential students, a chance to make records or replay lectures, etc.). A particularly significant circumstance is additional time for practicing one's instrument or singing, which is utterly understandable, because it is widely known that a successful performer must have daily multi-hour practice sessions. According to the research results of Kemp (Kemp 1981, 1994, 1996 according to Radoš 2010), the most competent musicians are often self-motivated to the level of 'obsession'. Hence, under the conditions of the availability of excess time, it is logically recognized as additional time for practicing.

Insufficient contacts with the professors of a major subject i.e. impairment of the already established close relationship, as a significant support for students, stood out as the major disadvantage. The examinees jointly took the stance that nothing can replace face-to-face contact with the professor. The mentioned influence of teachers is obvious from the very beginning of music education, but later – with the growing age and interest for music, the teacher's role becomes increasingly important for acquiring the needed skills and competencies. According to some researchers (Zdravić Mihailović and Stojanović 2016, 122), the educator's role is crucial for building competencies, and their further development mostly depends on educators' engagement.

The problem resulting from the lack of live performances with fellow students or professors, particularly in the field of solo performances or chamber music, as well as the inability to reach a full experience of music ("it is impossible to hear and experience everything in the proper way, because there is no face-to-face teaching") stood out as a significant anomaly of online teaching. Certain difficulty of e-studies stems from the need to search for good organization and self-motivation. We assume that this segment is connected with the inability to have stage performances, take part in competitions etc., so that most of the students lack such challenges.

At this point it is important to mention that some of the problems that musicians come across are not solely a feature of distance learning. Namely, some recent studies (Bogunović and Mirović 2014, 22) show that even 'regular' teaching lacks permeation of study trends at university, and that pedagogical and performance practices are not sufficiently present. They depend on the teacher's implicit pedagogical concept and strategy, as well as on the students' enthusiasm/interests, while opting for chamber performances is primarily connected with the affinity for group performances, cooperation with fellow students and conductors, conducting and choral singing.

The inability to have public performances does not affect only musicians, but other art fields as well, such as theatre, ballet, opera and various other forms of applied arts. That fact opens numerous questions for each of these professions, but in the context of the musicians' education it becomes relevant because of the inability to carry out aesthetic education. An academic musician should not only be a good interpreter, but also a highly educated individual who understands and is capable of evaluating art in a wider context. In order to achieve that, it is important to get continuously familiar with all forms of art and art movements, which is hampered or impossible in the new circumstances. The future will show if and to what extent some of the mentioned problems can be solved and if that will affect the future philosophy of music education.

The idea to focus on the problems dealt with in this research came in order to map the fields of professional education which still lack adequate solution regarding the problem of knowledge and skills transfer through online communication. It is possible that future generations who grow up side by side with the Internet and get familiar with online teaching much earlier in their life will manage to develop new mechanisms that will help them to successfully transfer even those utterly specific forms of teaching, typical for art faculties, to some new platform. For now, this and similar studies can be used as initial ideas for a better understanding of the new problems of education of musicians.

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ESTETSKO VASPITANJE I ESTETSKI DOŽIVLJAJ MUZIKE U NOVIM OBLICIMA NASTAVE: MOŽE LI SE MUZIKA UČITI ONLAJN?

U radu se razmatraju aspekti estetskog vaspitanja i estetskog doživljaja muzike u nastavi muzičkog obrazovanja, u uslovima onlajn nastave, koja se odvijala usled pandemije izazvane virusom Kovid-19. Novi oblik nastave doveo je do promena u nastavnom procesu, posebno u oblasti Izvođačkih umetnosti, koja je vezana za neposredan doživljaj muzike, scenski nastup i direktnu saradnju muzičara. Pored izvesnih prednosti, uglavnom vezanih za organizaciju nastave i više vremena za vežbanje, rezultati su pokazali da su studenti uglavnom ostali uskraćeni za celoviti doživljaj muzike tokom nastave, a naročito za svojevrstan estetski doživljaj. Opšti zaključak je da je neposredan kontakt studenata i profesora u 'živoj' nastavnoj praksi nezamenljiv segment muzičkog obrazovanja.

Ključne reči: *estetsko vaspitanje, estetski doživljaj, nastavna praksa, muzičko obrazovanje*.

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