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**11th International Conference  
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Faculty of Philosophy, Niš

**CONTEMPORARY PSYCHOLOGICAL  
RESEARCH**

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## **REVIEWS OF INTERNATIONAL THEMATIC PROCEEDINGS OF THE 11TH CONFERENCE DAYS OF APPLIED PSYCHOLOGY**



# **Educational Psychology**



## **CONFLICT SITUATIONS AT SCHOOL: HOW DO AGGRESSION AND HOSTILITY PLAY TOGETHER?**

### **Abstract**

The present study focuses on individual reactions in conflict situations in school environment, assessed by the Bulgarian version of Social Problems Questionnaire (Lindeman et al. 1997; Kalchev, 2010). Different types of destructive (direct and indirect aggression, and withdrawal) and pro-social behavior are considered in their interrelatedness with internal factors. A construct of hostility is introduced and operationalized (new self-assessment scale - Questionnaire of Hostility Aspects - Kalchev, 2008) as an attempt to explore further the role of cognitive factors triggering or preventing aggression. Exploratory factor analysis, Scree test (Cattell), correlation and regression analysis are performed. Sample size: 302 school pupils (12 - 16 years, 142 boys, 160 girls). Results point towards aggression as least preferred reaction in conflict situations, but still with significantly higher mean levels for boys. The withdrawal as a response to observed situation of social tension reduces with age for both genders. Readiness for pro-social actions has irregular pattern of decrease. Significant positive correlation between aggression and hostility ( $r = .47^{**}$ ), impulsivity ( $r = .36^{**}$ ) and annoyance ( $r = .34^{**}$ ) were found. Regression analysis proved hostility and impulsivity to predict aggressiveness. Findings are discussed in terms of previous research on aggression and conflict solving.

***Keywords:** aggression, hostility, pro-social behavior, adolescence, conflict situation*

### **Introduction**

Aggression and bullying at school are serious contemporary problems, that have provoked wide range on research. The present paper aims to explore the problems, referring to forming a different type of reaction in conflict situations at school in adolescence and to give better understanding of the role, played by the construct of hostility in aggressive behavior. Aggression is considered any behaviour, which aims to harm or hurt other person (Baron & Richardson, 1994). It is expected that aggression, hostility, and impulsivity are linked together. Evenden (1999) states impulsivity to be seen as a multifactorial construct that in-

volves a tendency to act on an impulse, displaying behavior characterized by little or no forethought, reflection, or consideration of the consequences. Hostility is regarded as a multidimensional construct with cognitive, affective, and behavioral components (Anderson, 2004). The cognitive component is defined as negative beliefs about and attitudes toward others, including cynicism and mistrust. The affective component typically labeled as anger refers to an unpleasant emotion ranging from irritation to rage and can be assessed with regard to frequency, intensity, and target. The behavioral component is thought to be a result from the attitudinal and affective component and is an action intending to harm others, either verbally or physically.

That complex of constructs is viewed on the larger field of dynamic and sensitive period of adolescence. Hall (1904) suggested that “storm and stress” was an inevitable part of adolescent development. His storm and stress hypothesis refers to the decreased self-control, seen in adolescents versus the increased sensitivity in adolescents to various arousing stimuli around them. The dominant engagement and focusing of adolescents on peers can be found on several levels, not only as an interpersonal contact and relationships, but as well as the urge of trying to form own self-image and want to be recognized as an important person from the significant others (Erikson, 1968). In that context, aggression, as a part of a relational aspect, defines one side of the social connectedness. Thus, for the adolescent, the fight for a status in the peer-groups, could reveal as an important social relation and as identity formation, depending on the individual capacity to relate to others in a non-harming or destructive way. From this perspective Björqvist et al. (1992, 1994) insist that aggressive styles are subject to developmental change during the life. The three types of aggression – direct physical, direct verbal and indirect aggression are not just different aggression strategies, but also three partially overlapping phases in development of aggression. In young children, due to lack of verbal skills, aggression is predominantly physical. Boys, being more active and often physically stronger, are more likely to react physically aggressive in a conflict situation, than girls who typically withdraw or seek help. With the increase of language competence and verbal skills, another and new way of connecting to others is possible, also another way to express aggression, without the dependence on the physical contact (Tremblay et al. 2005). When the direct verbal aggression is developed, it starts to prove itself as an effective replacement of the socially undesirable physical aggression. When social skills develop, more sophisticated strategies of aggression are possible, in which the aggressor can hurt the victim without being recognized as a perpetrator. This is the core concept of indirect aggression, seen by Björqvist et al. (1992, 1994). Lindeman et al. (1997) considered the different type of peer’s organization groups among boys and girls as a facilitating factor of usage of an indirect aggression by females, due to the tendency of closeness of girls’ friendships. Social sanctions placed against girls’ physical aggression are seen as another contributor to females’ orientation to-

wards indirect forms of aggression (Lindeman et al., 1997). Arnett (2006) points that type of peer relation, especially in girls' groups, was noticed by Hall: "In the teens she almost always learns to control the more violent physical outbreaks, but may . . . use her tongue in place of her fists" (Hall, 1904, p. 355).

Therefore, it is expected that the personal traits of hostility, impulsivity and annoyance will correlate positively with aggressive reaction in a conflict situation. Readiness to act in a destructive way in a conflict situation at school is expected to expand with increase of each of those factors, and aggression – either verbal or physical, accumulate unpleasant emotions.

## Method

### *Sample and Procedure*

The sample consisted of 302 school pupils, 6<sup>th</sup> to 9<sup>th</sup> grade, from Sofia, Bulgaria. 142 of the respondents are boys, 160 girls. Ages ranged from 12 to 16. The data was collected in school classes, in groups and anonymous in Sofia, Bulgaria.

### *Measures*

In present study three self-description questionnaires were used. First of them, the Social Problems Questionnaire (SPQ, Lindeman et al., 1997) was developed on a big sample of 2594 of adolescents. Bulgarian modification of the instrument is made by Kalchev (2010). The questionnaire is constructed to assess three different types of behavioral reaction- aggression, withdrawal and pro-social actions, in peer conflict situation, often occurring in school environment. In comparison with traditional self-descriptive aggression scales, SPQ offers different angle of evaluating – not description of actions undertaken or attitude towards such, but preferred type of reaction in an imaginary conflict situation. However, the situations in the questionnaire are extracted upon interviews with school pupils by Lindeman et al. (1997) and describe often occurring problems with peers and therefore it is probable to evoke personal experience (Kalchev, 2010):

- a) Some people at school are teasing one of your classmates, who is neither a friend, nor your enemy. What would you do in this situation?
- b) Some of your classmates are talking behind the back of one of children in class, gossiping and telling offending things. This child is neither a friend of yours, nor your enemy. What would you do in this situation?

Twenty-seven items, describing possible reactions are given, seventeen for the first one and ten for the second situation. Each item is endorsed on a 5-point scale, with reversed items to control for response sets. The three-factor solution, reported by Lindeman et al. (1997) is confirmed in Bulgarian sample. Items load-

ing high on the respective factor are, for example 1. Aggression: “I would also take part into teasing, then so one can make more friends.”; 2. Withdrawal: “I would just go away because the conversation is of no importance to me.”; 3. Pro-social behavior: “I would tell clearly to those who are talking behind the back of the other child how offending that is, and would ask them to stop.”. Two items were dropped because of low factor loadings. Item 13 – “I would tell some more offending things about those who are teasing the child” (first situation) was removed in Bulgarian version. Item 9 - “I would think about the position of the victim, but I can’t imagine I could be in the same situation” in original version is measuring aggression, but in Bulgarian version loads on pro-social behavior, so was removed.

Pro-social behavior as an antonym of anti-social behavior grasps wide range of actions, aiming to benefit other individual or group, like helping, comforting, sharing, cooperation (Batson & Powell, 2003). Eisenberg & Morris (2013) underline the important role of motivation in a pro-social behavior – a voluntary act for other person. Although altruism is often used to describe similar type of behavior, both terms differ in content – the motivation in altruism is to increase someone else’s well-being. It is possible pro-social actions not to be motivated by altruism and vice versa (Batson & Powell, 2003). Kalchev (2010) stated, that he situations described in SPQ provoke initiative (no request for help is described) towards “neutral” peer, thus leads to assumption that actions in such conditions are closest to altruistic pro-social behavior, described by Persson (2005).

The second instrument used in the present study was a self-descriptive questionnaire, constructed to assess hostility aspects in adolescence. The Questionnaire of Hostility Aspects (QHA) was composed by Kalchev (2008) upon following scales: Child version of Cook-Medley Hostility Inventory (Liehr et al., 2000); Paranoid Ideation Scale – Derogatis (Raikkonen et al., 2000); Cynicism Factor from MMPI; The subscale Impulsive/Impatient (Aggression Inventory, Gladue, 1991). The QHA consists of 36 items, endorsed on a 5-point Likert scale, from “strongly agree” to “strongly disagree”. Exploratory factor analysis and Scree test (Cattell) were performed and both conducted to a five-factor solution. The five received factors were labeled upon items’ content. Examples of items are: 1. Alienation – “The others do not understand me.”; 2. Cynical Attitude – “Most people would lie to get what they want”; 3. Annoyance – “If something annoys me, I easily lose my nerves.”; 4. Hostility – “I am glad when people I dislike have troubles.”; 5. Impulsivity – “I tend to do things in a rash, without considering them enough.”.

The third measurement included in the study was The Interpersonal Reactivity Index (IRI, Davis, 1983). Bulgarian modification of the scale made by Kalchev (2010). However, in the present paper, I would like to draw your attention on the interrelatedness between different types of destructive behavior, like direct physical and verbal aggression, passive-aggressive behavior and pro-social

actions, and hostility as a personal predisposition. Thus, I would not highlight the complex and important role, played by empathy in this context, but the results received, especially in the regression analysis, will be reported, otherwise the correctness of the data will decline.

## Results

Statistical analysis revealed higher means on withdrawal and pro-social behavior as a reaction in a conflict situation at school for both sexes. Results point towards aggression as the least preferred reaction, with significantly higher mean levels for boys ( $M=19.92$ ) than for girls ( $M=17.67$ ), and with a significant effect for gender  $t(302) = 2.61, p = .009$ . Girls more often tend to choose the passive behavior of withdrawal, although no significant differences between sexes were found. From this perspective, the behavioral decision of non-engagement in a situation of conflict could satisfy girls' aggressive impulses or is considered as most adequate option to maintain group status and peer relationships. Participants claimed to prefer to act pro-socially in a school situation of interpersonal tension (boys 29.16 and girls 31.06), and a significant effect for gender was found -  $t(302) = 2.14, p = .016$ . Putting social desirability aside, results could be interpreted as increasing ability to empathize, enlargement of the capacity and readiness to react pro-socially to distress observed.

Table 1. Scale Descriptives–SPQ in Bulgarian sample,  $N = 302$

	Boys ( $n=142$ )		Girls ( $n=160$ )		Reliability
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
1. Aggression	19.92	8.31	17.67	6.38	.83
2. Withdrawal	20.67	5.21	21.33	5.36	.65
3. Pro-social behavior	29.16	7.24	31.06	6.38	.74

The climax of aggressive behavior is at 8th grade (Diagram 1.), withdrawal as a reaction in conflict situation decreases with age by both gender (Diagram 2.), and pro-social behavior shows irregular pattern of unexpected decrease between 6<sup>th</sup> and 7<sup>th</sup> grade and slightly increase afterwards, never reaching the level expressed by adolescents, aged 12 (See Diagram 3.). The 8th grade is a period usually connected with a lot of social tension, new school environment and new group position and this could provoke the peak of aggressive reactions. Furthermore, in that period withdrawing could be seen by the adolescents as non-effective strategy anymore, because being passive could bring oneself to the position of lesser importance in the group process.

Diagram 1. Aggression age dynamics (N=302)

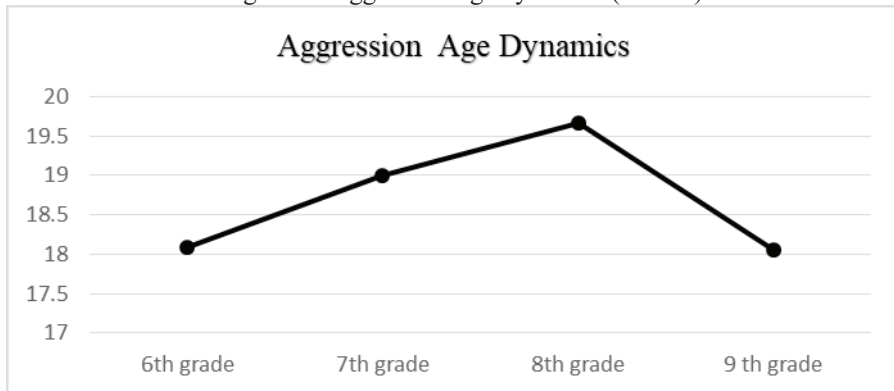


Diagram 2. Withdrawal age dynamics (N=302)

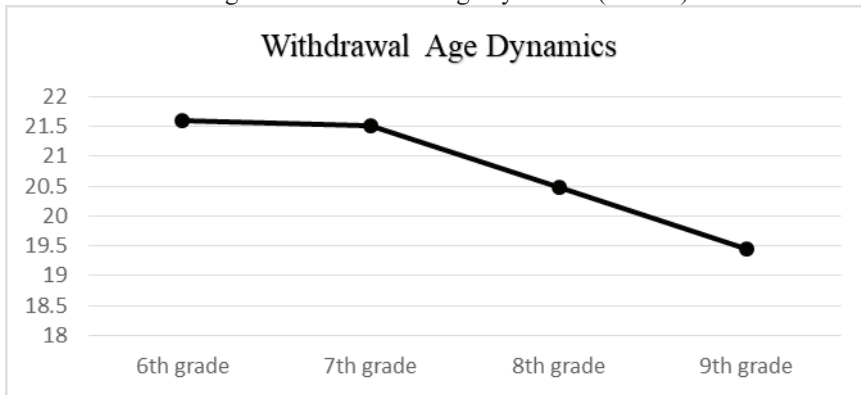
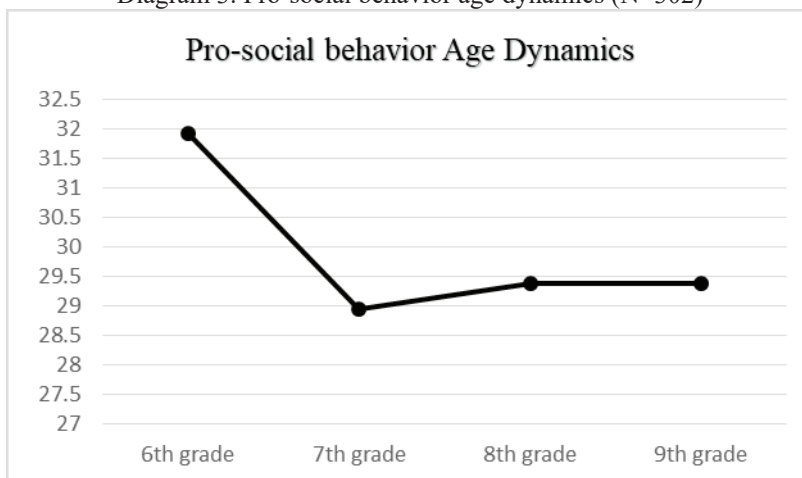


Diagram 3. Pro-social behavior age dynamics (N=302)





Empirical material analyzed on QHA showed higher means in the male adolescent sample in three factors – “hostility”, “annoyance” and “impulsivity” (see Table 2.) The significant difference in sex only in hostility, with  $t(300) = 3.28$ ,  $p = .001$ , boys ( $M = 17.22$ ,  $SD = 5.03$ ); girls ( $M = 15.42$ ,  $SD = 4.71$ ), together with significant differences in aggression (SPQ) support the expectation of boys tend to react aggressively in a situation of conflict and that prevalence of aggressive behavior is linked with a hostility as a personal trait. On all other constructs no significant differences between boys and girls were found.

Table 2. Scale Descriptives – QHA (N = 302)

	Boys (n=142)		Girls (n=160)		Reliability
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
1. Alienation	26.77	6.62	27.74	6.30	.73
2. Cynical attitude	26.34	4.52	26.80	4.54	.67
3. Annoyance	19.81	5.88	19.33	5.47	.76
4. Hostility	17.22	5.03	15.42	4.71	.65
5. Impulsivity	13.61	3.74	13.52	3.63	.62

Correlation of aggression and hostility ( $r = .47^{**}$ ), impulsivity ( $r = .36^{**}$ ), and annoyance ( $r = .34^{**}$ ) as personal traits were medium to high (see Table 3.). Readiness to act in a destructive way in conflict situation at school is expected to expand with increase of each of those factors, and aggressive actions – either verbally or physically, accumulate unpleasant emotions. A weak positive correlation between withdrawal and annoyance ( $r = .18^*$ ) was found. Negative correlations between pro-social behavior and annoyance ( $r = -.19^*$ ) and pro-social behavior and hostility ( $r = -.37^{**}$ ) were found. Thus, the results suggest that adolescents, who share hostile attitude towards others and get easily irritated, are less likely to engage into pro-social actions, and the readiness to get involved in a non-harming and non-destructive way in a conflict situation is more likely to be shown by adolescents who demonstrate lower levels on those two constructs, measured by QHA.

Table 3. Correlations among Scales in the Study (N = 302)

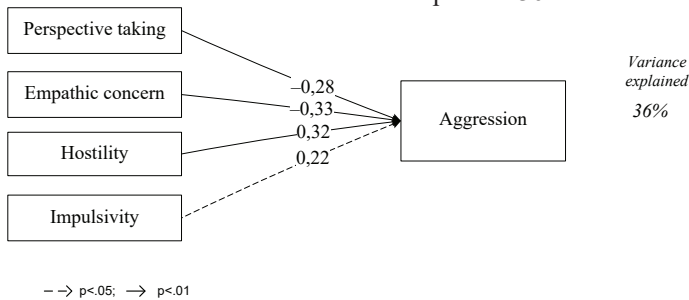
	Aggression	Withdrawal	Pro-social behavior
<b>Alienation</b>	0.03	0.03	0.14
<b>Cynical attitude</b>	0.12	0.02	-0.06
<b>Annoyance</b>	0.34**	0.18* -0.19*	
<b>Hostility</b>	0.47**	0.04-0.37**	
<b>Impulsivity</b>	0.36**	0.08 -0.14	

Note: \* $p < .01$ ; \*\* $p < .001$ .

Regression analysis with the three types of behavior in conflict situation, measured with SPQ – aggression, withdrawal and pro-social actions as dependent variables were performed. The aggressive behavior could be predicted when the

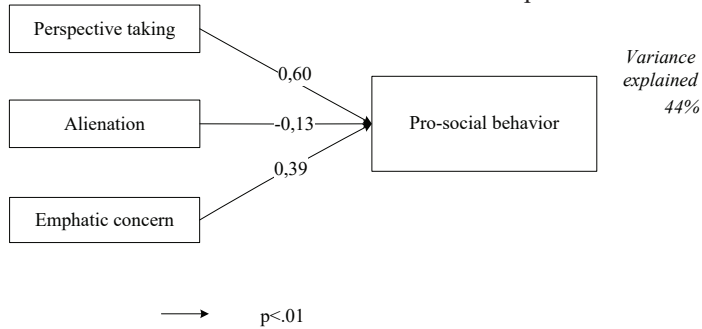
adolescent have negative beliefs about and attitudes toward others, mistrusting and expecting them to react with enmity(See Figure 1.). This cognitive aspect of hostility (0.32), together with impulsivity (0.22) can be seen as a trigger forecasting the aggressive behavior response in a conflict situation. Two factors, measured with IRI, namely Perspective Taking (-0.28) and Empathic Concern (-0.33) have shown significant negative predictive power in interfering the aggressive act. This findings support the hypothesis of underlying negative connection between aggression and empathy.

Figure 1. Predictive model with dependent variable “Aggression” in a conflict situation. Variance explained 36%.



Regression analysis with dependent variable “Pro-social behavior” revealed three factors directly predicting readiness to act pro-socially in a situation of conflict at school (See Figure 2.). The cognitive component of empathy - Perspective taking (0.60) is facilitating social desirable and approved acts towards others. Empathic concern (0.39) directly predicts pro-socially orientated actions. Thus, an adolescent, able to sympathize to a peer, being bullied, is likely to act so that aggression to be stopped and defend the victim. Interesting and noteworthy is positive predictive power of the construct alienation in pro-social behavior (0.13). This factor from QHA measures level of estrangement, individual tendency to withdrawn into oneself, because his/her feelings are misunderstood and unaccepted. Examples from QHA: “The others don’t respect enough what I am doing or what I have achieved”, “I have ideas and believes that the others don’t share”. Thus, the factor alienation indicates the vulnerability of the individual, and not necessarily malicious attitude towards others.

Figure 2. Predictive model with dependent variable “Pro-social behavior” in a conflict situation. Variance explained 44%.



Another fact to be highlighted is that the sample of the study are adolescents, and tendency of occupation with ones' own feelings and demonstration of lack of appreciation and understanding from others is typical in this developmental stage. However, the positive predictive power of alienation for pro-social behavior should be object of a further research, as well as the result, pointing that withdrawal could be predicted by only one factor from IRI - Personal Distress (0.30), with explained variance of the model 7%.

## Discussion

The subject of present paper is to deepen the understanding of interaction between the constructs – behavior in conflict situations and hostility in adolescence. Individual reactions in conflict situation at school were assessed with the Bulgarian version of SPQ. The QHA proved to measure successfully the construct of hostility. From the obtained results the following conclusions can be made: in accordance with the main hypothesis, significant positive correlation between aggression as a reaction in conflict situation and the personal traits of hostility, impulsivity and annoyance were found. However, some, but not all mentioned personal traits have predictive power, when discussing aggressive outcome, and the combination with situational factors could make the predictive power stronger. For better understanding the complex processes influencing the individual choice of reaction in a conflict situation, the role of peer pressure and peer relation should be considered, as stated by Crick & Grotpeter (1996), and by Kalchev (2003). The obtained results provide information regarding the preferred reactions, however this reactions are dependable on processes, which have not been subject of the research in the current study, like the role of group pressure, group hierarchy and the influence of individual status in the group of peers and this regarding sex differences.

Results obtained suggest that aggressive behavior could be predicted when adolescents are hostile. This, together with impulsivity showed direct effect on predicting aggression. These findings could be linked with the important social effect of school bullying as a risk factor with a strong contribution to violence later in life. The effect is significant even after controlling for other major childhood risk factors, as found in a meta-analysis of prospective longitudinal studies (Ttofi et al., 2012). They state that school bullying and other externalizing problems (violence, delinquency, and offending) later in life are “different age- and context-related manifestations of the same underlying antisocial dispositions” (Ttofi et al., 2012). Thornberg et al. (2013) underline the negative effects of being bullied, such as incorporation of the victim-image, which results in a self-image of being different and a sense of not fitting in with the other classmates, developing distrust in others, as well as perceiving many social situations as unsafe, threatening, and leading to a social withdrawal.

Findings on withdrawal as a coping strategy in a conflict situation could be explained with casual attribution, typically seen in adolescence, together with personal sense of lack of control on complex social problems (Weiner, 2000). The prevalence of this reaction in girls, although no significant differences in gender were found, support the theoretical and empirical data, insisting that females rarely act directly aggressive, due to the gender role stereotypes and to importance attributed to social relationships (Bjorkqvist, 1994).

Interesting finding to be mentioned is that “Cynical attitude” showed no predictive power of aggressive behavior in adolescence. That result was unexpected since negative and mistrustful attitude toward others is theoretically understood as a contributor in operationalizing aggressive behavior. On the other hand, this result is coherent with Thornberg et al.’s (2013) findings, that cynical attitude could be regarded as a core result of victimisation. Furthermore, beside significant positive correlation between aggression and annoyance, annoyance as a personal trait showed no predictive power in aggression. Thus, the choice of behavior in conflict situation is not influenced solely by personality characteristics, like anger and low threshold of tolerance, but situation factors, like the subjective estimation of the likely consequences of an aggressive act, named effect/danger or cost/benefit, ratio of aggression, suggested by Bjorkqvist, Osterman, and Lagerspetz (1993).

The results of the research, regarding the role of empathy in emotion regulation and preventing aggression, are to be discussed in the next publication. However, it is to be noticed, that the individual, who tends to put himself in “someone’s shoes” and being able to adequately assess present situation and the potential harm on the other, is not expected to react aggressively. The influence of Empathic Concern as a factor blocking destructive and harming behavior, suggests that adolescents, who have developed capacity to sympathize to others’ pain are less likely to choose for themselves to be the aggressor in a conflict situation.

Therefore, those two components of empathy (Perspective taking and Empathic Concern) could be viewed as playing the leading part in impeding and preventing aggression and bullying at school. Richardson et al. (1994) found that perspective taking correlates negatively with self-reported aggression and with conflict responses that reflect little concern for the needs of the others. Empathy has been associated with higher levels of conflict resolution skills in adolescents, which is an important factor in maintaining meaningful relationships (de Wied et al., 2007). From practical point of view, our efforts should be concentrated in supporting adolescents to develop and enlarge the capacity to empathize, to cognitively and emotionally put themselves in the “role” of somebody being bullied, so we can expect decrease in both aggression and hostility.

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## **CREATIVITY AND ANXIETY OF STUDENTS WITH A DIFFERENT SUCCESS IN SCHOOL**

### **Abstract**

Creativity and anxiety are complex psychological phenomena. The research presented in this work aims to determine whether there are statistically significant differences in the level of creativity and anxiety among students with different achievements in school. It also examines the differences in the level of creativity, anxiety and school success considering the sex of the students and number of siblings. The sample consists of 132 students of the seventh and eighth grade among which 26 (19.7%) students had good academic scores, 40 (30.3%) very good, while 66 (50%) students were excellent. The sample included 71 girls (53.8%) and 61 (46.2%) boys, aged 13 and 14. The following instruments were used: the Alternative Uses Test (Gilhooly et al., 2007; Đorđević, 2005), as a prototype test of divergent thinking, Racionale SPA (Holland & Baird, 1968), as a measure of the tendency to originality and Spielberger's (Spielberger et al., 1983) State-Trait Anxiety Inventory (STAI-S and STAI-T). Comparing students with different school achievements it could be seen that excellent students are more creative ( $p=0,00$ ) and show less state anxiety ( $p=0,02$ ). There are no differences in the level of general anxiety between the students with different achievements ( $F=2,211$ ,  $p=0,11$ ). According to the results, girls showed higher creativity ( $t=-4,73$ ,  $p=0,00$ ) and tendency to originality ( $t=-4,45$ ,  $p=0,00$ ). Examinees with two siblings have a higher level of tendency to originality than children without siblings ( $p=0,01$ ). Also, examinees with two or more than two siblings achieve a better school success compared to children without siblings and children with one sibling. The obtained data are encouraging for the development of modern approaches in the education process which should focus not only on knowledge, but also other parameters of success.

**Keywords:** *creativity, anxiety, school success.*

### **Introduction**

There are tasks placed before the modern school, which demand from it to expand its scope of priorities. In the terms of fast and relatively unlimited exchange of information, the main role of school is by far bigger and harder than transferring knowledge to students. The school, as a place of systematic education and upbringing, is one of the important factors of the development of

personality and children's potential. The contemporary society highly values the development of creative potentials, as well as the abilities of social and emotional adaptation. The growth of creativity represents one of the four strategic goals in education and training of children and youth in Europe up to year 2020, which is recommended by the European Union to national educational systems (Bodroža, Maksić & Pavlović, 2013). The development of creativity and creative abilities is a goal of education in Serbia as well.

In the education system, the success of students is expressed in schools grades. Despite a frequent discussion about validity and reliability of rating, the overall grade average is the basic and the most important indicator of educational achievements of students (Kuzmanović & Vučetić, 2015). According to the findings of an empirical research, the percentage of total explained variance of grade average is quite rarely greater than two-thirds (Božin, 2003; according to Kuzmanović & Vučetić, 2015). Stimulated with different scientific researches of factors of school success, this work deals with complex relationships between creativity and anxiety on one hand, and school success on the other. More specifically, it was searched for the answer to the question if the students with different grade average differ in level of creativity and anxiety. With the answer to this question we can see more closely, not just the relationship between the named variables, but we can indirectly learn about the characteristics of the educational system as well. Namely, the school environment that fosters creativity will value some of its aspects through grades, such as divergent thinking. The degree of the expressed general and temporary anxiety indirectly points to the realization of the education and upbringing goal which relates to the development of emotional and social skills.

### *Creativity and school success*

Creativity can be approached from different perspectives. One of the best based models that has been used for more than half a century and is still present is Model 4P (Rhodes, 1961; according to Pavlović & Maksić, 2014). This model observes and interprets creativity from four perspectives: as the creative person, the creative process, the creative product and the pressure (influence) of the environment. Due to the effect of age, observing creativity of children through Model 4P was followed by certain specificities. Understanding creativity at the younger age is the most adequate from the angle of the creative process (Glaveanu, 2011; according to Pavlović & Maksić, 2014). The creative process involves creative thinking, expression, experiencing and routing behavior in the goal of creating original and meaningful, usable products (Richards, 1999; according to Pavlović & Maksić, 2014). Children easily assign meaning and interpretations to things they make and it leads them further into creation. The creative process involves creative thinking which is often equated in literature with divergent thinking. However, convergent thinking also has the aspect of creative thinking that has an



important role in the process of the evaluation of a solution (Fasko, 2001). Different solutions for the problems are created due to divergent thinking. Instead of choosing between options that were set, with divergent thinking we come to new solutions. Convergent thinking is firmly based on logic, while divergent is mainly based on creativity (Williams, 2003). Creativity in children is most often studied using divergent thinking (Đordjević, 2005). Divergent thinking is less developed in students if, with teaching methods and forms of work, they are encouraged and used to that way of thinking (Nikolić, 1994). With the application of problem tasks in teaching, students are encouraged to search for more different solutions, in contrast to the application of tests which require one correct, often in advance adopted answer (Williams, 2003).

Evaluation of divergent thinking involves assessment of the originality which relates to the production of unusual and rare responses (Ljubotina, Juničić & Vlahović-Štetić, 2015). Originality is an integral part of creativity (Runco, 2004), but not only as an aspect of divergent opinion. Authenticity is an important criterion for the evaluation of a creative product (Runco, 1993), and is an often recognized personality traits of creative individuals. The layout for originality, i.e. towards creative selfpresentation implies a preference for unproductive and divergent tasks that allow a high degree of novelty and expression (Altaras, 2005).

In this paper measures of divergent thinking and the tendency towards originality were used to obtain perception on creativity. We focused on two of the four perspectives of the interpretation of creativity, according to the Model 4P - on creative thinking and a creative individual. Two approaches of the measurement of creativity were applied – the assessment of the ability of divergent production and self-assessment.

School affects the development of creativity by encouraging divergent thinking, but also through its established role of transmitting knowledge. In order to step outside the bounds of familiar in a certain field, one needs sufficient knowledge from that field (Knežević-Florić, 2004). Knowledge allows a person to recognize the problem and use random phenomena as sources of ideas (Lubart, 1994). However, apart from the positive effect, knowledge can be a disruptive factor in the development of creativity. Many remain faithful to their ways of seeing things, which prevents them from seeing other perspectives (Knežević-Florić, 2004). Empirical verifications (Altaras, 2005; Freeman, 1995; Maksić & Đurišić-Bojanović, 2004) of the theoretic postulate about the relationship of school success, as an indicator of the knowledge level in students and creativity, offered heterogeneous results that can be associated with the question of grading in school and the requirements that are placed before students. For example, in a Freeman's study (Freeman, 1995) which involved students from starting school until finishing school and getting a job, it has been found that creatively oriented students had significantly lower grades on final school exams from those who were oriented to achievement. The finding is described with the fact that preference of school

success has negative effects to creative expression, that is, the pressure for better school achievement can interfere with the creative process. Bosiljka Đorđević (2005), who claims that creative persons are especially sensitive to external pressures, agrees with this explanation. Highly creative students can be frustrated due to externally set demands that can be experienced as limiting.

In the research conducted by Maksić and Đurišić-Bojanović (2004) different results were obtained. The examination determined low, but significant correlation between creativity and school success. The data show that better results on the instruments for creativity assessment correlate with better school success. As the authors of the above mentioned research claim, in order for an individual to be creative in a certain field, it is necessary for him or her to adopt its basic terms and master other relevant knowledge.

### *Anxiety and school success*

Anxiety is an integral part of life and because of that it is not considered a pathological phenomenon if it doesn't disturb an individual in his/her daily functioning with its intensity or frequency. A large number of students experience anxiety during their education (Davidović & Zečević, 2014). In a number of cases, anxiety is possible to connect with circumstances in which a student is in a position of self-affirmation. Anxiety in situations like examinations is often studied in research and represents, according to Spielberger (Spielberger, 1972), a form of temporary anxiety.

Namely, in the 1950s, empirical findings appear regarding different types of anxiety. Cattell and Scheier (Cattell & Scheier, 1958; according to Han, 2009) identify two different factors of anxiety. One is anxiety as a condition or temporary anxiety, the other is anxiety as a trait or general anxiety. Spielberger (Spielberger, Gorsuch & Lushene, 1983) defines temporary anxiety as unpleasant emotional response of a person faced with a threatening or dangerous situation. General anxiety, however, refers to stable individual differences in the tendency of an individual to respond with increased anxiety anticipating a threatening situation. This tendency consistently manifests in a wide specter of situations and it is constant in time.

Researches (for example, Chapell et al., 2005; Davidović & Zečević, 2014; Farooqi, Ghani & Spielberger, 2012; Sarason, 1972) show that there is a negative correlation between exam anxiety and school success. According to Wine (Wine, 1980; according to Cvitković & Vagner-Jakab, 2006), the negative impact of anxiety in exam situations comes from the fact that an individual shares attention to thoughts that come from concerns and negative expectations and thoughts related to the task, while an individual with low level of anxiety is focused on the task. Other authors (for example, Benjamin et al., 1981; according to Živčić-Bećirović & Rački, 2006) suggest that highly anxious students have problems in cognitive

organization of the material during studying. The failure of these students is at the same time a consequence of a lack of knowledge, and cognitive distraction due to their own impression of a lack of knowledge and the exam situation itself.

Summarizing the results of the research (for example, Coon, 2001; Farooqi et al., 2012; McDonald, 2001), which were dealing with the relationship between anxiety and school achievements, contributes to the great extent to the fact that high anxiety is connected with lower grade average. Namely, a certain level of anxiety is stimulative and provides a good achievement. This can explain a common observation of teachers, that excellent students make mistakes on easiest tasks. Namely, due to the certainty of a positive outcome in such situations in learning, the level of anxiety is low and it leads to the reduction of effort in students. According to Krnjajić (2006), a certain degree of general anxiety is desirable for the appearance of concern, too, which, in certain cases, can force students to apply more efficient strategies when learning.

## **Method**

### *Problems and research objectives*

A problem in the research is the examination of differences at the levels of creativity and anxiety with students that achieve different success in school. More precisely, the subjects of this research are: a) examining the differences at the level of creativity and tendency for originality considering the grade average with students on their final year at elementary school, b) examining differences at the level of general and temporary (situational) anxiety with students with a different grade average, and c) examining the differences in the level of creativity, anxiety (general and temporary) and the grade average considering gender and the number of siblings.

The objective of the research is to determine whether there are statistically significant differences in the level of creativity and anxiety between students with a different grade average in the final year of elementary school. We wanted to test the hypothesis that excellent students show that they have a higher level of creativity and a lower level of anxiety compared to students with a lower grade average.

Drawing on previous studies and theoretical considerations, we have set up a hypothesis that there are statistically significant differences in the creativity level, anxiety level and grade average when it comes to gender and number of siblings.

The study Maksić and Đurišić-Bojanović (2004) has provided information on the gender differences in the level of creativity and school achievement. The results of numerous studies (Cassady & Johnson, 2002; Cassady, 2004; Chapell et al., 2005; Latas, Pantić & Obradović, 2010; Marić, 2010; Marić, 2012) indicate

that there are differences in the level of anxiety with regard to gender. Family factors are significantly associated with the success and performance of a child in school (Markuš, 2009). Among these factors is the number of brothers and sisters. According to Winner (1996), creative children occupy a special position in the family, so these are usually first-born children or only children.

### *Sample*

The sample is appropriate. The survey covered 132 final year students of an elementary school in Trstenik. The sample consisted of 64 seventh graders and 68 eighth grade students, aged 13 and 14 years. The sample included 71 girls (53,8%) and 61 (46,2%) boys. Considering the grade average, half of the sample included excellent students (66), 40 students (30,3%) with a very good grade average, and 26 (19,7%) with a good grade average.

With prior approval from the parents of the students, the study was conducted in April and May 2013, and the tests were given during regular school hours.

### *Variables and instruments*

*Creativity* is defined as the ability to generate new ideas, new insights, new artistic objects, to create something that is different, unusual, diverse and which, in different degrees, differs from the existing and expected (Đorđević, 2005). It was operationally determined through the score on The Alternative User Test (Gilhooly, Fioratou, Anthony & Wynn, 2007; Đorđević, 2005) and the score at the Racionale SPA test (Holland & Baird, 1968). The Alternative User Test is a prototype of divergent thinking test in which the examinees are asked to find as many possible usages for the named objects (stimuli) which are unusual, extraordinary, but applicable. Stimuli are: a brick, an automobile tire, a barrel, a pencil, a shoe (Gilhooly et al., 2007) and a sheet of paper (Đorđević, 2005). For each of the named stimuli an everyday, regular usage was stated. The examinees are required to name at least three alternative usages for each stimulus. Unusual and imaginative usages that have application are scored (Đorđević, 2005). The assessment was performed by two psychologists. Each unusual usage was evaluated with one point. Theoretical minimum is zero points, while the maximum number of points is unlimited.

The Scale of Preconscious Activity - SPA (Holland & Baird, 1968) is a measure of tendency towards originality. We chose to include this test because the originality is an integral part of creativity (Runco, 2004). The test consists of 38 claims. The examinee estimates whether it relates to him/her for every claim – if it does, he/she chooses the answer “true”, and if it doesn't relate to him/her, he/she chooses “false”. The subjects that reach high scores on the test show the tendency to take into consideration unusual and unconventional ideas, and to

accept ideas that others would suppress, they are open towards ambiguous and unambiguous stimuli. The reliability of the test, estimated as internal consistency, determined on a sample of 291 Belgrade grammar school students in a study by Ana Altaras (2006) is  $\alpha = 0.86$ . Cronbach's alpha coefficient of reliability calculated on the sample of the examinees in this research is  $\alpha=0,70$ . The resulting reliability can be considered eligible.

*Anxiety* is regarded as as general and situational anxiety (Spielberger et al., 1983). Operationally determined using score on Inventory of anxiety form Y (STAI), that is, general anxiety or anxiety observed as a trait is determined using the score on the T scale (STAI - T), and temporary anxiety or anxiety as a condition is determined using the scale S (STAI - S). Those are the scales for self-evaluation, where with the scale STAI-S we estimate how the person is feeling right now, at this moment, while the scale STAI-T estimates how the person feels in general. The range of scores on both scales is from 20-80, where higher score indicates greater anxiety. Cronbach's alpha calculated on a sample of 90 students of the University of Novi Sad is  $\alpha = 0.90$  (Tovilović, Novović, Mihic & Jovanović 2009). The check of internal consistency of the STAI-S scale on the sample of the examinees in this research shows that it has relatively high reliability of measuring (Cronbach's coefficient of reliability is  $\alpha=0,85$ ). Cronbach's coefficient of reliability for the STAI-T scale is  $\alpha=0,82$ .

*Grade average* was operationally determined based on the final grade with which a student graduated at the end of the previous school year. The range of the final grade from 2,5 to 3,49 defines the category "good grade average", the grade range between 3,50 and 4,49 determines the category "very good grade average", while the grade range between 4,50 and 5,00 defines the category "excellent grade average".

## Results

Before presenting the results of testing the hypotheses concerning the existence of differences in the basic variables depending on school success and given the registered variables (gender of respondents and the number of brothers and sisters), we will show the reflectin degree of the variables on the whole sample (Table 1). The minimum and maximum values that students achieve at the Test of different usages indicate that there is at least one among the respondents who has no answers rated as creative by the evaluators while there are those who score maximum points. The average score that participants achieve the Test of different uses and the Scale of Preconscious Activity is within the theoretical average. Minimum values obtained by students at the Scale of general and temporary anxiety are close to the theoretically possible minimum value of 20 points. Maximum values obtained by respondents are lower than the theoretical maximum – 80 points. The average score of respondents on both the anxiety scales is

lower than the theoretical average, but not significantly.

**Table 1.** The reflectin degree of the basic variables at the level of the entire sample

	Min	Max	AS	SD
Creativity	0	17	5,67	3,97
Tendency towards originality	8	30	22,33	4,30
Temporary anxiety	22	62	35,95	9,00
General anxiety	24	66	38,26	8,38

### *Differences in creativity level considering grade average*

By application of Pearson coefficient it is determined that the correlation of two estimators of answers on the Alternative User Test is high with value  $r=0,89$ . High compliance allows using estimations of just one of them. In order to check the possibility of using only one measure of creativity – the result on the Alternative User Test or the result on the Scale of Preconscious Activity, the correlation between the scores of the two tests is calculated. The coefficient of the correlation is  $r=0,17$  and it is statistically significant at the level 0,05. Since the correlation between the scores on these two tests is quite low, the results obtained from both tests will be kept as indicators of creativity.

Based on the final grade with which the students have finished the previous school year, the students were divided into three groups: students with a good grade average, very good grade average and excellent grade average. The conducted analysis of variance determined the existence of statistically significant differences in creativity level between the students with different grade average (Table 2). In order to determine between which groups there is a significant difference, a post hoc analysis has been conducted using LSD test and it showed that there are statistically significant differences between students with an excellent grade average and those with a very good grade average, as well as between students with an excellent grade average and students with a good grade average. Excellent students have higher level of creativity compared to the examinees with a very good and good grade average (Table 3).

**Table 2.** The differences at creativity level between students with different grade average (ANOVA)

N = 132	Creativity				
	N	AS	SD	F	Sig.
School success	66	7,06	4,45	9,486**	0,00
Excellent					
Very good	40	4,55	2,82		
Good	26	3,85	2,84		

\*\* $p < 0,01$

**Table 3.** Statistically significant differences in creativity level between students with different grade average (post hoc analysis – LSD test)

N = 132		Creativity		
(I)	(J)	Difference between AS (I-J)	Standard error	Sig.
Excellent	Very good	<b>2,51**</b>	0,74	<b>0,001</b>
	Good	<b>3,21**</b>	0,86	<b>0,000</b>

\*\*p<0,01

The same procedure was conducted with the results received by the application of the Test of Preconscious Activity. The analysis of variance showed that there are no statistically significant differences at the level of tendency towards originality between students with different grade average.

**Table 4.** Differences at the level of tendency towards originality between students with different grade average (ANOVA)

School success	Tendency towards originality				
	N	AS	SD	F	Sig.
Excellent	66	20,45	4,15	0.052	0,94
Very good	40	20,22	3,96		
Good	26	20,19	5,23		

*Differences at the anxiety level considering grade average*

With the application of the same statistical procedures it is determined that there are statistically significant differences at the level of temporary anxiety between students with an excellent and students with a very good grade average, as well as between students with an excellent and students with a good grade average (Table 5). Very good and excellent students have a higher level of situational anxiety compared to excellent students (Table 6). Also, the analysis of variance showed that there are no significant differences at the level of general anxiety between students with different grade average (Table 5).

**Table 5.** Differences at the anxiety level between students with different grade average (ANOVA)

School success	Temporary					Anxiety				
	N	AS	SD	F	Sig.	N	AS	SD	F	Sig.
Excellent	66	33,85	9,26	3,774*	0,026	66	36,76	8,32	2,211	0,114
	Very good	40	37,92			8,99	40	40,00		
Good	26	38,27	7,25			26	39,42	7,89		

\*p&lt;0,05

**Table 6.** Statistically significant differences regarding the temporary anxiety level between students with different grade average (post hoc analysis – LSD test)

N = 132		Temporary anxiety		
(I)	(J)	Difference between AS (I-J)	Standard error	Sig.
Excellent	Very good	<b>-4,08*</b>	1,77	<b>0,023</b>
	Good	<b>-4,42*</b>	2,04	<b>0,032</b>

\*p&lt;0,05

*The differences regarding the basic variables level considering registered variables*

In order to determine statistically significant differences at the creativity level and tendency towards originality between boys and girls, t-test was implemented. Female students have higher scores at the Alternative User Test (Table 7), as well as at the Preconscious Activity Test (Table 8). The difference at the creativity level and tendency towards originality between boys and girls is statistically significant.

**Table 7.** Differences at the creativity level considering the gender of the examinee (t-test)

Gender	N	AS	Creativity		t	Sig.
			SD	df		
Male	61	4.032	3.17	130	-4.73**	0.000
Female	71	7.07	4.06			

\*\*p&lt;0,01

**Table 8.** Differences at the level of tendency towards originality considering the gender of the examinee (t-test)

Gender	N	Tendency towards originality			t	Sig.
		AS	SD	df		
Male	61	18.65	4.04	130	-4.45**	0.000
Female	71	21.72	3.99			

\*\*p&lt;0,01

When it comes to determining statistically significant differences at the creativity level and tendency towards originality considering the number of siblings, statistical analysis of the results showed that there are significant differences only



at the level of tendency towards originality and that is only between the students without siblings and the students with two siblings (Table 9). The examinees with two siblings had a higher score at the Preconscious Activity test compared to the examinees with no siblings.

**Table 9.** Statistically significant differences at the level of tendency towards originality considering the number of siblings (Post Hoc analysis - LSD test)

(I)	(J)	Tendency towards originality		
		Difference between AS (I-J)	Standard error	Sig.
Without siblings	With two siblings	-3,29*	1,30	0,012

\*\* $p < 0,05$

Testing the differences at the anxiety level considering the gender of the examinees showed that there are no significant differences between boys and girls at the temporary anxiety level ( $t = -1,502$ ;  $p = 0,074$ ), as well as at the general anxiety level ( $t = -1,939$ ;  $p = 0,055$ ). Also, there were no significant differences at the level of temporary anxiety ( $F = 0,762$ ;  $p = 0,518$ ) and the level of general anxiety ( $F = 0,728$ ;  $p = 0,537$ ) considering the number of siblings. The differences in grade average between female and male students are not statistically significant ( $t = 1,229$ ,  $p = 0,221$ ). Table 10 shows the significant differences in grade average considering the number of siblings. The examinees with two siblings and the examinees with more than two siblings have better grade average compared to the only children, as well as compared to the examinees with one sibling.

**Table 10.** Statistically significant differences regarding school achievement considering the number of siblings of the examinees (Post Hoc analysis - LSD test)

(I)	(J)	School achievement		
		Difference between AS (I-J)	Standard error	Sig.
Without siblings	With two siblings	-0.73**	0.23	0.002
	With more than two siblings	-0.83**	0.30	0.007
With one sibling	With two siblings	-0.54**	1.17	0.001
	With more than two siblings	-0.65*	0.26	0.013

\*\* $p < 0,01$  \* $p < 0,05$

## Discussion

Before the deliberation of the results obtained by checking the hypothesis, we will comment on the reflectin degree of the basic research variables. Compared to the data obtained from the research of Radomirović (2004), conducted

in the districts of Užice and Kraljevo - where only 11% of students expressed creative behavior, the findings obtained in this research provide a more favorable picture. At the average creativity level there are only excellent students, and they make up only 50% of the sample. The average level of general and temporary anxiety of the examinees which is somewhat lower than the theoretical average, indicate that it is about individuals with a disposition to experience temporary anxiety in realistically threatening situations (Spielberger, 1999; according to Tovilović et al., 2009). In addition, when taken into account, the fact that the examinees in this research are going through adolescence, a development phase full of changes, an extremely low level of anxiety would be a signal for alert. Anxiety is an adequate and rational feeling in a development crisis (Milivojević, 2008), so the absence of the same could be an indicator of stagnation rather than progress.

The results confirm the hypothesis that excellent students are more creative compared to students with a very good and a good grade average. However, differences in tendency towards originality depending on grade average were not found. A possible explanation lies in the fact that the measure of creativity is achievement on a test that is a prototype of the test of divergent thinking and requires production, while the Scale of Preconscious Activity is based on accordance, that is discordance with stated facts and shows volition and self-evaluation of students. Adolescents, whose period of development crisis is characterized by searching for identity, creating an image about themselves and about people around them, with series of negative feelings (Đorđević, 1984; according to Minić, 2010), will strive, it can be assumed, with objective to maintain a positive image about themselves, to agree with the claim that they are “persons of ideas” but to also admit that “the best ideas come to them in moments of dreaming and daydreaming”, which is another characteristic of adolescence. The received different results depending on the two applied tests support the explanations of the heterogenic findings of the research of the relations of creativity and grade average, according to which the same are a consequence of using different measures of creativity.

The information that excellent students have a higher level of creativity, compared to very good and good students, is in accordance with theoretical assumptions (Knežević-Florić, 2004; Lubart, 1994) that knowledge is a precondition for creativity. In addition to the presented theoretical assumptions, the received findings are in accordance with the research that was conducted by Maksić and Đurišić-Bojanović (2004), but they are not in accordance with the results of the Freeman (Freeman, 1995) research.

The findings that show that excellent students are more creative compared to students with lower grade average, give a foundation for the assumption that, while grading, teachers give high rating to exactly those creativity elements, good understanding and organizing of teaching materials. Well organized knowledge that is not abundant in unnecessary facts, prone to quick forgetting is, according

to Filipović (1988), necessary for creative production.

According to the results of this research, between the examinees with different grade average there are no differences at the general anxiety level, that is in disposition to react with anxiety in stressful situations, but they are different in the intensity of the reaction to a stressful situation, that is at the level of temporary anxiety. The explanation can be searched in the bounds of cognitive models of anxiety (Sarason, 1981; Wine, 1980; according to Živčić-Bećirović, 2003). Concern as a cognitive component of anxiety is, as quoted by some authors, (for example, Cassady & Johnson, 2001; Liebert & Morris, 1967; according to Stöber, 2004) significantly connected with achievement. It is, among other things, related to the self-evaluation of the abilities of students that can be the reason for different experience of exam situations. Excellent students have more experience of success compared to their peers with lower school achievements. Also, they have built a reputation as students who are always prepared for the class and from them even teachers expect success (Rosental & Jakobson; according to Tubić, 2002). The position of weaker students is the opposite. Negative experience of failure and negative expectations from these students will contribute to anxiety appearing in the situations when their knowledge is being evaluated. Krnjajić (2006) believes that in the situation when a student expects success, the anxiety will slow down the achievement, and vice versa, in the situation when a student expects failure, anxiety will inhibit achievement. The obtained data stating that there are no differences at the general anxiety level considering grade average indicates that with students who don't achieve better grade average, a similar level of general anxiety becomes facilitating through timely studying and preparation.

The results confirm the findings of the researches conducted in this area (for example, Davidović & Zečević, 2014; Marić, 2010; 2012), and beyond. They are in accordance with Sarason's (Sarason, 1972) findings about a negative influence of temporary anxiety and they provide confirmation for the research (for example Farooqi et al., 2012) on the sample of students in which a negative correlation between exam anxiety and academic achievement has been determined.

Examining the differences in basic research variables considering the gender and the number of siblings was one of the set issues in the research. It is determined that girls are more creative and more prone to originality compared to boys. The given results are in accordance with the findings of some previous researches (for example, Kaufman & Bear, 2006; Makisć & Đurišić-Bojanović, 2004). Also, they provide confirmation to the studies (for example, Stephens et al., 2001) in which gender differences in originality were determined.

The stated findings can be observed as a consequence of the adoption of socially acceptable patterns of behavior depending on the gender. Traits that are emphasized during upbringing of girls like empathy, flexibility and cooperation are also noticed in creative people. On the contrary, while growing up, boys often

inhibited those same characteristics. In addition, it is determined that male persons are more often dedicated to one objective, while with women simultaneous participation in several activities and versatility are prevalent (Horowitz & O Brein, 1988), which is extremely important for creativity.

Relying on the review of the relevant literature, we expected that there would be differences in anxiety between boys and girls. Anxiety disorders are more common with girls (Huberty, 2004), but they are more exposed to stressors in adolescent age, that is, they experience more stressful situations compared to boys. In addition, there is a possibility that adolescent girls are more prone to emphasizing the difficulties compared to adolescent boys. The results obtained through the research is in accordance with the research of Jovanović and associates (2011). However, numerous papers (Cassady, 2004; Cassady & Johnson, 2002; Chapell et al., 2005; Latas et al., 2010; Marić, 2012) confirm that girls are more anxious compared to boys. Certain authors explain the greater anxiety of girls with their readiness to recognize and acknowledge anxiety. Based on the established gender differences in the results on the Preconscious Activity Scale, it can be assumed that female examinees, however, choose answers that show them in the best way possible. This finding provides the basis for the assumption that on the scales of anxiety they have chosen socially desirable answers.

Considering the gender variable, it is determined that there are no differences in grade average. School supremacy of female students in the period of elementary education is interpreted with the differences in characteristics between boys and girls (Maksić & Đurišić-Bojanović, 2004). When the school knowledge is measured by tests, and not only by grades taken from school documentation, the difference in achievements between boys and girls is significantly lower (Havelka, Vučić, Hrnjica & Kuzmanović, 1990). Therefore, the obtained result is significant because it indirectly suggests the objectivity of rating.

In this research it is showed that examinees with two siblings are more prone to originality compared to single children. Examinees with siblings are “fighting” for their position in the family and they are focused towards finding the way to be interesting so they would attract their parents’ attention with different behavior. Test results show their desire for being different. As there are no differences depending on the number of siblings at the creativity level, it can be considered that the originality of these examinees remains in the sphere of wishes, needs and behavior. Some authors (for example, Runco, 2004) believe that children with siblings tend to find their “safe niche” which they often do in an unusual way. Unconventionality that these children possess does not guarantee generating creative work, but it is a common characteristic of creative people.

The results that imply better school success of students with two siblings or students with more than two siblings compared to only children and students with one sibling, cannot be put into context of enriched environment. In the families with more children there is, most likely, mutual assistance between children.

While teaching the younger, the older ones repeat what they have learned which provides them the basis for further upgrading, while the younger with older siblings usually learn unintentionally.

## Conclusion

The overview of the certain aspects of the functioning of the students with different grade average was one of the reasons to conduct such a research, and the obtained results provide the basis for several important conclusions.

In general, as the most important finding of the research we consider the information that excellent students are more creative compared to students that have a very good or a good grade average. We tend to assess this as a positive finding because it shows that an excellent grade average is connected with creative potentials of a student. Also, students who are rated by the teacher as most successful, that is, they have achieved an excellent grade average, in addition to be more creative, show a lower degree of anxiety in situations of material evaluation, compared to students with a lower grade average. A possible explanation of the findings that excellent students are less subjects to anxiety that is situationally conditioned, lies in the fact that, thanks to creative abilities, they are capable to learn better and to present school material better, so that provides them with the source of security, and that reduces anxiety.

The research results, in general, indirectly can be used to evaluate progress made in implementing the tasks set before the modern school, i.e. orientation towards creativity and students' personality development. Achieving high school results does not limit the creative production and emotional development. Findings suggest the focus on full development and evaluation of students in education and encourage the use of new, active approach to education.

Preference for the two indicators of creativity gave certain advantages to the research. In this way, creative abilities of the examinees were presented, as well as their self-evaluation. With the application of the Alternative User Test, the effect of motivation of the examinee towards choosing socially desirable answers on the Preconscious Activity Scale is decreased. The contribution of this research is reflected in side-by-side study of psychologically complex phenomena like creativity, anxiety and grade average, as well as the inclusion of sociodemographic variables. However, the findings obtained in this study can not be generalized because only a convenience sample of respondents has been tested, which is an important restriction of this study. In future studies many other factors which have not been covered in this study although they model the relationship between the examined variables, should be taken into account.

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## **THE RELATIONSHIP BETWEEN EMPATHY AND ALTRUISM IN SECONDARY SCHOOL STUDENTS**

### **Abstract**

**Summary:** The main goals of this research are: 1) examine the relationship between empathy and altruistic orientation of students, 2) examine whether some aspects of empathy are significant predictors of altruism in students. Empathy is measured by the scale IRI (Interpersonal Reactivity Index, Davis, 1983), which assesses four aspects of empathy: Perspective taking (PT), Fantasy (F), Empathic concern (EC) and Personal distress (PD). Altruism is measured by scale ALZAM (Čekrljija et al, 2004). The research sample consisted of 120 secondary school students, 60 girls and 60 boys, aged 17-18 years. Results pointed out a statistically significant correlation between altruism and total empathy ( $r = .41, p < .00$ ), the highest correlation with aspect EC ( $r = .47, p < .00$ ) and PT ( $r = .39, p < .00$ ), then with F ( $r = .24, p < .01$ ), while there was no correlation with PD. Altruistic orientation can be predicted on the basis of total empathy of students, which explain 17% of variance altruism. Multiple regression analysis showed that 31% variance of altruism ( $R = .56, R^2 = .31$ ) could be explained by introducing of certain aspects of empathy. The best predictor of altruism is EC ( $\beta = .48, p < .00$ ), followed by the contribution of PT ( $\beta = .25, p < .01$ ). Future research should focus on personality traits and motivation in order to improve the understanding of altruism.

**Keywords:** *empathy, altruism, Interpersonal Reactivity Index, Altruism scale, secondary school students*

### **INTRODUCTION**

Studies of positive forms of social behavior are relatively recent in psychology. There are much more research of aggressive behavior in people than those of selfless behavior, which purpose is to help others. Growing interest in the field of pro-social behavior occurred after the research of Latane and Darley (1970, according to Rot, 2010) on viewer's response in situations when someone else is in danger. Pro-social behavior is becoming one of the most researched areas in social psychology, especially from the eighties.

At the individual level, positive forms of social behavior are important for meeting human needs, both biological and psychological (Joksimović & Vasović, 1990). On the social level, pro-social behavior is important for the survival and harmonious functioning of society and social groups in it. Without a positive orientation of people to each other, without mutual help and care for the weakest in society, there would be no individual development or social progress.

The term *empathy* was first introduced by Robert Fisher, and then it was taken over and developed by Theodor Lipps (Kuburić, 1997). Biological approach sees empathy as a form of instinctive communication. Psychoanalysts describe empathy as a form of identification. Social psychology explains empathy as taking roles. Sociology explains mutual understanding and a sense of belonging among members of a group using empathy. Empathy represents emotionally knowing the other person, which relies on the mechanism of emotional contagion (Stojiljković et al, 2012). By assuming the role, emotional contagion is surpassed and empathic understanding is achieved. Empathy is the ability to understand another person's situation from his point of view.

Eisenberg and Strayer (1987, p. 5, according to Raboteg-Šarić, 2002a) define empathy as an emotional response stemming from the emotional state and the position of another person which is congruent with their emotional state or situation. We can distinguish between cognitive and affective aspects of empathy (Raboteg-Šarić, 2002a). The cognitive aspect of empathy implies identification with the state of mind of another person, or awareness of how something that happens to another person can affect that person. Affective empathy implies identification with the emotional state of another person. Moral intellectualism or knowledge of morality is not in itself sufficient for moral act. Hoffman (2003) emphasizes the importance of the emotional component of the moral act.

Stotland (1969, according to Raboteg-Šarić, 2002a) and Strayer (1987, according to Raboteg-Šarić, 2002a) suggest that empathy is associated with imaginative abilities. Based on this we can conclude that affects and cognition interact in the process of empathizing. For this reason, broader definition of empathy, that includes both aspects of empathy, with more emphasis on affective empathy, is more often used.

Hoffman (2003) believes that there is almost always a conflict between egoistic motives and motivations to help the victim in the witness of the unpleasant event. However, despite some egoistic elements, empathy has certain characteristics that define it as a selfless motive: empathy is caused by other people's trouble, not our own; the main aim of the activities is to help others, not ourselves; a potential satisfaction of a helper depends on his action to reduce the trouble of another person.

Pro-social behavior is willing behavior with the intention to be more useful to others than ourselves (Đurić et al, 2010). This is a broader concept than altruism, because it involves actions that are directed to the welfare of others,

but includes behaviors that are aimed at mutual benefit which can be achieved through cooperation (Joksimović & Vasović, 1990). This type of behavior includes interaction between the person who provides support or assistance and the person who receives it.

Term *altruism* comes from the French language which means *other people*, originally from the Latin *alter* meaning another. Auguste Comte (Kont, 1962), founder of the positivism, was the first to use term *altruism* to describe the essence of his doctrine. Altruism is a form of pro-social behavior that refers to the desire to help someone without asking for something in return (Batson, 1998, according to Đurić et al, 2010). It is the action that has been made consciously and deliberately with a desire to contribute to the well-being of another person without expectation of personal gain (Joksimović & Vasović, 1990). For a behavior to be considered altruistic it must meet the following criteria:

1. behavior has to be free from coercion;
2. behavior has to be undertaken for the benefit of other people and
3. behavior has to exclude the expectation of reward, material or social (Eisenberg & Miller, 1987, according to Raboteg-Šarić, 2002b).

Couple Oliner (1988, according to Đurić et al, 2010) found in their research three factors that predict altruistic behavior: tendency towards empathy; sensitivity to social pressure which forces us to act in accordance to adopted standards and commitment to universal moral principles. Rushton (1980, according to Joksimović & Vasović, 1990) states two groups of motives for altruistic behavior: empathy and personal norms. According to Aronfreed (1970, according to Rot, 2010) altruism is a behavior that is based on empathy with another person, or behavior that gives us satisfaction because we are doing something good for other people.

Social exchange theory states that altruism does not exist, unless the benefits exceed the unpleasantness of helping (Batson, 1998, according to Đurić et al, 2010). Daniel Batson does not agree with this theory. He believes that people help others in distress because of genuine concern for the welfare of others. The key ingredient in helping, in his opinion, is empathic care. According to the hypothesis of empathy - altruism, if the observer feels empathy with the person in distress, he will help regardless of whether there is any benefit from it or not. Desire to help the person in distress becomes the most important thing. When the witness of a tragic event does not feel empathy for a person in distress, social exchange theory can explain his behavior.

In the study that examined the association of sensitivity for others and altruistic behavior, it has been established that there is a positive correlation between altruistic behavior with a concern for others, but not with empathic sensitivity (Stojiljković, 1997). On the other hand, in a survey conducted by Raboteg-Šarić

(Raboteg-Šarić, 2002a) on a sample of 311 students with an average age of 14 years results of the Scale of emotional empathy were significantly positively associated with scores on altruism Scale ( $r = .45, p < .01$ ). Rushton et al (1981, according to Raboteg-Šarić, 2002b) constructed a scale for measuring altruism in adults. Their results showed a positive correlation of altruism with empathy and pro-social values.

## METHODS

### Problem and research objectives

The general problem of this research is to answer the question how much of the variance in the values of the altruism scale can be explained by the variance of empathy and which aspect of empathy is the best predictor of altruism.

In order to explain the basic problem, the following specific objectives are set:

- 1) to examine the link between empathy and altruistic orientation of students;
- 2) to examine whether some aspects of empathy are significant predictors of altruism in students.

### Sample

The study included 120 students of third grade from two secondary schools in Niš. The group administered testing was conducted in February 2015.

The convenience sample was consisted of an equal number of male and female participants, or 60 female and 60 male subjects.

### Survey instruments

Interpersonal Reactivity Index (IRI) is an instrument developed by Mark Davis (1983). This instrument examines the empathy as a multidimensional construct. Four subscales are contained within the IRI. Subscales Perspective taking and Fantasy measure aspects of cognitive empathy, and the other two dimensions, Empathic concern and Personal distress, are components of affective empathy. The Perspective taking subscale refers to the individual's tendency to spontaneously adopt the psychological point of view of another person, while the Fantasy subscale refers to an individual's ability to undertake the feelings and actions of fictional characters, but also the circumstances. Empathic Concern assesses

“other-oriented” feelings of sympathy and concern for unfortunate others, while Personal Distress measures “self-oriented” feelings of personal anxiety and unease intense interpersonal settings. This instrument offers the possibility to measure the total score of empathic sensitivity. The questionnaire consists of 28 items with responses in the form of a five-point Likert scale. Each subscale has seven items. In the study conducted by Davis (1983, according to Stojiljković et al, 2012), all subscales showed satisfactory reliability: Perspective taking (0.75) males and (0.78) females, Fantasy (0.78) males and (0.75) females, Empathic concern (0.72) males and (0.70) females and Personal distress (0.78) in both sexes. In this study full scale (0.84) and three subscales showed satisfactory reliability: Personal distress (0.81), Fantasy (0.72) and Perspective taking (0.71). The Empathic concern subscale (0.58) did not show satisfactory reliability.

Altruism scale (ALZAM) measures individual differences in altruistic behavior (Čekrljija et al, 2004). The questionnaire contains 23 items rated with a five-point Likert scale. Reliability of the scale was satisfactory (0.82). In this study Altruism scale showed satisfactory reliability (0.86).

## RESULTS

### Descriptive statistics

Descriptive statistics of empathy and its aspects on a sample of 120 high school students are presented in Table 1.

**Table 1.** Descriptive statistics of empathy

	N	Theoretical range		Empirical range		M	SD
		Min	Max	Min	Max		
		Empathy	120	28	140		
Perspective taking	120	7	35	13	34	23.97	4.69
Fantasy	120	7	35	13	35	24.62	5.27
Empathic concern	120	7	35	11	34	23.56	4.38
Personal distress	120	7	35	7	32	20.00	5.77

The results in Table 1 indicate that the average score on a scale Empathy ( $M = 92.14$ ) and all subscales Perspective taking ( $M = 23.97$ ), Fantasy ( $M = 24.62$ ), Empathic concern ( $M = 23.56$ ) and Personal distress ( $M = 20.00$ ) is in the range of the theoretical average. Subjects in the study tended to give neutral answers, or more precisely, they expressed middle level of agreement. The biggest variation between the scores is noticeable on the subscale Personal distress ( $SD = 5.77$ ).

**Table 2.** Descriptive statistics of altruism

	N	Theoretical		Empirical		M	SD
		range		range			
		Min	Max	Min	Max		
Altruism	120	23	115	46	106	86.19	12.36

Based on the results in Table 2, we can conclude that the average score of respondents on the altruism scale ( $M = 86.19$ ) shows a tendency to shift to higher scores compared to the theoretical average, or to a higher altruism.

### The link between empathy and altruism

The overall objective of this study was to determine the relationship between empathy and its aspects with altruism. Based on the results shown in Table 3, we can conclude that the relationship exists.

**Table 3.** The link between empathy and altruism

		Empathy	Perspective taking	Fantasy	Empathic concern	Personal distress
Altruism	Correlation coefficient	<b>.41**</b>	<b>.39**</b>	<b>.24*</b>	<b>.47**</b>	.11
	Statistical significance	<b>.00</b>	<b>.00</b>	<b>.01</b>	<b>.00</b>	.24

\* statistically significant at the level of .05    \*\* statistically significant at the level of .01

There is a statistically significant positive correlation of average intensity between altruism and empathy ( $r = .41, p < .01$ ). The higher the degree of empathy is, the greater the degree of altruism is as well.

Based on Table 3, we conclude that there is a relationship between altruism and some aspects of empathy. The highest correlation was found with aspects: Empathic concern ( $r = .47, p < .00$ ) and Perspective taking ( $r = .39, p < .00$ ), followed by Fantasy ( $r = .24, p < .01$ ), while there was no correlation with Personal distress. We can conclude that the higher the level of the following aspects of empathy is, the higher the degree of altruism is as well.

## Prediction of altruism based on empathy

Data obtained by multiple regression analysis are presented in Tables 4 and 5. In order to check whether some aspects of empathy are significant predictors of altruism in a sample of high school students, procedure Enter of multiple regression analysis was used.

**Table 4.** Prediction of altruism based on empathy

	Altruism		
	Beta	Statistical significance	Summary of the model
Empathy	<b>.41</b>	<b>.00</b>	R = .41 R <sup>2</sup> = .17

Data in Table 4 show that altruistic orientation of pupils can be predicted based on the total empathy, which explains 17% of altruism variance. The regression coefficient (Beta = .41,  $p < .01$ ), indicates that the greater the degree of empathy is, the greater the degree of altruism is as well.

**Table 5.** Prediction of altruism based on aspects of empathy

	Altruism		
	Beta	Statistical significance	Summary of the model
Perspective taking	<b>.25</b>	<b>.01</b>	
Fantasy	.04	.64	
Empathic concern	<b>.48</b>	<b>.00</b>	R = .56
Personal distress	-.19	.05	R <sup>2</sup> = .31

From Table 5 we can see that the group of predictors, consisting of aspects of empathy: Perspective taking, Fantasy, Empathic concern and Personal distress, explains 31% ( $R^2 = .31$ ) of variance scores on the altruism scale.

The best predictor of altruism is aspect Empathic concern (Beta = .48,  $p < .00$ ), followed by Perspective taking (Beta = .25,  $p < .01$ ), while aspects Fantasy and Personal distress do not contribute to the prediction of altruism. The regression coefficient indicates that the higher the degree of Perspective taking (Beta = .25,  $p < .05$ ) and the degree of Empathic concern is (Beta = .48,  $p < .01$ ), the higher the degree of altruism is as well.

## CONCLUSION

Numerous examples of selfless behavior could not be explained by the prevailing theoretical conceptions by which human behavior is directed towards satisfying their own needs. There is a growing interest in research of people's behavior which aims to benefit others. Altruism is a behavior intended to help others without expecting something in return. Empathy is the experience of understanding another person's condition from their perspective.

In this study, the link between empathy and altruism in high school pupils was examined. Interpersonal Reactivity Index made by Mark Davis (1983) was used, which is, next to the Scale of emotional empathic tendencies constructed by Mehrabian and Epstein, one of the most commonly used instruments for measuring individual differences in the ability of empathy. In this research the altruism Scale, made by Čekrljija, Turjačanin and Puhalo (2004), was used as well. This scale is designed for measuring individual differences in altruistic behavior.

Data obtained by descriptive statistics show that the average score of subjects on the empathy scale and all subscales is located within the theoretical average. The average score of respondents on the altruism scale shows the tendency to shift to higher scores compared to the theoretical average. This sample is consisted of adolescents to whom social relations are very important, just like the need to belong to a group of their peers, which makes them more prone to express altruism.

This study suggests that empathy and its aspects are significant predictors of altruism, which is consistent with previous studies (Joksimović & Vasović, 1990; Raboteg-Šarić, 1993; Rushton et al, 1981), indicating that there is a syndrome of traits that are correlates of altruism and pro-social behavior.

This research revealed that there is a positive correlation of average intensity between altruism and empathy. This is consistent with the Daniel Batson's hypothesis empathy - altruism (1998, according to Đurić et al, 2010) which states that people help others in distress because of genuine concern for the welfare of others, or if the observer feels empathy with the person in distress, he will help regardless of whether there is any benefit from it or not. This finding is supported by previous research. A survey conducted by Raboteg-Šarić (1993, according to Raboteg-Šarić, 2002a) on a sample of students confirms connection of empathy and altruism. Rushton and associates (1981, according to Raboteg-Šarić, 2002b) research results showed a positive correlation of altruism with empathy and pro-social values. When people are able to experience other people's feelings, especially negative, it is easier for them to decide to help.

In this research a positive correlation of altruism with some aspects of empathy was discovered: Perspective taking, Fantasy and Empathic concern. Since altruism is a form of pro-social behavior which refers to the desire to help someone without asking for something in return, it is logical that it will be connected to the ability of taking someone else's point of view, either of real or imaginary people. Taking the point of view of



someone else and the ability of felling empathic concern help facilitate helping behavior.

Since in this study, we found that aspects of empathy explain 31% of variance altruism future research should be directed towards the discovery of other correlates and predictors of altruism. Attention should be focused on personality traits as the basis of pro-social orientation. Research of positive behaviors of people and application of the results obtained are of great importance. One of the most important goals of socialization is developing behaviors such as cooperation and helping others. Such behaviors are invaluable for maintaining good interpersonal relationships and harmonious functioning of social groups.

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## **EMPATIJA I ALTRUIZAM KOD UČENIKA SREDNJIH ŠKOLA**

### **Rezime**

Glavni ciljevi ovog istraživanja su: 1) ispitati vezu između empatije i altruističke orijentacije učenika; 2) ispitati da li su neki aspekti empatije značajni prediktori altruizma kod učenika. Empatija se meri pomoću skale Indeks interpersonalne reaktivnosti (Davis, 1983), kojiprocenjuje četiriaspektaempatije: Zauzimanjetuđegstanovišta, Fantazija, Empatijska brižnost i Lična nelagodnost. Altruizam se meri skalom ALZAM (Čekrlija i sar., 2004). Uzorak je činilo 120 srednjoškolaca, 60 devojaka i 60 momaka, starosti 17-18 godina. Rezultati su ukazali na statistički značajnu korelaciju altruizma i ukupne empatije ( $r = .41, p < .00$ ), na najvišu korelacijasa aspek-tima Empatijska brižnost ( $r = .47, p < .00$ ) i Zauzimanjetuđegstanovišta ( $r = .39, p < .00$ ), zatim sa aspektom Fantazija ( $r = .24, p < .01$ ), dok sa aspektom Lična nelagodnost nije bilo startistički značajne povezanosti. Altruistička orijentacija može se predvideti na osnovu ukupne empatije srednjoškolaca, koja objašnjava 17% varijanse altruizma. Multipla regresii.

## PERSONALITY DIMENSIONS, INDICATORS OF MENTAL HEALTH AS PREDICTORS OF ACADEMIC PROCRASTINATION

### Abstract

This study focuses on personality dimensions from Zuckerman-Kuhlman model of personality and on indicators of mental health, defined by Terluin and his associates, as predictors of academic procrastination. The research sample consists of 250 students of both sexes from five faculties of University of Niš. The following instruments were applied: Zuckerman-Kuhlman personality questionnaire (50CC-ZKPQ), The Four-Dimensional Symptom Questionnaire (4DSQ) and Procrastination Assessment Scale Students (PASS). The obtained data were processed by applying methods of linear and hierarchical regression analysis.

The results show that the model of personality dimensions, composed of Activity ( $\beta=.129$ ,  $p<0.05$ ), Neuroticism/Anxiety ( $\beta=-.159$ ,  $p<0.05$ ) and Impulsive Sensation Seeking ( $\beta=-.200$ ,  $p<0.01$ ), can predict the academic procrastination ( $R=.283$ ,  $p<0.01$ ). Also, Distress ( $\beta=.357$ ,  $p<0.01$ ) is statistically significant predictor of students' procrastination. In addition, Distress have some incremental validity on top of *Activity*, *Neuroticism/Anxiety* and *Impulsive sensation seeking* when it comes to the prediction of procrastination ( $R=.339$ ,  $p<0.01$ ). According to the results, there is a statistically significant difference between males and females in the degree of the expression of the Activity ( $p<0.01$ ), Distress ( $p<0.01$ ) and Somatization ( $p<0.05$ ). These dimensions scored higher in females, whereas the Neuroticism was higher in males than in females ( $p<0.05$ ), which is in contrast with previous findings. Variable Faculties are in correlation with following personality variables: Activity, Impulsive Sensation Seeking, Distress, Anxiety, Somatization and Procrastination, but all these correlations are weak. Efficacy of studying correlates with Activity ( $p<0.05$ ) and Impulsive Sensation Seeking ( $p<0.05$ ). The results pointed out directions for further research as well as recommendations for initial identification of persons who are inclined to procrastination.

**Key words:** personality dimensions, indicators of mental health, academic procrastination, students

## Introduction

In order to answer the question why students postpone their academic activities and tasks, we used *Alternative five factor personality model* (Zuckerman, 2002) and indicators of mental health (Terluin et al., 2006) as potential indicators of this phenomenon.

Procrastination is largely widespread among students' population. The question is: which elements, more precisely which personal traits and conditions, can be essential indicators of this phenomenon. Dimensions of the *Alternative five factor personality model* significantly correlate with certain aspects of person's behavior (Zuckerman, 1991), and also with psychiatric symptoms which could be considered as significant factors of procrastination (Zuckerman, 1991). On the other side, *Distress, Depression, Anxiety* and *Somatization*, as consequences of stressful life, could, also, lead to procrastination. Of course, it is not senseless to expect that certain personality traits and condition can be related with procrastination of academic activities, too.

### Alternative five-factor model of personality

In the eighties of the last century Zuckerman and Kuhlman were working on an array of research with instruments for assessing the basic dimensions of personality. It has been shown that the most interpretable was the five-factorial solution which was developed in *Alternative Five – Factor model*. This model, which serves as a frame of reference for assessing personality traits, includes five biologically determined basic dimensions - *Activity, Aggression/Hostility, Impulsive sensation seeking, Neuroticism/Anxiety* and *Sociability* (Zuckerman, 2002).

*Activity* dimension consists of two factors. The first one, titled Need For General Activity, describes a person's need for general activity, impatience and restlessness when there is nothing to do, and the second factor, Need For Work Activity, indicates a tendency for challenging and hard work and investment of a great deal of energy while working on tasks.

*Aggression/Hostility*. This dimension reflects readiness for verbal aggression, rude or antisocial behavior, vengefulness, maliciousness, bribe and impatience towards others.

*Impulsive sensation seeking* is the next higher-order factor which consists of two lower-order factors. The first one is Impulsivity and refers to a lack of planning and predisposition for fast, impulsive response without thinking. The second is Sensation Seeking and persons who have this dimension emphasized have general need for excitement, a preference for unpredictable situations and friends, as well as the need for novelty.

*Neuroticism/Anxiety*. This dimension includes emotional tension, worry, frightfulness, obsessive indecision, lack of confidence, and sensitivity for criticism.

*Sociability* also consists two lower-order factors: Parties And Friends and Isolation Intolerance. Higher-order factor implies affinity to big groups and interaction with great number of people. Persons who have this trait emphasized have a lot of friends. Measures in this study includes the higher-order factors only.

### **Indicators of mental health**

Terluin and his associates (1994) were investigating the distribution of symptoms which were common to most of the patients from the diagnostic category ‘nervous breakdown’ and they established that all of these symptoms can be described with only four dimensions: *Distress*, *Depression*, *Anxiety* and *Somatization* (Terulin et al., 2006). Dimension of *Distress* refers to the symptoms that are a result of meeting with a stressor, as well as the effort which a person puts in to fight off the cause of the problem and maintain adequate level of psychosocial functioning (Lazarus, 1980). It includes symptoms such as worrying, irritability, tension, exhaustion, bad concentration, problems with sleeping, demoralization. *Depression* includes depressive thoughts, including suicidal ideas and loss of pleasure (anhedonia), i.e. symptoms that characterize clinical form of depression (Beck, Rush, Shaw, & Emery, 1979). *Anxiety* includes symptoms such as free-floating anxiety, panic attacks, phobias and avoidance behavior, i.e. symptoms that are characteristic of clinical anxiety (APA, 1994). The content of dimensions refers to clinical forms of disorder in case when the effect of distress is separated from the effect of anxiety and depression. Otherwise, when distress primarily occurs as a consequence of dealing with a stressor, depression and anxiety are initiated by disorders of mood that are not clarified enough for now. *Somatization* includes psychosomatic reactions which refer to body symptoms when they are few in number and mild, but in cases when the symptoms are more intensive and high in number the dimension includes psychiatric disorders (i.e. hypochondria) (Clarke & Smith, 2000; Katon et al., 1991).

### **Procrastination**

A person procrastinates when it delays the beginning or ending of intentional direction of action. Besides, procrastination is most often considered as an irrational behavior of delaying and refers to the definition from dictionary ‘defer action, especially without good reason’. To be irrational means to choose the direction of action in spite of expectation that it won’t increase your own benefit, i.e. your own interests, tendencies or goals, be they material or psychological in nature. Combining of these elements indicates that procrastination is a voluntary delay of intentional direction of action in spite of expectations that it will be worse if it is delayed.

Monchek and Muchnick talk about the consequences of procrastination, which can be perceived in two domains: 1) *Concrete consequences* which refer to

missed deadlines, lost incomes, waste of time, lesser productivity. 2) *Emotional consequences* refer to high stress, drop of morals, frustration, anger, lower motivation (Monchek & Muchnick, 1998).

Some studies deal with determination of the correlates and interpretation of procrastination through other dispositions, such as self-respect (Beswick, Rothblum, & Mann, 1988), optimism (Lay & Burns, 1991), need for task completion (Van Eerde, 2000), neuroticism (Hess, Sherman, & Goodman, 2000; Van Eerde, 2000), anxiety (Owens & Newbegin, 2000), perfectionism (Brownlow & Reasinger, 2000; Free & Tangey, 2000).

Procrastination is very frequent among students. Research shows (Schouwenburg, 1995) that around 70% of students delay their academic tasks. The nature of academic task is such that it has externally imposed deadline, and therefore it is seen as a bad practice which is linked with low degree of academic achievement, high degree of anxiety and low self-esteem (Owens & Newbegin, 2000). Burka and Yuen point out the importance of procrastination because it can, in certain circumstances, protect the person from dealing with stressful, disturbing and frustrating circumstances (Burka & Yuen, 1983). According to these authors, academic procrastination behavior can help individuals reduce negative impacts of disturbing feelings they could experience.

Ellis and Knaus (1977) point to protective function of procrastination; it protects the individual from getting hurt. Procrastination contributes to the protection of vulnerable self-respect (Solomon & Rothblum, 1984). Same authors (1984) speak of procrastination as an activity which is a result of behavior which follows unpleasant affective reaction and they assert that procrastination is an irrational delay accompanied by the feeling of disturbance. Procrastination represents intentional delay of start or end of some task.

Research pointed at the effect of conscientiousness as a personality trait on procrastination. Namely, persons who are low on Conscientiousness are also unorganized and therefore prone to delay their responsibilities (Steel, 2007). Research have also shown that the academic procrastination is linked to low achievement, low degree of academic self-efficacy, self-regulation, self-respect, and self-efficacy for self-regulation (Turalija & Zrinka, 2012).

Results of the studies show connection between neuroticism and procrastination (McCown & Johnson, 1991, according Watson, 2001). Irrational beliefs and thoughts of some task or topic can make it uninteresting and therefore awaken the anxiety which causes the person to avoid doing the task and search for some alternative solutions.

Solomon and Rothblum (1984) interpret procrastination as behaviors in unpleasant affective situations, so it is possible to assume that there will be a significant relation between neuroticism and procrastination, which can be found in some previous research (Hess et al., 2000; Owens & Newbegin, 2000; Van Eerde & Garst, 2000).

The main goal of this paper is to examine relation between personality traits, indicators of mental health and procrastination. We decided to use Alternative five factor model because of its biological approach to personality traits. Boyle (2008) claims that *Zuckerman-Kuhlman Personality Questionnaire (ZKPQ)*, derived from aforementioned model, is more sophisticated than the popular, but rather descriptive Big Five model.

Different people manifest different reactions when faced with obstacles and obligations during lifetime. Hence, some reactions are more successful than others. Procrastination could be interpreted as less successful coping strategy when person is faced with social tasks and demands. These tasks often require to be accomplished as soon as possible. Rapid and proper reactions are usually the only (if not the only, then the most efficient) way to achieve these particular goals which contribute to person's well-being, adequate social functioning, gratification of needs etc. All of the above could be applied to academic tasks considering externally imposed deadlines often associated with these tasks. On the other side, higher scores on 4DSQ scales indicate that person is prone to producing symptoms i.e. to maladaptive behavior. People manifest this predisposition particularly in stressful situations such as fulfilling obligations with externally imposed deadlines. It is more likely that the person, who has already gone through this situation, would be preoccupied with symptoms and, therefore, won't pay attention to stressor (obligation). This type of answer could possibly lead to procrastination.

Main goal of this study is to examine relations between personality traits, indicators of mental health and procrastination. Specifically, we want to examine whether personality traits from Alternative Five – Factor model and indicators of mental health are statistically significant predictors of procrastinations. Also, we would like to examine whether and how personality traits as predictors of procrastinations change when indicators of mental health are taken into consideration. We, also, want to test whether and how variables change with regard to control variables (*sex and material status*).

## Methodological approach

### Measures

**Zuckerman- Kuhlman personality questionnaire/ 50CC-ZKPQ** (Zuckerman, 2002) – Instrument consists of 50 items, 10 in each scale, and participants reply with correct or incorrect. Items measure following five dimensions of personality: *Activity, Aggression/Hostility, Impulsive sensation seeking, Neuroticism/Anxiety and Sociability*. Scale of *Neuroticism* ( $\alpha = .768$ ) has low reliability, while the others: *Sociability* ( $\alpha = .667$ ), *Activity* ( $\alpha = .639$ ), *Aggression* ( $\alpha = .624$ ) and *Impulsive sensation seeking* ( $\alpha = .597$ ) have not shown satisfactory reliability on the given sample.

**The Four-dimensional symptom questionnaire/ 4DSQ** (Terluin, Van Rhenen, Schaufeli, & De Hann, 2004) – 4DSQ is a questionnaire which includes 4 dimensions: *Distress*, *Somatization*, *Depression* and *Anxiety*. The format of answering is Likert five-level scale, and the research used original scoring (Terluin et al., 2004), according to which the five-level scale is scored as three-leveled one (0 = never; 1 = sometimes; 2 = regularly or more often). Subscales of *Distress* and *Somatization* include 16 items, subscale of *Anxiety* 12 and *Depression* 6 items. In our research the values of Cronbach's  $\alpha$  coefficient is: for Anxiety ( $\alpha=.895$ ), Distress ( $\alpha=.894$ ), Depression ( $\alpha=.868$ ), Somatization ( $\alpha=.860$ ).

**Procrastination assessment scale for students/ PASS** (Solomon & Rothblum, 1984) – is the most frequently used scale for measuring the academic procrastination. It contains four academic tasks (*I Writing a term paper*, *II Studying for exams*, *III Academic administrative tasks* and *IV Attendance tasks*), and each is assessed according to following sub-questions:

1. To what extent are you delaying the execution of these tasks?
2. To what extent does execution of this task represent a problem for you?
3. To what extent would you like to lessen the tendencies of delaying this activity?

That makes a total of 12 items to which the participants answer with the help of Likert five-level scale (a-never; b-almost never, c-sometimes, d-almost always, e-always). Reliability on our sample, for *Procrastination* scale, is .762.

## SAMPLE

Sample of convenience is made up of 250 students of both sexes from all years of general, master and integrated academic studies, who are studying at faculties of University in Niš (Faculties of Philosophy, Electronics, Law, Economy and Medicine). Participants in sample are uniform in regards to the type of study, so that there are 50 participants in each category, and they differ in regards to material status. The sample has 95 males (38% of total amount of participants) and 155 females (62%).

## Results

Values of variables were calculated according to scoreforms of questionnaires; sum scores were used for this purpose. There is only one data missing from data matrix which haven't had significant influence on results. All of the values are in range between the theoretical minimum and maximum, hence there are no outliers.



On the basis of the results in Table 1. we can see that personality traits from Zuckerman-Kuhlman model explain 8% variance of criterion variable – *Procrastination* ( $R^2=.080$ ,  $p < 0.01$ ). Regression coefficient ( $R= .283$ ) points to a linear connection of low intensity between predictive variables and criterion. Of total number of variables, three stood out as statistically significant predictors of procrastination – *Activity* ( $\beta=.129$ ,  $p<0.05$ ), *Impulsive sensation seeking* ( $\beta=-.200$ ,  $p<0.01$ ) and *Neuroticism/Anxiety* ( $\beta=-.159$ ,  $p<0.05$ ). Variables *Impulsive sensation seeking* and *Neuroticism/Anxiety* have negative  $\beta$  coefficients, which points to them having a negative predictive contribution to criterion variable. Variable *Activity* has a positive  $\beta$  coefficient, which means that it contributes positively to criterion variable.

Table 1. Multiple regression analysis (Enter method): personality traits from Alternative Five – Factor model as predictors of Procrastination

VARIABLES	B	Statistical significance	Model summary R= .283 R <sup>2</sup> = .080 Statistical significance = .001
<b>Activity</b>	.129	.037*	
<b>Aggression</b>	.055	.391	
<b>Sociability</b>	.076	.247	
<b>Impulsive sensation seeking</b>	-.200	.003**	
<b>Neuroticism/Anxiety</b>	-.159	.013*	

\*\* $p<0.01$

\* $p<0.05$

On the basis of the results in Table 2. we can see that *Indicators of mental health* explain 8,8% variance of criterion variable ( $R^2=.088$ ,  $p < 0.01$ ). Linear connection of predictive variables with criterion variable is of low intensity ( $R=.297$ ). Only the variable of *Distress* stood out as statistically significant predictor of procrastination ( $\beta=.357$ ,  $p<0.01$ ). *Distress* has a positive  $\beta$  coefficient which speaks of its positive independent contribution to predictive power of the model.

Table 2. Multiple regression analysis (Enter method): indicators of mental health as predictors of Procrastination

VARIABLES	B	Statistical significance	Model summary R= .297 R <sup>2</sup> = .088 Statistical significance = .000
<b>Distress</b>	.357	.001**	
<b>Depression</b>	-.068	.451	
<b>Anxiety</b>	-.060	.546	
<b>Somatization</b>	.036	.674	

\*\* $p<0.01$

\* $p<0.05$

In order to examine the potential mediating effect of mental health indicators in relation to personality traits and procrastination the procedure of hierarchical regression analysis was used (Table 3.). Only the two variables which proved to be statistically significant predictors of procrastination in the last two steps

were used in the procedure. In the first regression model three variables from Zuckerman-Kuhlman model (*Activity, Neuroticism/Anxiety and Impulsive sensation seeking*) were introduced, which together explain 7,2% variance of dependent variable ( $R^2=.072$ ;  $R = .268$ ,  $p<0.01$ ).

In the next step, when the fourth independent variable – *Distress* is introduced into the model, the very same remains statistically significant ( $R=.339$ ,  $p<0.01$ ). The change in value of determination ( $R^2=.115$ ) coefficient comes about, so that now all variables included in the model explain 11,5% variance in procrastination. The change in coefficient of determination ( $R^2$  Change = .043) points to unique contribution of *Distress* to explanation of variance criterion 4,3%. From the first step, only the variable *Impulsive sensation seeking* remains statistically significant ( $\beta=-.149$ ), but now on the level  $p<0.05$ . The other two variables lose statistically significant predictive power (*Activity*  $\beta=.109$ , *Neuroticism/Anxiety*  $\beta=-.048$ ). Results show that *Distress* have some incremental validity on top of *Activity, Neuroticism/Anxiety and Impulsive sensation seeking* when it comes to the prediction of procrastination. However, multiple regression analyses does not provide reliable evidence either on the size or on the type of mediating effect so aforementioned results should be examined using the appropriate procedures.

Table 3. Hierarchical regression analysis (Enter method): Incremental validity of mental health indicators on the relation of personality traits and procrastination

VARIABLES	B	Statistical significance	Model summary – step 1
<i>Activity</i>	.130	.036*	R= .268 R <sup>2</sup> = .072
<i>Neuroticism/Anxiety</i>	-.169	.007**	
<i>Impulsive sensation seeking</i>	-.167	.007**	Statistical significance = .000
<i>Activity</i>	.109	.073	Step 2 R= .339 R <sup>2</sup> = .115 R <sup>2</sup> Change = .043 Statistical significance = .000
<i>Neuroticism/Anxiety</i>	-.048	.489	
<i>Impulsive sensation seeking</i>	-.149	.015*	
<i>Distress</i>	.242	.001**	

\*\* $p<0.01$

\* $p<0.05$

Results show that female participants score higher on dimensions *Activity* ( $p<0.01$ ), *Distress* ( $p<0.01$ ) and *Somatization* ( $p<0.05$ ), while male participants score higher on dimension *Neuroticism* ( $p<0.05$ ). Correlations of material state and *Distress* ( $p<0.05$ ) were found, then variable faculty with variables *Activity* ( $p<0.01$ ), *Impulsive sensation seeking* ( $p<0.05$ ), *Distress* ( $p<0.01$ ), *Anxiety* ( $p<0.01$ ), *Somatization* ( $p<0.05$ ) and *Procrastination* ( $p<0.01$ ), as well as study efficacy variable with *Activity* ( $p<0.05$ ) and *Impulsive sensation seeking* ( $p<0.05$ ).

## Discussion

This research shows that students who have emphasized tendency towards general activity and who are more likely to seek hard and challenging jobs, will at the same time also be more prone to delay academic responsibilities. Predictive contribution of *Impulsive sensation seeking* and *Neuroticism/Anxiety* is negative. It is expected that students who show higher predisposition for fast and impulsive reaction, without much thought, will also be more responsible towards their academic responsibilities which are related with deadlines that are imposed from outside. Results are not in accordance with Steel's (Steel, 2007) meta-analysis which is based on 691 researches, and which shows that Neuroticism and Impulsive sensation seeking are weak predictors of procrastination. In their research Rothblum and Solomon (1984) have gotten a positive correlation between Anxiety measured by Sarason's scale (The test Anxiety scale) and procrastination. Difference in results of our and before mentioned research can be a consequence of low reliability of Neuroticism/Anxiety subscale from Zuckerman questionnaire.

Research done by Watson (2001) showed that task aversiveness, as one of the aspects of procrastination, was linked with low Conscientiousness and Neuroticism from Five-factor model of personality.

On the basis of all mentioned we can conclude that results of the research concerning the relation of Impulsive sensation seeking and Neuroticism, on one hand, and Procrastination, on the other, are contradictory.

Out of four indicators of mental health, only *Distress* proved to be statistically significant predictor of procrastination. Considering that  $\beta$  coefficient value of the mentioned predictor is positive, it is to be expected that students who develop symptoms and invest greater effort to maintain adequate level of psychosocial functioning during the meeting with stressor will be more prone to procrastination. That is in accordance with the results of Rice and associates (Rice et al., 2012) who found that students who have a high score on distress start to procrastinate earlier during the semester. Also, Ferrari and associates (Ferrari, Johnson, & McCown, 1995) state that some of the previous research showed procrastination being linked with higher subjective experience of distress.

Results of our research could indicate that delaying the responsibilities serves as a strategy for evading a stressor. Students frequently assess exam prerequisites and exam situations as externally imposed and stressful, so they turn to inadequate coping strategies such as procrastination.

Also, results based on our sample shows that *Distress* variable have some incremental validity on top of relation of *Activity* and *Neuroticism/Anxiety* with *Procrastination*, because statistically significant connection of these predictive variables with criterion variable is lost. This can be explained by the fact that in (stressful) situation of encounter with obligations, the current estimate is more important than generalizing tendencies towards certain behavior i.e. personality

traits. Influence of *Impulsive sensation seeking* on Procrastination drops, but it is still statistically significant. Potential explanation is that symptoms which arise in meeting with a stressor have a tendency to occupy attention of a person, which results in a reduction of need for new sensations.

When a person is in a stressful situation, in which it manifest symptoms such as rapid heartbeat, paleness and other bodily symptoms characteristic for Distress (Terluin et al., 2004), a person will want to get out of it as soon as possible, and will thus procrastinate in order not to get into the same unpleasant situation again.

Obtained results should be taken with a grain of salt, considering that there is no reliability of subscales from Zuckerman-Kuhlman model, apart from *Neuroticism/Anxiety* which has low reliability. Male participants show a greater degree of *Neuroticism*, which is not in accordance with previous studies which showed that women have a higher score. (Chapman, Duberstain, Sorensen, Lyness, & Gender, 2007; Heaven & Shochet, 1995; Jorm, 1987; Lynn & Martin, 1997, according Daalenu, 2005). Findings obtained in our research are indicative and atypical, so in further investigations it should be inspected why this direction of correlation was obtained.

There are researches which corroborate results showing that *Somatization* is more emphasized in women (Barsky, Peekna, & Borus, 2001; Wool & Barsky, 1994;). It is considered that socialization during childhood has a part in that kind of perception of sensation. Nevertheless, it does not mean that women exaggerate their symptoms. It is possible that males ignore them, suffocate or some may even be unaware of many bodily sensations, so that this kind of perceptive attitude leads to lesser scores which males achieve on Somatization (Barsky et al., 2001).

That women show higher degree of *Activity* is shown in the research by Rossier and associates (2012). Their results show that women, besides Activity, score higher on both *Sociability* and *Neuroticism*, while men score higher on *Impulsive sensation seeking* and *Aggression*. On our sample it has been shown that women show higher degree of disturbance, fearfulness, anxiety and sometimes even panic due to perception of stressful situation.

## Conclusion

Some of the results obtained in this research confirm earlier findings and contribute to better consideration of relations between personality traits, indicators of mental health and procrastination. Results show that predictive contribution of *Activity* variable to regression model, on the basis of which procrastination is predicted, is positive. On the other hand, variables *Impulsive sensation seeking* and *Neuroticism/Anxiety* show negative contribution. From indicators of mental health, only *Distress* proved to be statistically significant predictor of procrastination. Distress also shows some incremental validity on top of *Activity*, *Neuroti-*

*cism/Anxiety* and *Impulsive sensation seeking* when it comes to the prediction of procrastination

Results which concern the relation of basic and control variables of research should be used as guidelines for future research. They should be pointed towards seeking the specific causes of found relations.

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## OSOBINE LIČNOSTI I INDIKATORI MENTALNOG ZDRAVLJA KAO PREDIKTORI PROKRASTINACIJE

### Rezime

U radu je prikazano istraživanje usmereno na ispitivanje osobina ličnosti iz Zakerman-Kulmanovog modela i indikatora mentalnog zdravlja, po Terluinu i saradnicima, kao prediktora akademske prokrastinacije. Na uzorku od 250 studenata, oba pola, sa 5 fakulteta Univerziteta u Nišu primenjeni su Zakerman-Kulmanov test ličnosti (50CC-ZKPQ), četvorodimenzionalni instrument indikatora mentalnog zdravlja (4DSQ) i skala akademske prokrastinacije (PASS). Relacije su ispitane primenom multiple i hijerarhijske regresione analize, u kojima je kriterijum bio skor na PASS skali, a prediktorski skorovi na dimenzijama 50CC-ZKPQ i 4DSQ upitnika. Rezultati pokazuju da su osobine ličnosti Aktivitet ( $\beta=.129$ ,  $p<0.05$ ), Impulsivno traženje senzacija ( $\beta=-.200$ ,  $p<0.01$ ) i Neuroticizam/Anksioznost ( $\beta=-.159$ ,  $p<0.05$ ) statistički značajni prediktori prokrastinacije ( $R=.283$ ,  $p<0.01$ ). Od indikatora mentalnog zdravlja jedino se Distres ( $\beta=.357$ ,  $p<0.01$ ) izdvojio kao statistički značajan prediktor prokrastinacije ( $R=.297$ ,  $p<0.01$ ), a ispoljio je i inkrementalnu valjanost na odnos Aktiviteta i Neuroticizma/Anksioznosti sa Prokrastinacijom ( $R=.339$ ,  $p<0.01$ ).

Rezultati pokazuju da ženski ispitanici ostvaruju više skorove na dimenzijama Aktivitet ( $p<0.01$ ), Distres ( $p<0.01$ ) i Somatizacija ( $p<0.05$ ), dok muški ispitanici ostvaruju više skorove na dimenziji Neuroticizam ( $p<0.05$ ). Nađene su korelacije materijalnog stanja i Distresa ( $p<0.05$ ), zatim varijable fakultet sa varijablama Aktivitet ( $p<0.01$ ), Impulsivno traženje senzacija ( $p<0.05$ ), Distres ( $p<0.01$ ), Anksioznost ( $p<0.01$ ), Somatizacija ( $p<0.05$ ) i Prokrastinacija ( $p<0.01$ ) kao i varijable efikasnost studiranja sa Aktivitetom ( $p<0.05$ ) i Impulsivnim traženjem senzacija ( $p<0.05$ ). Dobijeni rezultati daju smernice za buduća istraživanja, kao i preporuke za raniju identifikaciju osoba koje su sklone prokrastiniranju.

**ključne reči:** osobine ličnosti, indikatora mentalnog zdravlja, prokrastinacija, studenti





# **Clinical Psychology and Psychotherapy**



## **PERCIVED SOCIAL SUPPORT AFTER CANCER DIAGNOSIS**

### **Abstract**

Diagnosing someone with oncological disease is accompanied by a total change in the way of life of patients and their families that has a negative impact on interpersonal relationships and changes the life perspective. For this reason, the social support which the patient with oncological disease receives from his close one and friends is of significant importance for the way with which he will adapt to the life crisis, protecting him from the potentially harmful effects of this highly stressful event and increasing the individual abilities to deal with it.

This paper deals with the theme of the perceived social support after cancer diagnosis. It presents the results of a study conducted on the perceived social support, differentiated by type, by six groups of sources: people belonging to the family circle of a person who suffer from cancer disease and out of it. For the purpose of this study, the Sources of Social Support Scale by Carver were used to represent different aspects of the given support (emotional, informational, instrumental and negative) (Carver, 2006).

The perception, that others provide the necessary resources for dealing with the challenges in life, help redefine the power of such negative event and stimulate the perceived individual capacity to cope with the new demands of reality after recuperating from the disease. The clash with an oncological disease sets the need of support and help from others more than ever – family, friends, health workers and people with similar fate.

**Key words:** sources of social support, cancer diagnosis

### **Introduction**

The connection between the social support and the personal well-being in case of the health problem is one of the leading areas of the research interest. The social environment is supposed to be associated with both the risk of disease and the possibility of successfully dealing with it (Helgeson et al., 1998). Social support is defined as the leading determinant for adaptation to the disease and its consequences (Dunkel-Schetter et al., 1992; Dunkel-Schetter et al., 1987; Helgeson & Cohen, 1996; Wimberly et al., 2005).

The construction of the social support refers to the perception of a man, of whether he is taken care of, being loved and appreciated by others (Cobb, 1976 as cited in Corr & Matthews, 2009). This is operationalized and empirically measured differently by different authors. For example, K. Cutrona defines the theoretical core of the functional concepts describing the four main types of social support. These include: *emotional support*, described by the expression of love, empathy and care for others; *support and assessment of the personality*, demonstrated by respect of the personal qualities and trust in the abilities and skills of the others, validating his thoughts, feelings and actions; *the information support*, which is expressed by facts, tips, personal assessment of the situation and *instrumental support* by a way of assistance in the execution of various tasks and providing physical support (Carlson et al., 2001, p.232). At the same time, the issue of the impact is not well researched, which brings an unsupported behavior of the partner and the relatives on coping with the disease. Some relationships are perceived negatively by the other party, despite the good initial intentions of the person that provides them. The negative support of the partner includes criticizing the way of coping with the disease or avoiding the conversation on the topic on cancer (Kinsinger et al, 2011, p.1572).

With regard to the problem concerning the social support in the scientific literature, the focus of interest is predominantly pointed on the adopted meaning of the social support necessary for adapting to and coping with the disease (Helgeson & Cohen, 1996), for a more favorable exit from it, the mortality rate reduction and an improved image of the proper body included (Kroenke et al., 2006; Ucok, 2005).

Researchers as C. Carver, M. Antoni, S. Kisinger, S. Wimberly and others are interested in perceived social support after breast cancer (Wimberly et al., 2005; Kisinger et al., 2011). Within a long-term project targeted on the influence exerted by a multidimensional model of intervention with the aim of stress control onto the psychosocial well-being of women suffering from breast cancer, Carver and colleagues pointed a number of questions related to the perceived social support. Do different sources of support refer to a person suffering from cancer in a different way? How could the different aspects of support be distinguished among themselves? (Carver, 2006).

**The purpose** of this theoretical and empiric survey is to examine the perceived social support after making a cancer diagnosis. On that basis, a task was assigned aiming for analyzing and comparing the social support, differentiated by content, perceived by different groups of sources.

Then, **a scientific hypothesis** was formulated, as following below:

*We do admit the availability of the perceived social support, differentiated by type, which depends on its source (a family member or a person outside of that family).*

## Methods

The research methodology that provided the data for analysis of the social support is a modified “Sources for social support scale” (SSS, Carver, 2006).

It assesses the degree of perceived support from different groups of sources, as well as the type of support which they received. The theoretical model on which the scale of sources of social support is constructed, is differentiated in four types. The first three are the emotional, informational and instrumental support (House, 1981 as cited in Kinsinger et al., 2011). The emotional support includes empathy, hearing, sense of comfort, communication of affection and love. The information support includes counseling, guidance, feedback on a specific problem. The instrumental support is perceived as inherently tangible assistance that is offered in connection with the disease. It includes transport to and from hospital, help in the housework and paying bills (Kinsinger et al., 2011).

The fourth kind of support is negative. According to S. Ashida and his colleagues, the social support is assessed as a negative when the functions and the quantity don't match the expected and desired functions and quantity (Ashida et al., 2009). S. Kinsinger and his colleagues determine as negative support, the support from the partner when it involves criticizing the way of dealing with the disease or avoiding the issue of cancer (Kinsinger et al, 2011, p.1572).

On the basis of some semi-structured interviews included into the pilot survey, six groups of people were differentiated, who were accepted as leading elements of the social network for support in coping with the disease, and precisely: partner, parents, children (sons and daughters), friends, other people suffering from cancer diseases, health care workers (doctors, nurses, et). In that way, the participants in the study were given the possibility to appreciate the extent to which the social support, differentiated by type, was perceived by all the six groups of people.

In the subscales, the emotional support includes 6 items, two of which are phrased in reverse (*How often does your partner/parents/children/etc. **withdraw** from discussions about your illness or **try to change** the topic away from your illness?*). The subscales instrumental support is represented by one item (*How much does your partner/parents/children/etc. give you **assistance** with things related to your cancer as for example, helping you with daily chores, driving you places, dealing with bills and paperwork?*). The same applies to the subscales information support (*How much does your partner/parents/children/etc. give you **advice or information** about your breast cancer (whether you want it or not)?*). The subscale of negative support consists of two items (*How often does your partner/parents/children/etc. **criticize** you relating to your cancer?*) (Carver, 2006).

For the purposes of the study, the statement relating to the instrumental support was divided into two separate items. One examines the assistance rendered in everyday household chores and the other – the help, which indirectly helps the

healing process (transportation to the hospital, paying bills, getting prescriptions and medicines). The two item scale was proposed in version of scale sources of social support on behalf of the partner, parents, children and friends. The one item presentation of the instrumental support related to the assistance for activities associated with the disease, such as making appointments for examination, getting prescriptions and medicines, was proposed in the version of the scale for social support related to health care workers and other patients with oncological diseases.

Respondents were offered the five grade Likert scale for answers, related to the received help and ranging from 'never' to 'to a great degree'.

The result of each of the scales was calculated by summing the average responses of the participants in the study, taking into account the direction of statements phrased in reverse. The received higher values of on the scale correspond to a higher level of perceived support.

**Research procedure and sample characteristics:** The data from the empirical study have been collected over a four year period, through implementation of personal contacts (direct and virtual) or through assistance provided by third parties. Each one of the meetings, lectures or written communications is done thanks to the good will and courage of patients with oncological diseases, who are willing to tell people about their fate by allowing a stranger to enter their innermost experiences and emotions associated with the disease.

These preconditions, give us some clarity about the uneven distribution of the participants in the study by gender, age and type of disease.

74 women and 43 men, between the ages of 25 and 84 participated in the study. Regarding the other demographic data: 2.6% had primary education, 31.6% secondary education and 65.8% had higher education.

7% of the participants said that they don't have or didn't have a permanent partner during the treatment of the disease. Furthermore, 22% of the respondents said that their parents had died and 21% said that they don't have children.

Regarding the medical data, the main location of the disease in women is the breast gland and the reproductive organs – cancer of the cervix uteri, cancer of the uterus and ovarian cancer. In men – colon cancer, lung cancer, testicular cancer and prostate cancer.

During the study, approximately half of the respondents 52,5% were in a stage of active treatment (chemotherapy, radiotherapy) or they were going to have a long-term therapy (hormone therapy), while 47,5% of the participants had completed the classical forms of treatment.

**Psychometric characteristics of the scale:** The reliability coefficients of the scale, as well as most of the subscales have relatively high values which fluctuate between  $\alpha=.67$  and  $\alpha=.89$ . The subscales with the lowest values are considered the ones with negative support from health workers and other patients with oncological diseases, whose reliability indexes are  $\alpha=.59$  and  $\alpha=.55$  respectively. For the purposes of the present study those indexes are satisfactory.

## Results

For the execution of the task, which the empirical study sets and for the verification of the hypothesis, descriptive, dispersion and frequency analysis were conducted.

As you can see from the information presented in Table 1, the high value of the *perceived emotional support* on behalf of the partner in comparison to other groups of sources stands out.

Table1. Differences between perceived emotional support from the six groups (descriptive statistics and dispersion analysis)

Sources of support	Mean	Std. Dev.	t	p
<b>Partner</b>	22,04	4,82	2,63	< .05
<b>Parents</b>	19,64	4,79		
<b>Partner</b>	22,04	4,82	3,55	<.005
<b>Children</b>	18,33	5,17		
<b>Partner</b>	22,04	4,82	7,12	<.001
<b>Health care workers</b>	17,45	3,76		
<b>Partner</b>	22,04	4,82	7,09	<.001
<b>Friends</b>	18,37	4,79		
<b>Partner</b>	22,04	4,82	6,99	<.001
<b>Other people with cancer</b>	17,84	3,44		
<b>Parents</b>	19,64	4,82	2.20	<.05
<b>Health care workers</b>	17,45	3,76		
<b>Children</b>	18,33	5,17	2.20	<.05
<b>Health care workers</b>	17,45	3,76		
<b>Health care workers</b>	17,45	3,76		
<b>Other people with cancer</b>	17,84	3,44	-6.23	<.001

On the grounds of the comparison between the average values on the scales, a high value on the source partner is noticeable, while the lowest level of perceived emotional support comes from the health care workers. The values on the scale for perceived emotional support from other people with oncological diseases is the most homogeneous (SD=3.44, while the range is: [10.00, 28.00]), i.e. the opinion of the participants in the study vary within similar answers.

Using the one factor dispersion analysis for connected couples (one-way repeated measures ANOVA), significant differences between the perceived emotional support from various sources were found ( $F(3.06, 113.35)=7.59, p=.000, \lambda=0.53$ ). The post hoc tests that use the revised method for comparisons of Bonferonni pairs (Bonferonni corrected paired sample t-tests) found out, that the per-

ceived level of emotional support from a partner is higher than that of the parents ( $p=.023$ ), children ( $p=0.001$ ), health workers ( $p =.000$ ) and other people with oncological diseases ( $p=.000$ ). An interesting result is that the perceived higher level of emotional support from people with oncological diseases, exceeds that of health workers ( $p=.000$ ).

With regard to the *perceived informational support*, the average item values by single sources showed that the highest level of the perceived informational support was achieved by the other people suffering from cancer diseases, the health care workers and the partner, being higher than the average value of the maximum range of change  $M=2$ . While the lowest value of the perceived one was received by the friends, being its level not less than the average value of the maximum range of change  $M=2$ . The above indicated data attested a good level of a perceived informational support by each one of the six groups of sources.

The most uniform level is that of *perceived informational support* from health workers (Mean = 3.19, SD=1.00), and the most diverse is the assessment of the source item for children ( $M=2.83$ ,  $SD=1.49$ ). It is an expected result, bearing in mind that the medical specialists have the basic and most reliable information about the disease, while the younger the children are, the less is expected that they know about the disease.

With the aim to establish if significant differences were available among the levels of the perceived informational support, the one-way repeated measures ANOVA were performed. Significant differences were evidenced in the levels of the perceived informational support ( $F(3,82; 251,93) = 8.10$ ,  $p=.000$ ,  $\lambda=0.43$ ).

Table2.Differences between perceived informational support from the six groups (descriptive statistics and dispersion analysis)

Sources of social support	Mean	Std. Dev.	t	p
Partner	3,05	1,39	4,21	<.001
Parents	2,39	1,43		
Partner	2,98	1,32	2,16	<.05
Friends	2,06	1,13		
Partner	2,98	1,32	-0,42	<.05
Other people with cancer diagnosis	3,32	1,33		
Parents	2,42	1,48	-3,40	<.005
Health care workers	3,19	1,00		
Frineds	2,66	1,11	-3,96	<.001
Health care workers	3,19	1,00		



A significantly higher level was attested of the informational support *perceived by the partner* compared to that one *perceived by parents* ( $p=.000$ ) and *friends* ( $p=.033$ ), and lower level of the above said support *perceived by other people with cancer* ( $p=.021$ ). As well a higher level of the informational support was *perceived by the health care workers* compared to *the parents* ( $p=.001$ ) and *friends* ( $p=.000$ ) (Table 2). No significant differences in the levels of the informational support were found out, instead, either when it was perceived by the partner and the health care workers, or by the health care workers and the other people suffering from cancer diseases.

It is interesting to analyze the data of *perceived instrumental support* from the closest people, health workers and other people with oncological diseases. The questions concerning the provided instrumental support, which expresses itself in the assistance of everyday household chores, are relevant only to the group of the closest people – family and friends. That's why, the data from the two item scale of instrumental support from friends and relatives and the results from the relevant item for health workers and people with oncological diseases are compared.

What is interesting, is that the values in the scale of sources, including the closet people in the family, are higher than the average value of the maximum variation range  $M=5$ . Their answers to the separate sources are relatively homogeneous, since the standard deviation is roughly similar. Regarding the closest people, the most uniform assessment on the scale of source is the partner (the minimum standard deviation  $SD=2.43$ ), followed by that of the children. The most diverse assessment on scale of source is that of the parents (minimum standard deviation  $SD=2.79$ , while the maximum possible range is:  $[2.00, 10.00]$ ). The result is expected, bearing in mind that the partner and the family are those, who help the most in carrying out the daily chores, when paying bills, transportation to and from the hospital and receipt of medications.

By means of the one-way repeated measures ANOVA, *significant differences were attested in the instrumental support* perceived by the four sources of the close encirclement ( $F(3, 198) = 34.56, p=.000, \lambda=0.62$ ). In the course of the performed post-hoc tests where the paired sample t-tests with Bonferroni correction were used, it was established that the perceived level of the instrumental support by *the partner* resulted higher compared to that one by *the parents* ( $p=.000$ ), *children* ( $p=.000$ ) and *friends* ( $p=.000$ ) (Table 3).

Table3. Differences between perceived instrumental support from the six groups (descriptive statistics and dispersion analysis)

Sources of support	Mean	Std. Dev.	t	p
Partner	6,92	2,53	5,10	<.001
Parents	5,15	2,68		
Partner	6,80	2,48	3,15	<.001
Children	5,75	2,48		
Partner	6,89	2,44	14,18	<.001
Friends	3,18	1,74		
Parents	5,22	2,81	6,34	<.001
Friends	3,28	1,74		
Children	5,65	2,55	8,78	<.001
Friends	3,09	1,52		

A significantly higher level was also achieved of *the instrumental support* by *the parents* compared to the instrumental support by *the friends* ( $p=.000$ ) and by *the children* compared to *the friends* ( $p=.000$ ). No significant differences were found out when the data resulted from the perceived instrumental support by health-service employees were juxtaposed with those ones by other people suffering from cancer diseases.

The data for the last perceived support – the negative social support are subject to a descriptive and dispersion analyses (see Table 4). By its semantic nature, the scale describes the unsupportive behavior of other people, which is manifested by criticizing the sick person about his way of coping with the disease, arguing on issues connected with the disease and so on. As for the received results, one can see, that all values on the scale for the six groups were lower than the average values of the maximum variation range  $M=5$ , which indicates the relatively low levels of perceived negative support from various sources. The most homogenous assessment is the one on the scale of source for friends (minimum standard deviation  $SD=0.82$  and the narrowest range of observations: [2.00, 6.00]). The most diverse assessment is the one on the scale of source for partner (the minimum standard deviation  $SD=2.38$  and the maximum possible range observed: [2.00, 10.00]).

By means of the one-way repeated measures ANOVA, significant differences were established in *the perceived negative support* by all the four sources ( $F(3.40, 217.62) = 5.16, p=.000, \eta_p^2=0.38$ ).

Table 4. Differences between perceived negative support from the six groups (descriptive statistics and dispersion analysis)

Sources of support	Mean	Std. Dev.	t	p
Partner	3,79	2,52	2,15	<.05
Children	3,24	2,12		
Partner	4,00	2,38	5,99	<.001
Friends	2,50	0,75		
Partner	4,03	2,39	3,67	<.001
Other people with cancer	3,11	1,25		
Friends	2,53	0,82	-5,33	<.001
Other people with cancer	3,10	1,23		
Parents	3,46	1,59	2,50	<.05
Children	2,78	1,67		
Children	3,24	2,13	8,78	<.001
Friends	2,50	0,80		
Parents	3,48	1,40	5,66	<.001
Friends	2,53	0,78		
Friends	2,52	0,81	-6,42	<.001
Health care workers	3,60	1,56		
Other people with cancer	3,10	1,23	-3,03	<.005
Health care workers	3,62	1,56		

The performed post-hoc tests were attested that the level of the perceived negative support by *the partner* was higher than the one by *the friends* ( $p=.028$ ), *the children* ( $p=.044$ ) and *other people with cancer* ( $p=.000$ ). The level of the **perceived negative support** by *the parents* was higher than the one by *the children* ( $p=.015$ ) and the one by *the friends* ( $p=.001$ ), which demonstrated a lower level of the negative support compared to *the health care workers* ( $p=.002$ ) and *the other people suffering from cancer diseases* ( $p=.001$ ). Results shows also that the level of **the perceived negative support** by *the children* was higher than the one by *the friends* ( $p=.004$ ), and the negative support received by *the other people with cancer* was lower than the one by *the health care workers* ( $p=.003$ ).

## Discussion

It was established, on the basis of the received average values on the scales, that in all of the sources of the social support, the levels of the instrumental and negative supports were lower than the maximum range of deviation while those ones of the emotional and informational supports were quite close to the expected average level. An expected result was also a higher level of the perceived emotional support compared to the levels of the perceived informational and negative supports. The participant in the study were rather encouraged and given the

emotional support in that hard period of their life than prepared to perceive they were given advices or information about their disease. The informational support presumably means that one should be better informed on the cancer theme, the traditional and alternative treatment, as well as on the opportunities for a psychosocial rehabilitation and adaptation. It is a pity that there are very few people of the Bulgarian community who are familiar with the specificity of the cancer diseases from the point of view of possibilities for treatment and life after getting the diagnosis; and even if they have got some knowledge about, it often is limited only to the level of prevention.

It is interesting to note, the level of the perceived emotional support, as a whole, was higher than the negative one. Such aspects are related to confidence in the relations with the other people, which presumes sharing experience in and anxiety about cancer, being encouraged and supported. On its part, the negative support includes avoidance of the cancer theme while talking with a person suffering a cancer disease or criticizing his or her way of coping with the disease.

With regards to the perceived support, differentiated by type, obtained from various groups of sources, after performing the one-way repeated measures ANOVA, significant differences were established. The emotional support given by the partner was perceived as a higher in comparison with that one received by parents and children. It was established that the partner was perceived, to a greater extent, as a person able to encourage, to lend an ear to, to share anxiety and worry during the talks and discussions carried out with the ill person, compared to the other family members.

It was proved that, among all the other family members, the children were who could be perceived as offering some emotional support to their ill parents, to the least extent. In this regard, there is a fact which should not be neglected: that a part of the respondents, being still young aged when were diagnosed with cancer disease, had underage children who could hardly offer their parents an adequate emotional support.

The respondents' perception of the informational support obtained from the various groups of sources marks significant differences as following below: it is the partner who is rather perceived as a person offering advices and information about the disease than parents and friends. At the same time, people, bound by a similar destiny, offer their informational support to a greater extent than the partner does. Health-service employees are perceived as more useful by giving that type of support, compared to parents and friends.

The instrumental support perceived on the part of the family members is organized in the way as following: it is the partner who offers to the greatest extent his or her help with everyday household chores, who goes to receive medical prescriptions and medicines, takes the ill partner to the hospital, pays bills and fees, followed by parents and children.

With regards to the negative support, it was established that, in fact, the partner used to criticize his or her next of kin's behavior or avoid the theme of his or her disease in talks and did it more frequently, compared to children and parents. At the same time, parents most often criticize and discussed with their children the theme of the disease. Health care workers and other people suffering from cancer are more often perceived as criticizing ones, compared to friends.

According to the foregoing, several inferences can be drawn as following:

The partner is perceived as a main source of support, regardless of that form which is used when it is offered to a person suffering from cancer disease. The four types of support: emotional, informational, instrumental, even the negative one, given by the partner to the ill person, are perceived by the latter one as much greater than the same ones received by the other family members. And it certainly should be noted that, with regards to the perceived negative support given by the partner, there was the largest diversity of the evaluations given by the participants in the study. It means that interpersonal diversities do exist in the perceptions of the negative support, but, as a whole, the values fluctuate below the average value of the maximum range of change. The other people suffering from cancer and the health care workers are accepted as sources of informational support rather than any family member.

Because of missing data from previous studies, similar to our one, on a real illustration of the perceived support, differentiated by type, obtained from various groups of sources, to be confronted to the results obtained by us, we could do some comparisons with the expectations of the people suffering cancer diseases regarding that type of support they would like to be given. For example, it was stated by Snyder and Pearse that, taking into consideration the expectations of people suffering cancer diseases, it was the family which was considered the most desired source of emotional, informational and instrumental support (Snyder & Pearse, 2010). Another study showed that the informational support would be perceived as useful only in case it were offered by a physician specialist (Helgeson & Cohen, 1996, p.138). The third type of support which is the instrumental one is highly appreciated, regardless of the source offering it, especially in cases of patients at the advanced stage of the disease (Helgeson and Cohen, 1996).

As regard to the last type of support which is the negative one, there is a survey which shows that a partner who restricts a person suffering from cancer disease from social contacts provokes a deep distress in that person and it leads to a binding with badly adaptive coping-avoidance strategies and to underestimation of the personal abilities to deal with crisis situations. The above said is particularly important for people who miss any kind of support from other sources outside the partner couple (Wortman & Dunkel-Schetter, 1979 as cited in Thornton & Perez, 2007).

We could summarize, on the basis of the research experience, that it is the partner who is considered the most significant source of support without neglect-

ing the importance of the other sources which, in determinate circumstances, can be perceived even of a greater importance. Regardless of the above said, the support given by a family partner or relatives is perceived in a different way compared to that one obtained from friends, acquaintances or colleagues. At the same time, relatives are determined as a source having the scarcest influence on the individual coping with the psychological problems deriving from the disease. It is also known that the different sources are able to offer different types of social support, i.e. to provide different functions of supporting (Rowland 1989; Dakof & Taylor 1990). The family partner, for example, could care for the emotional needs of the person suffering from cancer while the other sources as parents or children could offer a more practical assistance.

How would it correlate with the data obtained from this study? A confrontation of the data about the significance perceived for the types of support and those ones which were really obtained gives a good opportunity to work with the aim to minimize the differences existing between both types of data.

The principal role of the psychological assistance should be oriented to consultations, advices and support which have to be given not only to the patients but to their families and close relatives, as well, during the entire process of adaptation to the crisis situation, i.e. to cancer disease diagnosing. In that sense, it would be better if the psychological interventions included also a diagnosing and a consulting on the theme of the preferred and received social support. Revealing the expectations and the needs of the people suffering from cancer regarding that type of support they would like to be given means encouraging them to accept their illness and to cope with its consequences: not only for themselves but for the entire family system, as well.

There is also another fact which should not be neglected: when a family member is taken ill with a life-threatening disease, the partner and all the other close relatives will be "situated" on a completely different/changed level of social reality ascribing to any and all of them expectations for an adequate interpretation of their new social part of being sources of other family members and relatives themselves need efficient assistance and support.

### *Conclusion*

The results stated hereby refer to the perceived social support and its different forms, obtained from the various groups of sources and illustrate the experiences of people suffering from cancer disease. Results obtained from a more detailed and varied excerpt of the papers would probably reflect more similar and different examples of interdependence. Yet, the outlined trends give a possibility to search for the crossing points between the expectations of the people suffering from cancer for the support they need and desire to get, and the picture of reality.

The comprehension that a social support which is adequately offered will contribute to the adaptation of the people suffering from cancer and their families to that new reality imposed by the disease, brings to the fore the need of psychological consulting on these topics. The psychological assistance, the consultations given to the people suffering from cancer and to their families and close relatives, as well as to the medical specialists hired in that health process, would be able to fill the gaps in that area, offering a model of psychosocial support in which the differences among the expected, desired and really obtained social support obtained from various sources and differed by type, will be undoubtedly minimized.

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## CHILDREN WITH DEVELOPMENTAL DISABILITIES AND PEERS FROM TYPICAL POPULATION

### Abstract

The aim of the research was to examine the connection between social distance of children of regular population and children with developmental disabilities and the sense of school membership of children with developmental disabilities. The research included 58 pairs comprising children with developmental disabilities (Cerebral Palsy and Intellectual Deficit) and children from the typical population who attended a regular primary schools together and had the same background regarding gender, age, mothers' education level and their employment. The instruments used in the research are Social Distance Scale (Bogardus, 1925) and Psychological Sense of School Membership Scale (Gudenov, 1993). The research showed low degree of social distance of children from typical population and the high sense of school membership of children with developmental disabilities and low negative and not statistically significant correlation between these variables are determined. The results of this research are direct confirmation of the success of the inclusive practice at school examined in this sample.

**Key words:** children with developmental disabilities, peers, inclusion, social distance, the sense of membership

### Introduction

Intrageneration communication is one of the most important aspects of socialization and stimulation of self-esteem and emotional stability. The skill of peer cooperation is a social competence, which affects the acceptance by the peer group, and even later, the society.

There is a widespread perception that the experience of peer communication is by definition positive for children, but the experience of parents and children with developmental disabilities often such that deny these beliefs. Sometimes, these experiences are very painful for children - rejecting, ridiculing, contempt, and even victimizing are only some of the negative attitudes that children with developmental disabilities are exposed to in communication with their peers.

A certain number of children with developmental disabilities attending regular schools are still in situation that they are only physically present and belong to the class, while other children either do not notice them, or are violent towards

them. In this way we witness rejection of communication and social isolation of children with developmental disabilities. In response to the isolation, children with developmental disorders internalise the problem - by withdrawal, low self-esteem, insecurity, poor motivation for academic achievement, while a number of children externalize problems through aggressive behavior, disrespect for authority, poor self-control, poor school achievement (Djević, Djerić i Stanišić, 2009; Frederickson et al, 2007; Gašić-Pavišić, 2002; Hrnjica, 1997). Children with developmental disabilities are at risk of becoming victims of bullying. We can make a difference between direct bullying, as an open attack on the victim (mockery, humiliation, insults, criticism, assault) and indirect (covert) bullying - social isolation, gossip, shaming, intentional exclusion from a group. Girls are more prone to the latter (Gašić-Pavišić, 2002; Hrnjica, 1997; Špelić i Zuliani, 2013). Prevention of bullying is very important for the success of the educational process, especially when it comes to children with developmental disabilities. Work on developing positive peer interaction involves social empowerment of children, altruism, fostering communication skills, strengthening the sense of belonging to a group, the development of group identity. An important factor in the success of inclusion in education is to enable the formation of stimulating and creative interaction among students of regular population and students with developmental disabilities.

### **Theoretical context of the problem**

Research related to the issues of children with developmental disorders is mainly aimed at subjects such as professionals (teachers) or parents of children with developmental disabilities (Stanković-Đorđević, 2008; Špelić i Zuliani, 2013; Vukajlović, 2011). The line of study that examines either children of regular population, or children with developmental disabilities are very rare. The research also estimates the academic achievement of children with developmental disabilities, and less social and affective outcomes. There are serious difficulties when examining the attitudes and feelings of children with developmental disabilities. Heterogeneity of the group concerning the type of disorder, difficulties of verbal and written expression, are only some of the obstacles that we encounter. The fact is, however, that children with developmental disabilities best know and feel the problems they face every day, and, as Lewis and his associates state (Lewis et al., 2007) it is necessary to consider and discern the “voice of children with developmental disabilities”.

Communication between children with developmental disabilities and their peers from typical population is significantly affected by the type and severity of disability of the child, as well as the age of the children. Younger children have problems in socializing with peers because of their restricted motor skills development, while older highlight the problem of communication. Also, when the handicap is more difficult (if children are exposed to common therapeu-

tic procedures, hospitalization or treatments by special pedagogues), a child has less possibilities to meet and to associate with its peers from typical population. One more thing is that, we should not forget the prejudices which adults have towards children with developmental disabilities and which have been passed on their children through generations. All these facts make inclusion of children with disabilities even more difficult.

By Talent, the most important contribution of peers to the development of a personality of a child with disabilities (Talent, 1978, according Hrnjica, 1997) is the development of realistic self-image, of society, school, opposite sex, provided that the child is accepted by their peers. It is common that it depends on the age of the peers which features of a handicapped friend contribute to acceptance. The most common with younger children is their physical appearance, the ability to participate in group activities successfully. With older children, however, those are characteristics of a child's personality: a good friend, industrious, persistent, and some pointed out the life optimism, persistence, the way they face difficulties, the warmth, humor and so on (Stanković-Djordjević, 2008).

Research shows that girls have a more positive attitude toward peers with disabilities (Joksimović, 1991; Vujačić, 2006). Older students are also expected to have stepped into the world of formal-logical reasoning, including moral idealism, ability to decentralise and feel compassion with others, so they consequently have a more positive attitude towards peers with disabilities (Djordjević, 1988; Hrnjica, 1997; Piaget, 1977).

The research of Stanković - Djordjević from 2008. (Stojilković, Nešić i Marković, 2008) had an aim to analyse the attitudes of peers from typical population towards children with developmental disabilities. It was assumed that gender, age, experience and information of typical children influence their attitude towards their peers with developmental disabilities. The conclusion is that there is a statistically significant relationship between gender and age and attitude towards children with developmental disabilities. Girls and older students have a more positive attitude toward peers with disabilities; while variables of experience and information proved insignificant to the subject of research. These findings, presumes the author, are the result of moral upbringing of girls - greater pressure is typically made on girls to adapt to others, which can influence the positive attitude towards their peers with developmental disabilities. Joksimović (1991) gives us similar data - "girls show a greater willingness to provide assistance and a will for altruistic behavior" (p. 96). Also, older students are at the stage of formal operations - are able to (socially) decentralize, put in the place of another, develop feelings of empathy and humanity (Piaget, 1977).

The research of Stanković - Djordjević conducted in 2009. was intended to examine the attitudes of typical adolescents towards disabled peers - both inclusive culture and inclusive practice, using a closed questionnaire constructed for this survey (Stefanović-Stanojević, Vidanović and Andjelković, 2009). The

assumption was that experience, information and gender influence attitude of typical adolescents towards peers with disabilities. Experience and information have not appeared to be statistically significant variables for the research, while the connection with the gender is present - the girls have a more positive attitude (both inclusive culture and inclusive practice) than boys. In general, older adolescents have a less positive attitude towards disabled peers in comparison to primary school pupils (research of Stanković - Djordjević, 2008) and as main obstacle to socialize with them they state communication problems and personal inexperience concerning persons with disabilities, but they still declare declarative positive attitude towards disabled peers.

Djević, Djerić and Stanisic (2009) investigated the willingness of students of regular schools to accept children with disabilities, bearing in mind that the development of positive attitudes towards children with disabilities is an essential prerequisite for successful inclusion. The study investigated students' attitudes towards joint education of children with developmental disabilities, acceptance of peers with developmental disorders depending on the participation in inclusion projects as well as the teachers' opinions on the willingness of students of typical population to accept children with developmental disabilities. The conclusion of this study is that students of typical population show willingness to accept peers with developmental disabilities and that the acceptance is on a higher level if students are involved in projects that promote inclusion. In addition, the opinion of teachers in this study is that students provide help to peers with developmental disorders spontaneously, but they emphasise the importance of their own suggestions for such behavior, and the need to consider the frequency of assistance, bearing in mind that too much help can harm independence of children with developmental disabilities.

Vukajlović (2011) examined the social acceptance of children with special needs among peers and attitudes of children of regular population towards the inclusion of children with developmental disabilities in regular schools. Regarding the sense of social acceptance of children with developmental disabilities their peers express attitudes of support and acceptance, although more frequent answers are such as "I occasionally help, give support, show understanding ..." and the like, in relation to answers like "I often help, give support... ". With regards to social proximity - social distance, students of regular population exhibit different degrees of closeness to children with developmental disabilities. The questionees exhibit the highest levels of acceptance when there is less emotional and physical intimacy, and the lowest when the physical closeness is higher. The author concludes that most students exhibit combined ratio of acceptance - inacceptance of children with special needs. Children with developmental disabilities who are, so to speak, isolated, are not selected by peers from regular population select as desirable for socializing. They also are not directly rejected, so these children fall into the category of neglected children, which puts them at a disadvantage and

risk of suffering permanently from secondary consequences of disability.

There is a number of studies dealing with the development of social skills and a higher sense of membership in inclusive classes, both for children with developmental disabilities, as well as their peers of typical population (D'Alonzo et al, 1997, according to Špelić and Zuliani, 2013). The children of regular population who attend inclusive classes show a higher level of understanding of the physical and behavioral differences and conditions and feelings of children with developmental disabilities (Biklen et al, 1989, according to Špelić and Zuliani, 2013). The same authors report the results of studies that confirm the positive changes in students without developmental difficulties attending inclusive schools - a higher level of acceptance, understanding and tolerance of diversity. With the students who did not have contact with their peers with developmental disorders on the other hand, classic stereotypical attitudes and a lower level of tolerance towards children with behavioral disorders are present. Students of regular population in inclusive schools also have a higher level of self-confidence.

Children with developmental disabilities are often burdened with secondary consequences of disability; their social competences seriously lag behind those of children of typical population. Few contacts and lack of experience in communicating with peers of typical populations result in feelings of incompetence, insecurity, low self-esteem and assertiveness, but also low levels of empathy and low motivation to participate in a peer group of regular population. Children with developmental disabilities "lack of successful models of peer behavior that apply in the ordinary population" (Gašić - Pavišić, 2002, p. 452). On the other hand, children of regular population at their homes, at schools, in the street, have insignificant or no experience of communication with handicapped peers; ignorance awakens suspicion and fear, which are only a step away from rejection and intolerance. This is a vicious circle. The only way to tear down the barriers is to experience positive interaction between regular population of children and children with developmental disabilities, which is offered by the inclusive model.

The influence of peers of regular population on children with developmental disabilities is the most studied, however, the line of studies that indicate the opposite impact - the influence of children with developmental disabilities on children of typical population is rare. Students of typical population in inclusive classes show greater acceptance, have more values for individual differences, have higher self-esteem, ability to make friends and acquire new skills. Students with lower academic achievement have indirect benefits of learning in inclusive classrooms - additional practise, more work, better accuracy and more feedback from teachers, contributing to the improvement of their school success (El Zein, 2009). One of the most useful aspect which inclusion has on children from typical population is their increased sensitivity and acceptance of diversity. There is also the possibility that these children will take over greater social responsibility and show more social confidence (Ainscow, 2005; Daniels and Stafford, 2001; Hrnjica, 1997).

## **Methodological approach**

### **Research goals**

1. Examine the social distance of children of typical population towards children developmental disabilities.
2. Examine the sense of school membership of children with developmental disabilities.
3. To analyze the association of social distance of children form typical population and the sense of school membership of children with developmental disabilities.

### **The Research Hypotheses**

1. The children of typical population have a significant social distance towards children with developmental disabilities.

2. Children with developmental disabilities have a low level of psychological sense of school membership.

3. There is a correlation of social distance of children from typical population and sense of school membership of children with developmental disabilities.

4. There are statistically significant differences in the expression of social distance of children of typical population towards children with developmental disabilities regarding socio- demographic variables (gender, class, level of education and employment-unemployment of mothers).

5. There are statistically significant differences in the sense of school membership of children with developmental disabilities considering the socio-demographic variables (gender, class, level of education and employment-unemployment of mothers).

### **The sample**

The sample included 58 pairs of fourth grade pupils and senior primary school pupils: a subsample of children of typical population who have at least one child with a developmental disability and a subsample of pupils in the fourth grade and higher grades of elementary school with developmental disabilities who attend regular school. The subsample of children with developmental disabilities consisted of 31 children with Intellectual Deficit, and 27 children with Cerebral Palsy. All the children from the beginning of their education were regular pupils of ordinary primary schools in Pirot and was equalized by gender, age, level of education and employment / unemployment of mothers.

## Instruments

For children of regular population Bogardus scale of social distance towards children with developmental disabilities was used (Social Distance Scale, Bogardus, 1925). Reliability of Bogardus social distance scale for the subsample of children expressed by Cronbach's Alpha coefficient is 0.71.

Concerning children with developmental disorders Gudenov's Sense of Belonging scale was used (Psychological Sense of School Membership Scale, Gudenov, Frederickson et al, 2007). Cronbach's Alpha coefficient for Gudenov's sense of school membership scale on a subsample of children with developmental disabilities is 0.80.

For both categories of children we used a brief questionnaire related to socio-demographic variables: age and gender of children who attend the class, level of education and employment of mothers.

## Analysis of the hypothesis

1. The children of typical population have a certain social distance towards children with developmental disabilities.

Table 1. The degree of social distance

	Minimum	Maximum	AS	SD
social distance	0.0	6.0	2.86	1,895

Due to the fact that the theoretical arithmetic mean is 3.0 it can be concluded that the social distance on the subsample of children of regular population is low.

Table 2. Measures of social distance on individual items

	Claims	YES	No
1.	I do not want to have a close friend peer with some disorder.	3.4	2.4
2.	I do not want to sit at a desk with a peer who has some disorder.	3.2	2.6
3.	I do not want students with developmental disabilities in my class.	2.9	2.9
4.	I do not want to go to school with children who have a disability.	2.8	3.0
5.	I would mind to attend extra-curricular activities with students who have some disorder.	2.6	3.2
6.	I do not want to meet children who have a developmental disability in my town.	1.7	4.1

Children with developmental disabilities have a low level sense of school membership.

Table 3. The degree of the sense of school membership

	Minimum	Maximum	AS	SD
sense of belonging	2	12	10.02	2.252

Theoretical arithmetic mean is 6.0.

Table 4. The Sense of school membership expressed in categories

	f	%
non-belonging	4	6.9
Belonging	54	93.1
Total	58	100.0

Almost all children with developmental disabilities - 93.1%, have a positive experience of belonging to school.

Table 5. The sense of belonging to school by items

		YES		No	
		f	%	f	%
1.	I feel very happy in my school.	49	84.5	9	15.5
2.	People here notice when I do something good.	49	84.5	9	15.5
3.	It is difficult for children like me to feel happy. *	19	33.9	37	66.1
4.	I like most teachers in my school.	53	93.0	4	7.0
5.	Sometimes I feel I do not belong in this school. *	12	20.7	46	79.3
6.	In this school there is at least one adult with whom I can talk about my problems.	51	87.9	7	12.1
7.	People in this school are friendly to me.	51	87.9	7	12.1
8.	I feel much different than most children. *	23	40.4	34	59.6
9.	I want to be in a different school. *	3	5.2	55	94.8
10.	I'm happy to be in this very school.	53	91.4	5	8.6
11.	The children in this school like me the way I am.	49	84.5	9	15.5
12.	People in this school do not like kids like me. *	4	6.9	54	93.1

Note: An asterisk (\*) marks claims which are valued vice versa

3. There is a correlation of social distance of children from typical population and the feeling of belonging to school of children with developmental disabilities.

Table 6. The association of social distance and feeling of belonging to school

		The experience of belonging
social distance	r	-.125
	sig	.350

The result is a low negative, but not statistically significant, association between social distance of children of typical population and sense of school membership of children with developmental disabilities.



The study, using T-test and analysis of variance, finds neither statistically significant differences in the sense of social distance of a typical population of children towards those with developmental disabilities with respect to socio-demographic variables (gender, class, personal qualification of mother and her employment-unemployment), nor statistically significant differences in the sense of school membership of children with developmental disabilities with respect to socio-demographic variables (gender, class, personal qualification of mother and her employment-unemployment).

## Discussion

The study is based on the assumption that children of typical population have a high social distance towards children with disabilities and children with developmental disorders have a low level of sense of school membership, and that there is a correlation between social distance of typical population children and sense of school membership of children with developmental disorders.

When analyzing social distance of a typical population of children towards those with developmental disorders, given that the theoretical arithmetic mean is 3.0 and that the higher score indicates greater social distance, it can be concluded that the social distance in the sub-sample of children of regular population is low - is 2.84; social distance increases with respect to the level of emotional and physical intimacy. Scale values range from 1.7 to 3.4. What makes this research specific compared to other studies is somewhat lower level of social distance of children of typical population towards peers with developmental disorders (Špelić and Zuliani, 2013; Vukajlović, 2011), but this result is not unexpected - children with developmental disabilities are in regular classes from the beginning of their education. Also children of typical population have been with them from an early age and do not have the stigma that are present in children (and adults) who have not been brought up and socialized with people with disabilities.

By analysing social distance level of each item individually, we can conclude that there is higher level of acceptance in hypothetical situations with less physical contact and emotional engagement - "I do not want to meet with children who have a developmental disability in my town" where the scale value is only 1.7, and the lowest in a potential situation which involves a physical contact and companionship - "I would have as a close friend a child with some disorder", which is 3.4.

This result significantly speaks in favor of inclusion in schools - joint education of all children from an early age influences the development of positive attitudes towards people with disabilities, reducing the appearance of stigmatization and isolation of children with developmental disabilities. It teaches children that the diversity is a potential and richness, rather than deficiency and limit.

Research conducted by Gavrilović et al. (2011) on a sample of students of Philosophy and the Faculty of Medicine examining attitude towards homosexuals, people with AIDS and the disabled, shows that the least social distance is towards persons with disabilities and reaffirms the fact that the most obvious social distance is evident, when the assumed physical and emotional closeness is largest - potential marriage with a person with disabilities.

Other research on social distance show similar results - study by Nišević et al. (2011) is conducted on a sample of students of the Faculty of Special Rehabilitation and Education, and it shows that students have a certain level of social acceptance in relation to the population of persons with physical disabilities, while in relation to people with autism, persons with mental retardation and multiply handicapped people, that level is slightly less.

Results of the research of social distance of peers towards children with developmental disorders Vukajlović (2011) suggests that children of regular population who attend school with children with developmental disabilities show a willingness to establish different relationships with the smallest social distance present in hypothetical situations with slightest physical contact (“To attend classes in the same school”), and the most prominent in situations of presumably close acceptance and companionship.

The study, which was conducted as a pilot study of the level of self-esteem and sense of belonging in children with intellectual deficit (Stanković-Djordjević, 2010) did not give encouraging results. Children with developmental disabilities (in regular and special schools) have a low level of sense of school membership and low self-esteem.

Results of this study are positive; children from the test sample have a high level of feeling of belonging to the school; only 6.9% of students have a low level of sense of belonging to school. This fact at first glance might seem too optimistic; however, those are the children who attend regular schools from the beginning of their education and are accepted by teachers and peers, even before inclusion in schools was proclaimed by legislation. These are children who have been professionally diagnosed (by the Commission for categorization, which functioned until 2011) and that at the time of enrollment in schools, “acquired right” to regular education. As a reminder, these are children with Cerebral Palsy, which in some cases do not have intellectual disabilities and children with Intellectual Deficits. Children with CP can build their status at school and among peers on the basis of their cognitive potential and personal qualities, while children with ID achieve its status by personal qualities, motor skills, communicative skills, and both groups by school grades. There is another major issue when talking about children who are diagnosed as slightly mentally retarded, and that is that these children are at the beginning of their school estimated on psychometric criteria. We can ask ourselves what about the pedagogical and social criteria? Another factor that has influenced the children in our sample to have high sense

of school membership - teachers during the years spent at school paid attention to this children, worked further with them, praised and supported them (if it had been different, the children would have been transferred to special schools or leave the school), which contributed to the fact that the children feel accepted and welcomed in the school; and it is likely that teachers made a model that influenced the behavior of peers from typical population.

Children with developmental disabilities in this sample were aware of their difference - on one of the scales of belonging items "I feel much different than most children," in 40.4% children with developmental disabilities give a positive answer. Concerning the statement "It is difficult for children like me to feel happy" - 33.9% of the children answered affirmatively. Notwithstanding the overall positive experience of belonging to the school, children from our sample understand their diversity and their experience of positive emotions such as happiness, estimate more rarely than children of typical population.

At school age, together with the primary consequences of handicap, can also occur associated emotional problems and behavioral disorders. Considering the importance given to academic achievements, which children with developmental disabilities, in the current organization of schools can rarely achieve, there is a sense of failure, which leads to feelings of inferiority, isolation and withdrawal or antisocial behavior and aggression, as an answer to feelings of inadequacy. Living together, growing up and learning of children with developmental disabilities and their regular peers are preconditions to remove the secondary consequences of disability. What we need to do first is to empower both groups of children to the partnership by getting an early age to achieve the conditions for mutual communication.

### **Concluding remarks**

When come to schools, children already carry the views and opinions of their immediate environment, parents, primarily, and these attitudes are when it comes to their peers with developmental disabilities, often negative. Isolation and segregation from their peers, has serious consequences for the dynamics of peer social relationships in school. Children with developmental disabilities, faced with rejection and segregation, begin to retreat, isolate, develop a feeling of insecurity, low self-esteem, sometimes resistance and aggressiveness toward peers from regular population, low level of sense of school membership; and we discuss about the development of secondary consequences of disability.

The connection between these two phenomena is obvious - high social distance children of regular population leads to lower levels of sense of belonging to school by children with developmental disabilities. The point is, how to break this vicious circle?

The sample of children from the typical population included in this research manifested relatively low social distance. However, the social distance is greater

when it comes to a close, intimate social contacts (“I do not want to have a close friend with some disability”), and lower, as these contacts are farther (“I do not want to meet with children who have a developmental disability in my town “). It is obvious that children with developmental disabilities are more accepted in the relations of joint attendance, while a smaller number of children accepted to sit at a desk or has as a close friend a child with a developmental disability.

In the examined sample children with developmental disabilities are also aware of their differences and limitations. Years of fight for the “normalization”, of children with CP and children with ID too and their parents and a constant struggle for achieving success in school, with school programs which are hostile to them, are taking its toll, and we should not forget the secondary consequences of disability that wider environment imposes on children with behavioral disorders. A possibility for positive change by empowering children with developmental disabilities and their families appears right here.

The results of this research can be explained by the fact that both groups of children were together from the very beginning of training, were appointed to each other, know each other well, appreciate and love according to personal merits, and not by the limitations and disability. The common school experience contributes to a sense of belonging and unity for all children alike, which is very important for children with developmental disabilities as it keeps them from secondary consequences of disability, but also for the children of typical population - teaches them tolerance and respect for diversity as a potential.

Students of typical population who are active participants in the educational inclusion show greater acceptance, have more value of individual differences, have higher self-esteem, ability to make friends and learn new skills. Students with lower academic achievement have indirect benefits from learning in inclusive classrooms - additional renewals, more practical work, better accuracy and more feedback from teachers, contributing to the improvement of their school success. A very useful aspect of inclusion for children of regular population is the increased sensitivity of the children and accepting differences. It is likely that these children, because of the capacity for sharing and developed pro-social tendencies, will have less resistance and prejudice and that as adults they will retrieve a greater social responsibility and show more social confidence.

The research results are an encouragement for the process of inclusion in schools. Children with developmental disabilities can feel accepted and welcomed in regular school if they are supported from the very beginning and if there is a positive attitude towards them at school.

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**Mirjana Stanković-Djordjević**

## **DECA SA RAZVOJNIM SMETNJAMA I VRŠNJACI REDOVNE POPULACIJE**

### **Rezime**

Cilj istraživanja je bio da se ispita povezanost socijalne distance dece redovne populacije prema deci sa razvojnim smetnjama i doživljaja pripadanja školi dece sa razvojnim smetnjama. Istraživanje je obuhvatilo 58 parova dece sa razvojnim smetnjama (sa cerebralnom paralizom i intelektualnim deficitom) i dece tipične populacije koja su bila ujednačena po polu, uzrastu, školskoj spremi majki i njihovoj zapošljenosti i koja su zajedno pohađala redovnu osnovnu školu. Kao instrumenti su korišćeni Bogardusova skala socijalne distance (*Social Distance Scale*, Bogardus, 1925) i Skala doživljaja pripadanja školi (*Psychological Sense of School Membership*, Gudenov, 1993). Istraživanje je pokazalo nisku socijalnu distancu dece tipične populacije i visok doživljaj pripadanja školi dece sa razvojnim smetnjama, dok je utvrđena niska negativna, ne i statistički značajna, povezanost između ovih varijabli. Rezultati ovog istraživanja su neposredna potvrda uspeha inkluzivne prakse škole na ispitivanom uzorku.

**Ključne reči:** deca sa razvojnim smetnjama, vršnjaci, inkluzija, socijalna distanca, doživljaj pripadanja

## **ADOLESCENT AGGRESSION AND FAMILY UPBRINGING**

### **Abstract**

The central theme of this research is the study of the connection between parenting rearing styles (considering the adolescents' point of view) and adolescents' aggressiveness. The research was performed on the sample of 160 respondents, high school students. The EMBU scale was used for determining the quality of a parent-child relationship, whereas for studying the propensity for aggressive and antisocial forms of behavior, as well as the propensity for destructive reactions the test of primary aggressiveness T-15 was used. Analyzing the results of this correlation, it has been established that the propensity for destructive reactions is connected to all the forms of parenting rearing styles with variables interconnected on different levels. The propensity for aggressive reactions more substantially correlates with mother's rearing styles, who, being the central figure in the process of upbringing of children, contributes the most to the children's development of attitudes and their value systems, as well as the quality of their interpersonal relations. The data obtained from the research could provide some useful guidelines for behavior.

**Keywords:** parenting styles, aggressiveness, adolescence

### **Introduction**

In modern literature, family factors are often regarded as one of the key factors and correlations to aggressive behaviour (Khaleque,2002; Rohner,1984; Piorkowska-Petrović, 1991). Accordingly, family factors include family integrity, parenting characteristics as well as contextual family factors, such as socio-economic status, alcohol drinking frequency or parents' alcoholism. The specificity of the period of upbringing itself, relative inexperience, and propensity of the youngsters to risk-taking make the adolescents the most endangered group for developing asocial behaviours. The causes of aggressive behavior should be searched for in a complex and reciprocal interaction between different endogenous and exogenous factors. Above all, the influence of a family, as a primary social group is essential; it plays an essential role in socialisation, psychological and biological development and sustention of the family members and it takes the most important part in the upbringing process.

Does the family, with its way of upbringing, contribute to the development of such asocial forms of behaviour? What is the share of the adolescent himself and what is the share of the global state in which our society is in? To some of these questions, the research has already provided the answers. Due to the extraordinary complexity of the examined phenomenon, the study has been limited to the research of the influence of only two mutually connected factors: parenting rearing styles and adolescents' aggressiveness.

The results of the research are relevant for some possible changes of the already existing primary prevention programmes; primary prevention needs to be educational, directed at an individual, family, school or the society as a whole. The common goal of an individual and the society should be promoting healthy lifestyles, acquiring desirable forms of behaviours and acquiring real values.

### **Theoretical framework**

Upbringing is the process of building up the worldview, viewpoints, attitudes and beliefs; it is a coherent process of developing psychological and physical strengths of a personality. This educational style includes parents' determining the most suitable educational means through which they are going to achieve their educational goals, but not disturbing, primarily, their emotional relation towards the children; i.e. the process stems from either the basic feeling of acceptance and love or rejection and conditional love (Piorkowska-Petrović, according to Todorović, 2005).

Referring to the extensive theoretical and empirical research, Polish author Marija Zijemska (Piorkowska-Petrović, 1991) indicates that there are two basic dimensions on which the relationship parent-child is based: emotionality and control. According to Zijemska, the factor of emotionality is the crucial component in parenting rearing style. The emotional element in educational acts reflects the attitudes of the parents toward the child (love and acceptance or emotional coldness, negligence or rejection). Acceptance is characterised by parental emotional warmth, approval, understanding, interest in a child, where explanations, and rarely physical punishments, are used when discipline is requested. Rejection is most frequently manifested through not showing any positive feelings and openly expressing the negative ones, through constant critical attitude toward the child, numerous requests, lack of apprehension for the child's motive for certain behaviour and disrespect for child's needs; severe punishing, intimidation, belittling, absence of care for the child, depriving the child of his/her opinion and needs and through a dictatorial relation towards the child. Overprotection, emotional attachment and parents' dominance have impact on excessive correction of child's behaviour and excessive demands followed by coercion. The child is directed in accordance with mother's and/or father's demands without approving the uniqueness of child's personality and its developmental capacity. Inconsist-



ency in the process of upbringing is of utmost importance. If the parents behave each time differently, i.e. on one occasion they praise one form of behaviour, on the other occasion they either do not react or punish the child, the child is not going to have the firm criteria upon which it will direct or correct its actions. The child is insecure about the correctness of its decisions, as well as its parents' love.

Insufficiently developed personality of a young man is liable to constant and uneven changes; the sensitivity of the period of growing up as well as the specificity of the family and parents' upbringing, in great extent direct and determine adolescent's behaviour. Consequently, it is of greater importance whether there is a specific type of a dysfunctional family which contributes to the development of child aggressiveness.

The object of this study is one of the greatest problems that we encounter in the educational work in educational institutions-adolescent aggressiveness. It appears most frequently as a consequence of parents' upbringing, but also as a result of specific conditions in which a young man is growing and developing. Therefore, this research includes several parenting rearing styles (perceived from adolescents' point of view). Apart from studying the influence of upbringing, this research includes the analysis of control variables in research (gender, the level of students' accomplishment in terms of overall grade average and socio-economic status).

Basic aim of this research is to determine the relation between various parenting rearing styles and adolescent aggressiveness. Regarding thus formulated aim of the research, a general hypothesis is set up: parenting rearing styles significantly correlate with the adolescents' aggressiveness. The specific hypotheses are formulated as a consequence of various modalities of rearing styles, as well as the control variables that are also included in the study.

### Applied methodology

This study includes 163 respondents of different sex, second year high-school students from "Law Office Automation High School" in Niš and High School of Mechanical Engineering "Prota Stevan Dimitrijević" in Aleksinac. The analysis of the sample of respondents' overall grade average shows that the major part of the students achieves excellent grade average (A) (38.7%) and very good grade average (B) (23.9%). Only a minor part of the students achieves overall grade average "insufficient" (E) (3.7%).

Tables no.1. Gender structure of the sample

<i>Gender</i>	<i>Frequency</i>	<i>%</i>
Boys	78	47.9%
Girls	85	52.1%
<b>N</b>	<b>163</b>	<b>100%</b>

Dependent variables, ie criterion variables in this study represent the measures of *adolescent aggressiveness* – the degree of manifestation of aggression among the adolescents, and it will be estimated with the help of a scale for adolescent aggression assessment-T-15. Independent, ie predictor variables, whose influence on adolescent aggressiveness will be studied in this research, represent parenting rearing styles: inconsistency, rejection, emotional warmth, favouritism of a child and parents' overprotection of children. The examined control variables in this research are sex, students' overall grade average and parents' socio-economic status.

In an effort to explain the functioning of adolescents' personality within biological and social context (which contribute to understanding of human behaviour), the corresponding assessment methods are applied:

The anticipated instruments for collecting the data in this research are: the scale for parenting rearing styles assessment (EMBU), which is based on dimensional models of parents' behaviour (Arrindell et al, 1989). Arrindell's version of the scale had 64 items formulated in a shape of four-step scale resembling Likert's. Arrindel et al performend the most voluminous checkup of the scale and, on a higher lever of factorisation, they separated four distinctive factors: rejection, overprotection, emotional warmth and parents' favoritism (favouring a child). The scale is used for measuring the perception of parenting rearing methods among grown up people (Winefield et al, 1990). The coefficient of internal consistency Cronbach  $\alpha$  for parenting rearing style emotional warmth is .76 for father and .77 for mother (the scores on the scale of father's and mother's emotional warmth are in very close correlation ( $r = .586$ )). The coefficient of internal consistency Cronbach  $\alpha$  for parenting rearing style rejection is .79 for father and .92 for mother. The coefficient of internal consistency Cronbach  $\alpha$  for parenting rearing style overprotection is .74 for father and .78 for mother.

The general data about the respondent and his/her family are included in EMBU questionnaire and they consists of: general information about the respondent (gender and age), family factors (family structure, marital status of the parents), factors of socio-economic family status (parents' educational level, parents' employment level).

The test of the primal aggression T-15. The subject of the scale's mesasuring is defined as the propensity to aggressive and antisocial forms of behaviour, as well as the propensity to destructive reactions in relation to social institutions. The stem of aggression, as it is understood by this instrument, are dispositional factors, with the influence of development and social surroundings.

In the phase of defining the theoretical framework bibliographic-speculative method was used, and during the score processing and interpretation- the statistical method was used. All the data gained in the research were processed by the proceedings of the descriptive and correlational statistics.

Concerning descriptive statistics, distribution frequency, representational central and disperse parametres were determined: Arithmetic mean (M), Standard deviation (S), Coefficient of variation (V) and Width variation (Max. Min.).

Concerning correlational statistics, Spearman’s coefficient of rank correlation was used for examining the relationship between the variables. This method did not determine causal connection between the variables; it only determined the connection between parenting rearing styles and the level of adolescents’ aggressiveness. Using correlational proceedings the connecton between parenting rearing styles and the level of adolescents’ aggressiveness with control variables was determined. Data processing was performed on a sample of 163 respondents.

Application statistic programme for personal computers SPSS for Windows 10.0 was used for all data reckoning and graphic illustrations. The results obtained are presented by charts and graphs.

### The interpretation of results

The presentation of basic results of the study begins with the measures of descriptive statistics. Adolescents’ propensity for aggressive behaviour is represented in chart 5 which shows the figures for the whole sample.

Tables no. 2. Test T-15. Adolescents’ aggression

	<i>N</i>	<i>Min.</i>	<i>Max.</i>	<i>M</i>	<i>S</i>
Aggress.	163	86	142	110.159	11.82

Table no. 3. Parenting rearing syles (central and i disperse parametres)

<b>REARING STYLES</b>	<b>N</b>	<b>M</b>	<b>S</b>	<b>V</b>	<b>Min.</b>	<b>Max.</b>
Parents’ inconsistency	163	13.38	3.20	10.26	7	22
Father’s rejection	163	38.22	9.81	96.24	26	78
Mother’s rejection	163	37.74	9.78	95.80	26	79
Father’s overprotection	163	28.73	6.61	43.76	15	50
Mother’s overprotection	163	30.03	6.81	46.47	18	52
Father’s emotinal warmth	163	48.92	8.71	75.92	28	66
Mother’s emotional warmth	163	50.60	8.71	75.99	29	68
Father’s favouritism	163	8.25	3.20	10.30	5	20
Mother’s favouritism	163	8.07	2.92	8.58	5	20

Tables no.3 shows frequency of parenting rearing styles estimated from the adolescents' point of view and it points out emotional warmth as the most frequent estimated parents' rearing style.

In an effort to examine and present the connection of variables more precisely- Spearman's coefficient of rank correlation was used. This analysis included 10 variables, which were examined in different combinations. The modalities of parenting rearing styles (inconsistency, overprotection, emotional warmth, parents' favouritism and parents' rejection) correlated with the level of adolescents' aggressiveness. Through the correlation process the connection of parents' rearing styles and adolescents' aggressiveness with control variables in the research was examined (gender, overall grade average, parents' socio-economic status). The basic hypothesis was confirmed-all parenting rearing styles are in lesser or greater extent connected to the aggression of the adolescents. Chart no. 4 shows Spearman's coefficient of rank correlation between parenting rearing styles and the level of adolescents' aggressiveness.

Tables no.4. Spearman's coefficient of rank correlation between parenting rearing styles and the level of adolescents' aggressiveness

<i>PARENTING REARING STYLES</i>	<i>THE LEVEL OF CORRELATION RELEVANCE</i>
Parents' inconsistency	0.345**
Mother's rejection	0.501 **
Father's rejection	-0.294* *
Mother's overprotection	0.234**
Father's overprotection	0.150
Mother's emotional warmth	-0.294**
Father's emotional warmth	-0.201 *
Father's favouritism	0.312* *
Mother's favouritism	0.320**

\* \* Correlation on the level of relevance 0.01

\* Correlation on the level of relevance 0.05

The results of the research show that there is a positive correlation between mother's overprotection and the level of adolescents' aggressiveness. The results of the research indicate that there is a very high level of correlation between dismissing rearing pattern of the parents and the propensity to aggression among the adolescents, which is in accordance with the hypothesis. The most important level of positive correlation refers to mother's rejection of a child. One more unexpected information obtained throughout the research is also interesting-that there is a negative correlation between father's rejection of a child and adoles-

cents' aggressiveness. The results also show negative correlation between parents' emotional warmth and adolescents' propensity to aggression, more prominent with mothers, which is in accordance with data from bibliography (Lidz, 1979, Singer, 1978 according to Tadić, N 2000), which also confirms the assumption, specified by the third hypothesis. The results of the correlation analysis show that there is a high level of correlation between parenting favouritism of one child and adolescents' aggressiveness. There is a high positive correlation between between parents' inconsistency and the level of adolescents' propensity to aggressive behaviour. These results confirm the hypothesis about parenting rearing styles (perceived from adolescents' point of view) and control variables.

Tables no. 5. Correlation of parenting rearing styles, adolescents' aggressiveness and socio-economic parametres

	gender	grade average	father's educat.	mother's educat.	father's employment	mother's employment
<b>Parents' inconsistency</b>	-0.075	-0.029	-0.063	-0.080	0.020	<b>0.019</b>
<b>Mother's rejection</b>	-0.016	-0.117	-0.082	-0.075	0.035	<b>0.047</b>
<b>Father's rejection</b>	0.037	-0.138	-0.146	0.107	0.145	<b>0.110</b>
<b>Mother's overprotection</b>	-0.107	0.174	0.053	0.139	0.119	<b>-0.127</b>
<b>Father's overprotection</b>	-0.024	0.119	0.055	0.080	-0.011	<b>-0.043</b>
<b>Mother's emotional warmth</b>	-0.133	0.315**	0.164	0.211**	-0.134	<b>-0.122</b>
<b>Father's emotional warmth</b>	-0.055	0.232**	0.128	0.017	-0.018	<b>-0.081</b>
<b>Mother's favouritism</b>	-0.026	-0.154*	0.007	-0.022	0.065	<b>-0.013</b>
<b>Fathers' favouritism</b>	-0.042	-0.210**	-0.080	-0.108	0.100	<b>-0.049</b>
<b>Aggressiveness</b>	-0.026	-0.154*	0.007	-0.022	0.065	<b>-0.013</b>

\* \* Correlation on the level of relevance 0.01

\* Correlation on the level of relevance 0.05

Control variables in the study are gender, grade average and socio-economic status (which includes parents' education and employment). The hypothesis: there is a statistically significant correlation between parenting rearing styles, aggressiveness and control variables (gender, grade average and parents' socio-economic status) and it is confirmed by the results of the research. Regarding the results considering respondents' gender-one thing can be noticed-that young boys evaluate their mothers as emotionally warm, which can be accounted for a traditional upbringing, i.e. different attitude toward children of different sex. Ac-

coring to the results of the research, there is a positive correlation between grade average at school and parents' emotional warmth ( $p < 0.1$ ). There is also a positive correlation between mother's overprotection and students' grade average ( $p < 0.05$ ).

The results show that adolescents with lower grade average, estimate their parents as dismissing. Parents' favouritism of children also contributes to obtaining lower grade average. The educational level of the parents is not connected to parenting rearing styles, but fathers' employment is in negative correlation with the emotional warmth, as parenting rearing patern. According to the results of the study, adolescents' aggressiveness is in positive correlation with the gender of the respondents ( $p < 0.1$ ) and in negative correlation with the level of students' achievements, as seen through grade average ( $p < 0.1$ ).

## DISCUSSION

The initial dilemma that incited the research was: are there any specific parenting rearing styles that contribute to the adolescents' aggressiveness? By analyzing the basic results, a significant connection between the factors was noticed. Based on the data gained in the study, the most important results are presented. Students' testimonies about the frequency of aggressive reactions is, in terms of validity, the most sensitive part of the data. With one part of the respondents it is justified to assume the tendency towards dissimulation (declaring lower level of aggressive reactions than real). In this particular study, that tendency could have been intensified by the characteristics of the examining situation itself.

The results have shown that there are certain forms of parents' behaviour that contribute to the adolescents' propensity to aggressive behaviour. Regarding the rearing styles, adolescents prone to aggressive behaviour evaluate their parents as: dominantly dismissing, mostly mothers, inconsistent and overprotective. Dismissing parents experience their children as a burden, as a foil (Ilić, 2017), which can lead to different emotional and social consequences. The dismissed children are too centred upon themselves, constantly wishing to fulfill the void that appeared due to the lack of love, attention and parents' support (tragic compulsion). A substantial lack in the degree of development of conscientiousness, in acquisition and complying with moral principles comes as a consequence of dysfunctionality in such families. Children like these are resentful with a lot of accumulated aggression that they can direct toward themselves or project it on others, which is going to cause problems in social relations and result in the feeling of inadequateness. According to Tadić's opinion (Tadić, 2000), aggressive and emotionally cold parents with a lot of "performing" ("acting out") raise emotionally cold or timid children. By internalizing and identifying with the aggressor, children too become aggressive; or the opposite-aggressive and strict parents can cause huge anxiety and fear from punishment so that the children become emphatically timid. The results of the research Đorđević (Đorđević, 2008) show that parents' criticism (father's and mother's) correlates positively with

adolescents' aggressiveness. Such results suggest the conclusion that parents' frequent criticism can affect the development of socially unacceptable forms of behaviour; moreover-completely opposite from expected. The results of correlation analysis of rearing style favouring a subject and adolescents' aggressiveness suggest that there is a significant connection between these parameters ( $p < 1$ ). The privileged position in regard to other children in a family can cause the feeling of omnipotence within a child, especially in the period of adolescence, when the feeling of omnipotence is present and can result in aggressive behaviour.

A significant negative correlation is noticed between the parenting rearing style emotional warmth and the level of adolescents' aggressiveness ( $p < 1$ ) which leads us to the assumption that supporting a child in things that are important for him/her (without mistrust), acknowledging and respecting in great extent his/her opinion, creating a comfortable atmosphere in a family contribute to the development of desirable forms of behaviour and acquisition of true values, the development of intellectual inquisitiveness, which consequently results in high achievements.

Getting to know the factors that have risky and protective effect, as well as their interrelationship, enables the development of prevention programmes, primarily introduction of methodological units which explain the scientific achievements regarding the development and manifestation of aggressiveness. The new research, which would include a larger number of adolescents and larger number of factors that can affect the development of asocial forms of behaviour, could provide a clearer picture of mutual differences regarding the aforementioned parameters.

Given the high level of presence of aggressive behaviour in all spheres of our society, especially in vocational educational institutions, it is essential to pay attention to the development of social skills, prosocial orientation in value systems and the ability to resist peer pressure. When it comes to parents, it should be worked on their better getting informed, their engagement in informing children, adequate family relations, their roles and hierarchy. The teachers need to be more engaged in vocational, educational and pedagogical work, with a lot more insight into the adolescent psychology and the specific problems related to this critical period of life.

## CONCLUSION

On a sample of 163 respondents of both sexes (85 girls and 78 boys), aged between 16 and 17, of different social status and grade average, from Niš and Aleksinac, the correlation between parenting rearing styles and the level of adolescents' aggressiveness was examined. The following instruments were used for the assessment of chosen variables: EMBU scale for examining the parenting rearing styles (based on adolescents' estimate) which includes a questionnaire for assessing the grade average and socio-economic status of the respondents , test

T-15 for examining the adolescent aggression. Using the process of correlation, two large groups of variables were compared (rearing style and adolescents' aggressiveness), and their significance is predicted by the hypotheses. The relations between social predictors and criterion variables are quantified by parametric and nonparametric proceedings of discriminant statistics. Based on the results obtained, the following can be concluded:

**There is a positive correlation between rearing style mother's rejection and the level of adolescent aggressiveness (( $p < 1$ )).** Such a parental rearing style, that is characterized by psychological punishing, contributes to the accumulation of aggression and resentment in children, which can result in problematic behaviour. Mother's rejection shows the most important level of positive correlation with the aggression of adolescents. It is assumed that such mother's actions affect the narrowing of the circle of interests and stifling the emotional reactions, which probably leads to egocentricity and accumulation of aggression that an adolescent can direct either to himself or the environment.

**There is a positive correlation between rearing style parents' inconsistency and the level of adolescents' aggression (( $p < 1$ )).** Parents who show prominent inconsistency in behaviour, necessarily create the feeling of insecurity in a child. The insecurity, regarding the correctness of its decisions as well as parents' love that such a rearing style can produce-disables a child to form stable criteria that will direct its behaviour. Parents' inconsistency in educational aims and emotional reaction towards a child probably affects children's value system, behaviour, interpersonal and intrapersonal relations.

**There is a negative correlation between rearing style emotional warmth of the parents and the level of adolescents' aggression. (( $p < 1$ )).** This rearing style includes psychological rewarding and supporting a child. In families where emotional warmth and acceptance dominates, there is a comfortable atmosphere for regular and normal development of children. Absence of love, affection and trust can lead to occurrence of feelings of emptiness and neglect, which can, later in life, manifest through decreased ability for emotional binding and overwhelming desire for satisfying instinctive urges. A substantial negative correlation noted was between grade average and parents' emotional warmth and acceptance. High level of respect and appreciation of children's opinion, the feeling that a child can rely on his/her parents, gives an adolescent the feeling of safety and self-confidence, which can contribute to the development of intellectual inquisitiveness and result in high achievements.

**There is a correlation between rearing style mother's overprotection and the level of adolescents' aggressiveness. (( $p < 1$ )).** Overprotection includes protecting a child in a rude and authoritative manner. Pretty high level of impotunity and parents' need to know what their child is doing at any moment can produce negative consequences on young man's behaviour, who is just in the process of building up his personality. Aiming to reach the high standards of his



parents' success, and often not being able to do this, a child can develop a strong feeling of guilt and dependence. The child can try to overcome this feeling by aggressive behaviour which can be directed at people from his close surroundings or redirected toward himself.

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## **Rezime**

Centralna tema ovog istraživanja je ispitivanje povezanosti vaspitnih stilova roditelja (sagledanih sa aspekta adolescenata) i agresivnosti adolescenata. Istraživanje je sprovedeno na uzorku od 160 ispitanika, učenika srednjih škola. Za ispitivanje kvaliteta odnosa između roditelja i dece korišćena je EMBU skala, a za utvrđivanje sklonosti ka agresivnim i antisocijalnim oblicima ponašanja, kao i sklonosti ka destruktivnim reakcijama, test primarne agresivnosti T-15. Analizom rezultata korelacije, ustanovljeno je da je sklonost ka agresivnim reakcijama kod adolescenata povezana sa svim modalitetima vaspitnih stilova roditelja sa različitim stepenom povezanosti ovih varijabli. Sklonost ka agresivnim reakcijama značajnije korelira sa vaspitnim stilovima majke, koja kao centralna figura u vaspitanju, najviše doprinosi izgradnji stavova i sistema vrednosti dece, kao i kvalitetu njihovih interpersonalnih odnosa. Dobijeni podaci bi mogli pružiti korisna usmerenja u vaspitanju.

***Ključne reči:*** vaspitanje u porodici, agresivnost, adolescencija

## **CONTEMPORARY PSYCHOTHERAPY RESEARCH – OLD AND NEW CHALLENGES**

### **Abstract**

Although in the past 30 years around 60,000 academic papers have been published on psychotherapy research, there is still much to be discovered about the processes and the effects of psychotherapy. It is “mission impossible” to put together all this knowledge on one place and it is irrational to believe that a single human brain could gather all these data. Furthermore, as psychotherapy has been evolving over the years so have the research methods used to study it. Because of this, the aim of this article is to pinpoint the very basic practical challenges and dilemmas the contemporary researchers of psychotherapy are striving to bridge. We present the topics of methodology, measurement and evaluation (quantitative and qualitative research, practice-oriented research and measuring changes) as well as the elements of therapeutic efficacy (the therapist effects, the client as an agent and the different psychotherapeutic modalities). We also highlight the recent neuroscientific research about the impact psychotherapy has on brain’s anatomy and physiology. Finally, we summarize that psychotherapy research is a highly complex phenomenon and discoveries regarding it will be a never-ending story. Most probably, some aspects of this phenomenon will remain in the realm of art and intuition and the only measuring tool will be the therapists with their personality. Nonetheless, a great deal of topics are still amenable to research for the curious scientific minds.

***Key words:** psychotherapy research, methodology, challenges, complex phenomenon*

### **Introduction**

Research in psychotherapy is undeniably necessary for practical reasons, to be able to move it forward in its practice and to help to develop its theory. The beginnings of psychotherapy research date back to the 1920s, time of the first outcome studies of psychotherapy but its standards cannot be compared by any means to the current experimental or even non-experimental studies.

Although in the past 30 years around 60,000 academic papers have been published on psychotherapy research, there is still much to be discovered about

the processes and the effects of psychotherapy (Lambert, 2013). It is “mission impossible” to put together all this knowledge on one place and it is irrational to believe that a single human brain could gather all these data. Nevertheless, let us make a short tour through some of these marvelous topics of psychotherapy research from a today’s perspective.

### **Research methodology - a never-ending story**

More than 40 years ago Kiesler (1971) recommended therapy researchers to make consistent use of designs in which patient, therapist, and type of treatment are independent variables and dependent variables are examined over time. This approach provides the researcher with the opportunity to begin to answer the critical and often-restated question, “What therapist behaviors are effective with which types of clients in producing which kinds of patient change?” Meanwhile our knowledge about the outcomes of clinical interventions has been advanced by the accumulation of information gathered using this approach. But, even if a treatment has been supported empirically, however, the transport of the treatment from one setting (research clinic) to another (service clinic) represents a separate and important issue. Its effectiveness has to do with the generalizability, feasibility, and cost-effectiveness of the therapeutic procedures. Recognizing the utility of treatment outcome research in the healthcare system, Lambert, Huefner, and Reisinger (2000, as cited in Comer & Kendall, 2013) proposed that this research should do more than simply provide evidence that some treatments are worthier of health care resources than others. Treatment outcome research can also offer valuable feedback to clinicians and health care providers.

The counseling and psychotherapy research literature continues to be dominated by studies that are based on quantitative measurement. However, research carried out with the use of qualitative methods has a strong appeal for many clinicians and students because, in contrast to quantitative research, it remains closer to the actual phenomena and lived experience of therapy. Qualitative research articles provide a sense of being able to hear the voice of the client or therapist, and offer an understanding of the meaning that various aspects of therapy hold for them. At the same time, there are concerns about the reliability and validity of qualitative studies, for instance around difficulties in generalizing from small samples and in the possibility of researcher bias. For new researchers, the domain of qualitative inquiry can appear impossibly complex and fragmented, with a confusing array of competing methodologies clamoring for attention. In addition, qualitative research is time-consuming, and requires specialist training and supervision. So, it is essential for the knowledge base of counseling and psychotherapy to maintain a balanced commitment to the pursuit of practical knowledge through both quantitative and qualitative methodologies. (McLeod, 2013)

It is well documented that psychotherapists are not frequently and substantially influenced by empirical findings when they conduct their case formulations, treatment plan, and implementations (e.g., Morrow-Bradley & Elliott, 1986, as cited in Castonguay, Barkham, Lutz, & McAleavey, 2013). Needless to say, many have lamented over the gap between science and practice, and, over the six decades since the inception of the scientific/practitioner model, several efforts have been made to foster and/or repair this concept (e.g., Soldz & McCulloch, 2000, as cited in Castonguay, Barkham, Lutz, & McAleavey, 2013). The various avenues that are currently being promoted (and debated) to define evidence-based practice reflect a resurgence of the need to build stronger links between research and practice (e.g., Norcross, Beutler, & Levant, 2006, as cited in Castonguay, Barkham, Lutz, & McAleavey, 2013). Interestingly, it could also be argued that the current attention given to evidence-based practice has been triggered by the delineation and advocacy of empirically supported treatments (ESTs) (Chambless & Ollendick, 2001, as cited in Castonguay, Barkham, Lutz, & McAleavey, 2013). Although several scholars have warned that the promulgation of ESTs could deepen the schism between research and clinicians (e.g., Elliott, 1998, as cited in Castonguay, Barkham, Lutz, & McAleavey, 2013), there seems to be no doubt that the EST movement has galvanized diverse efforts to foster the use of empirical information in the conduct of clinical tasks. One possible way to avoid or reduce empirical imperialism is for clinicians to be actively engaged in the design and/or implementation of research protocols. Such practice-orientated research, conducted not only for but also, at least in some way, by clinicians, reflects a bottom-up approach to building and using scientific knowledge. By fostering a sense of shared ownership and mutual collaboration between researchers and clinicians (e.g., in deciding what data to collect and/or how to collect it), this actionable approach can build on complementary expertise, compensate for limitations of knowledge and experience, and thus foster new ways of conducting and investigating psychotherapy. A position of equipoise would advocate that neither paradigm alone—evidence-based practice or practice-oriented research—is able to yield a robust knowledge base for the psychological therapies and the methods typically associated with these approaches are not mutually exclusive.

The purpose of psychotherapy and other similar treatment methods is to facilitate client change. Any attempt to substantiate the efficacy or effectiveness of a psychological intervention relies heavily on measurement instruments that can assess that change. Unfortunately, the study of and development of change measures often takes a secondary or tertiary place when compared to treatment development and other treatment-related research questions (Doucette & Wolf, 2009, as cited in Ogles, 2013). Psychotherapy researchers exhibit far more interest in developing the newest, improved treatment for a given disorder than in the development of a measure of change. An examination of studies published in the leading psychotherapy research journals will quickly reveal that articles devoted

to the advancement of outcome assessment are infrequent when compared to treatment development and testing or investigations examining mediators, moderators, or processes of change. Given the need to treat clients with significant mental health disorders, it is not surprising that researchers focus first on developing methods for relieving pain, alleviating suffering, and helping the ill. This is an appropriate and needed focus.

### **The client, the therapist, the modality or...?**

We believe that the desire to understand how psychotherapy helps people, represents a major motivational factor of many scholars, researchers and practitioners. This motivation increases the empirical and theoretical literature concerning the mechanisms that facilitate change in the psychotherapeutic process. From the most of the research in the history of psychotherapy, we can conclude that the relationship between the therapist and the client is fundamental for achieving positive change for the client. Based on that, we can discuss the factors arising from the client and factors arising from the therapist. Many recent studies are directed mostly to research the therapeutic alliance. In their research, Sharpley et al. (2006) showed that 80% of the positive results of psychotherapy are due to the way of how the therapist expresses warmth, empathy and respect for the client. Horvath and Greenberg(2006) believe that the therapeutic alliance can be divided into three categories: bond, goals and tasks. The bond between therapist and client involves trust and emotional nearness. The goals include the behavioral changes that client and therapist are setting and work on them. The tasks represent the way how the therapist and the client achieve the goals.

The studies suggest that the words and actions undertaken by the therapist in the client-therapist relation are very important factor causing changes in the client behavior and personality (Lynch, 2012). The data initiate that certain therapists are consistently better than other therapists, and the outcome of therapy improves precisely by the therapeutic alliance. A study by Carr (2010) reports that the effectiveness of antidepressant drugs is more related to the specified psychiatrist who prescribed medication (or placebo) than the treatment itself. More effective psychiatrists helped more when used placebo, while less effective psychiatrists gain a better result when prescribing antidepressant medication. The study confirms that as a powerful predictor of the outcome of the therapy is the quality of the therapeutic alliance with the person who exposes the problem. Citing Schnellbacher & Leijssen (2009), Lynch (2012), suggests that the way of how the client experiences the therapist attitude in terms of his/her acceptance, brings the great benefits to the positive outcome of therapy. According to Sullivan et al., (2005), the clients must feel that their needs are the central focus in the therapeutic process and relationship. It represents a secure base on which the clients can grow their own emotions and to experiment with new ways of behavior. In his research, Sullivan (2005) concluded that therapists who have a lower success in therapeutic outcome and

openly talked about it with the client, experienced reaffirmation of the therapeutic alliance and came to important conclusions by the client.

Although the therapeutic alliance emerges as a key factor for the effectiveness of the treatment, there are other factors that must not be neglected. According to Moore (2006), empathy by the therapist emerges as a key factor for the success of the client-therapist alliance. Moore (2006) suggests that empathy does not develop only verbally, but that eye contact, body language, tone of voice and the ability to listen to actively, have great impact on deepening the relationship. Some studies show that the therapeutic process is ineffective if the therapist is not able to show concern, empathy and ability to create a solid relationship with the client (Carr, 2011). The study of Erskin (1998; as cited in Lynch, 2010) shows that empathy is developed through sensitivity, identifying needs and feelings of the client, and ability to establish communication in relation to those feelings. Words and understanding are not the only way to develop empathy. Facial expression and eye contact play a major role in the expression of empathy for the client feelings and words. Nonverbal expression brings a powerful message to the client - "someone cares about me" (Lynch, 2010). The strong therapeutic alliance and well established empathy between the client and the therapist set a positive outcome of therapy because of the safe environment that is created.

Although many experienced therapists disagree, studies have shown that according to the statements of clients, experience, professional training and professional skills have an insignificant impact on the effect of therapy. It is a small number of studies that have shown relation between the experience of the therapist and the quality of the client-therapist relationship (Hersoug et al., 2001). As Lynch (2010) cited, the study of Hoglend (1999) premature abandonment of the therapy process by the client is found in less experienced therapists, which explains the impact of the experience by the therapist. The therapeutic modality also represents a factor that can influence the course of therapy. Langhoff et al. (2008) suggest that in client-centered psychotherapy, the relationship between client and therapist is the primary component of successful treatment, while in psychoanalysis, transference and countertransference play a huge role. Behavioral therapy appears to be a more automatic, showing less close personal relationship between the therapist and the client. According to this, behavioral therapy would have less influence on the outcome. But, Langhoff (2008) states that the empirical evidence indicates that although behavioral therapists are using specific techniques, they care and emotionally support the client, they have empathy and a positive attitude in order to establish a quality relationship towards the client. Numerous studies and clinical experience suggest that knowing more therapeutic modalities enhances the knowledge and skills of the therapist, and that is of great benefit for the client. The research of Fauth (2009) tells that strict adherence to the technical part of the psychotherapeutic model, decreases the efficiency of the therapist and it detracts the client-therapist alliance.

Research in the field of psychotherapy suggests that influence on the psychotherapy process has the level of the motivation of the client and its ability to establish a relationship with the therapist. Black et al. (2005) suggest that the client's ability to establish a relationship with the therapist is fundamental to the process, but the ability of the therapist to establish a relationship is just as important. Coleman (2006) claims that the similarity of personality characteristics between the client and the therapist are also important for quality outcome of the therapy.

## **Psychotherapy and Neuroscience – when mind and brain become one**

Today, we would agree that psychotherapy is an independent scientific area. On the other hand, the fast development of technology lead to development of a new scientific branch named neuroscience which, in turn, (in)directly affects the development of psychotherapy itself. It set the direction for the study of the processes that take place in the brain and the nervous system - how psychotherapy affects them and vice versa.

Methods such as PET, CT and fMRI are now able to trace the neural correlates involved in psychotherapy. Neuroscience comes to knowledge how to help psychotherapeutic interventions by specifying what is necessary to stimulate in the clients in order to normalize deficient neural activities. (Brody, Saxena, Schwartz, Stoessel et al., 2001).

When compared with empathic intuitive therapist work, the technology used in the study of the brain and nervous system, may seem unimportant. But recent research in this area showed that this technology is very important. It helped neuroscientists to create a map of various brain functions in different situations: when we are hugging with partners, shouting at the kids, when we are planning a project or meditate. These schemes help our clients to switch quickly from integrated dysfunctional patterns to more flexible schemes of functioning, behavior, thinking and feeling. (Roth & Fonagy, 1996). The study of the brain and nervous system confirms that the human brain grows new neurons, synaptic connections of nerve pathways and networks throughout all lifespan. (Baddeley, Bueno, Cahill, Fuster, et al., 2000). Thus, the re-programming of old patterns and learning new schemes can occur throughout life. Clients do not have to stay stuck with the old patterns and old frames of behaviors.

In the memory, explicitly (within consciousness) and implicitly (out of consciousness) are kept the “rules” of how one should live and work in the majority of his time. All of us are functioning according to implicit (unconscious) schemes. Neuroscience helps us to understand how to approach the re-programming of the implicit “procedural” models and how to proceed with re-programming explicitly aware models. (McGaugh, Cahill & Roozendaal 1996).



We think that the knowledge about neural networks is important for us as psychotherapists in order to be able to encourage our clients in allowing self-regulation of nerve pathways, and help these roads become more adaptive.

Furthermore, emotions exist from birth, long before words, like survival signals and connectors with others. Research in neurology led to new knowledge about the functioning of the limbic system and thus the emotional processing: experience of bodily conditions, perceptions, motivation, knowledge, social connection. In-depth psychotherapy involves emotions of the clients and they help them make changes and re-programming of neural connections. (Wykes, Brammer, Mellers, Bray et al. 2002). These discoveries also tell us that integration of neural connections is the key to mental health and well-being: Our brains work best when neural networks are associated with stable neural pathways. Besides the integration of implicit and explicit memory, emotional-rational processing must integrate the processes of the left and the right hemisphere of the brain. The right hemisphere processes visual-spatial, in action information and is associated with better physical and emotional neural circuits. The left hemisphere processes symbolic, logical, linear, information. Psychotherapy helps clients to integrate the processing of all these neural networks and helps them develop a truly relational, emotional intelligence, flexibility of responses and reactions, and authentic integration of their personality. (Gabbard, 2000).

## **Conclusion**

The human race, since its existence, contains information about certain ways, techniques and methods used to alleviate mental suffering of people and the psychological problems they encountered during their lives. There has been not much time (if measured in terms of the development of humanity and all the science), after Freud laid the foundation of modern psychotherapy. He drew the essence of the centuries-old experience and this inherited knowledge through its genius.

Psychotherapy research to date has gradually improved and broadened the horizons for measuring change, yet much work remains to develop the theories, methods, and analytic strategies for conducting this work. No one single study, even with optimal design and procedures, can answer all of the relevant questions about the efficacy and effectiveness of therapy. Rather, a collection and series of studies, with varying approaches, is necessary for an incremental growth in our knowledge of optimal treatments for mental health problems. (Lambert, 2013)

We believe in expanding the use of research for psychotherapists-practitioners in a way of small-scale research that can make a strong and positive contribution to the development of theory and practice. First of all, it is our social obligation and responsibility as psychologists and psychotherapists to society in general, to make available all the resources that can help, to prick the tools, to ensure their effectiveness. We owe it to those who in hope for healing and relief decide to come to us, to seek help from us. Secondly, these surveys break down

myths about effective and ineffective psychotherapeutic approaches. Furthermore, through the surveys we try to find scientific evidence for all innovation, and all that practitioners have developed, or come to it intuitively and thus, contribute to the development of psychotherapy.

Today, there are a lot of scientific organizations dedicated to the advancement of scientific knowledge about psychotherapy and behavioral change, Some of them bring together researchers, clinicians, and students from a variety of theoretical orientations (e.g., cognitive-behavioral, humanistic, integrative/eclectic, interpersonal, psychodynamic, systemic) and professional backgrounds (e.g., psychiatry, psychology, social work). Some of them are international (like the Society for Psychotherapy Research), some of them are national (like the Canadian Counseling and Psychotherapy Association). There are also research organizations framed by psychotherapy approach (like FEPTO Psychodrama Research Committee) dedicated to research of various psychotherapeutic techniques, processes and outcomes.

At the end, as psychotherapy has been evolving over the years so have the research methods used to study it. All this has led to major findings about psychotherapy and cleared a large space in this field full of myths and mysteries, As practitioners we would easily agree that psychotherapy research is a highly complex phenomenon and discoveries regarding it will be a never-ending story. Most probably, some aspects of this phenomenon will remain in the realm of art and intuition and the only measuring tool will be the therapist's personality. Nonetheless, a great deal of topics are still amenable to research for the curious scientific minds.

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# **Individual Differences**



## THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AND OPTIMISM - PESSIMISM AMONG STUDENTS

### Abstract

The aim of this research was to study the relationship between personality traits (neuroticism, extroversion, conscientiousness, openness to experience, agreeableness) and concept of optimism - pessimism among students, as well as to examine whether listed personality traits are significant predictors of optimism and pessimism among students. The sample consisted of 238 students, 126 females and 112 males, average age 21.61. The Big Five Inventory (BFI, John & Srivastava, 1999) and Optimism-Pessimism Scale (O-P scale, Penezić, 2002) were used for collecting the data.

Multiple regression analysis showed that neuroticism, extroversion and agreeableness are significant predictors of students' optimism ( $R=.511$ ,  $R^2=.261$ ,  $p<0.000$ ), and the same traits contributed to the prediction of pessimism but in opposite direction ( $R=.436$ ,  $R^2=.190$ ,  $p<0.000$ ). Neuroticism is the best predictor, but its partial contribution to predicting optimism is negative ( $\beta=-.273$ ,  $p=.000$ ) while of predicting pessimism it is positive ( $\beta=.175$ ,  $p=.012$ ); contribution of extroversion and agreeableness is in reverse direction. The findings indicate to the possibility of predicting the disposition of the students' expectancies of positive and negative forthcoming outcomes on the basis of three out of five examined personality traits. Further studies should reveal some other correlates of optimism and pessimism among the students and within the wider population.

**Key words:** *optimism, pessimism, personality traits, Big Five model, student*

### Introduction Optimism and pessimism

The interest in scientific study of optimism and pessimism has largely increased over the last four decade, especially in the context of positive psychology. Review of literature has shown that there is some controversy regarding the definition and nature of these psychological concepts. Initial dilemma was whether these are two different concepts or an unique dimensional construct whose two poles are optimism and pessimism. Firstly it was considered that optimism-pessimism is one complex concept, but later studies were pointed out that optimism and pessimism have to be treated as two relatively independent personality constructs (Abdel Latif & Hamada, 1998; Mahasneh, Al-Zoubi & Batayeneh, 2013; Penezić, 2002; Scheier & Carver, 1985; 1992; Scheier, Carver & Bridges, 1994).

Still, there has no uniform opinion about the nature of these phenomena, and the answers have been sought through examination of its relations with larger number of personality variables. A small number of authors believe that optimism and pessimism are the poles of the same personality disposition. According to one opinion (Al-Ansari, 2003), this is a bipolar personality trait with normal distribution in the population, whose poles are extreme optimism and intensive pessimism. The opposite view (Allam, 2002; Scheier & Carver, 1985; 1992) consider optimism and pessimism as two distinct continuous personality traits; person's place on the continuum of optimism is independent from its place on the continuum of pessimism. In this case, each trait is considered to be unipolar, starting from the lowest degree (it could be zero) to the highest one.

For contemporary views of optimism as a personality characteristic, Scheier & Carver's (1985; 1987; 1992) studies are the most important ones. Their interests in optimism emerge from the research of the processes which are the basis of behaviour self-regulation. The role of optimism in the regulation of ones own behaviour comes to the fore in cases when the individual perceives the difference between the aims he is trying to achieve and his current position in relation to these aims. Optimism refers to the cognitive partiality, global expectancies or dispositional attitude of person to overestimate likelihood of positive forthcoming events and to underestimate likelihood of negative forthcoming events (Scheier and Carver, 1992). On the other hand, pessimism refers to the generalized expectancy and overestimation of likelihood of negative/ bad outcomes in life. These attitudes could be seen in the behaviour of typical optimistic and pessimistic person. Optimists, characterized by expectancies of positive outcomes, remain persistent in their intention to reduce the discrepancy between their aspirations and achievement, while pessimists, as expecting negative outcomes, are inclined to passive reactions and they easily give up on the realization the set goals. In addition, pessimists tend to blame themselves for the failure (Seligman, 2006/2008) while optimists rather blame bad luck or some other people for it. Faced with the same life blows, optimists comprehend them quite different: they believe that the cause of failure is in outside world and linked it exclusively to that specific event.

In order to improve the understanding of optimism and pessimism we have to mention viewpoint of Martin Seligman, one of the founders of positive psychology. He believes that the core feature of pessimism is feelings of helplessness. This feeling of helplessness is caused by the situation in which activities of the person do not affect what happens to him. Another important concept here is the explanatory style, defined as the way we usually explain why something happened; it is learned in the childhood and the adolescence and directly comes from looking at their own place in the world - whether they thinks that they are valuable and meritorious or worthless and appalled. The optimistic explanatory style could stop or reduce the helplessness, while the pessimistic style strengthens it (Seligman, 2006/2008). Optimists believe that failure is only temporarily



and roots exclusively to the event, so they do not consider themselves guilty of failure: circumstances, bad luck or other people are the ones responsible. When confronted with the problem they perceive it as a challenge and begin to invest more effort. On the contrary, pessimists believe that the unfavorable events will last long, that they will affect everything they do and that all is their fault (Seligman, 2006/2008). In the span of twenty-five years of studying optimism and pessimism, Seligman came up to the conclusion that pessimistic person has developed a habit to believe that misfortunes occur as his own fault, and inevitably will ruin whatever person would try to do. That is why pessimists are unable to use their abilities and fail to realize their potential.

Many studies have shown that the optimists are successful in politics, sport, trade and many other areas (Rijavec, Miljković & Brdar, 2008). Researchers reported that optimists are more tolerant to stress, more successful during schooling, more successful in their professional work and their general self-efficacy is higher as compared to pessimists (Pervin, Cervone & John, 2008). A lot of research dealt with the role of optimism and pessimism in relation to achievement in academics and professional domain. For example, recent study on the students' sample from University of Nis, Serbia (Gigić, Zlatanović, Stojiljković & Đigić, 2016) has shown positive correlation between optimism and general self-efficacy ( $r=.567$ ,  $p<.000$ ) and negative correlation between pessimism and self-efficacy ( $r= -.338$ ,  $p<.000$ ). Nancy Cantor, Julie Norem and associates (Cantor et al, 1987) have studied various strategies that people use for coping in the academic context and with challenging events /for example, transition from high school to college when person leaves the familiar surroundings and comes in a new city to study, where he faces the higher demands than before). The authors distinguish the optimistic strategy of coping and 'defensive pessimism' in an academic context, and their main finding is that there is a different mechanism of action of academic self-concept of the person on the final result of the exams. Positive expectations and self-confidence of students called as 'academic optimists' have predicted their academic success. 'Academic pessimists' are characterized by low self-confidence regarding their own capacities and negative expectations concerning final results. 'Negative thinking' can be an effective coping strategy in an academic context, because some individuals become motivated to achieve more than they expected and so avoid failure (Norem, 2001, in Pervin, Cervone & John, 2008). Thus, their negative thoughts and expectations do not lead to negative outcomes, pessimism makes them to do their best and so perform the task as best they can.

Numerous authors have suggested that having an optimistic orientation is the factor that protects people from health problems (Genc, Pekić and Matanović, 2013; Hutz et al., 2014; Rijavec, Miljković and Brdar, 2008; Scheier & Carver, 1985; 1987; 1992). Optimism helps maintenance of subjective well being and prevention of psychic disorder relapse (Ilardi, Greighead and Evans, 1997, in

Park, 2004). Optimistic style of explanation may not only keep up physical health but also the psychic one, particularly in the situations of life crisis (Gillman, Furlong and Huebner, 2009, in Hutz et al., 2014). A large number of studies demonstrate that the pessimists sooner give up and fall into depression more frequently.

However, although optimism has many positive effects some research data have shown that optimism is not always adaptive, especially when it provides a false sense of security. Sometimes optimists delay in seeking help for medical problems, despite the evidence that a problem exists (drinking problem, drug addiction, becoming asthmatic, cancer proneness). This unrealistic optimism is known as 'naïve optimism', which most likely occurs when people are asked to rate the likelihood of low frequency events that they have not experienced (Weinstein, 1987). Due to ungrounded sense of security such people rated themselves as being at a comparatively lower level of risk than statistically should be the case. Naive optimism is linked with higher levels of extroversion and lower levels of neuroticism.

Summing up previously results, based on a large number of conducted studies (Al-Ansari, 2003; Cohen, 2001; Lennings, 2000; Hollnagel et al., 2000; Achat et al., 2000, in: Mahasneh, Al-Zoubi & Batayeneh, 2013; Scharpe, Martin & Roth, 2011), it could be concluded that the optimism correlates positively with extroversion, mental health, physical health, subjective well-being, low level of pain and fatigue, pleasure with life, effective facing with stress, self-control, successful solving of problems, academic achievements, work motivation and occupational productivity.

As can be seen from the above, previous studies have dealt mainly with the relations of optimism and pessimism with academic attainment or overcoming health problems, and the results have been somewhat inconsistent. This issue has not been explored enough in Serbia, so we have designed the investigation on the sample of young people. The aim of our research was to examine the relationship between the personality traits, and optimism and pessimism among the students. Furthermore, we want to explore whether personality traits are significant predictors of optimism and pessimism among the students.

## METHOD

### *Research problem and goals*

The problem of this research can be addressed to the following question: what is the relationship between personality traits set out by the Big Five model, on the one hand, and optimism and pessimism on the other hand among students?

Starting from this, the following goals and hypotheses are set:

- find out which of the Big five personality traits are statistically correlated to optimism and pessimism among students, suvisno???
- find out which of the Big Five personality traits are statistically significant predictors of students' optimism,
- find out which of the Big Five personality traits are statistically significant predictors of students' pessimism.

Based on previous studies (Al-Ansari, 2003; Mahasneh, Al-Zoubi & Batayeneh, 2013; Rijavec, Miljković and Brdar, 2008; Scharpe, Martin & Roth, 2011; Scheier & Carver, 1985, 1987, 1992; Seligman, 2006; Weinstein, 1987), optimism is expected to be explained by higher levels of extroversion and lower levels of neuroticism while pessimism is expected to be linked with higher levels of neuroticism and lower levels of extroversion. In addition, it could be expected positive correlation between agreeableness and optimism among students.

### ***Sample***

The sample consisted of 238 students from different faculties of University of Pristina temporarily settled in Kosovska Mitrovica, average age  $M=21,61$ ,  $SD=1,68$ . The sample encompassed 126 female subjects and 112 male subjects. The testing was anonymous, all subjects participated in the research voluntarily, after having been informed about the aim of the research.

### ***Variables and measures***

#### **1. *Personality traits***

Personality traits are defined according to the Big Five model and measure by BFI (John & Srivastava, 1999). Starting from the lexical paradigm, authors hold that all the people can be described by the following five broad personality dimensions:

*Extroversion* - striking orientation towards the outer world, encompasses the traits such as sociability, talkativeness, activity, mostly positive emotions, self-confidence and assertiveness (John & Srivastava, 1999). A low score indicate person's tendency to be introverted, orientation towards oneself instead of the outside world.

*Agreeableness* - prosocial attitude towards other people in general, includes traits such as sympathy, kindness, altruism and modesty. Warmth is a part of this dimension while in FFM model represents a part of extroversion. High scored

person is generous and ready to compromise, socially flexible with the aim of maintaining harmonious relations (John, Naumann & Soto, 2008). Low scored person is non-cooperative and put their own interests ahead of those of other people and their welfare.

*Conscientiousness* - the tendency towards planning, organizing and fulfilling of socially prescribed duties. High scored person is successful in the aim-oriented activities, able to postpone satisfaction and has good self-control (John & Srivastava, 1999). Lower scores indicate bad self-discipline, lack of planning and self-directed behaviors.

*Neuroticism* (often present positive pole of dimension as emotional stability) - encompasses indicators of anxiety, tension, bad mood and depression; generally represents the person's tendency to experience negative emotions and problems in the regulation of emotion. High score indicates high level of emotional reactivity and because of that person's low tolerance to frustration and ineffective coping strategies in stressful situations.

*Openness to experience* - implies wideness, originality and complexity of one's mental life. It is a cognitive style dimension, which distinguishes imaginative, creative individuals from the "low-minded" and conventional ones. Open people are intellectually curious, sensitive to beauty and art, imaginative, inventive and innovative (John & Srivastava, 1999). Compared to the Five Factor model, this dimension is often named as the Intellect (Smederevac and Mitrovic, 2006).

*The Big Five Inventory - BFI* (John & Srivastava, 1999) consists of 44 items defined in the form of short phrases based on the personality traits attributes which are prototype of the Big Five model. The respondent is asked to estimate oneself on the Likert type scale from 1 (I do not agree at all) to 5 (I agree entirely) to what extent each statement refers to them. The Inventory has five subscales as follows: Neuroticism (8 items), Extroversion (8 items), Openness to experience (10 items), Agreeableness (9 items) and Conscientiousness (9 items). Cronbach alpha for subscales ranged from .52 to .67 in our sample.

## 2. *Optimism and pessimism*

Optimism and pessimism are understood as generalized expectations of positive and negative outcomes of an action, i.e. disposition of person's expectancies of positive i.e. negative outcomes. According to Scheier and Carver (1985) findings, these are two unique dimensions that are negatively correlated to each other and both of them are primarily linked to the generalized expectations directed towards future. Some authors (Seligman, 2006) prefer to define this concept as a broader positive or negative view of the world, which is not only directed to the future events but also include current events and situations.

*Optimism-pessimism scale (O-P scale)* (Penezić, 2002) treated optimism and pessimism as two dimensions of personality. The scale consists of 14 items with 5-point Likert scale, 6 items for the estimation of optimism and 8 for the estimation of pessimism. Cronbach alpha coefficient for the optimism subscale was  $\alpha=.78$ , and for the pessimism subscale was  $\alpha=.84$ .

## RESULTS AND DISCUSSION

### *Descriptive statistics*

Descriptive statistics are presented in table 1. The level of optimism is higher than the level of pessimism in the research sample. Data about correlation between optimism, pessimism and personality traits are given in tables 2. It could be seen that all Big Five traits correlated with optimism and pessimism on the students' sample and direction of the connectedness of variables is largely in line with expectations based on previous findings.

Table 1. Descriptive statistics (score range, Means, Standard Deviations, average level of agreement with items, parameters of scores distribution - significance of Kolmogorov-Smirnov test) for personality traits, optimism and pessimism

Personality variables	Min	Max	M	SD	Average agreement with items	Kolmogorov-Smirnov test		
						d	df	p
Neuroticism	10	40	22.01	5.52	2.75	.07	238	.00
Extroversion	12	65	28.53	6.10	3.57	.07	238	.02
Openness	19	86	35.04	5.57	3.50	.11	238	.00
Conscientiousness	14	91	32.72	7.19	3.64	.08	238	.00
Agreeableness	14	78	34.29	6.39	3.81	.08	238	.00
Optimism	6	30	23.45	4.45	3.91	.08	238	.00
Pessimism	8	39	21.02	7.39	2.63	.11	238	.00
						.06	238	.05

Table 2. Relations between Big five personality traits and optimism/pessimism on students' sample (Pearson's coefficient of correlation)

BFI	Optimism	Pessimism
Neuroticism	-.426**	.335**
Extroversion	.347**	-.328**
Agreeableness	.333**	-.302**
Conscientiousness	.328**	-.272**
Openness	.188**	-.163*

Significance: \*  $p<0.05$  ; \*\*  $p<0.01$

## Personality traits as predictors of optimism and pessimism

According to the research goals, the data were processed using the multiple regression analysis procedure (enter). In regression model all Big Five personality traits were treated as predictors while optimism and pessimism were included as criteria variables, separately.

**Optimism.** Regression model was significant ( $R=.511$ ,  $R^2=.261$ ,  $F=16.387$ ,  $p<.000$ ) and proved that is possible to explain 26.1% of individual differences in the level of optimism by the included personality traits. Neuroticism, extroversion and agreeableness were singled out as significant predictors of students' optimism. Taking into account the value of  $\beta$  coefficient, neuroticism could be considered the best predictor of optimism compared to others traits, and direction of the prediction is negative (low level of neuroticism contributes to the prediction of optimism). This result is in line with findings of some recent and important studies in the field (Abdel Latif, & Hamada, 1998; Al-Ansari, 2003; Hutz, Midgett, Cerentini Pacico, Bastianello & Zanon, 2014; Mahasneh, Al-Zoubi & Batayeneh, 2013; Scharpe, Martin & Roth, 2011; Scheier & Carver, 1992).

Table 3. Multiple regression analysis: personality traits as predictors of optimism

	<b>R</b>	<b>R<sup>2</sup></b>	<b>F</b>	<b>p</b>
<b>Personality traits</b>	.511	.261	16.387	.000

Table 4. Partial contribution of personality traits in the prediction of optimism

<b>Predictors</b>	<b><math>\beta</math></b>	<b>t</b>	<b>p</b>
<b>Neuroticism</b>	<b>-.273</b>	-4.123	<b>.000</b>
<b>Extraversion</b>	<b>.133</b>	2.048	<b>.042</b>
Openness	.082	1.394	.165
Conscientiousness	.123	1.896	.059
<b>Agreeableness</b>	<b>.128</b>	1.969	<b>.050</b>

**Pessimism.** Regression model was significant ( $R=.436$ ,  $R^2=.190$ ,  $F=10.916$ ,  $p<.000$ ) and personality traits have proved as significant predictors of pessimism variances in students' sample. Based on the value of  $\beta$  coefficient, neuroticism, extroversion and agreeableness were singled out with almost equal partial contribution in the prediction of pessimism. Although the same BFI traits have predictive value in explaining optimism and pessimism, their contribution has inverse direction. High levels of neuroticism and lower scores on the E and A could increase the level of pessimism, which is in accordance with our hypothesis and previous findings (Al-Ansari, 2003; Hutz et al., 2014; Mahasneh, Al-Zoubi & Batayeneh, 2013; Scheier, Carver & Bridges, 1994).

Table 5. Multiple regression analysis: personality traits as predictors of pessimism

	<b>R</b>	<b>R<sup>2</sup></b>	<b>F</b>	<b>p</b>
<b>Personality traits</b>	.436	.190	10.916	.000

Table 6. Partial contribution of personality traits in the prediction of pessimism

<b>Predictors</b>	<b><math>\beta</math></b>	<b>t</b>	<b>p</b>
<b>Neuroticism</b>	<b>.175</b>	2.526	<b>.012</b>
<b>Extroversion</b>	<b>-.170</b>	-2.501	<b>.013</b>
Openness	-.062	-.999	.319
Conscientiousness	-.087	-1.282	.201
<b>Agreeableness</b>	<b>-.140</b>	-2.055	<b>.041</b>

## DISCUSSION AND CONCLUSION

The results of our research will now be analyzed from the perspective of the existing empirical evidence on the relationship between personality traits, optimism and pessimism, bearing in mind the research hypothesis.

As the main findings of our research we consider the following. It is evident that all Big Five personality traits correlated with students' optimism and pessimism as well. Optimism created significant negative correlation with neuroticism, and positive one with the extroversion, conscientiousness, openness to experience and agreeableness, while the pessimism had the opposite pattern of relationships. Regression analysis indicated a somewhat different picture about the connection between the examined variables. Multiple regression analysis showed: a) three of five BFI-traits could be considered as significant predictors of optimism and pessimism, these are N, E and A personality traits but their partial contribution was in opposite direction (table 4 and 6); b) these traits slightly better predict students' optimism compared to pessimism, with neuroticism as the best predictor.

Let's look these findings in more detail taking into account previous research. Students' optimism could be predicted by low neuroticism and higher levels of extroversion and agreeableness. It means that low neuroticism contributes to the forming of optimistic attitude to life, i.e. such persons have stronger capacities for facing and coping with stressful situations, and are characterized by the absence of negative affection. Positive contribution of extroversion and agreeableness describe friendly and warm-hearted person, who tend to be in good mood, optimistic and energetic. Persons with a higher score of extroversion have affinity to positive emotions and optimistic attitude while persons with low neuroticism are reliable, stable, relaxed resilient, contented and self-confident (John & Srivastava, 1999; John, Naumann & Soto, 2008; Pervin, Cervone & John, 2008). A number of studies (Furnham, 2003; Steel and Ones, 2003, in Lars-

en and Buss, 2008; Pervin, Cervone & John, 2008; Rijavec, Miljković & Brdar, 2008) found that happiness and experiencing of positive emotions in everyday life can be best predicted by high extroversion and low neuroticism. Burić, Sorić & Penezić (2011) reported that optimistic persons performed more persistency in achieving their aims, even if facing obstacles, and in stressful situations they confronted with problems energetically trying to find relevant information and to emphasize positive sides. Optimists are known, opposite to the pessimists, for perceiving a fewer number of situations as threatening and dangerous, therefore are much more often faced with the challenges (Baldwin at al., 2003, in Genc, Pekić and Matanović, 2013).

According to the Five Factor and Big Five models, neuroticism involves pessimism, i.e. persons demonstrate affinity to experiencing of negative emotions including anxiety, tension and bad mood, the consequences of which are low self-respect, disturbing self-centeredness and hostility. Such a person generally tend to experience negative affects, feeling of guilt, and pessimistic attitude, so person organize one's own behavior towards the negative situation outcomes (Brdar i Bakarčić, 2006; John et al., 2008; Knežević, Radović and Opačić, 1997). These persons are also inclined to 'self-handicapping' which means creation of obstacles for their successful achievement and so underestimating themselves (Ross at al., 2002, in Larsen & Buss, 2008). Lower levels of extroversion and agreeableness could be associated to pessimism, because such persons have characteristics of being reserved, emotionally closed and being suspicious of the motives of other people behavior, which makes them uncooperative, arrogant and selfish and even unfriendly oriented towards the others (Knežević, Radović and Opačić, 1997; Smederevac and Mitrović, 2006). Taking above into account, it is understandable why these three personality traits are significant predictors of pessimism, found in our research.

In addition to these, the results of several recently conducted studies can be considered comparable with the findings of our research. Abdel Latif & Hamada (1998) and Al-Ansari (2003, in Mahasneh, Al-Zoubi and Batayeneh, 2013) revealed the positive correlation between optimism and extroversion, pessimism and neuroticism, negative correlation between pessimism and extroversion and between optimism and neuroticism. Bastianello, Pacico & Hutz (2014), using the large students' sample from two universities in Brazilia, have also found that optimism negatively correlated to neuroticism and positively correlated to extroversion and agreeableness. Hutz et al., (2014) conducted research on the sample of American students and reported negative correlation between optimism and neuroticism, and positive correlation among optimism and another four personality traits (extroversion, conscientiousness, openness and agreeableness).

Based on the above, we can conclude that our research findings are consistent with previous studies in the field and hypothesis is generally confirmed. Personality traits neuroticism, extroversion and agreeableness are important for



understanding the essence of the concepts of optimism and pessimism, while the role of openness and conscientiousness is not sufficiently clarified. One reason may be the low reliability of the BFI measures and this is the weak side of the study, so more reliable instrument should be used in future research. Both constructs have a 'source' in the same personality traits (N, E and A are significant correlates and predictors), but they are not unique bipolar construct; however neuroticism is more important in the explanation of optimism compared to pessimism. In addition, larger proportion of optimism variance could be predicted on the basis of these traits but it is not sufficiently yet. Future research should include other variables of personality and also extended to different age and professional groups in wider population. In our opinion, some social factors (for example, the general social atmosphere, living standards and the level of social welfare) may be important determinants of individuals' optimism and pessimism and contributed to better understanding of these two phenomena too.

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## SOME OF THE PSYCHOMETRIC CHARACTERISTICS OF THE LIFE POSITION SCALE (LPS) ON SERBIAN AND MACEDONIAN SAMPLE

### Abstract

The goal of this study was to check some psychometric characteristics of Life Position Scale on Serbian and Macedonian samples. For purposes of this study, this scale has been translated and adapted for usage on Serbian and Macedonian samples. Convenience sample was used in both countries. Serbian sample consisted of 142 respondents of both sexes from the city of Nis. Macedonian sample consisted of 100 respondents of both sexes from Skopje.

The given results show that the scale has satisfactory level of reliability on both samples ( $\alpha > 0.7$ ).

As for the factor structure, four separated factors on Serbian sample account for 65.17% of total variance, but the items weren't arranged according to theoretical expectations. On Macedonian sample, the scale shows adequate factorial validity, and four separated factors account for 53.09% of total variance.

The results are in favor of the usefulness of this scale on the sample in Macedonia, while the factorial validity on Serbian sample is questionable, so further analysis should be conducted.

**Key words:** *Life positions, psychometric characteristics, factorial validity.*

### Introduction

Transactional analysis can be divided into five theoretical and practical clusters, according to Stainer (2003). Those clusters are: The ego states and transactions cluster, The strokes cluster, The scripts and games cluster, The Ok cluster, and The Transactional Theory of change cluster.

*The ego states and transactions cluster.* Ego state is a main concept in transactional analysis. Bern defines ego state as „coherent systems of thought, feeling, manifested by corresponding patterns of behavior” (Bern, 1972; according to Stewart & Joines, 1987).

When it comes to transactions, they occur when one person offers some sort of communication to other person. In formal language the opening of communication is called stimulus, and the reply is called the response. Regarding that, transactions can be formally defined as “transactional stimulus plus transactional response” (Stewart & Joines, 1987).

*The strokes cluster.* Bern used this term, strokes, for units of care, first registered by infants on being held and cared for. He demonstrated that we needed both actual and symbolic strokes throughout our lives (English, 2005).

*The scripts and games cluster.* Bern postulated that people in childhood make choices that shape their life-script. (Stainer, 2003). Bern defined life-script as a “life plan made in childhood, supported by parents, justified by subsequent events, and culminating in chosen alternative” (Bern, 1972; according to Stewart & Joines, 1987).

Choices made in childhood are supported by games, which are being repeated as a routine throughout someone’s life, and by roles people play in them (Stainer, 2003).

*The Ok cluster.* While creating their identity people define meaning and significance of their lives. Some people see life as positive experience and themselves as acceptable human beings. Bern called this positive experience of self “being ok”. Other people believe that they are not acceptable human beings (Stainer, 2003). This cluster, in short terms, refers to beliefs about oneself and about other people.

Important concept, for purposes of this study, is a concept of life positions. Early on, two articles (Berne, 1962, 1976; Haiberg, Sefness, & Berne, 1963, 1976; according to White, 1994) described life position as a person’s life direction, or life destiny.

The crucial question in any discussion about life positions is “What is Okness?”. Although crucial, not many authors have tried to answer this question. Harris and Harris (1985; according to White, 1994) saw Okness as a comparison of strength, power and dependency between child and his or her parents. Definition of Okness given by White (1994) includes both cognitive and feeling aspects. We think about the value we have for self and others, while at the same time having a feeling about that value.

According to number of authors, concept of life positions is not only limited to the opinions of individuals about themselves and about others. Life position essentially expresses a psychological state and includes feelings, way of thinking and behavior of individuals towards themselves and towards other people (Kayalar, 2003; Hine, 1995; according to Isgor at all., 2012).

People conduct their lives according to one of four main life positions. Those life positions are:

1. *I am OK, You are OK:* individuals in this life position accept the importance of other people and think that life is worth living (Akkoyun, 2001; according to Isgor at all., 2012). Those individuals are also aware of their own value (Budisa at all., 2012). They are self-confident, compassionate, positive, open, objective, productive and creative (Weisner, 2004; according to Isgor at all., 2012). It is considered that the person in this position is inventive and creative, active in solving problems, spontaneous and has the capacity to establish intimate relationships (Ernst 1971);

2. *I am OK, You are not OK*: this life position alludes to a child that was exposed to inadequate treatment (abuse, for example) where the anger is – weather child is a witness or a participant – usual response to problems. It is believed that this life position can be developed according to principle of social learning or as a revengeful position, wherein the person behaves arrogantly, with contempt etc. (Budisa at all., 2012). People that occupy this life position try to undermine or deceive others because they feel that they are being undermined or deceived (Akkoyun, 2001; according to Isgor at all., 2012). Common emotions in this life position are contempt, envy, hatred, irritation (Ernst, 1971);

3. *I am not OK, You are OK*: it is believed that this position develops if child's needs were neglected. This life position is developed if expectations of a child are too low, or, on the other hand too high so that child is incapable of meeting those expectations (Budisa at all., 2012). These people feel weak when comparing to other people (Alisinaoglu, 1995; according to Isgor at all., 2012). It is expected that these people have feelings of insufficient worthiness, shame, anxiety, depression even self-hatred (Ernst, 1971);

4. *I am not OK, you are not OK*: individuals on this life position believe that neither they nor other people have any value. These people often feel senselessness, helplessness, hopelessness and different nihilisms (Budisa at all., 2012). There is a possibility of psychotic decompensation in predisposed individuals (Ernst, 1971). Those who occupy this life position have characteristics such as: irresponsibility, rebelliousness, neglect, they are also prone to over-eating, alcohol abuse, paranoia etc. (Weisner, 2004; according to Isgor at all., 2012).

Berne stated, "Every game, script, and destiny, is based on one of these four basic positions" (1962, 1976; according to White, 1994).

Berne believed that life position is being taken in early childhood (to be more precise, in third to seventh year) in order to justify decision based on early experience. Stainer agrees with Bern in suggesting that life position justifies script decisions, but in his version, the life position is adopted first in time and the decision comes later (Stewart & Joines, 1987).

Stewart and Joines, after reviewing earlier definitions of life position, gave their own definition. According to them, life position can be defined as "one's basic beliefs about self and other, which are used to justify decisions and behavior" (1987).

Although most authors state that life positions are unchangeable, Ernst showed that they can variate after all. He showed, for example, that someone can behave in I+U- (I am OK, You are not OK) position at home, then go to work and be I-U+ (I am not OK, You are OK) with the boss (Ernst, 1971). Woollams and Brown state that what Ernst was describing should be viewed as "felling states" (Woollams & Brown, 1978; according to White, 1994).

It should be mentioned that some authors believe that in adult age life position I+U+ can be chosen consciously (Jacobs, 1997; according to Isgor at all., 2012).

After reviewing all concepts important for understanding Transactional analysis and first of all, concept of life positions, fifth Transactional analytic cluster according to Stainer (2003), should be mentioned.

*The Transactional Theory of change cluster.* From its beginning, transactional analysis was designed as adult-centered, behavioral, conceptual, group therapy. The first premises of transactional analysis was that if people became aware of their scripts and games, they would be able to change their lives in positive direction.

Instrument used in this study is Life Position Scale, constructed by Fredrick Boholst (2002). This scale was based on main concepts of Transactional analysis and its goal is to define a life position adopted by an individual. This is a 5-point Likert type scale, and it consists of 20 items focused on four measuring subjects: "I am OK" (I+), "I am not OK" (I-), "You are OK" (U+), and "You are not OK" (U-).

First factor analytic procedure on Life Position Scale, in the original study, came up with two factors - one containing all the "I" items and the other all the "U" items. But then the question was asked regarding a sense of "Okness" and "not-Okness" and why items weren't arranged according to that. After that, the two measuring subjects were divided into four, now regarding the sense of "Okness" and "not-Okness" (Boholst, 2002).

To extract individual's life position the I- (I am not OK) scores are to be reversed and its total score is to be added to I+ (I am OK) scores, creating a global score for "I". Presumably, the higher score, the more OK person feels about himself or herself. The same procedure is to be applied to U- and U+ scores, in order to create a global score for "U". Again, presumably, the higher score, the more OK person feels about others (Boholst, 2002).

Taking into account that this scale is often used in both research and in clinical practice, and the fact that it wasn't validated on Serbian and Macedonian samples, validation of Life Position Scale is considered to be a significant problem.

### **Aim and problem of the study**

The aim of this study was to examine some psychometrics characteristics of Life Position Scale (LPS) on Serbian and Macedonian samples, first of all its factorial validity.

Considering that Serbian and Macedonian cultures are similar, fairly similar results were expected regarding validity and reliability of this scale on these two samples.

It should be mentioned that validation of Life Position Scale was already done on Turkish sample. The results of that study were in favor of usefulness of Life Position Scale on Turkish sample (Isgor at all., 2012).



## Method

### *Sample*

The sample consisted of 241 respondents from Serbia and Macedonia. Convenience sample was used in both countries.

Sample from Serbia was collected in the City of Nis, mainly at the premises of the Faculty of Philosophy, and it is consisted of 142 respondents. Respondents were students from Faculty of Philosophy in Nis. The sample consisted of respondents from both sexes (Female=100; Male=23; Not specified=19). Age range in this sample was from 18 to 43, while the average age was 20.24.

Sample from Macedonia was collected in Skopje at the premises of Faculty of Philosophy. This sample consisted of 100 respondents, students from Faculty of Philosophy in Skopje, both sexes (Female=65; Male=13; Not specified=22). Age range in this sample was from 18 to 45, while the average age was 22.2.

Taking into account methodological rule which states that if the scale is valid and reliable on smaller sample it would also be valid and reliable on larger sample, the study was conducted on sample that was available in that course of time.

### *Instruments*

Instrument used in this study is Life Position Scale (LPS) constructed by Fredrich Boholst (2002).

Example of an item:

	All the time	Most of the time	Half of the time	Sometimes	Never
I like myself					

### *Procedure*

For purposes of this study, this scale has been translated and adapted for usage on Serbian and Macedonian samples, on which occasion the back translation procedure was used.

Adaptation of this scale for Serbian sample, in one direction (from English to Serbian), was done by Andrija Stojanovic, English teacher. Translation in the other direction (back translation) was done by Vladimir Hedrih, professor at Department of Psychology at Faculty of Philosophy in Nis.

Adaptation for Macedonian sample, in one direction (translation to Macedonian), was done by Gjoko Zdraveski, former professor of Macedonian language at Faculty of Philosophy in Nis. Translation in the other direction (back translation)

was done by Danijela Sinadinovic, French teacher with Macedonian origin.

Adapted scale was given to respondents at the premises of Faculty of Philosophy in Nis, and at the premises of Faculty of Philosophy in Skopje. Some other instruments were also administered on this occasion. Testing was done anonymously. Respondents were not asked to leave any information which would reveal their identity.

## Results and Discussion

The results of this study refer to the validation of Life Position Scale on Serbian and Macedonian samples.

Before presenting results from this study, some psychometric properties of this scale from previous studies should be mentioned.

Reliability of Life Position Scale on Turkish sample was adequate. Cronbach's Alpha coefficient for subscale "I am OK" was 0.97, for subscale "I am not OK" was 0.96, for subscale "U are OK" was 0.94, and for "U are not OK" subscale Cronbach's Alpha coefficient was 0.94 (Isgor at all., 2012).

Factorial validity of this scale on Turkish sample was adequate. All items had highest loading according to theoretical expectations. All loading were higher than 0.8 (Isgor at all., 2012).

### *Reliability*

Internal consistency reliability in this study was tested through Cronbach's Alpha coefficient.

Measuring subject	Serbian sample	Macedonian sample
I am Ok	0.893	0.779
You are Ok	0.706	0.616
I am not Ok	0.814	0.738
You are not Ok	0.776	0.693

From table above it can be seen that adequate level of internal consistency reliability on Serbian sample was achieved without excluding any items from the analysis.

When it comes to Macedonian sample, from the table above it can be seen that the two measuring subjects have adequate level of internal consistency reliability, and two are very near border level of reliability. It is expected that two measuring subjects, with level of reliability near border would show adequate level of internal consistency reliability on larger sample.

Table 2  
Item – level statistics

Sample	Serbian sample						Macedonian sample					
Measuring subject	Item variances			Inter item correlations			Item variances			Inter item correlations		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
I+	1.052	1.427	1.306	.426	.762	.626	.479	.768	.634	.258	.576	.417
U+	<b>.865</b>	<b>1.598</b>	<b>1.215</b>	.055	.568	.339	.596	.917	.757	<b>-.102</b>	<b>.548</b>	<b>.229</b>
I-	1.056	1.349	1.174	.260	.645	.477	.491	.861	.706	.255	.547	.367
U-	<b>.812</b>	<b>1.505</b>	<b>1.051</b>	.292	.576	.418	<b>.589</b>	<b>1.047</b>	<b>.842</b>	.094	.527	.324

From table above it can be seen that most of the items do not vary too much from mean on their measuring subject, except items on measuring subjects “You are OK” and “You are not OK” on Serbian sample, and items from measuring subject “You are not OK” on Macedonian sample. This means that respondents, on most items do not differ one from another too much.

When it comes to inter-item correlations, it can be seen from the table above, that they vary from very low to medium. None of the correlations are higher than 0.9. Correlations vary most on measuring subject “You are OK” on Macedonian sample, where negative correlations can be found. This means that some of the items from same measuring subject differ one from another more than they were expected to, according to theoretical assumptions.

Contribution of individual items to overall consistency was also checked.

Most significant item for reliability of measuring subject “I am OK” is item number 2, both on Serbian and Macedonian sample. Removal of that item would lower reliability of measuring subject in question significantly. The most significant item for measuring subject “You are OK” is item number 6, on both samples. When it comes to measuring subject “I am not OK”, most significant item is item number 4, on both samples. And the most significant item for measuring subject “You are not OK” is item number 16, also on both samples.

In conclusion, it can be seen that reliability of this scale is satisfactory, but it was expected to be better considering the results from previous studies.

### ***Factorial Validity***

For testing factorial validity in this study exploratory factor analytic procedure was used. Factor extraction was constrained to four factors.

Exploratory factor analysis is used by researchers when scale is being developed and there are none a priori hypothesis about factors. Based on the

presumption that model of Life Position could vary between different cultures, exploratory factor analysis was used in this study. It was used in order to see the nature of those potential differences and to, at the same time, check model of Life Positions given by the author of this scale.

Few of the rotations were tested, including Varimax rotation used in original study (Boholst, 2002). In this study, Promax rotation gave the best results. Regarding that, results from this rotation are shown in the tables below.

Factor	Serbian sample			Macedonian sample		
	Total	% of the variance	Cumulative %	Total	% of the variance	Cumulative %
1.	7.046	41.146	41.146	3.164	20.911	20.911
2.	5.572	10.770	51.917	2.683	13.251	34.162
3.	5.702	7.159	59.075	2.613	11.264	45.426
4.	2.697	6.104	65.179	2.859	7.670	53.096

From previous table it can be seen that four separated factors account for 65.17% of the total variance. The first factor explains the highest percentage of the total variance (41.14%), on Serbian sample.

On Macedonian sample, four separated factors account for 53/09% of the total variance. First factor explains the highest percentage of the total variance (20.91%).

Measuring subjects	Items number	Serbian sample				Macedonian sample			
		Factor 1	Factor 2	Factor 3	Factor 4	Factor 1	Factor 2	Factor 3	Factor 4
I am OK	1	.938							.580
	2	.839							.689
	9	.943							.555
	10	.606							.778
	17	.378							.718
I am not OK	5					.602			
	6	-.648				.640			
	13	-.766				.591			
	14	-.678		.398		.703			
	19			.664		.768			
You are OK	3			-.361					
	4								
	11				.673				
	12				.772		-.440	.794	
	18			-.800	.908			.824	.374
You are not OK	7						.748		
	8		.814				.684		
	15		.822	.883			.236		
	16		.907				.836		
	20		.493				.401		

From the table above it can be seen that on Serbian sample, on first factor, highest loading have items from measuring subject "I am OK". Also, on this factor highest loading have three items (number 5, 6 and 13) from measuring subject "I am not OK". All items correlating with this factor are I items. Regarding that, alternative version of measuring subject "I am OK" is suggested on Serbian sample. Measuring subject, "I am OK", on Serbian sample could consist, apart from "I am OK" items, also of three items focused on measuring subject "I am not OK" in original scale (items number 5, 6 and 13), but they should now be recoded. This means that, considering that this instrument is 5-point Likert type scale, if respondent answers with number five (5), for example, this response should be treated as if the person gave answer scored with number one (1), on those three items in question.

On second factor, highest loading have items from measuring subject "You are not OK" except item number 7, which has highest loading on third factor. Considering that four out of five items from same measuring subject have highest loading on the same factor, this result is in favor of factorial validity of measuring subject "You are not OK" on Serbian sample.

On third factor highest loading have items which refer to measuring subject "I am not OK" and three items from other measuring subjects. On this factor, highest loading have items which refer to oneself and to others, that fact disables any possibility of alternative interpretation of this factor, and regarding that, it doesn't go in favor of factorial validity of Life Position Scale on Serbian sample.

On fourth factor, highest loading have only items from measuring subject "You are OK". This result goes in favor of factorial validity of measuring subject "You are OK" on Serbian sample.

Regarding that there is no possibility of alternative interpretation of third factor, it can be concluded that Life Position Scale doesn't possess adequate factorial validity on Serbian sample.

When it comes to Macedonian sample, it can be seen from table above that only two items were not arranged according to theoretical expectations. Considering that, it can be concluded that Life Position Scale on Macedonian sample possesses adequate factorial validity.

Tucker's congruence coefficient has been computed in order to determine similarity between factors that have been derived in a factor analysis. Correlations should be at least 0.85 in order to conclude that factor structures of a scale on two samples are fairly similar.

Factor		Macedonian sample			
		Factor 1	Factor 2	Factor 3	Factor 4
Serbian sample	Factor 1	-0.667	0.062	0.084	0.747
	Factor 2	0.155	0.757	-0.221	-0.007
	Factor 3	0.238	0.320	0.000	-0.248
	Factor 4	0.082	-0.002	0.912	0.088

From the table above it can be seen than none of the correlations meet the criteria stated in the paragraph above. Regarding that, it can be concluded that factor structures of this scale on Serbian and Macedonian sample differ one from another.

## Conclusion

The aim of this study was validation of Life Position Scale on Serbian and Macedonian samples. This scale is often used both is research and in clinical practice and it wasn't yet validated on these samples. Taking this into account, validation of this scale is considered to be a significant problem

Initial assumption was that the results of this study on Serbian and Macedonian sample will not be too different one from another. This assumption was only partially confirmed.

After reviewing the results we can see that the scale used in this study possesses adequate level of internal consistency reliability and adequate factorial validity on Macedonian sample.

Life Position Scale on Serbian sample possesses adequate level of internal consistency reliability, but not adequate factorial validity. As it was stated in earlier paragraphs, there is possibility of alternative interpretation of one of factors on Serbian sample (more precisely, there is possibility of alternative version of measuring subject "I am OK").

There isn't any other possibility of alternative interpretation of the other problematic factor, factor number four. Taking this into account, it has been concluded that this scale doesn't possess adequate factorial validity on Serbian sample.

From all that was stated in previous paragraphs it can be seen that results do not speak in favor of usefulness of this scale on Serbian sample. Those results could be reflection of inadequate factorial validity of Life Position Scale on Ser-

bian sample. In other terms, results could be reflection of an inherent problem with scale itself.

There is also possibility that inadequate factorial validity of scale was due to the fact that the sample was too small, and that methodological rule we took into account at the beginning of this study did not apply in this case. Methodological rule in question states that if the scale is reliable and valid on smaller sample it will also be reliable and valid on larger sample.

Repetition of this study on larger sample is suggested in order to test results given here.

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Ana Jovančević

## NEKE PSIHOMETRIJSKE KARAKTERISTIKE SKALE ŽIVOTNIH POZICIJA (LPS) NA SRPSKOM I NA MAKEDONSKOM UZORKU

### Rezime

Cilj ovog istraživanja bio je da se provere neke psihometrijske karakteristike skale životnih pozicija na srpskom i na makedonskom uzorku. Za potrebe istraživanja skala je prevedena i adaptirana za upotrebu na srpskom i na makedonskom uzorku. Uzorak je bio prigodan u obe zemlje. Uzorak iz Srbije činilo je 142 ispitanika oba pola iz Niša, starost se u ovom uzorku kretala od 18 do 43 godina. Makedonski uzorak činilo je 100 ispitanika iz Skoplja takođe oba pola, starost ispitanika se kretala od 18 do 45 godina.

Dobijeni rezultati pokazuju da skala poseduje zadovoljavajući nivo pouzdanosti na oba uzorka ( $\alpha > 0.7$ ).

Što se tiče faktorske strukture, četiri izdvojena faktora na srpskom uzorku objašnjavaju 65.17% varijanse ali se stavke nisu rasporedile u skladu sa teorijskim očekivanjima. Na makedonskom uzorku skala poseduje adekvatnu faktorsku validnost, a četiri ekstrahovana faktora objašnjavaju oko 53.09% varijanse.

Rezultati govore u prilog upotrebljivosti ove skale na uzorku iz Makedonije, dok je faktorska validnost na srpskom uzorku upitna, pa bi trebalo odraditi detaljnije analize.

**Ključne reči:** *Životne pozicije, psihometrijska evaluacija, faktorska validnost*



## **Attachment Research**



## ATTACHMENT TRANSFER THROUGH MEDIATION OF IWM

### Abstract

In this work the new model of attachment transfer in adolescence is represented as a change in attachments' hierarchy which occurs as the consequence of the influence of primary internal working models (IWMs) on the strength of secondary attachment over IWMs of that secondary bond. This model contains hypotheses: the greater the strength of primary attachment is, the bigger is attachment transfer; the greater self-worth in primary attachment is, the bigger is attachment transfer. An individual's strength of attachment to some person represents the realization of attachment functions, the individual's IWMs regulate its behavior in the bond. In order to test this model, research was conducted on the sample of 310 adolescents, aged 14-19. DAR questionnaire is used for testing IWMs of self and other in each of these bonds - with mother, father, best friend; ROK questionnaire was used to investigate self-worth in those bonds, and strengths of attachment to these persons were investigated by modified WHOTO questionnaire (Markiewicz and associates, 2006). Hayes's statistical model of moderated mediation was used as the method of analysis (Hayes, 2012). Some results confirmed the model. The conclusion is - the strength of attachment to father and the sense of self-worth in bond with mother intensify attachment transfer from parents to best friends through mediation of IWMs.

**Key words:** *attachment transfer; internal working model, attachment strength, self-worth*

### INTRODUCTION

This work suggests and examines theoretical model that should make the understanding of the transfer of attachment (*attachment transfer* further in the text) from parents to best friends, during adolescence, more complete. The strength of attachment (*attachment strength*) is the sum of realization of three basic attachment's functions: proximity seeking, safe heaven, and secure base. The function of *Proximity seeking* includes endeavor of individual to be in the presence of a person – attachment figure, because that individual feels pleasant then, feels discomfort due to the separation from that person and it can cause an open protesting against separation. *Safe heaven* is defined as endeavor of an individual to ask for support from attachment figure while being depressed or afraid. *Secure base* is defined as an individual's feeling that research of the surrounding

or inner world is safe because of the attachment figure's existence (Markiewicz et. al., 2006; Zeifman, Hazan, 2000; Hazan, Zeifman, 1994).

Internal Working Models (IWMs further in the text) are internal regulators of individual's behavior in an attachment. *IWM of self* represents the way an individual sees him/herself in the interaction with the attachment figure and it includes the feelings concerning self-worthiness of attachment figure's presence, consolation and support. The less positive the feelings and expectations are, the more fearful the individual is – in case that attachment figure will not accept the individual when necessary, thus this model is represented by anxiety dimension in a relationship with attachment figure. *IWM of other* is mental representation of attachment figure during the interaction; it is described by attachment figure's ability and will to take care about and support the individual when necessary; the less positive this model is, the greater the individual's tendency is – to hide the aspects of inner world during the interaction with the attachment figure; this model represents distance dimension in relationship with the attachment figure; and it is called avoidance dimension (Stefanović-Stanojević, 2011; Bartholomew, Shaver, 1998; Collins, Read, 1994). IWMs are obtained in early childhood during the interaction with the primary caregiver, a mother usually, and have tendency to be kept throughout life. A combination of positive IWMs of self and other determines secure pattern of attachment – a factor of healthy growth and development during the childhood and even later. Adolescents with insecure attachment, i.e. adolescents who have at least one negative IWM, have more external and internal problems than those with secure attachment (Bolbi, 2011; Vukelić-Basarić, 2010; Stefanović-Stanojević, 2011).

*Attachment transfer* is transfer of attachment's functions from primary to secondary figure of attachment. Late childhood is the beginning of the process which develops and lasts in the period of adolescence – when peers usually become secondary attachment figures. In the early adulthood, most people reach the point of complete transfers of all attachment functions to the partners. Attachment transfer develops one function at the time, starting with function of proximity seeking, then safe heaven, ending with secure base; it can secure the existence of strong social support even after youth (Vukelić-Basarić, 2010; Markiewicz et. al., 2006; Hazan, Zeifman, 1994).

In this work, one more possibility is supposed – attachment to parent might fail due to adolescents-parent relationship disorder. In that case the strength of primary attachment becomes that much weak, so that peers' tendency, to spend more time with their friends and support each other in mutual activities, increases and leads to hierarchical change of attachment, but it is not a transfer. Thus it is necessary to include IWMs into the test procedure when this transfer is in about, because as mental phenomena, it has to be based on mental elements which regulate the functions of attachment (i.e. attachment strength). Strengthening of attachment in secondary, for example – peers relationship, should be based on

similarity of secondary IWMs to those that appeared in the bond with primary figures (usually parents).

What can increase or decrease the similarity of IWMs in bonds with parents and best friends? An individual tends to choose future figures of attachment – those reminding of the previous ones, and also, the experience with the secondary close relationship is usually assimilated to primary IWMs. At the same time, primary IWMs more or less accommodate to new experience in secondary bond, so primary and secondary IWMs are not exactly identical, but they usually have the same quality (positive or negative). Based on dynamical-maturation model, possible corroborating factor in maintaining of primary IWMs of attachment through different close relationships can be a feeling of own value in communication with the figure, as self-evaluating aspect of self-protective strategies, which is Crittenden's term for attachment patterns (Crittenden, 2005; Crittenden, 2000; Crittenden, 1999). For those reasons, two general hypotheses are settled within theoretical model of attachment transfer.

The first hypothesis was: the more successful the primary IWMs in realization of primary attachment functions were, the bigger their effect on secondary attachment functions would be, i. e. on strength of secondary attachment, through similar secondary IWMs.

The second hypothesis referred to the feeling of self: the greater the feeling of own abilities and features in relation with primary figure is, the greater the influence of primary IWMs on secondary IWMs is, in the way that the effect on level of secondary attachment functions becomes bigger, i. e. the effect of primary IWM on strength of attachment to secondary figure is greater. As for this hypothesis, it was necessary to find in the field of studying self-concept, the term referring to self-evaluating aspect of self in interpersonal relations.

Studying of the concepts of the self, self-esteem and self-worth in interpersonal relation, can be found in work of various authors (Harter et. al., 1998; Harter et. al., 1997; Harter et. al., 1996; Harter&Monsour, 1992). Relational sense of self-worth or *sense of own (in)competence in interpersonal relation*, is defined as sense of own abilities and features as the consequence of direct relation with important person.

Taking into consideration notions and hypotheses that were just stated, theoretical model of attachment transfer was determined and it should be checked by an adequate statistical model.

## METHOD

Statistical model of moderated mediation, given by Hayes (Hayes, 2012), was used for checking theoretical model that was described. Hayes gives the macro for SPSS which analyzes mentioned model, and it is based on bootstrap method. Bootstrap method contains a defined number of procedures in which

subsamples are taken from research sample, in order to make analyses of regression in each of them. This method measures indirect effects of independent on dependent variable through (over) the mediator variable, on different values of variable – supposed moderator. This moderation happens when the interaction between independent variable and moderator variable is statistically significant and at least one effect's interval of confidence does not contain zero. Option in SPSS macro was set up on 1000 resamplings, and 3 levels - values of moderator which were automatically counted by mentioned macro.

As independent variables (X) distance and anxiety dimensions (IWMs) from relationships with mother and father were set up. Dependent variable (Y) was the strength of attachment to the best friend. Mediator variables (M) were anxiety and distance dimensions in relationship with close friend so that it is of the same type as the one in bond with parent, and as moderator variables (W) were set up: the strength of attachment to parent and variables of feelings of self-worth (feelings of own incompetence) from relationship with parent. Control variables (C), in each bootstrap procedure, were gender, education of mother, education of father, cultural and pedagogical level of family.

Eight specific hypotheses were examined:

- I hypothesis was: anxiety in attachment to mother (X) influenced the strength of attachment to friend (Y) over anxiety in bond with best friend (M), and this influence was moderated by strength of attachment to mother (W);
- II hypothesis was: anxiety in attachment to mother (X) influenced the strength of attachment to best friend (Y) over anxiety in bond with best friend (M), and this influence was moderated by experience of own incompetence in bond with mother (W);
- III hypothesis was: anxiety in attachment to father (X) influenced the strength of attachment to best friend (Y) over anxiety in bond with best friend (M), and the strength of attachment to father as moderator (W) was assumed;
- IV hypothesis was: anxiety in attachment to father (X) influenced the strength of attachment to best friend (Y) over anxiety in bond with best friend (M), and this influence was moderated by the feeling of own incompetence in bond with father (W);
- V hypothesis was: distance in attachment to mother (X) influenced the strength of attachment to best friend (Y) over distance in bond with best friend (M), and the moderator of this influence was the strength of attachment to mother (W).
- VI hypothesis was: distance in attachment to mother (X) influenced the strength of attachment to best friend (Y) over distance in bond with best friend (M), and the moderator of this influence was experience of own incompetence in bond with mother (W).
- VII hypothesis was: distance in attachment to father (X) influenced the strength

of attachment to best friend (Y) over distance in bond with best friend (M), and the moderator of this influence was the strength of attachment to father (W).

VIII hypothesis was: distance in attachment to father (X) influenced the strength of attachment to best friend (Y) over distance in bond with best friend (M), and the moderator of this influence was experience of own incompetence in bond with father (W).

### Sample and procedure

The investigation was conducted in two school classes, in April, 2011. The sample included 310 adolescents, aged 14-19. The structure of the sample is given in the table:

Table 1 : Research sample

	Grade VIII Elementary school	Grade II Secondary school	Grade IV secondary school	$\Sigma$
male	46	44	37	127
female	57	60	66	183
$\Sigma$	103	104	103	310

### Instruments

IWMs, as anxiety and distance dimensions -which are defined in introduction of this work, were investigated by DAR questionnaire (distance and anxiety in important interpersonal relationships, Serbian abbreviation). DAR includes scales of anxiety (IWM of self) and scales of distance (IWM of other) in relations with figures mentioned above – mother, father, best friend. In pilot-research and in this research, DAR scales had a minimum acceptable reliability or more, coefficient  $\alpha$  of DAR scales is from 0,72 to 0,89 (Cronbach's alpha). This instrument is made so that the values of distance and anxiety on scales could be from 1 to 5, where the increase of values indicates the bigger presence of tested issue (Vukčević, 2014). DAR includes items that are made from selected items of ECR-R (Fraley, Waller, Brennan, 2000) – which are translated into Serbian language.

Strengths of attachment to mother, father and best friend were tested by modified questionnaire WHOTO, given by Markiewicz and associates (Markiewicz et. al., 2006); the original instrument was created by Hazan and Zeifman (Hazan & Zeifman, 1994). WHOTO examines the strength of attachment as a degree of realization of three basic functions of attachment which were defined in the beginning of this work, and it has 9 items (the first item was: '*Who is the*

*person you most like to spend time with?* ‘‘; all items are given in: Markiewicz et. al., 2006). On each item respondents ranked up to 5 persons whom they considered as individuals they are attached to. The first ranked person best suited the content of item and it got 6 points, the second ranked person got 5 points and so on; the fifth ranked person was the least adequate and it got 2 points. When the person wasn't ranked on some item, then it got 1 point on that item. The strength of attachment to important person was valued from 1 to 6 - the larger the number, the greater the strength; it was counted as the sum of points for important person which was divided by 9. Scales of strengths of attachment (to mother, to father, to best friend) in this work had good reliability, alpha coefficient is from 0,86 to 0,88 (Cronbach's alpha).

Relational senses of self-worth were investigated by ROK (relational sense of self-competence, Serbian abbreviation). ROK questionnaire was created in the way that the items of scale of general self-esteem, which are the part of self-concept questionnaire made by Opačić (Opačić, 1995), were transformed by the author to questions that refer to the same sense of own features, but not generally in life, to those in direct contact with certain important people - mother, father and best friend (Vukčević, 2014). For example: *‘‘Thanks to our conversations, this person thinks that I am afraid of getting into everything that is new to me’’*. In answers that were offered, there are five point scales of agreement with ROK items for each person (mother, father, best friend). ROK scales are from 1 to 5, the increase of values indicates the weaker feeling (sense) of self-worth during the contact with the important person, i. e. it indicates the sense of own incompetence. Scales of ROK in this work had high reliability, alpha coefficient is from 0,89 to 0,90 (Cronbach's alpha).

Questionnaire of cultural-pedagogical level of family was used to examine the variable which refers to the familial cultural-supportive tools for cognitive development of children. The creator of this questionnaire is Ivana Stepanović (Stepanović, 2007), and in this work a modified version was used (Vukčević, 2014); this scale had good reliability - Cronbach's alpha was 0,81. Education of father, mother, and gender of the respondent were examined by a special questionnaire-made for this research. Mentioned instruments were used in order to investigate control variables: gender, education of mother, education of father, cultural-pedagogical familial level.

## RESULTS

The tables show only outputs of procedures where statistically important results appeared and there were no results referring to control variables when they weren't important predictors.

There were indirect effects of anxiety in bond with father, through anxiety in bond with best friend on strength of attachment to friend, and the strength of attachment to father moderates this mediation, i. e. conditions indirect effect



(III specific hypothesis was confirmed). Similarity of IWMs of self in those two bonds, becomes bigger with stronger attachment to father, so that attachment to friend increases with less negative IWM-s in those close relationships, or decreases with more negative IWM-s (table 2).

Table 2: Mediation model of attachment and anxieties in bonds with father and friend

Chart Area					
I Positions of variables in model of attachment transfer: X is anxiety in bond with father; M is anxiety in bond with best friend; Y is strength of attachment to best friend; W is strength of attachment to father					
II Data of prediction model of mediator's value (M): R= .73; Rsq= .54; F= 49.27; df1= 7; df2= 290; p= .01;					
	b	sg	t	p	
Anxiety in bond with father	.42	.08	5.00	.01	
Attachments' strength to father	-.17	.06	-2.76	.01	
Interaction (XW)	.08	.02	3.04	.01	
III Data of prediction model of strength of attachment to peers(Y): R= .28; Rsq= .08; F= 4.29; df1= 6; df2= 291; p= .01;					
	B coefficient	sg	t	p	
Anxiety in bond with friend	-.38	.16	-2.38	.01	
Anxiety in bond with father	.35	.14	2.39	.01	
Gender	.47	.15	3.02	.01	
Education of mother	-.10	.05	-1.90	.05	
Cultural-pedagogical familial level	.25	.11	2.18	.05	
IV Conditional indirect effects of X on Y on three different levels W:					
	Attachments' strength to father (W)	Effect	sg	LLCI	ULCI
level 1:	1.39	-.21	.11	-.47	-.02
level 2:	2.78	-.25	.12	-.52	-.01
level 3:	4.16	-.30	.11	-.59	-.01
Legend: LLCI the lower limit of the confidence interval; ULCI the upper limit of the confidence interval					

Distance in bond with mother had important effect on the strength of attachment to best friend, and also the feeling of own incompetence in relationship with mother is the moderator of this mediation (VI specific hypothesis was confirmed, table 3). Similarity between IWM of friend and IWM of mother arises with better self-worth in relation with mother, and that provides the attachment transfer.

Table 3: Self-worth and bond with mother, distance and attachment to best friend

I Positions of variables in model of attachment transfer: X is distance in bond with mother; M is distance in bond with best friend; Y is strength of attachment to best friend; W is feeling of own incompetence in bond with mother					
II Data of prediction model of mediator's value (M): R= .52; Rsq= .27; F= 16.12; df1= 7; df2= 292; p= .01;					
	b	sg	t	p	
Distance in bond with mother	.54	.10	5.40	.01	
Incompetence in bond with mother	.39	.09	4.00	.01	
Interactions (XW)	-.14	.04	-3.15	.01	
Gender	-.43	.07	-5.57	.01	
III Data of prediction model of strength of attachment to best friend (Y): R= .56; Rsq= .31; F= 22.70; df1= 6; df2= 293; p= .01;					
	b	sg	t	p	
Distance in bond with friend	-.98	.09	-9.94	.01	
Distance in bond with mother	.52	.08	6.43	.01	
Cultural-pedagogical familial level	.27	.01	2.74	.01	
IV Conditional indirect effects of X on Y on three different levels W:					
	Incompetence in bond with mother (W)	Effect	sg	LLCI	ULCI
level 1:	1.12	-.38	.08	-.56	-.21
level 2:	2.08	-.24	.06	-.39	-.14
level 3:	3.05	-.11	.07	-.30	.01
Legend: LLCI the lower limit of the confidence interval; ULCI the upper limit of the confidence interval					

There were significant indirect effects of distance in bond with father, through distance in bond with best friend, on the strength of attachment to best friend, and also that strength attachment to father is moderator of this mediation (VII specific hypotheses was confirmed, table 4). Similarity between IWM of best friend and IWM of father increased with the increase of the strength of attachment to father.

Table 4: Distances and strengths of attachment to father and best friend

I Positions of variables in model of attachment transfer:					
X is distance in bond with father; M is distance in bond with best friend;					
Y is strength of attachment to best friend; W is strength of attachment to father.					
II Data of prediction model of mediator's value (M):					
R= .49; Rsq= .24; F= 13.19; df1= 7; df2= 290; p= .01;					
	b coefficient	sg	t	p	
Distance in bond with father	.00	.08	.08	.93	
Strength of attachment to father	-.13	.07	-1.86	.06	
Interaction XW	.11	.03	3.50	.01	
III Strength of attachment to best friend (Y):					
R= .50; Rsq= .25; F= 16.97; df1= 6; df2= 291; p= .01;					
	b coefficient	sg	t	p	
Distance in bond with friend	-.85	.10	-8.56	.01	
Distance in bond with father	.29	.07	4.20	.01	
Cultural-pedagogical familial level	.22	.10	2.11	.05	
IV : Conditional indirect effects of X on Y on three different levels W:					
	Strength of attachment to father (W)	effect	sg	LLCI	ULCI
level 1:	1.39	-.14	.06	-.27	-.02
level 2:	2.78	-.27	.05	-.39	-.16
level 3:	4.16	-.40	.07	-.57	-.26
Legend: LLCI the lower limit of the confidence interval; ULCI the upper limit of the confidence interval					

## DISCUSSION

Considering the knowledge about IWMs (Bolbi, 2011; Stefanović-Stanojević, 2011; Bartholomew, Shaver, 1998; Collins, Read, 1994), the general hypothesis was that the effect of primary IWM on creating the secondary attachment would go through the influence on creating the same kind of IWM in secondary bond. The moderator is important in this model of attachment transfer, because similarity of primary and secondary IWMs could happen due to the fact that both close relationships include support in the mutual activity, thus the correlation between dimensions of two bonds might happen even when there's no attachment transfer. But if the effect of primary IWM on the strength of secondary attachment is conditioned by attachment strength, which is the result of IWM working in primary bond, or positive evaluating of own features in relationship with primary figure, then that transfer exists. In statistical analyses three specific hypotheses were confirmed.

The third specific hypothesis was confirmed: the IWM of self in bond with father acted on IWM of self in bond with the best friend, in interaction with the strength of attachment to father, so that it had significant effect on the strength of attachment to the best friend. The findings imply that the greater the strength of attachment to father, the greater the effect. The more successful the adolescent's

father as attachment figure is (in terms of satisfying attachment functions), the more similar senses of own worthiness of support and love in relationship with father and best friend are. This similarity increases the strength of attachment to best friend. It seems that strong attachment to father improves adolescent's learning how to behave to be worthy of friend's closeness, consolation or encouragement. The findings of importance of control variable imply that the increase of the strength of attachment to best friend doesn't develop only under the act of the mentioned transfer, but also under the positive influence of gender and cultural-pedagogical familial level – female gender and higher cultural-pedagogical familial level makes the strength of attachment to best friend higher, that can be a subject of another research.

The sixth specific hypotheses was confirmed, which implies that the sense of self-worth during the interaction with mother increases the transfer of attachment from mother to best friend. The better preserved self-worth with mother, the bigger the transfer. The finding suggests that when the best friends of adolescents have capacity to encourage the expression of adolescents' personal features and accept with respect those they believe as authentic and when they had that kind of experience with their own mothers, then the transfer will appear. It seems that in bond with their own mothers, adolescents learn to be sensitive and responsive when this kind of support is in about. The sense of own worthiness of that support which was created in primary attachment is not important for the transfer (the second hypothesis is not confirmed), but the potential of best friend to give such love and support. Thus there's possibility for change – toward positive introspection of self and other in affective bonds, when friendly figure is enough sensitive and responsive for adolescents to express their authentic feelings and thoughts. Accepting personal traits which refer to adolescent's "real me", with respect and care, is the main support for sense of self-worth given by the important person (Harter et al., 1998; Harter et al., 1997; Harter et al., 1996; Harter&Monsour, 1992). The findings of control variables show that the strength of attachment to friend is positively connected to cultural-pedagogical level of adolescents' family. These findings imply that the increase of the strength of attachment to friend can be under the act of cultural-pedagogical familial level, or because of female gender, and not only because of acting of the transfer mentioned above. The role of these variables can be the subject of further research.

The results confirmed the seventh hypothesis. IWM of father in interaction with the strength of attachment to father over IWM of best friend has the effect on the strength of attachment to best friend. The greater the strength of attachment to father, the bigger the effect; it seems that the strength of attachment to father gives "energy" to IWM of father to start working in bond with best friend and being modified by new experience, it becomes IWM of best friend, and all that provides the transfer of attachment from father to best friend.

Other specific hypotheses were not confirmed, which suggests that other dimensions of attachment do not have importance in attachment transfer.

It can be concluded, the strength of attachment to father and the sense of self-worth in bond with mother intensify attachment transfer over the mediation of IWMs.

The conclusions of this work are limited by the size and quality of the sample that was investigated, as well as the quality of instruments that were used, so further research of this model of attachment transfer is necessary.

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**Branimir Vukčević**

## **TRANSFER AFEKTIVNE VEZANOSTI MEDIJACIJOM URM-A**

### **Rezime**

U ovom radu nov model transfera vezanosti u adolescenciji je predstavljen kao promena u hijerarhiji vezanosti koja nastaje kao posledica uticaja primarnih unutrašnjih modela (URM-a) na snagu vezivanja za sekundarnu figuru preko URM-a te sekundarne veze. Ovaj model je obuhvatio sledeće hipoteze: 1) što je veća snaga vezivanja za primarnu figuru, veći je transfer vezivanja; 2) što je veće osećanje lične vrednosti u primarnoj vezi, veći je i transfer vezivanja. Snaga vezivanja individue za neku osobu predstavlja stepen realizacije funkcija vezivanja, a URM-i određuju ponašanja te individue u bliskoj vezi. U svrhu testiranja ovog modela, istraživanje je sprovedeno na uzorku od 310 adolescenata, starosti od 14 do 19 godina. Upitnik DAR je korišćen za ispitivanje URM-a sebe i drugog u svakoj od sledećih relacija: sa majkom, sa ocem i sa najboljim prijateljem; upitnik ROK je upotrebljen da se ispita osećanje lične vrednosti u navedenim relacijama. Snage vezivanja za navedene osobe su ispitane modifikovanim upitnikom WHOTO (Markiewicz i sar., 2006). Hayes-ov statistički model moderirane

medijacije je upotrebljen kao metod analize (Hayes, 2012). Neki rezultati potvrđuju model. Zaključak je da snaga vezivanja za oca i osećanje lične vrednosti u odnosu sa majkom jačaju transfer vezanosti od roditelja prema najboljim prijateljima medijacijom URM-a.

**Ključne reči:** transfer vezivanja; unutrašnji radni modeli, snaga vezivanja, osećanje lične vrednosti

## DIFFERENCES IN DIMENSIONS OF AFFECTIVE ATTACHMENT AND LOVE TYPES AMONG COUPLES IN PROXIMAL RELATIONSHIPS AND THOSE IN LONG-DISTANCE RELATIONSHIPS

### Abstract

This paper analyses the relation between dimensions of attachment and love types with regards to relationship type (proximal relationship vs long-distance relationship) among students of various Faculties of the University of Niš. The convenient sample consisted of 169 students, 136 (80.5%) female and 33 (19.5%) male. The following instruments were used: ECR-R – Experience in Close Relationships (Brennan & Shaver) and LAS – Love Attitudes Scale (Hendrick & Hendrick).

The results show no statistically significant differences in level of intensity of the dimensions of attachment and love types with regards to relationship type. With both relationship types, there were correlations between the dimension of anxiety and mania, and between that of avoidance and the eros, ludus, and agape love types. In the subsample of subjects in a proximal relationship, there was evidence of correlations not present among subjects in a long-distance relationship; namely, between the dimensions of anxiety and eros ( $r = -.298, p < 0.05$ ) and pragma ( $r = .344, p < 0.01$ ), and those of avoidance and pragma ( $r = .260, p < 0.05$ ). In both relationship type subsamples, female subjects achieved higher scores on pragma, and male subjects achieved higher scores on agape. In the subsample of subjects in a long-distance relationship, there was a correlation between age and the agape love type ( $r = -.228, p < 0.05$ ). This research has shown that there are no statistically significant differences in the degree of expression of measures of attachment and types of love, in relation to the type of relationship. Results have shown that there are differences in the levels of expression of measure of attachment and types of love, depending on the sex of the examinee, which can be explained by cultural influences on the behavior in relationship.

**Keywords:** *attachment, love types, long-distance relationship, proximal relationship.*

## INTRODUCTION

Attachment is defined as a specific relation which is formed in the earliest childhood between a mother and a child, and it is lifelong, as a permanent psychological bond established between two people (Bolby, 1988, according Stefanović-Stanojević,2000).

According to Bolby, a child emotionally bonds with its mother (or a person who has a maternal role) not because a mother satisfies its primary needs (need for food), neither because she releases a child from physiological tension, but because bonding is a primary need of a child.

Ways of expressing attachment change with age, as well as its objects. Some forms of expressing attachment are retained (smiling, seeking physical proximity and contact etc.), while others change; concerning objects, they are, before all else, multiplied. During the childhood, a child is mostly attached to close family – adults, brothers or sisters. Later on, during life, a person attaches affectively to its peers (friendships) and, especially, persons of the opposite sex (Brennan & Shaver, 1995). Even though objects and ways of expressing attachment change during a development, the nature of this need stays the same during the course of life. Its function remains to satisfy a need of the individual for safety and acceptance. Of course, later on during childhood, and especially in adulthood, attachment is intertwined with other needs (for example, with sexuality in relation to persons of other sex), so it is sometimes hard to recognize it. Nevertheless, a need for attachment remains the basis of all emotional relationships in life of an adult, and what the nature of these relationships will be depends very much on the way this need has been satisfied in the earliest childhood.

Supporters of attachment theory represent a belief that partner relations are based on internal working models acquired in childhood. This theory gave useful models for description of individual differences in attachment of partners, and these are: three-category (Hazan & Shaver, 1987), four-category model (Bartholomew & Horowitz, 1991), as well as one dimensional (Feeney, 2002; Brennan, Clark, & Shaver, 1998, according Nikić & Travica, 2007).

Kim Bartholomew (Bartholomew & Horowitz, 1991) formulated a four-category attachment model of adolescents and adults in 1990. Based on Bolby's theoretical assumption – that there are two types of internal working models (model of self and model of others). For examination of individual differences, a dimensional model is recommended, because nobody belongs, completely, to only one style of attachment, and also persons with the same style of attachment differ from each other. Behavior in relationship of partners is described when the score is set on these dimensions, and their place in a dimensional model is being determined based on the results. Feeney (2002) defines these two dimensions in this way:



*Anxiety dimension* – Refers to the expression of need for closeness, acceptance, support, safety and reassurance in love.

*Avoidance dimension*– Examines the expression of unpleasantness in close relations, during opening up, emotion expression and addiction.

Many theoreticians and researches have tried to operationalize the notion of love citing various factors that characterize love relation and specific kinds of love. John Alan Lee (Lee, 1973, according Nikić, 2011) emphasized individual differences in understanding of love, accentuating the idea that there is no single concept of love, but that people love differently. Also, in considering the idea that partner relation is largely a product of time we live in. Lee starts from 6 types of love which are different one from another. Through extensive research, he singled out characteristics of every type: *Eros* - evaluation of love, high self-respect, openness towards the partner, enjoyment in intimacy – passionate love; *Ludus*– unreadiness to commit to relationship, does not fall in love, feeling manipulation and satisfaction in relationship – love as a game, somewhat manipulative love; *Storge* – love similar to friendship, weak expression of emotions, shyness in sex, joint activities, tendency towards family life – friendly love; *Pragma* – practical view of relationship, choosing the partner on the base of biographical characteristics (job, education, material status...), compatibility and mutual respect, avoidance of strong emotions – pragmatic love; *Mania* – frequent choice of inappropriate partner, possessiveness and impulsive behavior, emphasized suffering, jealousy – obsessive love; *Agape* – altruistic feelings in extreme measures, patience, commitment, friendly loyalty and openness – unselfish love.

There are many prejudices concerning long-distance relationships, which is a subject of both layman and scientists. The most obvious characteristic which differentiates long-distance from short-distance relationships is a physical proximity between partners, which points to usual absence of a partner. Authors of Construal Level Theory (CLT; Liberman & Trope, 2008; Liberman, Trope, & Stephan, 2007) state that the bigger the spatial, temporal or social distance is from the stimulus (partner), the bigger the experience of psychological distance is (from the partner). Theory points out that the more the partner is absent because of the spatial distance, the more he is also observed as psychologically distant (absent). Experience of psychological distance can be reflected and regulated with certain strategies of behavior.

Psychologist Ivana Paunović (2013) says that “Long-distance relationship is a form of a test, and those who pertain in it develop deeper attachment. There are more and more couples that are able to stay close while living apart, because love is more and more being perceived as an ability and capability for overcoming the obstacles towards its realization.” Long distance relationships are promoted by internet, skype and other forms of modern communication. In this way, partners, even though they are physically distant, are close in a virtual world. Honest and open conversations are a significant factor in any good relationship, and

couples in these relationships, in which there is not enough physical closeness, compensate with talks through different means of communication. Few studies have shown that couples in long-distance relationships have equal (Van Horn et al., 1997) or even lower rates of breakups when compared to the ones who have short-distance relationships (Stafford & Merolla, 2007; Stephen, 1986). Some studies show that there are no statistically significant differences between couples who have long-distance relationships and couples who have short-distance relationship (e.g., Dellman-Jenkins, Bernard-Paolucci, & Rushing, 1994; Baxter & Bullis, 1986).

Some researches show (Hegelson, 1994) that relational insecurity may present a key factor in determining the quality of long-distance relationship. Researches show that feeling of security in long-distance relationships depends in great measure on contextual factors (for example: duration of a relationship, real distance of a partner and frequency of visits), than it does in proximal relationships (short-distance relationships).

## **AIM OF THE STUDY**

On the basis of these theoretical assumptions, the problem of research would be to examine the differences in the level of expression of love types and distribution of patterns of partner attachment in relation to the type of relationship, i.e. whether there are any differences in persons who are in a long-distance relationship and those who are in a proximal relationship. Also, we will examine whether there is differences in the level of partner attachment and types of love in regarding of sex and duration of relationship. Furthermore, the study attempts to determine the relation between the mentioned dimensions and age.

## **METHOD**

### **Variables**

Independent variables used in this research are two types of relationship (long-distance and proximal relationship), while dependent variables are dimensions of attachment (dimension of anxiety and dimension of avoidance) and types of love (Eros, Ludus, Storge, Pragma, Mania, Agape) Control variables which were used are sex, age and duration of the relationship.

## **INSTRUMENTS**

Instrumentes used in this researce are ECR-R – Experience in close Relationships (Brennan, Clark,& Shaver) and LAS – Love Attitudes Scale (Hendrick & Hendrick)

ECR-R measures perceived attachment between partners with the help of two basic dimensions “Anxiety” and “Avoidance”. The Questionnaire consists of 36 items of which 18 refer to dimension of “Anxiety”, and 18 to dimension of “Avoidance”. Examinee answers to every item indicating the level of agreement with every item through 7-point Lickert scale which has values in range from 0 (not at all) to 7 (yes, fully). Reliability of subscales, expressed as Cronbach’s alpha, is from 0.89 to 0.91, which is satisfactory.

LAS measures the expression of types of love. The questionnaire contains 6 subscales which determine types of love: Eros, Ludus, Storge, Pragma, Mania and Agape. Each of the subscales consists of 7 items. Examinee answers to every item indicating the level of agreement with every item through five-point Lickert scale which has values in range from 1 (I completely disagree) to 5 (I completely agree). Reliability of the questionnaire assessed with Cronbach’s alpha coefficient is from 0.58 to 0.84, which is somewhat satisfactory.

## RESEARCH HYPOTHESIS

### *General hypotheses:*

- There is a statistically significant difference in the level of measure expression of attachment and types of love, depending on the type of relationship.

### *Specific hypotheses:*

- It is expected that there are correlations between measures of attachment and types of love.
- There is a statistically significant difference in the level of expression of measures of attachment and types of love, depending on the sex of the examinee.
- There is a statistically significant correlation of attachment measures and types of love with the age of examinees.
- There is a statistically significant correlation of attachment measures and types of love with duration of the relationship.

## SAMPLE

The sample is convenience, and it consists of 169 examinees of student population, except that females make up 80.5% of the sample (136 female examinees), and males 19.5% (33 male examinees). Later on we divided the examinees into mid adolescents, late adolescents and adults. Examinees which were in a long-distance relationship make up 60,4% of the sample (102 examinees), while examinees in proximal relationship make up 39,6% (67 examinees).

## RESULTS

Table 1: Descriptive statistics relating to overall level of attachment measures and types of love

	Object of measurement	Long-distance relationship			Proximal relationship		
		Number of examinees	Mean	Standard deviation	Number of examinees	Mean	Standard deviation
Attachment measures	Avoidance	102	2.7260	1.00968	67	2.5431	0.99465
	Anxiety	102	<b>3.3840</b>	<b>1.06092</b>	67	<b>3.3184</b>	<b>1.16541</b>
	Eros	102	<b>3.8319</b>	0.77452	67	<b>3.7974</b>	0.78489
	Ludus	102	2.3081	0.66726	67	2.2473	0.65634
Type of love	Storge	102	2.7339	0.83179	67	2.7761	0.77620
	Pragma	102	2.8361	0.76322	67	2.7463	<b>0.97648</b>
	Mania	102	2.6989	0.68406	67	2.5778	0.74581
	Agape	102	3.5938	<b>0.86646</b>	67	3.6397	0.82304

On both subsamples the biggest average mean between styles of attachment belongs to subdimension of Anxiety, as well as the biggest deviation from average values. On both subsamples Eros subscale has the biggest average value between types of love. In examinees that were in a long-distance relationship the biggest deviation from average values was on subscale Agape, while examinees that were in a proximal relationship had the biggest deviation on subscale Pragma.

Table 2: Mann-Whitney test statistic

	Mann – Whitney test							
	Avoidance	Anxiety	Eros	Ludus	Storge	Pragma	Mania	Agape
Mann-Whitney U	3021.000	3288.000	3317.000	3136.500	3236.000	3226.500	3104.500	3327.500
Statistical significance	0.203	0.678	0.747	0.366	0.560	0.539	0.314	0.773

\*\*p<0.01

\*p<0.05

On the basis of table 2. we can see that there are no statistically significant differences in the level of expression of attachment measures and types of love, depending on the type of a relationship.

Table 3: Correlations between all components in examinees who were in a long-distance relationship

	Eros	Ludus	Storge	Pragma	Mania	Agape
Avoidance	<b>-0.310**</b>	<b>0.390**</b>	0.044	0.181	0.003	<b>-0.228*</b>
Anxiety	-0.086	0.193	0.092	0.024	<b>0.501**</b>	0.126

\*\*p<0.01

\*p<0.05

On the basis of presented correlation coefficients we can see that there is a statistically significant and positive correlation between measures of Avoidance and Ludus in examinees that were in a long-distance relationship, while the correlations between measures of Avoidance with Eros and Agape are negative. Correlations between measures of Avoidance with Storge, Pragma and Mania are not statistically significant. There is also a statistically significant and positive correlation between measures of Anxiety and Mania.

Table 4: Correlations between all components in examinees who were in a proximal relationship

	Eros	Ludus	Storge	Pragma	Mania	Agape
Avoidance	<b>-0.560**</b>	<b>0.598**</b>	-0.036	<b>0.260*</b>	0.154	<b>-0.486**</b>
Anxiety	<b>-0.298*</b>	0.042	0.201	<b>0.344**</b>	<b>0.671**</b>	-0.120

\*\*p<0.01

\*p<0.05

On the basis of presented correlation coefficients we can see that there are statistically significant and positive correlations between measures of Avoidance with Ludus and Pragma in examinees that were in a proximal relationship, while correlations between measures of Avoidance with Eros and Agape are negative. Correlation between measures of Avoidance with Storge and Mania are not statistically significant. Also we can see that there is a statistically significant and positive correlation between measures of Anxiety with Pragma and Mania, while correlation between Anxiety and Eros measure is negative.

Table 5: Average ranks of sexes on the given variables in examinees who were in a long-distance relationship

Mann - Whitney test			
Object of measurement	Sex	Mean rank	Sum of ranks
Avoidance	Male	56.00	1120.00
	Female	50.40	4133.00
Anxiety	Male	60.83	1216.50
	Female	49.23	4036.50
Eros	Male	58.18	1163.50
	Female	49.87	4089.50
Ludus	Male	53.60	1072.00
	Female	50.99	4181.00
Storge	Male	41.85	837.00
	Female	53.85	4416.00
Pragma	Male	37.10	742.00
	Female	<b>55.01</b>	<b>4511.00</b>
Mania	Male	56.23	1124.50
	Female	50.35	4128.50
Agape	Male	<b>69.65</b>	<b>1393.00</b>
	Female	47.07	3860.00

Table 6: Mann-Whitney teststatistic

Mann-Whitney test								
	Avoidance	Anxiety	Eros	Ludus	Storge	Pragma	Mania	Agape
Mann-Whitney U	730.000	633.500	686.500	778.000	627.000	532.000	725.500	457.000
Statistical significance	0.448	0.116	0.259	0.723	0.103	<b>0.015</b>	0.425	<b>0.002</b>

\*\*p<0.01

\*p<0.05

On the basis of table 6. we can see that there is a statistically significant difference between sexes on Pragma and Agape dimensions in examinees who were in a long-distance relationship. On Pragma dimension this difference goes in favor of female examinees, while on Agape dimension it goes in favor of male examinees.

Table 7. Average ranks of sexes on given variables in examinees who were in a proximal relationship

Mann-Whitney test			
Object of measurement	Sex	Mean rank	Sum of ranks
Avoidance	Male	28.77	374.00
	Female	35.26	1904.00
Anxiety	Male	29.04	377.50
	Female	35.19	1900.50
Eros	Male	36.38	473.00
	Female	33.43	1805.00
Ludus	Male	36.31	472.00
	Female	33.44	1806.00
Storge	Male	32.88	427.50
	Female	34.27	1850.50
Pragma	Male	22.50	292.50
	Female	<b>36.77</b>	<b>1985.50</b>
Mania	Male	25.23	328.00
	Female	36.11	1950.00
Agape	Male	<b>46.96</b>	<b>610.50</b>
	Female	30.88	1667.50

Table 8: Mann-Whitney test statistic

Mann-Whitney test								
	Avoidance	Anxiety	Eros	Ludus	Storge	Pragma	Mania	Agape
Mann-Whitney U	283.000	286.500	320.000	321.000	336.500	201.500	237.000	182.500
Statistical significance	0.281	0.306	0.622	0.633	0.818	<b>0.017</b>	0.070	<b>0.007</b>

\*\*p<0.01

\*p<0.05

Results show that there is a statistically significant difference between sexes on dimensions of Pragma and Agape in persons who were in a proximate relationship. On dimension Pragma this difference goes in favor of female examinees, while on dimension Agape it goes in favor of male examinees.

Table 9: Correlation between given variables in examinees that were in a long-distance relationship

	Avoidance	Anxiety	Eros	Ludus	Storge	Pragma	Mania	Agape
Age	0.101	0.019	-0.029	0.101	-0.177	0.128	0.001	<b>-0.228*</b>

\*\*p<0.01

\*p<0.05

On the basis of shown correlation coefficients we can see that there is a statistically significant negative relation between age and Agape dimension in examinees that were in a long-distance relationship.

Table 10: Correlation between given variables in examinees that were in a proximal relationship

	Avoidance	Anxiety	Eros	Ludus	Storge	Pragma	Mania	Agape
Age	0.012	-0.014	0.004	-0.015	-0.013	0.138	-0.007	-0.148
	**p<0.01							
	*p<0.05							

On the basis of the shown correlation coefficients we can see that there are no statistically significant correlations between given variables in examinees that were in a proximal relationship.

Table 11: Correlation between given variables in examinees that were in a long distance relationship

	Avoidance	Anxiety	Eros	Ludus	Storge	Pragma	Mania	Agape
Duration of the relationship	<b>-0.322**</b>	-0.157	<b>0.348**</b>	<b>-0.219*</b>	-0.093	-0.067	0.077	<b>0.226*</b>
	**p<0.01							
	*p<0.05							

On the basis of shown correlation coefficients we can see that there are statistically significant and positive correlations between Eros and Agape dimensions with respect to duration of the relationship in examinees that were in a long-distance relationship. There are also negative correlations between dimensions of Avoidance and Ludus with respect to duration of the relationship.

Table 12: Correlation between given variables in examinees that were in a proximal relationship

	Avoidance	Anxiety	Eros	Ludus	Storge	Pragma	Mania	Agape
Duration of the relationship	<b>-0.309*</b>	-0.153	<b>0.320**</b>	<b>-0.301*</b>	0.145	-0.130	0.051	<b>0.357**</b>
	**p<0.01							
	*p<0.05							

On the basis of shown correlation coefficients we can see that there are statistically significant and positive correlations between Eros and Agape dimensions with respect to duration of the relationship in examinees that were in a proximate relationship. There are also negative correlations between Avoidance and Ludus dimensions with respect to duration of the relationship.



## DISCUSSION

Results have shown that there are no statistically significant differences in the level of expression of measurement of attachment and types of love, in relation to the type of relationship.

It was expected that there are relations between measures of attachment and types of love on the subsample of examinees who are in a long-distance relationship. Positive correlation between measures of Avoidance and Ludus is expected and can be explained by the fact that Ludus, as a type of love, characterizes avoidance of commitment and emotional investment in partner relations. Negative correlation between measures of Avoidance and Eros is also expected, bearing in mind that Eros, as a type of love, points to emotional investment in partner relations, enjoyment in closeness and commitment to partner. Agape, as a type of love, is characterized by the altruistic feeling in extreme measures, patience, commitment, friendly loyalty and openness, i.e. they are persons who don't avoid entering the relationship, so the negative correlation between these two measures is logical. The resulting correlation between Mania and anxiety is explained by the fact that possessiveness and jealousy, which rise in such relationship, result from the insecurities of a person, which cause anxiety and increased need for validation of self-worth through acceptance and reassurance in love from partner.

The results of examination of the correlations in persons who are in proximal relationship showed that there are statistically significant correlations. Positive correlations of Pragma with measurements of avoidance and anxiety can be explained as follows. Bearing in mind the characteristics of Pragma: practical view of the relationship, partner selection based on background characteristics (job, education, material status...), compatibility and mutual respect, avoidance of strong emotions, it is possible to assume that these kinds of persons try to avoid relationships because they find it hard to find a partner who satisfies their criteria. The same persons set high criteria for entering the relationship, probably because of their own insecurities from which anxiety also stems. They assume that they would be in a relationship without the risk of being left if they find the person who satisfies their criteria. These requirements are specific defense mechanisms that protect from potential pain. Negative correlations of Eros measurement and measurements of Avoidance and Anxiety are expected, and can be explained by the characteristics of loves such as unselfish or safe, in which there is an adequate trade of emotional investment, closeness, passion, support and openness.

What turned out to be interesting is existence of correlation between Pragma and measurements of avoidance and anxiety that was present only in examinees that were in proximal relationship. It is possible that this correlation showed up on subsample of these examinees because of the characteristics of proximal relationship themselves. To pragmatic persons, proximal relationship

probably provides a feeling of closeness and security because of the possibility of controlling their partner. In that way pragmatic persons can, through control, reduce anxiety and insecurity which is a characteristic of theirs. Also, besides that, one of the criteria of pragmatic persons is closeness of a partner, which can be achieved to the extent that they require only in proximal relationship.

Difference in the level of expression of measure of attachment and types of love, depending on the sex of the examinee, can be explained by cultural influences on the behavior in relationship. In our culture, women are being told not to choose their partner based on emotion, but to seek a man who will provide them a healthy offspring, material and psychological security. Under the influence of the same cultural values, men are supposed to be protective towards the gentler sex and directed towards satisfying their needs – gentleman mannerism.

Results suggest that Agape is lower in older examinees that are in long-distance relationship, than in younger examinees that are in long-distance relationship. Further research is needed in order to explain this relation. Such difference does not exist in examinees that are in a proximal relationship.

Results have shown that there are positive and statistically significant correlations of dimensions Eros and Agape in relation to duration of the relationship.

Examination of the correlation of given measures with duration of the relationship has shown that there are negative correlations with measurements of Avoidance and Ludus, and positive with measurements of Eros and Agape. Given that one of the components of Ludus type of love is Avoidance, the result that duration of the relationship is shorter in these cases is not surprising, i.e. that person by avoiding the requests for increased investment in relationship, which usually happens as the relationship progresses in time, leave the very same relationship. From the very characteristics of Eros and Agape measurements we conclude that these correlations are to be expected given that both types of love are directed towards maintaining the quality and development of the relationship (both contain the component of unselfish love). Same results were observed in persons who are in a proximal relationship.

## CONCLUSION

Our research has shown that there are no statistically significant differences in the degree of expression of measures of attachment and types of love, in relation to the type of relationship. Further research is needed in order to not only check the results, but also to explain in detail why young people in rising numbers decide to enter a long-distance relationship, i.e. what are the reasons for entering. It is also needed to expand the research to communication, especially digital. Significance of digital communication is exponentially growing, the number of people that meet on social network is also getting bigger, and with their help they partially maintain their relationship.

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**Jelena Ašanin,**  
**Milica Ognjanović**

## **RAZLIKE U DIMENZIJAMA AFEKTIVNE VEZANOSTI I TIPOVIMA LJUBAVI KOD STUDENATA KOJI SU U PROKSIMALNOJ VEZI I ONIH KOJI SU U VEZI NA DALJINU**

### **Rezime**

U ovom radu ispitana je povezanost dimenzija afektivne vezanosti i tipova ljubavi u odnosu na tip veze ( proksimala veza i veza na daljinu), kod studenata različitih fakulteta Univerziteta u Nišu. Uzorak je prigodan, čini ga 169 studenata, od toga 136 ( 80,5%) ženskih, i 33 (19,5%) muških ispitanika. Za potrebe istraživanja korišćeni su sledeći instrumenti: ECR-R – Experience in close Relationships (*Brennan, Clark, & Shaver*) and LAS – Love Attitudes Scale (*Hendrick & Hendrick*). Dobijeni rezultati pokazuju da nema statistički značajnih razlika u stepenu izraženosti dimenzija partnerske afektivne vezanosti i tipova ljubavi zavisno od tipa veza. Kod oba tipa veze, s jedne strane uočene su korelacije između dimenzije Anksioznosti i Manie, a s druge strane između dimenzije Izbegavanje i tipova ljubavi Eros, Ludus i Agape. Na poduzorku ispitanika koji su u proksimalnoj vezi uočene su korelacije koje se ne javljaju kod ispitanika koje su u vezi na daljinu; između dimenzija Anksioznost i Erosa ( $r = -.298, p < 0.05$ ) i Pragme ( $r = .344, p < 0.01$ ), i između dimenzija Izbegavanje i Pragma ( $r = .260, p < 0.05$ ). Ženski ispitanici ostvaruju više skorove na dimenziji Pragma, dok muški ispitanici ostvaruju više skorove na dimenziji Agape, i to na poduzorku oba tipa veze. Na poduzorku ispitanika koji su u vezi na daljinu, uočena je korelacija između starosti ispitanika i dimenzije Agape ( $r = -.228, p < 0.05$ ). Ovo istraživanje je pokazalo da ne postoje statistički značajne razlike u stepenu izraženosti dimenzija afek-

tivne vezanosti i tipova ljubavi u zavisnosti od tipa veze. Takođe, rezultati pokazuju da postoje razlike u stepenu izraženosti mera afektivne vezanosti i tipova ljubavi zavisno od pola ispitanika što se može objasniti kulturološkim uticajem na ponašanje u vezi.

**Ključne reči:** *afektivna vezanost, stilovi ljubavi, veze na daljinu, veze na blizinu*



**Reviews of International Thematic Proceedings of  
the 11th conference Days of Applied Psychology**

In the thematic Proceeding are published papers presented at the 11th International Conference, Days of Applied Psychology 2015, organized by the Department of Psychology of the University of Nis. This conference represents an accredited program for professional development of employees in education and helps for better connection between experts who are engaged in education, theoretical basis, research and practical work in institutions.

The Volume contains 11 scientific papers which according to the contents treat some general themes of psychology of education, but there are also papers that deal with the current problems of the educational practices, as well as original scientific, and technical papers, divided into several thematic sections.

The Proceeding contains articles that advance theory, evaluate and integrate research literatures, provide a new historical analysis, or discuss new methodological developments in psychology as a whole.

The primary purpose of this proceeding is to provide a mean for communicating scholarly advances in research, training, and practice related to psychology and education, and school psychology. Articles in this Proceeding are presented as original, data-based research that can contribute to the development of innovative intervention and prevention strategies and the evaluation of these approaches. This Proceeding presents important conceptual developments and empirical findings from a wide range of disciplines (educational, child clinical, pediatric, community, and family psychology, as well as education and special education) and communicates advances from within school psychology to the broader educational and psychological communities.

It can be assumed that this proceeding will be of great help in the work of psychologist, or other expert associates, teachers, educators and school principals, and those who create and implement the educational process.

Keeping in sight the above findings, it is my honor and pleasure to recommend the Proceeding to be published.

Reviewer

Prof. dr Sofija Gorgievska

Faculty of Philosophy, Skopje



The thematic Proceedings contain papers presented at the 11th International Conference, Days of Applied Psychology, held on 25th and 26th September 2015, organized by the Department of Psychology of the University of Niš. This conference gathers researchers and practitioners from various fields of applied psychology and presents a place for the researchers and practitioners of the South-East Europe to exchange ideas and experiences. Conference Days of Applied Psychology is recognized as an opportunity to connect theoretical knowledge and practical experience.

Papers included in the mentioned Proceedings, 12 of them, belong to different branches of psychology and deal with a wide range of interesting and current topics. There are papers which are of theoretical–cognitive nature, but most of them deals with the issues from the direct practice in different areas of applied psychology. The papers resulted from the empirical studies conducted by the authors themselves or by the research teams they belonged to.

Papers related to the field of Education Psychology were presented within the first thematic unit. These papers deal with issues involving elementary/high school and college students, such as conflict situations at school, creativity, anxiety, empathy and altruism of students, and predictors of academic procrastination. Papers referring to the Clinical Psychology and Psychotherapy were presented within the second thematic unit. They dealt with the following: analysis of the perceived social support after cancer diagnosis, examination of the connection between social distance of children of regular population and children with developmental disabilities, then examination of the connection between parenting rearing styles and adolescents' aggressiveness, but they also pointed out the practical challenges and dilemmas the contemporary researchers of psychotherapy are striving to bridge. Within the third thematic unit there was a presentation of two papers related to the field of Individual Differences, whereby one paper dealt with the examination of the connection between Big five personality traits and concept of optimism – pessimism, while the other one involved the check of psychometric characteristics of Life Position Scale on Serbian and Macedonian samples. Two papers related to Attachment were presented within the fourth thematic unit, one of which dealt with differences in dimensions of affective attachment and love types among couples in proximal relationships and those in long-distance relationships, while the other paper referred to the attachment transfer through mediation of primary internal working models.

All papers were properly methodologically structured and implemented. Authors used relevant foreign and domestic literature, both books and articles from the scientific magazines, which is an additional argument to support the opinion that all dealt with the current psychological topics, and seriously approached the research and elaboration.

It is to be expected that a wide range of discussed topics will provoke the interest of readers and that the Proceedings will be interesting and informative

for the scientific and professional public, as well as stimulation for new studies.

Respecting the above findings, it is my honor and pleasure to recommend the Proceedings to be published.

Reviewer

Assoc. Prof. dr Biljana Mirković

Faculty of Philosophy, University of Banja Luka

The International Thematic Proceedings from the *11<sup>th</sup> International conference Days of Applied Psychology* held at the Faculty of Philosophy in Niš have been revised by an international scientific committee which includes prominent specialist from different psychological fields. The book contains 12 articles, which are grouped in four applied psychological disciplines (educational, clinical, individual differences and attachment research).

All of the papers are clearly written and technically sound regarding the methodology and analysis. The claims are supported by the data and discussed in the context of previous literature. Additionally, the references are adequate and appropriate. There is no doubt that publishing this proceeding of papers will contribute to enlargement of the scientific knowledge and inspire further research. The topics that are covered are of importance for the research community with primary focus on one of the four applied psychological fields contained in the book, but certainly will be interesting for the general scientific community of psychologists and closely related disciplines. Having all this said, this book definitely satisfies scientific criteria for publication.

Reviewer

Filip Sulejmanov,

PhD student assistant at Ss Cyril and Methodius University, Skopje

Zbornik radova obuhvata 12 radova grupisanih u 4 tematske oblasti – Edukacijska psihologija, Klinička psihologija i psihoterapija, Individualne razlike i Istraživanja afektivne vezanosti. Jedanaest radova je istraživačkog tipa, a jedan rad je pregledni rad. Radovi su napisani na engleskom jeziku.

Oblast Edukacijske psihologije obuhvata 4 istraživačka rada. Rad „**Konfliktne situacije u školi: Kako agresija i hostilnost igraju zajedno?**“ [„*Conflict situations at school: how do aggression and hostility play together?*“] bavi se temom individualnih reakcija na konfliktne situacije u školskom okruženju, koje su procjenjene bugarskom verzijom Upitnika socijalnih problema. Različiti tipovi destruktivnog (direktna i indirektna agresija, povlačenje) i pro-socijalnog ponašanja razmatrani su u vezi sa unutrašnjim činiocima. Hostilnost je operacionalizovana Upitnikom aspekata hostilnosti, sa ciljem da istraži ulogu kognitivnih faktora u aktiviranju i sprečavanju agresije. Uzorak je obuhvatio 302 učenika uzrasta 12 -16 godina, od kojih je 142 dječaka i 160 djevojčica. Rezultati istraživanja ukazuju na agresiju kao najmanje poželjnu reakciju u konfliktnim situacijama, ali i značajno više zastupljenu kod dječaka. Povlačenje kao reakcija smanjuje se sa uzrastom za ispitanike oba pola. Spremnost na pro-socijalno djelovanje ima nepravilan obrazac pada. Rezultati ukazuju na značajnu pozitivnu korelaciju agresije sa hostilnošću, impulsivnošću i uznemiravanjem. Hostilnost i impulsivnost predstavljaju prediktore agresivnosti. Autor dobijene rezultate diskutuje u odnosu na ranija istraživanja agresivnosti i rješavanja konflikata.

Rad „**Kreativnost i anksioznost studenata različitog školskog uspjeha**“ [„*Creativity and anxiety of students with a different success in school*“] istražuje kreativnost i anksioznost kao kompleksne fenomene, sa ciljem utvrđivanja postojanja značajnih razlika u izraženosti kreativnosti i anksioznosti među učenicima sa različitim školskim postignućem uzimajući u obzir polne i razlike u sibling sistemu. Uzorak je obuhvatio 132 učenika završnih razreda osnovne škole, uzrasta 13-14 godina. Korišteni su Test alternativne upotrebe, kao mjera divergentnog mišljenja, Racionale SPA kao mjera tendencije ka originalnosti i Inventar STAI-S i STAI-T za mjerenje anksioznosti. Dobijeni rezultati ukazuju na odlične učenike kao kreativnije i sa manje izraženom anksioznošću. Nema značajnih razlika u izraženosti opšte anksioznosti među učenicima sa različitim postignućima. Učenice su kreativnije i sa izraženom tendencijom ka originalnošću, a originalnosti su skloniji i učenici sa dva siblinga u odnosu na jedince. Učenici sa dva i više sibling pokazuju bolja školska postignuća u odnosu na djecu jedince i djecu sa jednim siblingom. Dobijene rezultate autor smatra podsticajnim za razvoj modernih pristupa u obrazovanju koji se neće fokusirati isključivo na znanje, već i na druge pokazatelje uspješnosti.

Rad „**Relacije između empatije i altruizma srednjoškolaca**“ [„*The relationship between empathy and altruism in secondary school students*“] usmjerava se na istraživanje veze između empatije i altruističke orijentacije učenika, sa ciljem provjere da li su neki aspekti empatije značajni prediktori altruizma kod

srednjoškolaca. Za mjerenje empatije korišten je Indeks interpersonalne reaktivnosti, koji procjenjuje četiri aspekta: Zauzimanje tuđeg stanovišta, Fantazija, Empatijska brižnost i Lična nelagodnost. Altruizam je mjeren skalom ALZAM. Uzorak je obuhvatio 120 srednjoškolaca, 60 djevojaka i 60 mladića, starosti 17-18 godina. Dobijeni rezultati ukazuju na statistički značajnu korelaciju altruizma i ukupne empatije pri čemu su najviše korelacije sa aspektima Empatijska brižnost i Zauzimanje tuđeg stanovišta, nešto niže sa aspektom Fantazija, dok sa aspektom Lična nelagodnost nema značajne povezanosti. Altruistička orijentacija može se predvidjeti na osnovu ukupne empatije srednjoškolaca, a najbolji prediktor altruizma je Empatijska brižnost, a zatim Zauzimanje tuđeg stanovišta. Prema autorima u budućim istraživanjima bilo bi poželjno ispitati povezanosti altruizma sa crtama ličnosti i motivacijom.

Rad „**Dimenzije ličnosti i indikatori mentalnog zdravlja kao prediktori akademske prokrastinacije**“ [„*Personality dimensions, indicators of mental health as predictors of academic procrastination*“] bavi se predikcijom akademske prokrastinacije na osnovu osobina ličnosti i indikatora mentalnog zdravlja. Na uzorku od 250 studenata, oba pola, sa 5 fakulteta Univerziteta u Nišu primjenjeni su Zakerman-Kulmanov test ličnosti (50CC-ZKPQ), četvorodimenzionalni instrument indikatora mentalnog zdravlja (4DSQ) i skala akademske prokrastinacije (PASS). Rezultati pokazuju da su osobine ličnosti Aktivitet, Impulsivno traženje senzacija i Neuroticizam/Anksioznost statistički značajni prediktori prokrastinacije. Od indikatora mentalnog zdravlja jedino se Distres izdvojio kao statistički značajan prediktor prokrastinacije, a ispoljio je i inkrementalnu valjanost na odnos Aktiviteta i Neuroticizma/Anksioznosti sa Prokrastinacijom. Ispitanice ostvaruju više skorove na dimenzijama Aktivitet, Distres i Somatizacija, dok ispitanici postižu više skorove na dimenziji Neuroticizma. Rezultati ukazuju na povezanost materijalnog stanja i Distresa, vrste fakulteta sa varijablama Aktivitet, Impulsivno traženje senzacija, Distres, Anksioznost, Somatizacija i Prokrastinacija, kao i varijable efikasnost studiranja sa Aktivitetom i Impulsivnim traženjem senzacija. Prema autorima, rezultati istraživanja daju smjernice za buduća istraživanja, a predstavljaju i preporuku za raniju identifikaciju osoba koje su sklone prokrastiniranju.

Oblast Kliničke psihologije i psihoterapije obuhvata 4 rada, od kojih su 3 istraživačka, a jedan pregledni rad.

Rad „**Percipirana socijalna podrška nakon dijagnoze kancera**“ [„*Percipied social support after cancer diagnosys*“] predstavlja istraživanje različitih tipova percipirane socijalne podrške, klasifikovane kroz šest grupa podrške – ljudi iz bliskog porodičnog kruga (partner, roditelji, djeca) i izvan porodičnog sistema (prijatelji, oboljeli od raka i zdravstveni radnici) osoba sa dijagnozom kancera. Različiti aspekti percipirane podrške (emocionalna, informativna, instrumentalna i negativna) dobijeni su Skalom izvora socijalne podrške. Uzorak je obuhvatio 74 ispitanica i 43 ispitanika, uzrasta od 25 do 84 godine, sa različitim dijagnozama

kancera, od kojih su 52,5% ispitanika bili u aktivnim tretmanima u trenutku ispitivanja, dok je njih 47,5% okončalo klasičnu formu tretmana. Dobijeni rezultati uazuju na emocionalnu podršku procjenjenu kao najznačajniju, kao i značajniju podršku partnera, u odnosu na podršku ostalih članova porodice. Za informacionu podršku, pored partnera, značajne su osobe koje boluju od iste bolesti kao i zdravstveni radnici. Prema autoru, percepcija podrške drugih doprinosi kapacitetima suočavanja sa bolovanjem i oporavkom, a u suočavanju sa onkološkim bolestima, pomoć drugih iz različitih sistema podrške – porodica, prijatelji, zdravstveni radnici i ljudi sa sličnim sudbinama, potrebija je nego ikada.

Rad “**Djeca sa razvojnim smetnjama i vršnjaci redovne populacije**“ [*„Children with developmental disabilities and peers from typical population”*] predstavlja istraživanje povezanosti socijalne distance djece redovne populacije prema djeci sa razvojnim smetnjama i doživljaja pripadanja školi djece sa razvojnim smetnjama. Istraživanje je obuhvatilo 58 parova djece sa razvojnim smetnjama (sa cerebralnom paralizom i intelektualnim deficitom) i djece tipične populacije koja su bila ujednačena po polu, uzrastu, školskoj spremi majki i njihovoj zapošljenosti i koja su zajedno pohađala redovnu osnovnu školu. Kao instrumenti su korišteni Bogardusova skala socijalne distance i Skala doživljaja pripadanja školi. Rezultati istraživanja pokazuju nisku socijalnu distancu djece tipične populacije i visok doživljaj pripadanja školi djece sa razvojnim smetnjama, dok je utvrđena niska negativna, ne i statistički značajna, povezanost između ovih varijabli. Prema autoru, rezultati ovog istraživanja su neposredna potvrda uspjeha inkluzivne prakse škole, na ispitivanom uzorku.

Rad “**Agresivnost adolescenata i vaspitni stilovi roditelja**” [*„Adolescent aggression and family upbringing”*] kroz teorijski okvir i istraživačke rezultate traga za ispitivanjem povezanosti vaspitnih stilova roditelja, sagledanih sa aspekta adolescenata i agresivnosti adolescenata. Istraživanje je sprovedeno na uzorku od 160 ispitanika, učenika srednjih škola. Za ispitivanje kvaliteta odnosa između roditelja i djece korištena je EMBU skala, a za utvrđivanje sklonosti ka agresivnim i antisocijalnim oblicima ponašanja, kao i sklonosti ka destruktivnim reakcijama, Test primarne agresivnosti T-15. Dobijeni rezultati ukazuju da sklonost agresivnim reakcijama adolescenata značajnije korelira sa vaspitnim stilovima majke, koja kao centralna figura u vaspitanju, najviše doprinosi izgradnji stavova i sistema vrijedosti djece, kao i kvalitetu njihovih interpersonalnih odnosa. Prema autoru, dobijeni podaci bi mogli pružiti korisna usmjerenja u vaspitanju.

Rad „**Savremena istraživanja u psihoterapiji – stari i novi izazovi**“ [*„Contemporary psychotherapy research – old and new challenges”*] predstavlja pregledni rad koji nastoji da sistematizuje saznanja o procesima i efektima psihoterapije, usmjeravajući se na bazične praktične izazove i dileme savremenih istraživača. Predstavljene su teme metodologije istraživanja, mjerenja i evaluacije tretmana (kvantitativna i kvalitativna istraživanja, praksa orijentisana na

istraživanja i mjerenje promjene) i teme efikasnosti terapije (efikasnost terapeuta, klijent kao akter psihoterapijskog procesa i različiti psihoterapijski modaliteti). Takođe su predstavljena savremena istraživanja neuronauka o promjenama u anatomiji i fiziologiji mozga pod uticajem psihoterapijskih tretmana. Autori rada ističu da je psihoterapija kompleksan fenomen. Neki od aspekata psihoterapijskog rada ostaće u domenu umjetnosti i intuicije, ali su mnogi drugi aspekti dostupni istraživanjima.

Oblast Individualnih razlika obuhvata 2 istraživačka rada.

Rad “**Relacije između crta ličnosti i optimizma – pesimizma studenata**” [*“The relationship between personality traits and optimism - pessimism among students”*] donosi istraživanje povezanosti između crta ličnosti, mjerenih BFI inventarom i koncepta optimizam – pesimizam, mjerenog skalom O-P, na uzorku od 238 studenata, prosječnog uzrasta 21.61 godina. Uzorak je obuhvatio 126 studentkinja i 112 studenata. Dobijeni rezultati ukazuju da su crte ličnosti Neuroticizam, Ekstraverzija i Prijatnost značajni prediktori Optimizma i značajni, ali obrnuti prediktori Pesimizma. Neuroticizam je najsnažniji prediktor, ali je njegov parcijalni doprinos Optimizmu obrnuto srazmjeran, a direktno srazmjeran Pesimizmu. Doprinosi Ekstraverzije i Prijatnosti su obrnutog smijera. Prema autorima, rezultati daju mogućnost predviđanja očekivanja studenata u pravcu pozitivnih ili negativnih ishoda, na osnovu tri od pet crta ličnosti. Preporuke za naredne studije odnose se na uvođenje drugih inventara ličnosti, kao i uzorke različitih uzrasta.

Rad “**Neke psihometrijske karakteristike Skale životnih pozicija (LPS) na srpskom i makedonskom uzorku**” [*“Some of the psychometric characteristics of the Life Position Scale (LPS) on Serbian and Macedonian sample”*] predstavlja provjeru psihometrijskih karakteristika Skale životnih pozicija na srpskom i na makedonskom uzorku. Za potrebe istraživanja skala je prevedena i adaptirana za upotrebu na srpskom i na makedonskom uzorku. Uzorak je bio prigodan u obe zemlje. Uzorak iz Srbije činilo je 142 ispitanika oba pola iz Niša, starost se u ovom uzorku kretala od 18 do 43 godina. Makedonski uzorak činilo je 100 ispitanika iz Skoplja takođe oba pola, starost ispitanika se kretala od 18 do 45 godina. Dobijeni rezultati pokazuju da skala posjeduje zadovoljavajući nivo pouzdanosti na oba uzorka ( $\alpha > 0.7$ ). Faktorska struktura na srpskom uzorku, daje četiri faktora, objašnjavajući 65.17% varijanse, ali se stavke ne raspoređuju u skladu sa teorijskim očekivanjima. Na makedonskom uzorku skala posjeduje adekvatnu faktorsku validnost, a četiri ekstrahovana faktora objašnjavaju oko 53.09% varijanse. Prema autoru, rezultati govore u prilog upotrebljivosti skale na uzorku iz Makedonije, dok je faktorska validnost na srpskom uzorku upitna, te su potrebne dodatne analize.

Oblast Istraživanja afektivne vezanosti obuhvata 2 istraživačka rada.

Rad “**Transfer afektivne vezanosti medijacijom URM-a**” [*“Attachment transfer through mediation of IWM”*] provjerava novi model transfera vezanosti

u adolescenciji, kroz promjenu u hijerarhiji vezanosti koja nastaje kao posljedica uticaja primarnih unutrašnjih modela (URM-a) na snagu vezivanja za sekundarnu figuru, preko URM-a te sekundarne veze. Model je obuhvatio hipoteze: 1) što je veća snaga vezivanja za primarnu figuru, veći je transfer vezivanja; 2) što je veće osjećanje lične vrijednosti u primarnoj vezi, veći je i transfer vezivanja. U svrhu testiranja modela, istraživanje je sprovedeno na uzorku od 310 adolescenata, starosti od 14 do 19 godina. Upitnik DAR je korišćen za ispitivanje URM-a sebe i drugog u svakoj od sledećih relacija: sa majkom, sa ocem i sa najboljim prijateljem; upitnik ROK je upotrebljen da se ispita osjećanje lične vrijednosti u navedenim relacijama. Snage vezivanja za navedene osobe su ispitane modifikovanim upitnikom WHOTO. Hayes-ov statistički model moderirane medijacije je upotrebljen kao metod analize. Neki rezultati potvrđuju model, a snaga vezivanja za oca i osjećanje lične vrijednosti u odnosu sa majkom jačaju transfer vezanosti od roditelja prema najboljim prijateljima, medijacijom URM-a.

Rad **“Razlike u dimenzijama afektivne vezanosti i tipovima ljubavi kod studenata koji su u proksimalnoj vezi i onih koji su u vezi na daljinu”** [*„Differences in dimensions of affective attachment and love types among couples in proximal relationships and those in long-distance relationships”*] predstavlja istraživanje povezanosti dimenzija afektivne vezanosti i tipova ljubavi u odnosu na tip veze (proksimala veza i veza na daljinu), kod studenta različitih fakulteta Univerziteta u Nišu. Uzorak je prigodan, čini ga 169 studenata, od toga 136 ( 80,5%) ženskih i 33 (19,5%) muških ispitanika. Za potrebe istraživanja korišteni su ECR-R – Experience in close Relationships i LAS – Love Attitudes Scale. Rezultati pokazuju da nema statistički značajnih razlika u stepenu izraženosti dimenzija partnerske afektivne vezanosti i tipova ljubavi zavisno od tipa veza. Kod oba tipa veze, s jedne strane uočene su korelacije između dimenzije Anksioznosti i Manie, a s druge strane između dimenzije Izbegavanje i tipova ljubavi Eros, Ludus i Agape. Ispitanice ostvaruju više skorove na dimenziji Pragma, a ispitanici na dimenziji Agape, i to na poduzorku oba tipa veze. Prema autorima, istraživanje ukazuje na nepostojanje statistički značajne razlike u stepenu izraženosti dimenzija afektivne vezanosti i tipova ljubavi u zavisnosti od tipa veze. Polne razlike postoje i u stepenu izraženosti mjera afektivne vezanosti i tipova ljubavi, što upućuje na kulturološki uticaj na ponašanje u vezi.

*Radovi čiji sam recenzent pripadaju različitim oblastima, donose naučne i inovativne istraživačke koncepte, originalna istraživanja i kvalitetne zaključke, pa ih preporučujem za objavljivanje.*

Recenzent:

Doc. dr Aleksandra Hadžić



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