

# SPECIJALNA EDUKACIJA I REHABILITACIJA

- STRESS IN MOTHERS OF ASD, ADHD CHILDREN DURING COVID
- TEACHERS' OPINIONS ABOUT INCLUSION
- PREZBIAKUZIJA, SLUŠNA OMETENOST I AMPLIFIKACIJA
- AUTORITARNOST I SOCIODEMOGRAFSKE KARAKTERISTIKE
- PRIMARNE MOTORIČKE STEREOTIPIJE



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# **Specijalna edukacija i rehabilitacija**

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## **Coping strategies and stress in mothers of children with autism spectrum condition and ADHD during the COVID 19 pandemic**

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*Introduction.* The COVID 19 pandemic and the earthquake, have brought many difficulties for everyone. Families of children with disabilities, face even more difficulties. *Objective.* The aim of this study is to investigate the coping strategies of mothers of children with autism spectrum disorder or attention deficit hyperactivity disorder and to determine how they are related to mothers' stress during the first lockdown in Croatia during the COVID-19 pandemic. At the same time, the capital was shaken by an earthquake, so we further investigated the effects of the earthquake on maternal stress. *Method.* Coping strategies were measured using the Croatian version of the Family Crisis Oriented Personal Evaluation Scales. Stress was measured using the Croatian version of the Perceived Stress Scale. The study was conducted online. The mothers of primary school children (90 of children with autism spectrum disorder and 67 of children with attention deficit hyperactivity disorder) completed the questionnaires. *Results.* The results of the repeated measures analysis of variance showed that both the mothers of children with autism spectrum disorder and those of children with attention deficit hyperactivity disorder used the reframing strategy most frequently and the mobilizing family to acquire and accept help least frequently. The results of the linear regression analysis showed that reframing and acquiring social support were statistically significant predictors of maternal stress. There were no differences in maternal stress from the earthquake-affected areas compared to other parts of Croatia. *Conclusion.* The results indicate a need for psychological support for parents of children with disabilities, especially in crisis situations.

*Key words:* coping strategies, earthquake, stress in mothers, ASD, ADHD, COVID-19 pandemic

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## Introduction

Disasters have different (environmental, biological, social, and behavioral) consequences that may influence well-being of all children, especially those with disabilities (Mann et al., 2021), as well as their parents' mental health (Sprang & Silman, 2013).

In 2020, Croatia was hit by two types of natural disasters: the COVID-19 pandemic and earthquakes. Due to the spread of the disease, the Government of the Republic of Croatia announced a lockdown on March 16, 2020, which made everyday life completely different and much more challenging for many people. In the middle of the pandemic and the start of the lockdown on the morning of March 22, the Croatian capital, Zagreb, was hit by a strong earthquake. The earthquake caused great material damage, 27 people were injured, and one girl died. After that earthquake, the citizens of Zagreb and its surroundings experience a series of aftershocks.

Given the situation of the pandemic (lockdown) and the earthquake that hit Zagreb and its surroundings, and the possible impact on children with autism Spectrum Disorder (ASD) and attention deficit hyperactivity disorder (ADHD), it is assumed that parents are exposed to higher levels of stress, especially mothers who are often more involved in household chores, care, and providing support to children (Bianchi et al., 2012; Del Boca et al., 2020). In a study by Lim et al. (2021), parents of children with disabilities reported more intensive symptoms of stress, anxiety, and depression than the general population.

The lockdown has put an even greater burden on parents of children with disabilities because they no longer receive professional support and therefore have to take on many tasks, such as the role of teacher or special educator (Mann et al., 2021; Neece et al., 2020; Tokatly Latzer et al., 2021).

Parental stress was in correlation with school closures, distance learning, being told to stay at home, lack of access to therapies for children, working online and caring for children at the same time, worry about viral infection, own mental health problems, loss of family and friends due to COVID-19, financial difficulties, increase in children's challenging behaviors, sleep problems and many other stressors (Mann et al., 2021).

Neurodevelopmental conditions, such as ASD and ADHD, affect children's and families' everyday functioning, so it is assumed that parents of those children are facing a lot of challenges and stress during the period of lockdown and an earthquake on top of that. Children and young people with ASD have specific needs for support due to their characteristics of social communication, behavior, and sensory processing issues.

Studies in neighbouring Serbia showed that the greatest concern of parents of children with autism was the fear of worsening symptoms and that most parents felt helpless (Stanković et al., 2022). In addition, underlying



features of ASD and comorbid problems caused more parental stress, which decreased over time (Djuric-Zdravkovic et al., 2023).

ADHD is a disorder characterized by developmentally inappropriate levels of hyperactivity, impulsivity, and inattention (APA, 2013). Despite being two different states, they share some common characteristics. Both conditions include difficulties and differences in socio-cognitive skills (Demopoulos, 2013), difficulties in executive functions such as working memory (Green, 2018), impulse control, and processing speed (Karalunas et al., 2018), communication and attention (Hattori et al., 2006, according to Miranda et al., 2015), and both conditions are diagnosed solely based on behavioral indicators (APA, 2014).

Findings about differences in stress between parents of children with ADHD and parents of children with ASD are still inconclusive. Some studies have shown that parents of children with ASD and ADHD show similar levels of parenting stress, both during the COVID-19 pandemic (Nathwani et al., 2021; Operto et al., 2021; Siracusano et al., 2021) and before the pandemic (Predescu & Sipos, 2013; Predescu & Sipos, 2015). On the other hand, Shiltz et al. (2021) have found the highest level of stress in parents of children with both ASD and ADHD, compared to parents with children with either ASD or ADHD. In a recent study by Yang et al. (2021), stress measured as caregiver strain was the highest in parents of children with ASD, then in parents of children with ADHD, and the lowest was in the control group. In contrast to those results, in another study parents of children with ADHD obtained higher levels of parenting stress related to attachment and depression than parents of children with ASD and parents of children with both ASD and ADHD (Miranda et al., 2015).

According to the Resiliency Model of Family Stress, Adjustment, and Adaptation developed by M. McCubbin and H. McCubbin (1991), the family affected by a stressor enters the phase of adaptation. The stressor can change family's balance. This model is about the family strengths and abilities that protect the family from disorders associated with normative family transitions and non-normative stressors. Coping strategies are one of the important factors in coping with stress.

Coping is defined as the family's strategies and behaviors aimed at maintaining and strengthening family stability, as well as the well-being of family members, supplying resources for managing the situation, and encouraging efforts for resolving difficulties caused by stressors (Lustig, 2002; M. McCubbin & H. McCubbin, 1991).

The study of Shamblaw et al. (2021) examined coping strategies during the COVID-19 pandemic in Canada with 1000 adult participants and found positive Reframing as the most effective positive coping strategy, but acceptance did not have a significant effect on stress. The study emphasizes Reframing negative aspects of the pandemic as being the most effective in improving the general well-being of participants (Shamblaw et al., 2021). Indeed, Reframing has been

shown to be one of the coping strategies connected to lower levels of stress in many previous studies before the pandemic in neurotypical population (Liu et al., 2019), but also specifically in mothers of children with ADHD (Podolski & Nigg, 2001) and parents of children with ASD (Al-Kandari et al., 2017; Twoy et al., 2007). Positive appraisals, religion, and acceptance were coping strategies that were also connected to lower stress in parents of children with ASD (Al-Kandari et al., 2017; Twoy et al., 2007). In contrast, negative coping strategies such as avoidance are associated with negative outcomes such as more anxiety and depressive symptoms (Morgan et al., 2022). Several studies of coping strategies during the COVID-19 pandemic have shown that parents of children with ASD used more negative coping strategies. In the study in China, it was shown that parents of children with ASD had lower results for positive and higher results for negative coping, compared to parents of neurotypical children (Wang et al., 2021). And in the study in the USA, parents (mostly mothers) of children with ASD more frequently used disengagement coping strategies (avoidant strategies), compared to parents of neurotypical children (Corbett et al., 2021).

To the best of our knowledge, there are no studies about coping strategies and stress in mothers of children with ASD and ADHD during the COVID-19 pandemic and earthquake. Although there are studies on parental stress of children with ASD and ADHD during the pandemic, there is a lack of studies directed to general stress of mothers. Furthermore, we haven't found studies on the coping strategies of parents of children with ADHD during the pandemic, and there are only a few on the coping strategies of parents of children with ASD. There is also a lack of studies that compare coping strategies between mothers of children with ASD and ADHD.

### **Aim**

The aim of this study was to investigate coping strategies among mothers of children with ASD or ADHD during the first lockdown in Croatia, and to relate the coping strategies with perceived stress.

Specifically, we wanted to determine:

- whether there are differences between mothers of children with ASD and mothers of children with ADHD in coping strategies and stress,
- which coping strategies mothers of children with ASD and mothers of children with ADHD used more and less often,
- whether coping strategies of mothers of children with ADHD and ASD had an effect on stress during the first pandemic lockdown, and whether the type of child disability and experience of earthquake moderates that effect,
- whether stress of mothers of children with ASD and ADHD living in the area affected with earthquake was greater than in other areas.

## Method

This study is a part of a larger study of stress in mothers of children with ADHD and ASD during the COVID-19 pandemic in Croatia. Some of the results of that study for participants with ADHD are presented in Cvitković et al. (2023).

### Participants

157 mothers aged 30 to 53 years ( $M = 41.95$ ,  $SD = 5.46$ ) participated in the study, of whom 67 were mothers of primary school children with ADHD and 90 were mothers of primary school children with ASD. Most mothers (52.2%) had high school level of education, college and university level of education had a slightly more than a third of mothers in the sample (36.3%). The sociodemographic characteristics of the participants are presented in Table 1.

**Table 1**

*Sociodemographic characteristics of participants (N = 157)*

	N	%
Level of education		
Only elementary level	2	1.3
High School graduate	82	52.2
University graduate	57	36.3
Postgraduate	16	10.2
Employment		
Employed	62	39.6
Part-time Employment	44	28.2
Unemployment	30	19.2
Maternity Leave	7	4.6
Status of caregiver	13	8.4
Residence		
Rural	34	21.7
Small city (less than 100,000 residents)	50	31.8
Larger city (more than 100,000 residents)	73	46.5
Total number of children		
1	55	35.0
2	67	42.7
3	27	17.2
More than 3	8	5.1
	M	SD
Children's age	10.7 (7-15)	0.60

Inclusion criteria for participation in the study were that the child had an ASD or ADHD diagnosis and was 7 to 15 years old (primary school age in Croatia). To control for the type of disability, children with both ADHD and ASD were not included. Based on parental confirmation, children with both an ASD and an ADHD diagnosis were not included in the study. For this reason, we used the data from 157 of the total 187 respondents. For this reason, we used the data from 157 of the total of 187 respondents. The socio-demographic characteristics of the children are listed in Table 2. The average age of the children was 10.7 years ( $SD=0.604$ ). All children with ADHD attend regular schools. Out of 90 participants with ASD, 25% children attended special education programs in special institutions, 32% were in mainstream school program with individualization and 43% attended mainstream school program with accommodations.

**Table 2**

*Sociodemographic characteristics of children with ADHD and ASD (N=157)*

	ADHD		ASD	
	N	%	N	%
Gender				
Male	54	80.6	78	86.7
Female	13	19.4	12	13.3
School class				
1	7	10.4	10	11.1
2	5	7.5	6	6.7
3	14	20.9	2	2.2
4	9	13.4	59	65.6
5	7	10.4	4	4.4
6	10	14.9	4	4.4
7	6	9.0	4	4.4
8	9	13.4	1	1.1

## Measures

Sociodemographic data for all participants included age, education level, employment status, number of children in a family, age of a child with ASD/ADHD and place of residence.

Mother's coping strategies were measured using the Family Crisis Oriented Personal Evaluation Scales – F-COPES (McCubbin et al., 1996). It is based on the Resilience model and identifies behavioral strategies and problem solving in difficult situations. It has 30 coping behavior items organized in five subscales: acquiring social support (9 items), reframing (8 items), seeking spiritual support (5 items), mobilizing family to acquire and accept help (4 items), and passive appraisal (4 items). The respondent rates the items on a 5-point Likert scale, from 1, "Strongly Disagree", to 5,

“Strongly Agree”. Because subscale seeking spiritual support was not applicable due to the lockdown, it was omitted in this study. Cronbach alpha on a Croatian sample varies from 0.65 to 0.86. Cronbach alpha for specific subscales: acquiring social support – 0.82, reframing – 0.85, mobilizing family to acquire and accept help – 0.65, and passive appraisal – 0.66. Higher score indicates that a specific strategy is used more often.

Stress was measured using the Perceived Stress Scale (PSS-10), which was developed to assess current levels of experienced stress and how unpredictable, uncontrollable, and overloaded respondents perceive their lives to be (Cohen et al., 1994). It is a 10-item scale on which respondents rate items on a 4-point Likert scale, where 0 means “never” and 4 means “very often”. A higher score on the scale indicates a higher level of stress. The scale was adapted and applied to the Croatian sample (Hudek-Knežević et al., 1999). The Cronbach’s alpha for this sample was 0.88 and the Screen test resulted in a factor explaining 44.1 % of the pooled variance.

## **Procedures**

The study was conducted in accordance with the Code of Ethics of the University of Zagreb and Ethics Guidelines for Internet-Mediated Research of the British Psychological Society. A cover letter explaining the purpose of the study and ethical principals was included in the introduction to the questionnaire. Answering the questionnaire was taken as consent. An online survey was created and sent to key agencies that support children with disabilities and non-governmental organizations that bring together parents of children with ASD and ADHD. The online survey was also shared on social media among groups of parents of children with disabilities. The questionnaire was preceded by a cover letter explaining the purpose of the study. Answering the questionnaire was taken as consent. Data was collected from the end of May to the end of June 2020. A total of 187 questionnaires were collected. When checking for inclusion criteria, some questionnaires were excluded, leaving 157 questionnaires for further analysis.

## **Data Analysis**

All analyses were conducted using SPSS 25 for Windows (IBM, Chicago, IL, USA). Descriptive analysis included means and standard deviations. A repeated measures analysis of variance was used to examine differences in frequency of coping strategy use. T-tests were calculated to compare the groups. Pearson’s correlation coefficients were used to calculate the relationship between the variables. Linear multiple regression analyses were conducted to identify predictors of stress.

## Results

As shown in Table 3, the t-test results indicate that there is no difference in the F-COPES variables nor in the stress scale between mothers of children with ASD and mothers of children with ADHD.

**Table 3**

*T-test results for the differences in coping strategies and stress between mothers of children with ASD and mothers of children with ADHD*

	Mothers ASD (N = 90)		Mothers ADHD (N = 67)		t
	M	SD	M	SD	
Acquiring Social Support	22.24	6.61	24.02	5.91	-1.42
Reframing	28.67	5.96	29.67	4.52	-1.57
Mobilizing Family to Acquire and Accept Help	8.96	3.04	9.56	3.41	-0.97
Passive Appraisal	10.47	2.76	11.08	2.70	-1.06
Stress	25.89	4.80	22.77	4.62	0.58

Repeated measures analysis of variance on the coping scores for both samples of mothers of children with ASD and ADHD was done to see which stress coping strategies during the lockdown mothers used the most and the least.

The results of repeated measure analysis of variance for the sample of mothers of children with ASD show a significant effect ( $F_{3,5} = 311.58 = 105.725$ ,  $p < 0.01$ ). Since the assumption of Sphericity has not been met, the Greenhouse-Geisser correction was applied. The Bonferonni post hoc test showed that Reframing is the most used coping strategy. This is followed by Passive Appraisal and Acquiring Social Support. The Mobilizing Family to Acquire and Accept Help strategy was used the least.

Another repeated measure analysis of variance on coping strategies scores for the sample of mothers of children with ADHD was done. Since the assumption of Sphericity has not been met, the Greenhouse-Geisser correction was applied. The results show a significant effect ( $F_{1,60} = 2144.51$ ,  $p < 0.01$ ). The Bonferonni post hoc test showed that Reframing was the most used strategy. This is followed by Passive Appraisal and Acquiring Social Support, between which there is no statistically significant difference. The lowest results are on the scale for the Mobilizing Family to Acquire and Accept Help strategy.

A regression analysis was done to determine whether coping strategies of mothers of children with ASD and ADHD have an effect on stress during the first COVID-19 lockdown, and whether the type of child disability moderates this effect. Bivariate correlation coefficients among predictor variables and stress in mothers were previously calculated.

**Table 4***Correlation coefficients among predictors and criteria variable*

Variables	2	3	4	5
Acquiring Social Support	0.16*	0.59**	0.31**	-0.18*
Reframing		0.02	0.24**	-0.51**
Mobilizing Family to Acquire and Accept Help			0.22**	-0.03
Passive Appraisal				-0.04
Stress				

\* $p < .05$  \*\* $p < .01$ 

The bivariate correlation coefficients between Perceived stress scale and coping strategies are shown in Table 4.

As shown in Table 4, the ways of coping with stress, such as Reframing, Acquiring Social Support, are associated with less amount of stress experienced.

**Table 5***Linear regression analysis on stress considering child disability and coping styles (N = 157)*

Predictors	Stress		Collinearity Statistics	
	$\beta$	t	Tolerance	VIF
Child Disability	-0.02	-0.29	0.975	1.026
Acquiring Social Support	-0.17	-1.93*	0.603	1.659
Reframing	-0.51	-7.06**	0.917	1.090
Mobilizing Family to Acquire and Accept Help	0.06	0.69	0.640	1.561
Passive Appraisal	0.12	1.60	0.865	1.155
R <sup>2</sup>	0.28**			

\* $p < .05$  \*\* $p < .01$ 

Overall multiple regression was statistically significant ( $R^2 = 0.28$ ,  $F(5,151) = 11.78$ ,  $p < 0.01$ ).

The results shown in Table 5 indicate that Reframing has a statistically significant effect on perceived stress ( $\beta = -0.51$ ,  $p < 0.01$ ) as well as Acquiring Social Support ( $\beta = -0.17$ ,  $p < 0.05$ ), regardless of the type of difficulty the child has. Other means of coping did not prove to be statistically significant predictors.

**Table 6**

*Earthquake exposure. T-test results for the differences between those exposed and not exposed to the earthquake*

	Yes			No			t	p	Df
	M	SD	N	M	SD	N			
Stress	23.12	4.94	87	22.12	4.19	65	1.32	0.18	150

Independent samples t-test (Table 6) revealed no statistically significant differences on the Perceived Stress Scale between those who were and those who were not in Zagreb when the earthquake took place.

### Discussion

This study has shown that there are no differences in either stress or coping between mothers of children with ASD and mothers of children with ADHD.

That result is in line with previous research in this area which investigated stress and parental stress. Siracusano et al. (2021) have found out that there were no differences in the level of stress during the COVID-19 pandemic between parents of children with ASD and ADHD, but both groups had higher parental stress compared to parents of neurotypical children. The severity of difficulties not the type of neurodevelopmental condition has been shown to have a greater impact on parental stress for parents of children with ASD and ADHD (Nathwani et al., 2021). It was also shown that the stress was the same in those two groups, but it was higher than the stress in parents of neurotypical children and of those with children with specific learning disabilities (SLD) (Operto et al., 2021).

Furthermore, the type of disability was not a predictor of stress in mothers. We can assume that the type of disability is not so important in creating stress by itself. The study of Jacques et al. (2021) about the experiences of children with ASD and their families during the COVID-19 pandemic showed correlation between parent's concerns about the child's behavior and development before and during pandemic. Pandemic worsened difficult behavior that had already existed in children and intensified parents' concerns about it (Jacques et al., 2021).

Stress can be connected to the parental experience of the severity of children challenging behavior during the pandemic. Studies have shown that challenging behavior increased in those children both in intensity and frequency (Colizzi et al., 2020; McGowan et al., 2020; Nonweiler et al., 2020).

Some parents of children with disabilities may become even more overwhelmed in the post-disaster period because of the need for greater support for children with disabilities (Cobham et al., 2016; Stough et al., 2017). That is



why we expected participants who experienced the earthquake also had more traumatic experiences and, consequently, higher levels of stress. The results did not show the differences in perceived stress between mothers from earthquake-affected areas and mothers from other areas. That can perhaps be explained by the fact that this research was conducted two months after the earthquake, and although aftershocks were still present, the time has passed after the initial, strong earthquake. Although in the survey the participants were asked to answer according to their perception of stress in the last two months, we can presume that their answers were perhaps led by current experiences. It could be assumed that other factors (for example, stress connected to the pandemic) had more impact on the stress in mothers of children with ASD and ADHD at that time. Those assumptions can be connected to the research conducted by Margetić et al. (2021), on a sample of a general population (N = 2818), as much as with the results by Ali et al. (2022). The effect of the earthquake(s) in Zagreb on stress of population was statistically significant but rather small (Margetić et al., 2021). It is possible that differences were found because that research was conducted two weeks after the earthquake.

The results on coping strategies showed that mothers of children with ASD and mothers of children with ADHD during the lockdown used Reframing the most, and then Acquiring Social Support and the Passive Appraisal strategies equally. A study by Tway et al. (2007) on a sample of parents of children with ASD also showed that parents used Reframing the most, followed by Social Support.

Reframing focuses on the participant's ability to redefine stressful events in order to make them more manageable. For example, accepting a stressful event as a reality of life, faith in their own strengths, the family's strength to solve the problem, etc. In this strategy of coping with stressful events, the individual relies on their own strength which is extremely important in a situation of limited opportunity to gaining support from the outside (lockdown). That is consistent with some evidence that indicate positive Reframing of potentially traumatic and stressful events as one of perhaps the most effective coping strategies under extreme conditions where it is very difficult to act directly to reduce the impact of the stressor (Hastings et al., 2005).

This research showed that Reframing has a positive effect on the intensity of stress. Similar results were obtained by Podolski and Nigg (2001); Reframing has been associated with lower levels of distress in both mothers and fathers of children with ADHD.

Acquiring Social Support from friends and relatives was used frequently, and the research showed that this strategy also has a positive effect on the intensity of stress experienced. This result is consistent with research that have shown that seeking social support is associated with resilience in the families of children with ADHD and in the families of children with disabilities (Barkley,

1998; Baqutayan, 2011; Brown et al., 2010), and with lower levels of stress in parents of children with disabilities (Baqutayan, 2011).

Mothers of children with ASD and ADHD also used the not-so-successful Passive Appraisal strategy, that is, avoiding dealing with the problem. This strategy can lead to unfavorable outcomes in the long run, both for the general population in the form of higher stress levels and depression (Holahan et al., 2005) and for the person and for the family of children with ASD, such as depression, isolation, and marital problems (Dunn et al., 2001).

In this study, we have had no insight to what extent the mothers were experiencing stress and which coping strategies the mothers used before the pandemic and earthquake. Considering that some studies show a positive relationship between perceived stress before and during the pandemic in the general population (Shanahan et al., 2020) it might be interesting to investigate that in the future.

Since some studies showed association between level of education of parents of children with disabilities and coping strategies (Azar & Badr, 2010; Judge, 1998), it is important, while discussing our results, to consider that the mothers in this study had higher levels of education compared to the general population. For example, a study that investigated the relationship between parental perceptions of coping strategies and family strengths in families of young children with disabilities showed that parents' use of coping strategies that focus on wishful thinking and self-blaming is more frequent in mothers with lower educational attainment. The family challenge strength was negatively associated with the educational level of the mother (Judge, 1998). So, we can speculate that mothers in our study might use, to a greater extent, positive strategies since they attained generally higher levels of education.

This study has limitations. The study was conducted on a convenient sample of mothers, and it is possible that the results would be different in a larger, representative sample. In the study, there is a slightly higher proportion of mothers with a higher level of education, which may also have influenced the results. There is also no data on how to deal with stress before the COVID lockdown; therefore, it is not possible to compare the results obtained with ways of coping with mothers before the pandemic.

Results of this study indicate a need for psychological support (counselling, support group, parent training) for parents, especially during crises, that will enhance the use of positive coping strategies in dealing with stress.

## **Conclusion**

The aim of this study is to examine coping strategies in mothers of children ASD and ADHD and how they relate to maternal stress during the initial lockdown of Croatia during the pandemic COVID -19. Results showed that mothers of children with ASD and mothers of children with ADHD most

frequently used reframing during the lockdown as a very successful strategy in such circumstances as a pandemic, which significantly helped to reduce stress. They used strategies such as obtaining social support and passive appraisal equally. Social support is also a successful strategy and contributes significantly to stress reduction, while passive appraisal is not as successful. For those mothers who predominantly used passive appraisal strategy, other forms of support are needed.

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## Prediktori stresa kod majki dece sa poremećajem iz spektra autizma i ADHD-om tokom pandemije COVID-19

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*Uvod:* Prirodne katastrofe poput pandemije COVID-19 i zemljotresa izazvale su mnoge poteškoće svima. Porodice dece sa smetnjama u razvoju, kao posebno ranjiva grupa, suočavaju se sa još većim poteškoćama. *Cilj:* Cilj ove studije je da se istraže strategije suočavanja kod majki dece sa poremećajem iz spektra autizma i poremećajem hiperaktivnosti i deficita pažnje i kako su one povezane sa majčinim stresom tokom prvog zaključavanja Hrvatske tokom pandemije COVID-19. Zemljotres je istovremeno pogodio glavni grad, pa smo dodatno istražili uticaj zemljotresa na majčin stres. *Metod:* Strategije

suočavanja izmerene su korišćenjem hrvatske verzije “Evaluaciona skala orijentisana na porodične krize” („Family Crisis Oriented Personal Evaluation Scales – F-COPES”). Stres je izmeren korišćenjem hrvatske verzije Skala doživljenog stresa ( „Perceived Stress Scale – PSS-10”). Istraživanje je sprovedeno onlajn. Devedeset (90) majki dece osnovnih škola sa PSA i 67 majki dece osnovnih škola sa poremećajem hiperaktivnosti i deficita pažnje ispunilo je upitnike. *Rezultati:* Rezultati ponovljene analize mera varijanse pokazali su da su i majke dece sa poremećajem iz spektra autizma i majke dece sa poremećajem hiperaktivnosti i deficita pažnje najviše koristile strategiju reframinga, a najmanje strategiju mobilizacije porodice da steknu i prihvate pomoć. Rezultati linearne regresivne analize pokazali su da su reframing i sticanje socijalne podrške statistički značajni prediktori majčinog stresa. Među majkama iz oblasti pogođenih zemljotresom nije bilo razlika u odnosu na majke u drugim delovima Hrvatske. *Zaključak:* Rezultati ovog istraživanja ukazuju na potrebu psihološke podrške roditeljima dece sa poremećajem iz spektra autizma i poremećajem hiperaktivnosti i deficita pažnje, posebno u kriznim situacijama.

*Cljučne reči:* strategije suočavanja, zemljotres, majčin stres, ASD, ADHD, COVID-19 pandemija

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## Teachers' opinions on the inclusion of children with Down syndrome in regular schools

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**Introduction.** Inclusive practices largely depend on teachers and their opinions about the educational inclusion of children with developmental disabilities. It has been proven that teachers' opinion on inclusion depends on the type of developmental disability. **Objectives.** The primary goal of the research is to determine teacher opinions about the inclusion of children with Down syndrome in regular schools. An additional goal was to examine differences in teacher opinions concerning factors such as gender, age, length of service, experience in inclusive education, and education on how to work with children with developmental disabilities. **Methods.** The research sample was convenient and consisted of 70 teachers from Jajce, Bosnia and Herzegovina. The teacher's opinion was examined with a questionnaire constructed for this research. **Results.** Results show that teachers have favorable opinions about the inclusion of children with Down syndrome in regular schools on overall scores. Teacher opinions differ on gender and length of service. Female teachers have a more favorable opinion than male teachers, while teachers with over thirty years of work experience have a negative one. Teacher opinions do not differ concerning age, experience in inclusive education, and education on how to work with children with developmental disabilities. **Conclusion.** There is a need for systematic and continuous work on inclusive policy, culture, and practice in schools, as education of teachers on the characteristics and methods of how to work with children with Down syndrome and other developmental disabilities.

**Keywords:** inclusive education, Down syndrome, primary education, teacher's opinions

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## Introduction

Inclusion of children with developmental disabilities in regular schools is a priority of educational systems today but also a challenge. The inclusion of children in regular classes does not a priori mean the development of inclusive practices (Linder et al., 2019). The inclusion of children with developmental disabilities in regular schools remains a challenge (Zabeli & Gjelaj, 2020), and we are still far from its full implementation in schools (UNESCO, 2015). Many schools still do not guarantee inclusive education and face many difficulties (Koliqi & Zabeli, 2022). Ainscow and Sandill (2010) believe that the most crucial dimensions for developing an inclusive culture, policy, and practice in schools are the participants' attitudes about inclusion and their approach to diversity. Miloš and Vrbić (2015) believe that in addition to attitudes, building an inclusive school also depends on the knowledge, flexibility and creativity of everyone involved in the process. However, it is considered that teachers are key actors in the implementation of inclusion and that their positive opinions are extremely important for the implementation of this educational reform (de Boer et al., 2011 as cited in Kraus, 2020; Koliqi & Zabeli, 2022). Jury et al. (2021) define teachers' attitudes toward inclusive education as viewpoints or dispositions of teachers toward the particular "object" of inclusive education. The authors point out that the mentioned viewpoint can consist of beliefs about teaching children with disabilities in an inclusive environment (the cognitive component), feelings about teaching children with disabilities (the affective component), and actions that support inclusion (the behavioural component).

Research shows that teachers generally support inclusion as a philosophy, but still believe that some children are better off in special schools (Killoran et al., 2013; Sabella, 2015). The attitudes of teachers towards the educational inclusion of students with developmental disabilities range from neutral to positive (Galaterou & Alexander-Stamatios, 2017; Galović et al., 2014; Koliqi & Zabeli, 2022; Mahajan, 2015; Singh et al., 2020) or globally are positive (Đorđević et al., 2018; Guillemot et al., 2022; Odongo & Davidson, 2016). However, there are studies in which the attitudes are negative (Alsolami & Vaughan, 2023; Fu et al., 2021; Koliqi & Zabeli, 2021; Mbwambo & Nes, 2022; Saloviita, 2018; Shari & Vranda, 2016) or range from negative to neutral (Japundža-Milisavljević et al., 2022). It is interesting that recent research shows that teachers show a lack of knowledge about inclusion (Fu et al., 2021; Mbwambo & Nes, 2022). The inconsistency in the results can be explained by cultural differences because the researchers are from different parts of the world (Turkey, South Korea, China, Egypt, El Salvador, Jordan, Serbia, India, and Tanzania). General social attitudes towards people with developmental disabilities in the aforementioned societies are different, which is also reflected on the teachers' attitudes.

It is evident that teachers' attitudes towards the inclusion of children with developmental disabilities in general have been the focus of research for several

years. However, research shows that teachers' attitudes about the educational inclusion of children with developmental disabilities depend on the type of disability. Teachers think that inclusion in regular schools is more suitable for children with motor and sensory disabilities than for children with intellectual disabilities, autism, and behavioral problems (Avramidis & Norwich, 2002 as cited in Völlinger & Supanac, 2020; de Boer et al., 2011 as cited in Völlinger & Supanac, 2020; Jury et al., 2021). Given the above, this research focused on teachers' attitudes about the inclusion of children with Down syndrome in regular elementary schools.

Studies of teachers' attitudes about the inclusion of children with Down syndrome in regular elementary schools, similar to studies of teachers' attitudes about the educational inclusion of children with developmental disabilities, show inconsistent results. Several studies found positive opinions (Fox et al., 2004; Krause, 2020; Petley, 1994; Petty & Sadler, 1996), two found negative attitudes (Vlachou, 1993; Wishart & Manning, 1996), and in some studies, teachers' attitudes range from positive to negative (Johnson, 2006; Rietveld 1986, 1988). Research shows that teachers have more positive attitudes about the social inclusion of children with Down syndrome than about the academic one (Campbell et al., 2003; Krause, 2020; Petty & Sadler, 1996). The inconsistency of research results is a consequence of the fact that attitudes are influenced by different factors. According to Avramidis and Norwich (2002), three groups of factors should be taken into account when investigating attitudes: teacher factors, child-related factors, and environmental factors. Previous research results are divided concerning the teacher factors and they agree that experience in working with children with Down syndrome (Gilmore et al., 2003; Johnson, 2006; Krause, 2020; Petley, 1994) and knowledge of inclusive practices (Campbell et al., 2003; Krause, 2020) influenced teachers' attitudes. Researches do not agree on the impact of earlier contact with students with Down syndrome on teachers' attitudes, so in the research of Wishart & Manning (1996 according to Krause, 2020), earlier contact proved to be a significant factor, while in the research of Krause (2020) it was not significant. Inconsistency also exists regarding the influence of knowledge that teachers have about Down syndrome. In the study of Gilmore et al. (2003), teachers' knowledge about Down syndrome affected attitudes, while Krause (2020) found it significant only in interaction with the variable experience in inclusive education. As Krause (2020), in her Doctoral dissertation pointed out, the results of the research regarding teachers' confidence in their abilities to meet the needs of children with Down syndrome were divided, so in some studies, the influence of this variable on attitudes was determined (Petty & Sadler, 1996), while in her research it was not (Krause, 2020). The research results regarding the influence of teachers' confidence in their ability to support the needs of children with Down syndrome are also inconsistent. In some studies, this variable influences teachers' attitudes (Petty

& Sadler, 1996 according Krause, 2020), while Krause (2020) did not confirm that. Inconsistency exists regarding the influence of teacher factors such as gender, chronological age, and length of service. Gilmore et al. (2003) found that the mentioned factors did not influence teachers' attitudes about the educational inclusion of children with Down syndrome, while in the study by Krause (2020), gender and length of service influence teachers' attitudes. Consistency of research exists concerning the child-related factor, and studies show that the child's educational level is negatively related to the teachers' attitudes and that the younger the children are, the teachers' attitudes are more positive (Gilmore et al., 2003; Krause, 2020). Also, there is an agreement concerning environmental factors, and studies have found that variables adequate staff, school finances, and support of teachers influenced their attitudes about the inclusion of children with Down syndrome in regular schools (Gilmore et al., 2003; Johnson, 2006; Petley, 1994; Petty & Sadler, 1996; Vlachou, 1993; Wishart & Manning, 1996 all according to Krause, 2020).

A review of the research showed a lack of research about teachers' attitudes on the educational inclusion of children with Down syndrome in regular schools. Eleven papers covering the period from 1994 to 2020 were found and analyzed. Inconsistency in results was observed on both total scores and on the factors influencing teachers' attitudes. The most common inconsistency is due to the teacher's factor and for that reason, this factor will be the focus of this research. It was stated earlier that attitudes towards inclusion are multidimensional; consist of three components. This research is not aimed at examining the multidimensional attitudes of teachers, but their opinions. An opinion is defined as a view or judgment formed about something. Therefore the main goal of the research is to examine teachers' opinions about the inclusion of children with Down syndrome in regular schools. The objectives are to examine differences in teachers' opinions concerning teacher factors such as gender, chronological age, length of service, experience in inclusive education, and education on how to work with children with developmental disabilities.

## Methods

### Sample

The research sample consisted of 70 teachers from three elementary schools in the area of Jajce ("13. Rujan", "Jajce" Kruščica and "Braća Jezerčić" Divičani), and it is a convenience sample. Female teachers are dominant (72.9%) compared to male teachers (27.1%) ( $\chi^2 = 14.629$ ,  $p = .000$ ). Concerning age, most teachers are between 31 and 40 years (37.1%) and then teachers aged 20 to 30 years (25.7%), while teachers aged 41 to 50 and over 51 years were 18.6% each ( $\chi^2 = 6.457$ ,  $p = .091$ ). Concerning the length of service, most teacher has 0 to 10 years of service (41.4%), then 11 to 20 years of service (32.9%), 21 to 30 years of service (15.7%), and 31 years and over (10.0%) ( $\chi^2$

= 18.000,  $p = .000$ ). Experiences in inclusive education have 13 teachers (18.6%), while 57 (81.4%) did not ( $\chi^2 = 27.657$ ,  $p = .000$ ). Education on how to work with children with a developmental disability was passed by 24 teachers (34.3%), while 46 (65.7%) did not ( $\chi^2 = 6.914$ ,  $p = .009$ ).

## **Instruments**

Teachers' opinions about the inclusion of children with Down syndrome in regular schools were examined using a Questionnaire created for this research. The Questionnaire consisted of 14 statements to which respondents could answer by choosing one of the five answers offered (do not agree at all, mostly disagree, cannot decide, mostly agree, completely agree). A positive opinion carries the highest number of points. The four variables are given in a negative form (items 2, 7, 10, and 14) and scored inversely. The lowest result on the Questionnaire is 14 points; the highest is 70 points, and the average score is 42. The Questionnaire shows satisfactory internal reliability in the research sample ( $\alpha = .85$ ).

A general questionnaire was constructed to obtain data about sample such as gender, chronological age, length of service, experience in inclusive education, and education on how to work with children with developmental disabilities.

## **Procedure**

For access to schools and conducting research, consent was obtained from the Ministry of Education, Science, Culture and Sports of the Central Bosnian Canton of Travnik. All participants were informed of all relevant information to make an informed decision about participating in the research. They are familiar with the goal and purpose of the research, anonymity, the possibility of exclusion from the research at any stage, and the fact that the data will be used only for research purposes. Only teachers who gave their consent to participate participated in the research.

## **Data Analysis**

The normality of the distribution of the summary variable of attitudes was tested with the Kolmogorov-Smirnov test, which showed that the results meet the criterion of normality ( $p = .200$ ). Differences concerning gender, experience in inclusive education, and education on how to work with children with developmental disabilities were examined using a t-test, while differences concerning chronological age and length of service were examined using analysis of variance with use of Tukey HSD post hoc test.

## Results

**Table 1**

*Teachers' opinions about the inclusion of children with Down syndrome in regular schools*

Items	Min.	Max.	M	SD
1 I would like to work with a student with Down syndrome	1.00	5.00	3.29	1.16
2 Children with Down syndrome do not need to attend regular schools	1.00	5.00	3.49	1.45
3 Students with Down syndrome are not a hindrance to quality work in the school classroom	1.00	5.00	3.20	1.25
4 It is not possible to include a student with Down syndrome in schools without a work assistant and a special educator and rehabilitator	1.00	5.00	3.61	1.35
5 My professional competences are good enough to work with students with Down syndrome	1.00	5.00	2.57	1.23
6 I would accept a child with Down syndrome in my class	1.00	5.00	3.84	1.07
7 I am not competent to create positive relationships between students with Down syndrome and other students in the class	1.00	5.00	3.33	1.30
8 Regular educational institutions do not sufficiently integrate children with Down syndrome	1.00	5.00	3.77	1.13
9 The inclusion of children with Down syndrome in regular school classes is helpful for their advancement in the cognitive (cognitive), affective (experiential) and psychomotor (active) areas of development	1.00	5.00	3.97	1.14
10 Students with Down syndrome in regular school classes can negatively affect the achievements of the entire school class	1.00	5.00	3.63	1.33
11 I am ready to attend additional training in order to improve my techniques for working with pupils with Down syndrome	1.00	5.00	3.96	1.13
12 In my institution, education should be conducted for the inclusion of children with disabilities in regular institutions (lectures, workshops, etc.)	1.00	5.00	4.27	1.01
13 Other pupils in the class, in which pupil with Down syndrome are integrated, can expand their knowledge about diversity	1.00	5.00	4.24	1.07
14 Preparation for working with students with Down syndrome would have a negative effect on the achievement of the set learning and teaching goals	1.00	5.00	3.37	1.28
Total score	26.00	69.00	50.54	9.93

On the total score of the Questionnaire (Table 1), teachers achieve results ( $M = 50.50$ ) above the average score (42), so teachers' opinions are positive. A minimum score of 26.00, a maximum score of 69.00, and a standard deviation of 9.93 indicate a dispersion of results. Item analyses showed that teachers have neutral opinions on six items (items 1, 2, 3, 5, 7, and 14) and positive on the eight items (items 4, 6, 8, 9, 10, 11, 12, and 13). Table 2 shows the differences in teachers' opinions about the inclusion of children with Down syndrome in regular schools regarding length of service and chronological age.

**Table 2**

*Differences in relation to the length of service and age of the teachers*

		M	SD	F (3,66)	p
Length of service	0-10 years	52.21	8.49	5.95	.001
	11-20 years	51.39	8.00		
	21-30 years	53.00	11.18		
	above 30 years	37.00	10.60		
Chronological Age	20-30 years	50.61	8.40	0.68	.570
	31-40 years	51.92	9.51		
	41-50 years	51.08	9.47		
	above 50 years	47.15	13.10		

The analysis of variance (Table 2) showed that statistically significant differences in teachers' opinions about the inclusion of children with Down syndrome in regular schools do not exist concerning chronological age ( $F(3,66) = 0.68, p = .570$ ) but do exist on length of service ( $F(3,66) = 5.95, p = .001$ ). Results show that teachers with more than 30 years of service have an arithmetic mean of 37.00, which is lower than the average result of the Questionnaire (42), and have negative opinions about the inclusion of children with Down syndrome in regular schools. The Tukey HSD post hoc test show that the group of teachers with more than 30 years of service is statistically significantly different from the remaining three groups of teachers. The statistical significance of the differences concerning the groups from 0 to 10 years of service is  $p = .001$ , the group from 11 to 20 is  $p = .002$ , and the group with 21 to 30 years of service is  $p = .003$ .

Differences in teachers' opinions about the inclusion of children with Down syndrome in regular schools regarding gender, experience in inclusive education, and education on how to work with children with developmental disabilities are presented in Table 3.

**Table 3***Differences of respondents in relation to gender, experiences and education*

		N	M	SD	t (68)	p
Gender	Male	19	48.63	12.73	-0.98	.006
	Female	51	51.25	8.70		
Experience in inclusive education	Yes	13	58.38	10.32	3.39	.901
	No	57	48.75	9.00		
Education on how to work with children with developmental disabilities	Yes	24	55.46	9.23	3.19	.740
	No	46	47.98	9.38		

T-test (Table 3) showed statistically significant differences in teachers' opinions about the inclusion of children with Down syndrome in regular schools regarding gender ( $t(68) = -0.98, p = .006$ ). More positive opinion are expressed by female teachers ( $AS = 51.25$ ). There are no differences in teachers' opinions about the inclusion of children with Down syndrome in regular schools concerning experience in inclusive education ( $t(68) = 3.39, p = .901$ ) and education on how to work with children with developmental disabilities ( $t(68) = 3.19, p = .740$ ).

### Discussions

The results show that teachers have positive opinions about the inclusion of children with Down syndrome in regular schools on overall scores. Research that is more recent also finds positive teachers' attitudes toward the educational inclusion of children with Down syndrome on the overall scores (Krause, 2020). Positive attitudes of teachers are also found in older research (Fox et al., 2004; Petley, 1994; Petty & Sadler, 1996), but comparing the results of this research with older ones is not possible for two reasons. First, teachers already had pupils with Down syndrome in their classes, and the teacher samples were small, ranging from nine teachers (Petley, 1994; Petty & Sadler, 1996) to 18 teachers (Fox et al., 2004). Second, the research is outdated, two studies are from the last century, and one is from the beginning of the new millennium. Society's opinion in general, as well as the teachers' ones about the inclusion of children with developmental disabilities in regular school, have significantly evolved today compared to 1990, which is also confirmed by the results of a meta-analysis conducted by Guillemont et al. (2022), which show that teachers' attitudes have significantly improved since 2000 to 2020.

Item analysis showed that teachers express a neutral opinion mainly on the items related to direct work in the classroom, such as willingness to work with a child with Down syndrome, their professional competencies for working



with children with Down syndrome, and for creating positive relationships between children. They have a neutral opinion on the issue of whether students with Down syndrome do not pose a hindrance to quality work in the classroom of a regular school, as well as on the issue of whether preparation for working with students with Down syndrome would adversely affect the achievement of the set learning and teaching goals. Teachers express a positive opinion about the acceptance of students with Down syndrome in the class but think that it is not possible to include a student with Down syndrome in regular educational institutions without work assistants and special educators and rehabilitators. They believe that educational institutions do not sufficiently integrate students with Down syndrome and that they will not negatively affect the achievements of the entire class. They think that their schools should conduct education about the inclusion of children with disabilities and that they are ready to attend them. They believe that the educational inclusion of students with Down syndrome is beneficial for their progress and the progress of their peers because they can expand their knowledge about diversity. Results indicate the need for further improvement of inclusive policy, culture, and practice in schools, as well as continuous education of teachers about inclusion in general and inclusion of children with Down syndrome in regular schools.

Teachers' opinions about the inclusion of children with Down syndrome in regular schools do not differ concerning the teachers' age. In past research on this topic, age was examined only in the study of Gilmore et al. (2003), who reached the same result. Age may be a factor that does not affect teachers' opinions, but this cannot be said with certainty. The sub-samples of teachers concerning age were uneven, and in two sub-sample were only thirteen teachers each. Due to this fact, there is a need to verify the obtained results on larger and uniform samples of teachers concerning age. An additional reason for further research is that research is generally inconsistent regarding the influence of chronological age on teachers' attitudes about the inclusion of children with developmental disabilities in regular schools. In some studies, age was not a significant factor (Ahmmed et al., 2012; Koliqi & Zabeli, 2022; Radojlovic et al., 2022), but some determined that the younger the teachers, the more favorable their attitudes (Galaterou & Alexander-Stamatios, 2017; Koliqi & Zabeli, 2021; Saloviita, 2018).

Differences in teachers' opinions about the inclusion of children with Down syndrome in regular schools exist concerning the length of service. A group of teachers with more than 30 years of services express negative opinion, and their opinions differ significantly from the remaining three groups of teachers. This group consisted of only seven teachers, which could have influenced the results. Krause (2020), in the research that was conducted in the UK, found the opposite results; more negative attitudes on the affective and behavioral dimensions showed teachers with shorter length of work experience.

However, research into the influence of the length of service on teachers' attitudes about the inclusion of children with developmental disabilities in regular schools shows that teachers with several years of work experience show more negative attitudes (Aldosari, 2022; Bhatnagar & Das, 2013; Koliqi & Zabeli, 2021; Mouchritsa et al., 2022; Parasuram, 2006; Savolainen et al., 2011). Several explanations for such results are given in the literature. First, teachers with many years of work experience can have difficulties in adapting teaching methods, which can increase teachers' tendency to stress and possibly lead to a negative opinion about inclusion in regular schools (Lambe & Bones, 2006). Second, it is possible that more experienced teachers are more familiar with the challenges and difficulties of teaching children with developmental disabilities in regular classes (Aldosari, 2022). Third, older teachers were completing their studies at a time when the education inclusion was not a generally accepted philosophy (Scanlon et al., 2022).

The results show that the opinion of female teachers towards the inclusion of children with Down syndrome in regular schools is slightly more positive than that of male teachers. However, in the research sample, female teachers dominated (72.9%), and the results should be interpreted with caution. Krause (2020) finds differences concerning gender only on the cognitive dimension, where it was shown that female teachers have a positive attitude and male teachers have a neutral one. Most research on the influence of gender on teachers' attitudes about the inclusion of children with developmental disabilities shows that female teachers exhibit more positive one (Al-Zyoudi, 2006; Avramidis & Norwick, 2002; Gallego-Ortega & Rodriguez-Fuentes, 2021; Koliqi & Zabeli, 2021; Mahajan, 2015; Mouchritsa et al., 2022; Parasuram, 2006; Shari & Vranda, 2016). However, there are also studies where no differences were found (Aldosari, 2022; Đorđević et al., 2018; Lika, 2016; Ozer et al., 2013).

Teachers' opinions do not differ concerning their experience in inclusive education, but only thirteen teachers had experience, which could have influenced the results. Past research (Krause, 2020) shows that previous experience working with children with Down syndrome affects attitudes. A possible explanation for the difference in the results of this research and past ones is in the formulation of the factor itself. In this research, the emphasis was placed on experience in educational inclusion with any population of children with developmental disabilities, as it is unlikely that teachers had experience working with children with Down syndrome. In Bosnia and Herzegovina, the educational inclusion of children with Down syndrome is still a sporadic phenomenon and not a trend. It is important to emphasize that the teacher's experiences in inclusive education should be positive because only positive experiences will lead to a more favorable opinion of teachers about inclusive education (Galović et al., 2014; Vlachou, 1993). Given that the results obtained in this research are not following earlier research, there is a need for further

studies into the influence of this variable on teachers' opinion according to students with Down syndrome.

In past research, it was established that teachers who have received training on inclusive practices or methods of working with children with developmental disabilities have a more favorable opinion on educational inclusion (Forlin & Chambers, 2011; Odongo & Davidson, 2016; Priyadarshini & Thangarajathi 2016; Vaz et al., 2015 all according Istiarsyah et al., 2019). However, in this research, no differences were found in the opinion of teachers about the inclusion of children with Down syndrome in regular schools concerning whether they have received some form of education on working with children with developmental disabilities. A possible reason for this result is that only 24 teachers had the training. In addition, it is unknown what form of training the teachers received, to what extent, and for which disability type.

The results should be analyzed regarding the limitations that may have affected the results. The first limitation is the small subsamples of teachers concerning the observed variables. Another limitation concerns the territorial scope of the sample, as the sample consisted of teachers from one city, not from the entire territory of Bosnia and Herzegovina, which would be desirable. The third limitation refers to the Questionnaire constructed for this research and whose metric characteristics have not been determined. Considering mentioned limitations, as well as the obtained results, there is a need for further research on this topic. It would be desirable in future research to include some other teacher factors such as knowledge about Down syndrome, previous contact with children with Down syndrome, teachers' confidence in their abilities to meet the needs of children with Down syndrome, etc. Future research also should include child-related (i.e., child's educational level, health problems, cognitive level, etc.) and environmental factors (i.e., support of special educator and rehabilitator and other staff, school finances, additional education, etc.).

## Conclusions

Results show that teachers express positive opinions about the inclusion of children with Down syndrome in regular schools on the overall score. Teachers' opinions differ concerning gender, so female teachers have a more favorable opinion than male teachers do. Length of service influences teachers' opinions, so teachers with work experience over thirty years have negative opinion. Teachers' opinions about the inclusion of children with Down syndrome in regular schools do not differ concerning age, experience in inclusive education, and education on how to work with children with developmental disabilities. Although teachers' opinions are positive on the overall score, a significant percentage of teachers express a neutral opinion, and four teachers show negative opinions indicating the need for systematic and continuous work on inclusive policy, culture, and practice in schools. There is also a need for ongoing training

of teachers about children with Down syndrome and the possibilities of their inclusion. The results should be analyzed regarding the limitations, so future research should eliminate them. Future research needs to expand the variables and include all three groups of factors (teacher factors, child-related factors, and environmental factors).

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## Mišljenje nastavnika o inkluziji dece sa Daunovim sindromom u redovne škole

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*Uvod:* Implementacija inkluzivnih praksi u velikoj meri zavisi od nastavnika i njihovog mišljenja o vaspitno-obrazovnoj inkluziji dece sa teškoćama u razvoju. Dokazano je da na mišljenje nastavnika utiče vrsta teškoće u razvoju. *Ciljevi:* Primarni cilj istraživanja je utvrditi mišljenje nastavnika o inkluziji dece sa Daunovim sindromom u redovne škole. Posebni ciljevi istraživanja su da se ispita da li postoje razlike u mišljenju u odnosu na faktore od strane nastavnika, i to: pol, hronološko doba, radni staž, iskustvo u radu i edukacije o radu sa učenicima sa teškoćama u razvoju. *Metod:* Uzorak istraživanja je prigodni i čini ga 70 nastavnika iz Jajca, Bosna i Hercegovina. Mišljenje je ispitano upitnikom konstruisanim za potrebe istraživanja. *Rezultati:* Rezultati su pokazali da nastavnici imaju povoljno mišljenje o inkluziji dece sa Daunovim sindromom u redovne škole na ukupnom skor. Pokazalo se da se mišljenja nastavnika razlikuju u odnosu na pol i radni staž. Nastavnice izražavaju povoljnije mišljenje u odnosu na nastavnike, a nastavnici sa više od trideset godina radnog iskustva izražavaju negativno mišljenje. Mišljenje nastavnika se ne razlikuje u odnosu na hronološko doba, iskustvo u radu i edukacije o radu sa decom sa teškoćama u razvoju. Rezultate istraživanja treba analizirati u odnosu na ograničenja istraživanja na koja se ukazalo u diskusiji i u budućim istraživanjima pokušati da se ona otklone. *Zaključak:* Postoji potreba za sistemskim i kontinuiranim radom na implementiranju inkluzivne politike, kulture i prakse u školama, kao i za edukacijom nastavnika o karakteristikama i načinima rada sa decom sa Daunovim sindromom i drugim vrstama teškoća u razvoju.

*Ključne reči:* inkluzivna edukacija, Daunov sindrom, redovno osnovno obrazovanje, mišljenje nastavnika

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## Uticaj amplifikacije na doživljaj slušnog hendikepa kod osoba sa prezbiakuzijom

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*Uvod:* Prezbiakuzija značajno narušava kvalitet života usled brojnih posledica, poput subjektivnog doživljaja slušne ometenosti i izražene socijalne izolacije. Subjektivni doživljaj stepena slušne ometenosti zavisi od mnogobrojnih faktora, kako onih vezanih za samo oštećenje sluha (vreme i stepen nastanka oštećenja), tako i širokog spektra sociodemografskih i drugih faktora. U skladu sa prethodnim istraživanjima na ovu temu, postavlja se pitanje o postojanju razlika među amplifikovanim i neamplifikovanim osobama u pogledu doživljaja slušne ometenosti. *Cilj:* Upotrebom adekvatnih instrumenata utvrditi da li postoji razlika u individualnom doživljaju stepena slušne ometenosti kod osoba sa prezbiakuzijom koje koriste slušne aparate i ispitanika koji nisu amplifikovani. *Metode:* Uzorak je činilo 56 ispitanika sa potvrđenom prezbiakuzijom. U istraživanju je korišćen upitnik opštih demografskih podataka, Upitnik za utvrđivanje stepena auditivne ometenosti kod odraslih – skrining verzija i Međunarodna skala ishoda za korisnike slušnih aparata. *Rezultati:* Osobe koje ne koriste slušne aparate svoju ometenost procenile su značajno višim stepenom i svi ispitanici u ovoj grupi potvrdili su nivo slušnog hendikepa, dok je u grupi osoba koje koriste amplifikaciju njih 62.1% potvrdilo prisustvo slušnog hendikepa. Na osnovu visokih prosečnih rezultata na Međunarodnoj skali ishoda za korisnike slušnih aparata može se zaključiti da osobe sa prezbiakuzijom koje koriste amplifikaciju osećaju i veliku korisnost slušnih aparata u svakodnevnom funkcionisanju, sa čak 90% ispitanika koji se izjašnjavaju optimistično prema ovoj vrsti pomagala. *Zaključak:* Dobijeni podaci ističu značaj korišćenja amplifikacije bez obzira na stepen oštećenja sluha i godine života korisnika.

*Ključne reči:* prezbiakuzija, slušna ometenost, amplifikacija, kvalitet života

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Napomena: Realizaciju ovog istraživanja podržalo je Ministarstvo nauke, tehnološkog razvoja i inovacija Republike Srbije (br. ugovora 451-03-65/2024-03/200096).

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## Uvod

Prezbiakuzija podrazumeva gubitak sluha u starosti koji je izazvan zbirnim uticajem različitih faktora na organ čula sluha. Svetska zdravstvena organizacija navodi prisutnost prezbiakuzije kod svake treće osobe starije od 65 godina (WHO, 2021). Prezbiakuziju karakteriše progresivno, sensorineuralno, simetrično oštećenje sluha koje može biti različitog stepena (Rodríguez-Valiente et al., 2020). Karakterističan audiogram je ascendentni (Saqlain et al., 2021), dok simptomi i klinički tok mogu biti promenljivi. Imajući u vidu činjenicu da svetska populacija ubrzano stari i da aktuelne procene govore da će se do 2050. godine procenat starih ljudi (starijih od 65 godina) skoro udvostručiti, te porasti sa sadašnjih 12% na 22% udela u svetskoj populaciji (Zloković i Zovko, 2000; WHO, 2021), može se očekivati i značajan porast broja osoba sa smetnjama sluha.

Posledice oštećenja sluha su brojne, a kao jedna od najtežih navodi se poremećaj verbalne komunikacije, što može značajno uticati na čovekovu ličnost, njegov psihički, emocionalni i društveni aspekt života (El-Mahdy et al., 2020; Matić i sar., 2021). Nedostatak ili umanjen kvalitet percepcije auditivnih informacija dovodi se u vezu i sa sniženim osećajem sigurnosti, većom emocionalnom ranjivošću, socijalnom izolacijom i bržim propadanjem kognitivnih funkcija (Matić i sar., 2021). Ispitujući efekte gubitka funkcije čula sluha na ukupan kvalitet života, istraživači su naveli da oštećenje sluha može biti uzrok usamljenosti, izolacije i smanjenja društvenih aktivnosti usled poremećaja komunikacije, ali i nezadovoljstva porodičnim životom (Nanda, 2016; Ogundiran et al., 2017). Kao rezultat izmenjenih komunikacijskih okolnosti, gluve i nagluve osobe svoje socijalne veštine doživljavaju kao lošije, što posledično može dovesti do sniženog osećaja sigurnosti i samostalnosti. Uticaj oštećenja sluha i promene koje nastaju u načinu komunikacije dodatno opterećuju pojedinca i doprinose neuspehu u ostvarivanju društvenih uloga (American Academy of Audiology, 2018; Matić, 2021). Osobe sa prezbiakuzijom ulažu veliki napor kako bi razumele govor sagovornika, pa se takva socijalna situacija često poistovećuje sa izuzetno stresnom situacijom, u kojoj osoba pokušava da prikrije oštećenje sluha (Hsu et al., 2016; Matić, 2021). Određeni broj osoba plaši se da gubitak sluha proceni kao realan i ozbiljan problem, zbog čega odlaže da zatraži stručnu pomoć (Đoković, Kovačević, 2019; Matić i sar., 2021). Ovakav način funkcionisanja osobe potencijalno može dovesti do višeg nivoa subjektivnog doživljaja ometenosti ili čak do nivoa hendikepa (Chauhan et al., 2015). U vezi sa tim postavljeno je istraživačko pitanje o postojanju razlike u pogledu subjektivnog doživljaja stepena ometenosti između osoba sa prezbiakuzijom koje koriste slušnu amplifikaciju i onih koje je ne koriste.

U skladu sa postavljenim pitanjem definisan je cilj istraživanja – da se utvrdi razlika između stepena subjektivnog doživljaja slušne ometenosti

amplifikovanih i neamplifikovanih osoba sa prezbiakuzijom. Specifični cilj istraživanja bio je da se ispita da li je subjektivni osećaj slušne ometenosti u vezi sa osećajem korisnosti od slušnih aparata i da li na ovu vezu utiču i drugi faktori.

### Metod

Uzorak istraživanja bio je prigodan i obuhvatio je 56 osoba sa potvrđenom dijagnozom prezbiakuzije, koji su pacijenti Klinike za otorinolaringologiju i hirurgiju glave i vrata Univerzitetskog kliničkog centra Vojvodine. Ispitanici su najpre bili pregledani od ORL specijaliste. Nakon kliničkog pregleda pristupilo se određivanju praga sluha metodom tonalne liminarne audiometrije, kako bi se postavila dijagnoza prezbiakuzije. Pre početka istraživanja učesnici su bili upoznati sa svrhom i ciljem istraživanja i dali su pisanu saglasnost o učešću u istraživanju. Učešće je bilo na dobrovoljnoj bazi, a učesnici su mogli da odustanu u svakoj fazi istraživanja bez objašnjavanja razloga. Popunjavanje upitnika bilo je anonimno. Za sprovođenje istraživanja dobijena je saglasnost Etičkog odbora ustanove (odluka broj 00-57). Ispitivanje je sprovedeno od marta do jula 2022. godine.

U istraživanju je korišćen upitnik za dobijanje opštih demografskih podataka (pol, starost, stepen obrazovanja, status zaposlenja), Upitnik za utvrđivanje stepena auditivne ometenosti kod odraslih – skrining verzija (org. eng. The Hearing Handicap Inventory for the Elderly Screening Version – HHIE-S, Ventry & Weinstein, 1982), kao i Međunarodna skala ishoda za korisnike slušnih aparata (org. eng. The International Outcome Inventory for Hearing Aids – IOI-HA, Cox & Alexander, 2002). Ovi upitnici korišćeni su u velikom broju inostranih (Abd Allah, 2019; Crisholms et al., 2007; Cook & Hawkins, 2007; Cox et al., 2011; de Wolf et al., 2009; Ferguson et al., 2019; Kovalová et al., 2021; Wu et al., 2016) i domaćih istraživanja (Maletić-Sekulić et al., 2019; Matić i sar., 2021; Tatović i sar., 2011). HHIE predstavlja visoko pouzdan, standardizovani upitnik, koji je pre svega namenjen proceni subjektivnog doživljaja stepena slušne ometenosti. Upitnik ima za cilj da proceni uticaj oštećenja sluha na emocionalno i socijalno prilagođavanje starijih ljudi. Originalna verzija HHIE sadrži 25 stavki i predstavlja visoko pouzdan instrument (od 0.88 do 0.95 za ceo inventar) koji ispituje subjektivnu meru osećaja slušne ometenosti osobe (Ventry & Weinstein, 1982). HHIE-S je skraćena ili skrining verzija HHIE, koja se sastoji od ukupno 10 stavki – pet situacionih (društvenih) i pet stavki koje se odnose na emocionalne reakcije (Ventry & Weinstein, 1983). Odgovori ispitanika boduju se na sledeći način: nula poena (odgovor *ne*), dva poena (odgovor *ponekad*) i četiri poena (odgovor *da*). Minimalni rezultat na testu HHIE-S može biti nula poena – bez osećaja ometenosti, a maksimalan 40 poena i označava krajnji osećaj ometenosti – hendikep. Ukupan HHIE-S rezultat niži od osam definisan je kao pokazatelj odsustva osećaja auditivne ometenosti kao takvog i predstavlja „kritičnu vrednost”.

Međunarodna skala ishoda za korisnike slušnih aparata (The International Outcome Inventory for Hearing Aids – IOI-HA) autora Cox & Alexander (2002) relativno je kratak upitnik i jednostavan za upotrebu, koji je korišćen i u drugim istraživanjima (Ferguson et al., 2019). Sedam pitanja formulisano je da cilja različite ishode: broj sati upotrebe slušnog aparata tokom dana, poboljšanje auditivnog funkcionisanja, zadovoljstvo, obim aktivnosti, ograničenja učešća, uticaj na druge aspekte života. Svaka stavka boduje se pomoću skale Likertovog tipa, od jedan do pet poena. Krajnje levi odgovor ukazuje na najniži stepen korisnosti od upotrebe slušnih aparata i boduje se sa 1 poen, a krajnje desni odgovor ukazuje na najveći stepen korisnosti od upotrebe slušnih aparata i boduje se sa 5 poena. Ukupni skor manji od 20 ukazuje na pesimistično posmatranje korisnosti od nošenja slušnih aparata.

Za statističku obradu podataka korišćen je programski paket SPSS 20.0. Korišćene su metode deskriptivne statistike: mere centralne tendencije, mere varijabiliteta i ekstremnih vrednosti, kao i metode inferencijalne statistike (Man-Vitnjev U test, Spirmanov koeficijent korelacije). U primenjenim testovima granične vrednosti verovatnoće rizika su na nivou značajnosti od 95% ( $p < .05$ ) i 99% ( $p < .01$ ). Pouzdanost mernih instrumenata ispitana je Kronbahovim alfa koeficijentom (HHIE-S  $\alpha = 0.80$ , IOI-HA  $\alpha = 0.84$ ). Rezultati ukazuju na veoma visoku pouzdanost oba upitnika, što je u skladu sa njihovom visokom unutrašnjom konzistencijom koju navode autori oba upitnika (Cox & Alexander, 2002; Ventry & Weinstein, 1982). Normalnost raspodele skorova testirana je putem Kolmogorov–Smirnov testa i ukazuje na statistički značajna odstupanja od normalne raspodele ( $Z = 0.25$ ,  $p < .001$ ).

## Rezultati

### Deskriptivna statistika

Uzorak istraživanja činilo je 56 osoba sa potvrđenom dijagnozom prezbiakuzije, pacijenata Klinike za otorinolaringologiju i hirurgiju glave i vrata Univerzitetskog kliničkog centra Vojvodine, a sociodemografske karakteristike ispitivanog uzorka prikazane su u Tabeli 1.

**Tabela 1***Sociodemografske karakteristike ispitanog uzorka (N=56)*

Pol	
Muškarci	26 (46.4%)
Žene	30 (53.6%)
Starost (u godinama)	
<i>R</i>	54–90
<i>M(SD)</i>	85 (12.76)
Stepen oštećenja sluha (dB)	
<i>R</i>	60–112
<i>M(SD)</i>	74.48 (9.08)
Stepen obrazovanja	
Osnovna stručna sprema	8 (14.3%)
Srednja stručna sprema	29 (51.8%)
Viša škola	5 (8.9%)
Osnovne akademske studije	14 (25%)
Status zaposlenja	
Zaposlen	22 (39.3%)
Nije zaposlen	34 (60.7%)
Amplifikacija	
Ne koristi slušni aparat	27 (48.2%)
Koristi slušni aparat	29 (51.8%)
Dužina korišćenja aparata (u godinama)	
<i>R</i>	0.3–20
<i>M(SD)</i>	2.93 (4.63)

Kao što je već navedeno, subjektivni osećaj ometenosti kod osoba sa prezbiakuzijom ispitan je uz pomoć HHIE-S upitnika (Tabela 2). Rezultati na HHIE-S kreću se u rasponu od nula poena, što ukazuje da kod osobe izostaje subjektivni osećaj ometenosti, do maksimalnih 40 poena, što pokazuje da je kod osoba prisutan krajnji izraz slušne ometenosti (hendikep).

Pregledom Tabele 2 može se uočiti da su se korisnici slušne amplifikacije na svakoj pojedinačnoj stavki u okviru HHIE-S upitnika izjasnili da doživljavaju niži stepen ometenosti usled slušnog oštećenja u odnosu na osobe koje ne koriste slušnu amplifikaciju. Takođe, u grupi osoba koje nisu korisnici slušnih aparata nije bilo rezultata nižeg od 16 poena, što govori da svi ispitanici pokazuju značajan stepen subjektivnog doživljaja ometenosti. U grupi osoba koje koriste slušne aparate više od trećine ispitanika (37.9%) postiglo je rezultat niži od osam, odnosno negira doživljaj slušne ometenosti.

**Tabela 2**

*Deskriptivne vrednosti procene subjektivnog osećaja slušne ometenosti (HHIE-S) kod osoba sa prezbiakuzijom (N = 56)*

HHIE-S stavka	Amplifikovani				Neamplifikovani			
	Min	Max	M	SD	Min	Max	M	SD
1. Da li se zbog problema sa sluhom osećate neprijatno pri susretu sa novim ljudima?	0	4	1.66	1.61	2	4	2.96	1.02
2. Da li osećate frustraciju zbog nagluvosti kada razgovarate sa članovima porodice?	0	4	0.69	1.11	0	4	1.93	1.41
3. Da li Vam je teško da čujete kada neko šapuće?	0	4	2.83	1.37	2	4	3.56	0.85
4. Da li se zbog nagluvosti osećate hendikepiranim?	0	4	0.90	1.15	0	4	1.33	1.36
5. Da li Vam nagluvost predstavlja problem kad posećujete prijatelje, rođake ili komšije?	0	4	1.59	1.64	0	4	2.22	1.16
6. Da li biste išli u crkvu, u pozorište i sl. češće kada ne biste imali problema sa sluhom?	0	4	1.31	1.44	0	4	1.56	1.40
7. Da li se zbog nagluvosti svađate sa članovima porodice?	0	4	0.34	0.94	0	4	1.33	1.60
8. Da li Vam nagluvost otežava gledanje televizije i slušanje radija?	0	4	2.00	1.51	2	4	3.33	0.97
9. Da li mislite da nagluvost ograničava ili ometa Vaš lični, odnosno društveni život?	0	4	1.79	1.24	0	4	3.11	1.29
10. Da li Vam nagluvost predstavlja problem kada ste u restoranu sa porodicom ili prijateljima?	0	4	2.48	1.27	2	4	3.60	0.85

\*Min – minimalni rezultat; Max – maksimalni rezultat; M – prosek; SD – standardna devijacija

Pored toga, podaci prikupljeni u ovom istraživanju ukazuju da je kod velikog broja osoba sa prezbiakuzijom prisutan osećaj slušnog hendikepa, što se može zaključiti na osnovu visokog prosečnog skora ispitanika postignutog na ovom testu ( $M=20.07$ ,  $Mdn=23$ ,  $SD=8.11$ ). Najmanji dobijeni skor u testiranju osoba sa prezbiakuzijom bio je četiri, a najviši 32 ( $Min=4$ ,  $Max=32$ ). Od ukupnog broja ispitanika ( $N=56$ ) samo 19.6% ( $n=11$ ) ispitanika imalo je rezultat manji od osam, odnosno odsustvo osećaja slušne ometenosti.

Pomoću Međunarodne skale ishoda za korisnike slušnih aparata (IOI-HA) ispitali smo koliku korisnost osoba ima od slušnih aparata. Na IOI-HA testu skorovi manji od 20 ukazuju na pesimistično posmatranje korisnosti slušnih aparata (Tabela 3).

**Tabela 3**

*Deskriptivne vrednosti procene korisnosti slušnih aparata (IOI-HA) kod osoba sa presbiakuzijom koje koriste amplifikaciju (N = 29)*

Varijabla	Min	Max	M	SD
1. Razmislite koliko ste koristili Vaš slušni aparat u poslednje dve nedelje. U toku jednog prosečnog dana koliko sati ste koristili aparat za sluh?	3	5	4.38	0.73
2. Razmislite o situaciji u kojoj ste želeli da čujete bolje pre nego što ste dobili slušni aparat. Da li Vam je slušni aparat u poslednje dve nedelje pomogao da u toj situaciji čujete bolje?	2	5	4.31	0.97
3. Razmislite ponovo o situaciji u kojoj ste želeli da čujete bolje pre nego što ste dobili slušni aparat. Koliko teškoća još uvek imate da čujete u toj situaciji?	2	5	4.24	0.95
4. Uzimajući sve u obzir, da li mislite da je slušni aparat vredan nošenja?	3	5	4.34	0.67
5. U poslednje dve nedelje koliko je Vaše oštećenje sluha uticalo na to šta možete da uradite?	2	5	4.17	0.85
6. U poslednje dve nedelje koliko je Vaše oštećenje sluha uticalo na druge osobe iz okruženja da osete nelagodnost i neprijatnost?	2	5	4.00	0.96
7. Uzimajući sve u obzir, koliko je slušni aparat uticao na osećaj kvaliteta Vašeg života?	3	5	4.31	0.66
<b>IOI-HA ukupan skor</b>	<b>17</b>	<b>35</b>	<b>29.76</b>	<b>5.18</b>

\**Min* – minimalni rezultat; *Max* – maksimalni rezultat; *M* – prosek; *SD* – standardna devijacija

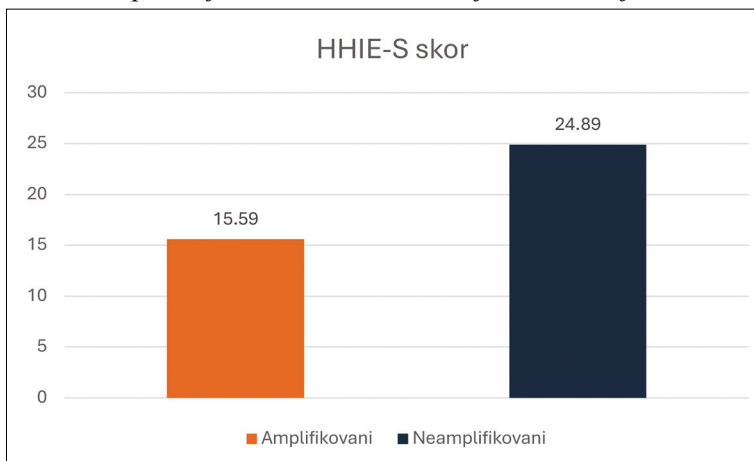
Imajući u vidu visoku prosečnu vrednost skora na IOI-HA inventaru u ispitivanoj populaciji, može se zaključiti da osobe sa prezbiakuzijom koje su korisnici slušne amplifikacije veoma pozitivno ocenjuju korisnost od slušnog pomagala u svakodnevnom funkcionisanju ( $M=29.76$ ,  $SD=5.18$ ), sa samo tri ispitanika (10%) koji su imali skor manji od 20 poena.

### **Razlike u individualnom doživljaju slušne ometenosti**

Ispitujući razlike u individualnom doživljaju slušne ometenosti, pošli smo od pretpostavke da će se stepen subjektivnog doživljaja slušne ometenosti razlikovati u grupi ispitanika koji koriste, odnosno ne koriste slušnu amplifikaciju. Osobe koje koriste slušnu amplifikaciju ( $n=29$ ,  $M=24.89$ ,  $SD=4$ ) pokazale su znatno niži stepen doživljaja slušne ometenosti u odnosu na osobe koje ne koriste amplifikaciju ( $n=27$ ,  $M=15.59$ ,  $SD=18$ ), a ove razlike prikazane su na Grafikonu 1. Man–Vitnjev test pokazao je statistički značajnu razliku među ispitivanim grupama ( $U=143$ ,  $p<.001$ ).

**Grafikon 1**

*Grafički prikaz testiranja značajnosti razlika u stepenu subjektivnog doživljaja slušne onesposobljenosti između osoba koje koriste i koje ne koriste amplifikaciju*



Pomoću Spirmanovog koeficijenta korelacije ispitali smo vezu između stepena individualnog doživljaja slušne ometenosti i drugih faktora, kao što su: starost ispitanika, stepen obrazovanja, stepen slušnog oštećenja, dužina korišćenja amplifikacije i broj sati u toku dana u kojima osoba koristi slušni aparat. Pored toga, ispitana je i korelacija između navedenih faktora i zadovoljstva korišćenja amplifikacije, a rezultati su prikazani u Tabeli 4.

**Tabela 4**

*Tabela korelacija ispitivanih faktora i skora na testu*

Varijabla	HHIE-S	IOI-HA
Pol	.16	-.06
Starost	.60***	-.46*
Stepen obrazovanja	-.30*	.67***
Stepen oštećenja sluha	-.18	.25
Dužina korišćenja amplifikacije	-.64***	.47**
Dnevni broj sati u kojima osoba koristi aparat	-.70***	.81***

Napomena: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Ispitujući odnos između subjektivnog doživljaja slušne ometenosti i starosti ispitanika, dobili smo da je korelacija između ove dve varijable pozitivna i statistički značajna ( $r_s = .60$ ,  $p < .001$ ), te da osobe koje su starije imaju i veći subjektivni doživljaj slušne ometenosti. Analiza korelacije između subjektivnog doživljaja slušne ometenosti i stepena obrazovanja pokazala je da postoji statistički značajna, negativna veza između ovih varijabli ( $r_s = -.30$ ,



$p < .05$ ), odnosno da osobe sa višim stepenom obrazovanja pokazuju niži stepen subjektivnog doživljaja slušne ometenosti.

Dužina korišćenja amplifikacije, izražena u godinama, kao i broj sati u toku dana kada osoba koristi slušno pomagalo pokazale su statistički značajnu vezu sa doživljajem slušne ometenosti (dužina korišćenja amplifikacije:  $r_s = -.64$ ,  $p < .001$ , broj sati korišćenja amplifikacije:  $r_s = -.70$ ,  $p < .001$ ). Ovi rezultati pokazuju da osobe koje vremenski duže koriste slušni aparat (duži broj godina, ali i veći broj sati u toku dana) pokazuju niži nivo subjektivnog doživljaja ometenosti.

Ispitujući korelaciju između nivoa zadovoljstva korisnosti od slušne amplifikacije i ispitivanih faktora, dobili smo statistički značajne i pozitivne korelacije sa: stepenom obrazovanja korisnika ( $r_s = .67$ ,  $p < .001$ ), dužinom korišćenja slušnog aparata ( $r_s = .47$ ,  $p < .01$ ), kao i broja sati u toku dana koliko osoba koristi slušni aparat ( $r_s = .81$ ,  $p < .001$ ). Jedina statistički značajna, negativna korelacija pokazala se u odnosu na starost ispitanika, koja govori da su mlađi ispitanici zadovoljniji korisnošću slušne amplifikacije.

Korelacija između osećaja korisnosti od slušnih aparata i subjektivnog doživljaja stepena slušne ometenost pokazala se kao statistički značajna, jaka i negativna ( $r_s = -.77$ ,  $p < .001$ ), što upućuje na zaključak da osobe sa prezbiakuzijom koje imaju veći osećaj korisnosti od amplifikacije, imaju i niži doživljaj stepena slušne ometenosti.

## Diskusija

Rezultati ovog istraživanja govore da je kod većine osoba sa prezbiakuzijom prisutan osećaj značajnog stepena slušne ometenosti (80.4%). Dobijeni procenat je nešto iznad podataka čeških autora, koji navode da je od osoba sa dijagnostikovanim oštećenjem sluha oko 75% osoba potvrdilo i prisustvo osećaja slušne ometenosti (Kovalová et al., 2021), a gotovo je isti kao procenat u istraživanju autora iz Egipta u kom su autori zaključili da 80.8% ispitanika prijavljuje prisustvo slušne ometenosti (Abd Allah, 2019). U istraživanju iz 2019. godine u kom su učestvovali ispitanici sa prezbiakuzijom iz naše zemlje, čak 88.3% ispitanika potvrdilo je prisustvo visokog stepena slušne ometenosti (Maletić-Sekulić et al., 2019).

Osobe koje ne koriste amplifikaciju svoj stepen slušne ometenosti procenjuju značajno višim i u ovoj grupi svi ispitanici pokazali su značajan stepen ometenosti, dok je u grupi osoba koje koriste amplifikaciju 62.1% ispitanika potvrdilo prisustvo slušne ometenosti značajnog stepena, što je u skladu sa prethodnim istraživanjima u našoj zemlji (Maletić-Sekulić et al., 2019). Takođe, isti autori došli su do zaključka da uvođenje amplifikacije utiče na smanjenje osećaja prisustva ometenosti, poboljšanje komunikacije, kao i smanjenje anksioznosti. Maletić i saradnici retestirali su svoje ispitanike korišćenjem HHIE upitnika posle godinu dana od početka korišćenja slušnog aparata i rezultati su pokazali značajna smanjenja osećaja slušne ometenosti

(Maletić Sekulić et al., 2019). Ovim testom (HHIE) ispitivana je mera emocionalnih i socijalnih posledica gubitka sluha nakon uvođenja slušnih aparata. Kako navode Krisholms i saradnici (Crisholms et al., 2007) u svojoj metaanalizi, slušna pomagala značajno poboljšavaju kvalitet života osoba sa prezbiakuzijom. Mnoga istraživanja (Joore et al., 2002, Kozlowski et al., 2016; Silva et al., 2013; Servidoni et al., 2018; Stark & Hickson, 2004) potvrđuju da slušna amplifikacija, uz adekvatnu rehabilitaciju, omogućava osobama sa prezbiakuzijom aktivniji socijalni život, veći osećaj sigurnosti i samostalnost, čime se umanjuje anksioznost i socijalna izolacija. Analizirajući isplativost, Hor i saradnici (Joore et al., 2003b) utvrdili su da je korišćenje slušnog aparata i vraćanje ljudi sa oštećenim sluhom u uobičajeni način života i te kako isplativo.

Po dostupnim podacima oko 20% osoba sa prezbiakuzijom odbija korišćenje slušnih aparata jer nisu zadovoljni njihovom efikasnošću (McCormack et al., 2013). Na osnovu visokih vrednosti aritmetičke sredine može se zaključiti da osobe sa prezbiakuzijom koje koriste amplifikaciju osećaju i veliku korisnost slušnih aparata u svakodnevnom funkcionisanju, sa oko 90% ispitanika koji se izjašnjavaju optimistično prema ovoj vrsti pomagala, što je viši procenat u poređenju sa prethodnim istraživanjima u kojima su autori navodili od 50 do 70% zadovoljnih ispitanika (Cox et al., 2011; Wu et al., 2016). Skorovi na IOI-HA upitniku bili su i značajno povezani sa skorovima na HHIE-S upitniku, odnosno ispitanici koji su imali veći osećaj korisnosti od slušnih aparata, imali su i niži osećaj hendikepa, i obrnuto, što opet ukazuje na značaj auditivne rehabilitacije i zadovoljstva korisnika slušnim pomagalima. Prema navodima autora (Wu et al., 2019), prosečan skor ispitanika na skali koja ispituje zadovoljstvo korisnosti slušnih aparata u našem uzorku ( $M=29.76$ ,  $SD=5.18$ ) bio je viši u odnosu na prosečni skor ispitanika iz Šangaja ( $M=24.97$ ,  $SD=4.25$ ), što pokazuje da su naši ispitanici pokazali nešto veći stepen zadovoljstva svojom amplifikacijom.

Rezultati ovog istraživanja pokazali su statistički značajnu, negativnu korelaciju između stepena osećaja slušne ometenosti i starosti ispitanika, što je u saglasnosti sa istraživanjima de Volfa i saradnika (de Wolf et al., 2009) i Vanga i saradnika (Wang et al., 2021), ali u suprotnosti sa istraživanjima autora Kuka i saradnika (Cook & Hawkins, 2007) i Vua i saradnika (Wu et al., 2019). Rezultati istraživanja ukazali su i na značajan uticaj broja godina korišćenja slušnog aparata i broja sati u danu tokom kojih osoba koristi amplifikaciju na smanjenje osećaja slušne ometenosti osobe sa prezbiakuzijom, odnosno da će pravovremena amplifikacija imati pozitivan uticaj na kvalitet života ovih osoba, što su pokazala i istraživanja drugih autora (Dwarakanath & Manjula, 2020; Wang et al., 2021). Pored toga, rezultati su pokazali da osobe sa višim stepenom obrazovanja pokazuju niži nivo stepena slušne ometenosti, ali i da navode veću korisnost od amplifikacije u odnosu na osobe sa nižim stepenom obrazovanja. Ovakav rezultat tumačili smo u skladu sa navodima pojedinih autora da osobe

sa višim stepenom obrazovanja lakše prihvataju različita pomagala, između ostalih i slušni aparat (Ge et al., 2020), te bi upravo ta činjenica mogla biti razlog nižeg stepena osećaja ometenosti koji navode i većeg osećaja korisnost od slušnih aparata. Kada je u pitanju veza između stepena slušnog oštećenja i subjektivnog doživljaja slušne ometenosti, rezultati nisu pokazali statističku značajnost, što je u skladu sa rezultatima koje navode Vang i saradnici (Wang et al., 2021).

### **Zaključak**

Prema aktuelnim podacima oštećenje sluha predstavlja treće po učestalosti hronično zdravstveno stanje. Incidencija oštećenja sluha je u značajnoj korelaciji sa hronološkim dobom populacije, pa Svetska zdravstvena organizacija navodi da svaka treća osoba starija od 65 godina ima neki vid oštećenja sluha. Prezbiakuzija ili staračka gluvoća je hronično, progresivno stanje koje direktno utiče na umanjenje slušnih sposobnosti i usmenu komunikaciju, a indirektno na socijalnu interakciju, samopouzdanje i kvalitet života. Umanjenje posledica prezbiakuzije moguće je korišćenjem amplifikacije, o čemu govore i rezultati ovog istraživanja koji potvrđuju da je niži stepen subjektivnog doživljaja slušne ometenosti utvrđen kod osoba koje koriste slušne aparate. Primenjeni instrumenti istraživanja korišćeni su u mnogim istraživanjima za proveru efekata amplifikacije i smanjenje komunikacijskih i socijalnih posledica gubitka sluha nakon uvođenja slušnih aparata. Ispitanici koji su imali veći osećaj korisnosti od slušnih aparata, imali su i niži osećaj ometenosti, i obrnuto, što opet ukazuje na značaj amplifikacije i zadovoljstva korisnika slušnim pomagalima. Istraživanje je pokazalo i značaj uticaja broja godina korišćenja amplifikacije, ali i broja sati u danu tokom kojih osoba koristi slušni aparat. Rezultati su pokazali da osobe sa višim stepenom obrazovanja pokazuju niži nivo stepena slušne ometenosti, ali i da navode veću korisnost od amplifikacije u odnosu na osobe sa nižim stepenom obrazovanja. Istraživanja ovog tipa govore u prilog potrebe za kreiranjem nacionalne strategije za umanjenje posledica prezbiakuzije i za pravovremenom edukacijom dovoljnog broja stručnjaka iz ove oblasti (surdologa i audiologa).

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## The impact of amplification on the degree of subjective feeling of hearing handicap in individuals with presbycusis

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*Introduction.* Presbycusis can have numerous consequences, particularly hearing impairment and impairment in oral communication, which can severely affect the psychological, emotional and social lives of older people. Numerous factors related to age-related hearing loss (time of onset, degree of hearing loss), as well as the wide range of socioeconomic factors, may contribute to the subjective perception of hearing impairment in individuals with presbycusis. In line with previous research on this topic, the question arises whether there is a difference between hearing aid users and non-users in the perception of hearing loss. *Objective.* To find out whether there is a difference in the subjective perception of hearing loss between people with presbycusis who use hearing aids and those who do not. *Method.* The sample consisted of 56 people diagnosed with presbycusis. Questionnaires for general demographic data, the Hearing

Handicap Inventory for the Elderly Screening Version (HHIE-S) and the International Outcome Inventory – Hearing Aids (IOI-HA) were used. *Results.* All individuals without amplification in this study had higher scores on the HHIE-S and confirmed hearing impairment, while 62.1% of those with amplification considered themselves disabled due to presbycusis. Hearing aid users generally had high scores on the IOI-HA, which leads us to conclude that hearing aids are extremely useful for the daily living and functioning of individuals with presbycusis. *Conclusion.* The results of the study emphasize the importance of using hearing aids in people with presbycusis, regardless of the degree of hearing loss and the age of the user.

*Keywords: presbycusis, hearing loss, amplification, quality of life*

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## Uticaj sociodemografskih karakteristika na desničarsku autoritarnost

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*Uvod:* Rad se bavi sagledavanjem uticaja sociodemografskih karakteristika na desničarsku autoritarnost. Desničarska autoritarnost se određuje kao kombinacija tri stavovska klastera: autoritarne submisivnosti, autoritarne agresivnosti i konvencionalizma. *Cilj:* Cilj rada je ispitivanje uticaja pola, godina, obrazovanja i religioznosti na desničarsku autoritarnost. *Metode:* U sprovedenom istraživanju desničarska autoritarnost definisana je kao kriterijumska varijabla, dok su ostale određene kao prediktorske. Za ispitivanje desničarske autoritarnosti koristi se Skala desničarske autoritarnosti (Right-Wing Authoritarianism – RWA), koja ima 12 pitanja i na intervalnom je nivou merenja. Istraživanje je sprovedeno na 112 ispitanika različitog pola i starosnog doba opšte populacije u Srbiji, a uzorak je neslučajni, dobrovoljački. *Rezultati:* Dobijeni podaci ukazuju da ispitanici u proseku imaju nešto izraženiju desničarsku autoritarnost (i kada je skala, i kada su subskele u pitanju). Pokazalo se postoje polne razlike u stepenu desničarske autoritarnosti, odnosno da su muškarci autoritarniji od žena. Ustanovljene su i uzrasne razlike u stepenu desničarske autoritarnosti, kao i da su ispitanici sa višim nivoom obrazovanja manje skloni autoritarnosti, a da su skloniji autoritarnosti oni koji ističu da su religiozniji. *Zaključak:* Rezultati ove studije imaju važne implikacije na intervencije za smanjenje rasprostranjenosti desničarskog autoritarizma i kreiranje politika za suzbijanje njegovih negativnih efekata na pojedince i društvo. Polazeći od dobijenih rezultata, navedene su i mogućnosti za dalja istraživanja.

*Ključne reči:* desničarska autoritarnost, pol, starost, obrazovanje, religija

### Uvod

Više od 50 godina koncept desničarske autoritarnosti predstavlja okvir za analizu odnosa između pojedinca i raznih društvenih pitanja (Rajan & Krishnan, 2002). Prvi pomak u nauci sa konceptom desničarske autoritarnosti napravio je Erih From u delima „Autoritet i porodica” (1936), „Bekstvo od

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slobode” (1941) i „Umeće ljubavi” (1989. godine). Ispitivanje desničarske autoritarnosti veoma je značajno, naročito što u velikom broju zemalja Evrope dolazi do uspona desničarsko-ekstremističkih pokreta, koji okupljaju svoje pristalice (Giroux, 2019; Grajf, 2021). Desničarska autoritarnost predstavlja relativno stabilan sindrom ličnosti, specifičan za pristalice desnih političkih ideologija (Čorkalo i Stanković, 2000). Tumačenja koncepta desničarske autoritarnosti kretala su se od izjednačavanja sa konceptom konzervativnosti, određenjem kao osobine ličnosti, do tumačenja autoritarnosti preko klastera stavova (Selimović i sar., 2013). Veliko istraživanje desničarske autoritarnosti započeo je Adorno pedesetih godina 20. veka sa F-skalom (Selimović i sar., 2013). Autoritarnost je određena kao karakterna osobina sa devet različitih dimenzija i definisan je instrument za merenje (Heller et al., 2020). Te dimenzije su: konvencionalizam, autoritarna submisivnost, agresivnost, antiintraceptivnost, poštovanje vlasti, destruktivnost i cinizam, korišćenje mehanizama projekcije, rigidnost mišljenja i preterano interesovanje za seksualne različitosti (Petrović, 2020). Danas u društvenim naukama ne postoji homogen koncept desničarske autoritarnosti i taj fenomen se još uvek definiše kao osobina ličnosti koja oslikava društvenu autoritarnu dinamiku (Heller et al., 2020). Desničarska autoritarnost se teorijski definiše kao sistem vrednosti koji u međuljudskim odnosima, javnom životu i sferi rada podržava nekritičko pokoravanje autoritetu i podrazumeva rigidnost i mišljenje u čvrstim kategorijama (Petrović i Radoman, 2019). Označava se i kao skup društvenih stavova ili ideoloških izraza osnovnih društvenih vrednosti, ili motivacionih ciljeva koji predstavljaju različite, iako povezane, strategije za postizanje kolektivne bezbednosti na štetu individualne autonomije (Heller et al., 2020).

Pored ovih konceptualizacija, već dvadeset godina jedan od najobuhvatnijih pristupa proučavanju fenomena desničarske autoritarnosti je Altemejerov model, po kojem je autoritarnost određena kao skup usklađenih stavova prema različitim pitanjima (Selimović i sar., 2013). Desničarski autoritarizam je varijabla koja procenjuje stavove u vezi sa tri različita aspekta izvedena iz devet originalnih Adornovih dimenzija (Saundres & Ngo, 2017). U određenju pojma desničarskog autoritarizma (Right-Wing Authoritarianism – RWA), Altemejer redukuje prvobitnih devet dimenzija F-skale na tri, tj. autoritarnu agresiju, autoritarnu submisivnost (potčinjavanje) i autoritarni konvencionalizam, i tako razvija jednodimenzionalni konstrukt sa tri aspekta (Heller et al., 2020). Autoritarna submisivnost odnosi se na visok stepen submisivnosti prema autoritetima koji su percipirani kao uspostavljeni i legitimni u društvu u kome osoba živi; autoritarna agresivnost je opšta agresivnost, usmerena protiv različitih osoba koje su percipirane kao objekti sankcionisani od uspostavljenih autoriteta; konvencionalizam podrazumeva visok stepen privrženosti društvenim konvencijama koje su percipirane kao potvrđene (odobrene) od društva i ustanovljenih autoriteta (Petrović, 2001).

Pojedinci koji imaju visoke rezultate na merama desničarskog autoritarizma, imaju veću verovatnoću da podržavaju tradicionalne društvene vrednosti, da se suprotstavljaju progresivnim društvenim i političkim reformama i da ispoljavaju predrasude i diskriminaciju prema manjinskim grupama (Altemeyer, 1988). Osobe sa višim RWA rezultatima imaju tendenciju da gledaju na svet kao na opasno i preteće mesto; veću verovatnoću da će pokazati neprijateljstvo, agresiju i/ili kaznenu kontrolu prema onima koji se smatraju društveno devijantima kada veruju da zvaničnici to odobravaju i tendenciju da se prilagode tradicionalnim društvenim, verskim i moralnim konvencijama (kao što su one koje se tiču patriotizma, braka i seksa) (Saundres & Ngo, 2017). Takođe, njihov kognitivni stil verovatnije karakteriše rigidnost, netolerancija i preferencije ka strukturi i redu (Duckitt, 2022). U istraživanju studentske populacije RWA je u značajnoj korelaciji sa negativnim stavovima prema socijalno ugrožavajućim ili devijantnim grupama, dilerima droge, rok pevačima i feministima (Duckitt, 2006). Desničarski autoritarizam je stabilna osobina ličnosti koja je oblikovana ranim iskustvima socijalizacije i veoma je otporna na promene tokom vremena (Altemeyer, 1988). Altemejerova RWA skala za merenje autoritarnosti je sa relativno zadovoljavajućim metrijskim karakteristikama (Selimović i sar., 2013). Bolji je prediktor indeksa kažnjavanja, podrške antidemokratskim akcijama, političke netolerancije, predrasuda, preferencija ekstremno desnih stranaka i etnocentrizma od konvencionalnih mera društvenog konzervativizma (Duckitt, 2022). Ni Altemejerov model nije bez kritika, a jedna od značajnijih jeste Ajzenkova – da se nije bavio levičarskim autoritarnostima (Selimović i sar., 2013).

### **Pregled istraživanja i teorija**

Kada se govori o povezanosti pola i desničarske autoritarnosti, rezultati istraživanja Graheka (2008) pokazali su da su muškarci imali više skorove na skali autoritarnosti od žena. Da su muškarci autoritarniji od žena i da zastupaju tradicionalnije stavove o muškosti i ženstvenosti potvrđuju i rezultati Perez-Arš i Miler (Perez-Arche & Miller, 2021). S druge strane, određena istraživanja (Dyrendal et al., 2021; Flouri, 2009) pokazala su da su žene autoritarnije. Međutim, po nekim istraživanjima muškarci i žene su podjednako autoritarni (Henry, 2011; Rajan & Krishnan, 2002).

Istraživanje Ruffmana i saradnika sveobuhvatno ispituje odnos između starosti, desničarske autoritarnosti i prepoznavanja emocija (Ruffman et al., 2016). Autori su otkrili da starije osobe, u poređenju sa mladim, češće ispoljavaju veći nivo desničarskog autoritarizma i pokazuju nižu sposobnost prepoznavanja emocija (Ruffman et al., 2016). Dakitova studija je otkrila da je odnos između RWA i stavova prema različitim društvenim grupama bio jači među starijim učesnicima (Duckitt, 2006). Prva istraživanja u Srbiji pokazala su da su naši adolescenti autoritarniji nego njihovi vršnjaci iz drugih država

(Grahek, 2008). Teorija socioemocionalne selektivnosti govori o tome kako se socijalni ciljevi i motivacije menjaju u skladu sa godinama, te da ljudi postaju selektivni u odabiru aktivnosti, ne traže nova iskustva, nisu fokusirani na istraživanje novih ideja, niti na prikupljanje novih znanja i informacija (Carstensen et al., 1999). Ona objašnjava kako ljudi regulišu svoje emocije, određuju ciljeve i društvene odnose, te da dolazi do promene fokusa, pa u kasnijim godinama prioritet postaje emocionalno blagostanje (Löckenhoff & Carstensen, 2004). Ta fokusiranost na emocionalno blagostanje dovodi do promena u kognitivnim i ponašajnim procesima, kao i izboru afiniteta (Carstensen & Reynolds, 2023).

Veliki broj empirijskih istraživanja pokazao je da je u Sjedinjenim Američkim Državama obrazovanje u negativnoj vezi sa autoritarnošću (Simpson, 1972). Kada se sagledavaju različiti kulturološki konteksti, Simpson u svojoj velikoj studiji pokazuje da u SAD obrazovanje smanjuje autoritarnost na svim nivoima, od nižih razreda do univerziteta, kao i u Finskoj, dok u Kostariki i Meksiku obrazovanje ima manji efekat na autoritarnost (Simpson, 1972). U studiji Šiman i saradnika, zaključuje se da će Amerikanci sa nižim obrazovnim nivoom pokazati veće slaganje sa aitemima F-skale (Schuman et al., 1992). Istraživanja koja su rađena krajem prošlog veka u zemljama bivše Jugoslavije pokazuju visoku izraženost autoritarnosti među ispitanicima i njenu visoku povezanost sa obrazovanjem (Šiber, 1989). Nešto skorije istraživanje sa naših prostora, na uzorku od 217 studenata Univerziteta u Tuzli od 18 do 28 godina, utvrdilo je kod ispitanika nisku autoritarnost (Selimović i sar., 2013).

Čorkalo i Stanković zaključili su da ispitanici kojima je vera važnija pokazuju više skorove desničarske autoritarnosti u odnosu na ispitanike kojima je vera manje važna (Čorkalo i Stanković, 2000).

## Cilj

Cilj ovog rada je ispitivanje uticaja seta sociodemografskih karakteristika pola, godina, obrazovanja i religioznosti na desničarsku autoritarnost. Utvrđen je kroz sledeće zadatke:

1. proceniti povezanost između pola i desničarske autoritarnosti,
2. proceniti povezanost između uzrasta i desničarske autoritarnosti,
3. proceniti povezanost između nivoa obrazovanja i desničarske autoritarnosti,
4. proceniti povezanost između religioznosti i desničarske autoritarnosti.

## Metode

### Uzorak

Istraživanje je sprovedeno u Srbiji, na uzorku od 112 ispitanika opšte populacije od 18 do 60 godina, prosečne starosti 29.39 godina. Ispitanici su informisani o predmetu i svrsi istraživanja, koje je sprovedeno uz pribavljenu saglasnost. U uzorku je bilo više žena (61.6%) od muškaraca. Najviše ispitanika (47.3%) kao stepen obrazovanja navelo je četvorogodišnju srednju školu. Detaljniji prikaz strukture uzorka dat je u Tabeli 1.

**Tabela 1**

#### *Struktura uzorka*

	f	%		
Pol ispitanika				
Muški	43			38.4
Ženski	69			61.6
Nivo obrazovanja ispitanika				
Osnovna škola	2			1.8
Završena trogodišnja srednja škola	1			0.9
Završena četvorogodišnja srednja škola	53			47.3
Završena viša ili visoka škola	2			1.8
Završen fakultet – osnovne studije	23			20.5
Završen fakultet – master studije	30			26.8
Završen fakultet – doktorske studije	1			0.9
	Min.	Maks.	AS	SD
Godine starosti ispitanika	18	60	29.39	10.56
Nivo religioznosti	1	10	5.71	2.80

### Instrumenti i procedure

Istraživanje obuhvata jednu kriterijumsku i četiri prediktorske varijable. Prediktorsku varijablu čine pol, godine, obrazovanje i religioznost. Desničarska autoritarnost merila se pomoću RWA skale Boba Altemejera, koja ima dvanaest pitanja. Skalom se meri tri klastera stavova autoritarnosti: autoritarna submisivnost, konvencionalizam i autoritarna agresivnost (Altemeyer, 1998). Ajtemi 1, 3, 5, 7, 9 i 11 su negativno kodovani. Kada se navedene stavke rekoduju, sabira se skor na svakom ajtemu i dobija ukupan skor, gde viši skor označava viši stepen autoritarnosti (Altemeyer, 1998). Stavke su formulisane u formatu Likertovog tipa, sa pet nivoa slaganja/neslaganja (1 – potpuno se ne slažem, 2 – uglavnom se ne slažem, 3 – i slažem se i ne slažem se, 4 – uglavnom se slažem, 5 – potpuno se slažem) (Lazić i sar. 2020). Procena religioznosti meri se na intervalnom nivou kao stepen na skali od 1 do 10 pitanjem „Koliko ste religiozni?”, gde ispitanici označavaju svoj stepen religioznosti od 1 – u potpunosti nisam religiozan, do 10 – u potpunosti jesam religiozan. Dobijene

prosečne vrednosti ukazuju da su ispitanici negde na granici između toga da sebe smatraju, odnosno ne smatraju religioznim. Niska standardna devijacija ukazuje da se odgovori ispitanika kada je o religioznosti reč međusobno mnogo ne razlikuju.

Varijable godine i autoritarnost su po načinu izražavanja vrednosti numeričke, dok su pol, nivo obrazovanja i religioznost kategoričke varijable. Varijabla pol je dihotomna i kategorije u okviru nje su muški i ženski. Varijabla nivo obrazovanja je politomna i ima šest kategorija.

Istraživanje je sprovedeno putem Google upitnika, koji je bio dostupan preko društvenih mreža. Uzorak je bio neslučajni, dobrovoljački, ispitivanje anonimno, a prikupljanje podataka trajalo je tokom februara 2022. godine.

## Obrada podataka

Dobijeni podaci obrađeni su pomoću softverskog paketa namenjenog društvenim naukama (Statistical Package for the Social Sciences – SPSS, Version 23.0), a od analiza je primenjena deskriptivna statistika i statistika zaključivanja (Linearna regresiona analiza).

### Tabela 2

#### *Pouzdanost ispitivanih skala*

	Kronbahov $\alpha$ koeficijent
Autoritarna submisivnost	.80
Konvencionalizam	.79
Autoritarna agresivnost	.72
Desničarska autoritarnost	.80

Na osnovu Kronbahovog  $\alpha$  testa pouzdanosti može se reći da primenjene skale imaju zadovoljavajuću nisku ka srednjoj pouzdanosti (od .72 za subskalu autoritarna agresivnost, do .80 za subskalu autoritarna submisivnost i celokupnu skalu desničarska autoritarnost).

### Tabela 3

#### *Šapiro–Vilkijev test*

	SH-W	P
Autoritarna submisivnost	.98	.12
Konvencionalizam	.98	.15
Autoritarna agresivnost	.98	.07
Desničarska autoritarnost	.99	.23

Statistička značajnost Šapiro–Vilkijevog testa pokazuje da se distribucije odgovora ispitanika na primenjenim subskalama i skali statistički značajno ne razlikuju od normalne distribucije, te je uslov za primenu regresione analize kao parametrijskog postupka ispunjen.

## Rezultati

**Tabela 4**

*Deskriptivni podaci istraživanja*

	Minimum	Maksimum	AS	SD	Medijana	Interkvartilni raspon
Autoritarna submisivnost	1.25	4.75	2.81	0.68	2.75	2.25–3.25
Konvencionalizam	1	5	2.88	0.92	2.75	2.25–3.50
Autoritarna agresivnost	1	4.75	2.75	0.86	2.75	2–3.25
Desničarska autoritarnost	1.08	4.50	2.81	0.68	2.75	2.33–3.33

Na osnovu podataka iz Tabele 5 uočava se da ispitanici u proseku imaju nešto više izraženu desničarsku autoritarnost uopšteno (AS = 2.81; SD = 0.68), ali i autoritarnu submisivnost (AS = 2.81; SD = 0.68), konvencionalizam (AS = 2.88; SD = 0.92) i autoritarnu agresivnost (AS = 2.75; SD = 0.86) – empirijski dobijene aritmetičke sredine veće su od teorijskog proseka za primenjenu skalu čiji je teorijski raspon od 1 do 5.

Autoritarna submisivnost se statistički značajno može predviđati ( $R = .45$ ;  $df(4)$ ;  $r < .01$ ) na osnovu seta prediktora koji čine pol, starost, obrazovanje i religioznost, čime se objašnjava 20% ( $R^2 = .20$ ) varijanse.

**Tabela 5**

*Regresioni model – kriterijum autoritarna submisivnost*

Prediktori	B	P
Pol	-.11	.24
Starost	<b>.22</b>	<b>.01</b>
Obrazovanje	-.07	.44
Religioznost	<b>.40</b>	<b>0.00</b>

Parcijalni doprinos ostvaruju prediktori starost ( $\beta = .22$ ;  $p < .01$ ) i religioznost ( $\beta = .40$ ;  $p < .01$ ), a pozitivan smer  $\beta$  koeficijenta ukazuje da što je osoba starija i religioznija, to je i autoritarno submisivnija.

Konvencionalizam se statistički značajno može predviđati ( $R = .64$ ;  $df(4)$ ;  $p < .01$ ) na osnovu seta prediktora koji čine pol, starost, obrazovanje i religioznost, čime se objašnjava 42% ( $R^2 = .42$ ) varijanse.

**Tabela 6***Regresioni model – kriterijum konvencionalizam*

Prediktori	<i>B</i>	<i>P</i>
Pol	<b>-.18</b>	<b>.02</b>
Starost	<b>.15</b>	<b>.05</b>
Obrazovanje	<b>-.16</b>	<b>.04</b>
Religioznost	<b>.62</b>	<b>.00</b>

Parcijalni doprinos ostvaruju svi prediktori, a pozitivan smer  $\beta$  koeficijenata kod varijabli starost ( $\beta = .15$ ;  $p < .05$ ) i religioznost ( $\beta = .62$ ;  $p < .01$ ) ukazuje da što je osoba starija i religioznija, ima izraženiju osobinu konvencionalizma. Dalje, negativan smer  $\beta$  koeficijenata kod varijabli pol ( $\beta = -.18$ ;  $p < .05$ ) i obrazovanje ( $\beta = -.16$ ;  $p < .05$ ) pokazuje da su muškarci i osobe nižeg obrazovnog nivoa konvencionalniji.

Autoritarna agresivnost se statistički značajno može predvidati ( $R = .41$ ;  $df(4)$ ;  $p < .01$ ) na osnovu seta prediktora koji čine pol, starost, obrazovanje i religioznost, čime se objašnjava 17% ( $R^2 = .17$ ) varijanse autoritarne agresivnosti.

**Tabela 7***Regresioni model – kriterijum autoritarna agresivnost*

Prediktori	<i>B</i>	<i>P</i>
Pol	<b>-.21</b>	<b>.02</b>
Starost	<b>.20</b>	<b>.03</b>
Obrazovanje	<b>-.20</b>	<b>.03</b>
Religioznost	<b>.29</b>	<b>.00</b>

Parcijalni doprinos ostvaruju svi prediktori, a pozitivan smer  $\beta$  koeficijenata kod varijabli starost ( $\beta = .20$ ;  $p < .05$ ) i religioznost ( $\beta = .29$ ;  $p < .01$ ) ukazuje da što je osoba starija i religioznija, ona je autoritarno agresivnija. Negativan smer  $\beta$  koeficijenata kod varijabli pol ( $\beta = -.21$ ;  $p < .05$ ) i obrazovanje ( $\beta = -.20$ ;  $p < .05$ ) pokazuje da su muškarci i osobe nižeg obrazovnog nivoa autoritarno agresivniji.

Kao i u prethodnim regresionim modelima, i celokupna skala desničarska autoritarnost statistički se značajno može predvidati ( $R = .59$ ;  $df(4)$ ;  $p < .01$ ) na osnovu seta prediktora koji čine pol, starost, obrazovanje i religioznost, čime se objašnjava 35% ( $R^2 = .35$ ) varijanse autoritarne agresivnosti.



**Tabela 8***Regresioni model – kriterijum autoritarnost*

Prediktori	B	P
Pol	<b>-.20</b>	<b>.01</b>
Starost	<b>.22</b>	<b>.01</b>
Obrazovanje	<b>-.17</b>	<b>.03</b>
Religioznost	<b>.53</b>	<b>.00</b>

Parcijalni doprinos ostvaruju svi prediktori, a pozitivan smer  $\beta$  koeficijenata kod varijabli starost ( $\beta = .22$ ;  $p < .05$ ) i religioznost ( $\beta = .53$ ;  $p < 0.01$ ) ukazuje da što je osoba starija i religioznija, to je i autoritarnija. Negativan smer  $\beta$  koeficijenata kod varijabli pol ( $\beta = -.20$ ;  $p < .05$ ) i obrazovanje ( $\beta = -.17$ ;  $p < .05$ ) pokazuje da su muškarci i osobe nižeg obrazovnog nivoa autoritarnije.

### Diskusija

Globalni preporod autoritarnih režima (Giroux, 2019; Grajf, 2021) zahteva ponovno fokusiranje na njihove uzroke. Desničarska autoritarnost teorijski se definiše kao sistem vrednosti koji u međuljudskim odnosima, javnom životu i sferi rada podržava nekritičko pokoravanje autoritetu i podrazumeva rigidnost, mišljenje u čvrstim kategorijama (Petrović i Radoman, 2019). Polazeći od toga da je to stabilna osobina ličnosti koja je oblikovana ranim iskustvima socijalizacije (Altemeyer, 1988), kreiran je cilj istraživanja koji se odnosio na ispitivanje uticaja seta sociodemografskih varijabli na formiranje desničarsko autoritarnih stavova.

Podaci dobijeni statističkom analizom pokazuju da ispitanici koji su učestvovali u istraživanju u proseku imaju nešto izraženiju desničarsku autoritarnost (i kada je skala, i kada su subskale u pitanju). Dakle, oni imaju tendenciju da se ponašaju autoritarno submisivno i agresivno i da slepo slede postavljena pravila. Regresionim analizama dobijeno je da se desničarska autoritarnost, autoritarna submisivnost, konvencionalizam i autoritarna agresivnost mogu predviđati na osnovu seta prediktora koji čine pol, starost, obrazovanje i religioznost i tom prilikom procenat objašnjene varijanse kreće se od 17 do 42%.

Iz informacija dobijenih preko analize parcijalnog doprinosa prediktora prikazano je da se muškarci i žene iz uzorka razlikuju u nivou izraženosti celokupne desničarske autoritarnosti, konvencionalizma i autoritarne agresivnosti, dok se u nivou izraženosti autoritarne submisivnosti ne beleži razlika. Rezultati istraživanja pokazuju da su muškarci konvencionalniji i autoritarno agresivniji od žena. Razlika koja nije dobijena na subskali autoritarna submisivnost može se objasniti strukturom pitanja ove subskale i strukturom uzorka (veći deo uzorka čine radno sposobne žene srednjih

godina). Dobijeni podaci podržavaju rezultate prethodnih istraživanja (Grahek, 2008; Miller, 2021; Perez-Arche & Miller, 2021). Neke biološke teorije o uticaju hormona na varijacije u ponašanju između muškaraca i žena govore o tome da žene proizvode veće količine progesterona i estrogena, a muškarci više testosterona, koji je povezan sa agresijom (Haralambos & Holborn, 2002), što se može povezati sa rezultatom istraživanja o autoritarnoj agresivnosti kod muškaraca. S druge strane, razlike autoritarnosti muškaraca i žena objašnjavaju se njihovim ulogama u društvu, stilovima uticaja i vršenju moći (Rajan & Krishnan, 2002). Ljudi koji pokazuju visoke skorove na RWA skali imaju tendenciju da veruju u tradicionalnu podjelu muškosti i ženstvenosti (Perez-Arche & Miller, 2021). Žene uspostavljaju neautoritarne odnose i učene su da budu pasivne, popustljive i intuitivne, dok su muškarci socijalizovani da budu agresivni, aktivni i dominantni (Rajan & Krishnan, 2002). Teorija koja razdvaja „privatni” i „javni” prostor uočava da su muškarci generalno uključeni u društvo, a da su žene i dalje vezane za privatnu sferu i isključene iz institucionalizovane politike i da do danas nisu uključene u istoj meri kao muškarci (Hinterhuber & Schneider, 2018). Isključivanje žena iz političke participacije ili diskriminacija pri zapošljavanju i u obrazovnom sistemu mogu da pojačaju autoritarizam i limitiraju mogućnosti za demokratsku reformu (Hinterhuber & Schneider, 2018). U studiji koja je istraživala povezanost kognitivnog razvoja, političke i religijske ideologije i razliku u polovima u odnosu na desničarski autoritarizam, pronađeno je da su žene koje su pokazale veći rezultat u kognitivnom razvoju imale niže rezultate na merama desničarskog autoritarizma, dok među muškarcima nije bilo uočenih razlika između onih koji su pokazali visok ili nizak kognitivni razvoj (Bridges & Harnish, 2015). Objašnjenja o manjoj autoritarnosti žena pronalazimo i u tome da žene ređe glasaju za autoritarno-populističke partije nego muškarci (Schäfer, 2022). Organizacije civilnog društva, poput ženskih grupa i feminističkih pokreta, mogu pružiti prostor da se žene organizuju, zalažu za svoja prava i smanje nejednakost u autoritarnim režimima (Hinterhuber & Schneider, 2018).

Pozitivan smer desničarske autoritarnosti (i subskala) ostvaruje sa prediktorima starost i religioznost, čime je dobijen rezultat da što je osoba starija i religioznija, ona ima izraženiju osobinu konvencionalizma, autoritarne submisivnosti, autoritarne agresivnosti i desničarske autoritarnosti. Ovi podaci su u skladu sa ranije sprovedenim istraživanjima (Čorkalo i Stanković, 2000; Duckitt, 2006; Ruffman, 2016). Dakitova studija otkrila je da je odnos između RWA i stavova prema različitim grupama bio jači među starijim učesnicima (Duckitt, 2006). Teorija socioemocionalne selektivnosti (SST) može pojasniti ovaj rezultat time da stariji ljudi mogu biti otporniji na promene i manje voljni da razmotre nove ideje i perspektive, posebno ako su te ideje u konfrontaciji sa njihovim postojećim uverenjima i vrednostima (Carstensen & Reynolds, 2023). Mlađi pojedinci daju prioritet neemocionalnim ciljevima, za razliku

od starijih koji daju prioritet emocionalnim ciljevima, kao što su napredak ili obrazovanje u karijeri, jer imaju više vremena za postizanje ovih ciljeva (Carstensen & Reynolds, 2023).

Kako je Altemejer naveo, veća je verovatnoća da će pojedinci koji imaju jaka verska uverenja i opredeljenja imati visoke rezultate na merama desničarskog autoritarizma (Altemeyer, 1988), jer verska uverenja i institucije često promovišu poslušnost autoritetu, snažnu želju za redom i strukturom i negativan stav prema spoljnim grupama i devijantnosti (Altemeyer, 1988). Ovi stavovi i vrednosti u skladu su sa ključnim komponentama desničarskog autoritarizma, čineći religiju moćnim oruđem za održavanje autoritarne moći (Altemeyer, 1988). Pozitivna veza sa religioznošću može se objasniti osnovnim doktrinama religije, koja ističe poštovanje Boga kao jedinog autoriteta (Daničić, 1950), te se takav model kod religioznih ljudi može preneti na socijalni kontekst. Kejt Milet (*Kate Millett*) u svojoj teoriji povezuje autoritet muškaraca u društvu sa religijom, stavljajući akcenat na to da je religija „sredstvo za legitimisanje muške dominacije” (Haralambos & Holborn, 2002, str. 146). Religija je fundamentalni deo ljudskog iskustva i ima snažan uticaj na verovanja i ponašanje ljudi, uključujući njihove političke stavove i podršku autoritarnim režimima (Stark & Finke, 2000). Ipak, odnos između religije i autoritarizma je složen i zavisi od brojnih faktora, uključujući specifična verska uverenja, istorijski kontekst u kome ta verovanja nastaju, kao i političke i društvene uslove (Stark & Finke, 2000)

Kao i u slučaju ostalih prediktora, statistički značajna veza ostvarena je i sa prediktorom obrazovanje, što govori u prilog ranijim studijama (Simpson, 1972; Schuman et al., 1992; Šiber, 1989). Statistički značajna veza ostvarena je na subskalama konvencionalizam i autoritarna agresivnost, kao i na skali desničarska autoritarnost. Rezultati istraživanja pokazuju da su osobe nižeg obrazovnog nivoa konvencionalnije, autoritarno agresivnije i autoritarnije. To što se viši nivo obrazovanja pokazao kao delimično protektivni faktor autoritarizmu može se objasniti time da bi osobe sa višim nivoom obrazovanja trebalo da budu kompetentnije u socijalnom okruženju, da razumeju procese u društvu koji utiču na njih, da nauče različite tačke gledanja na život i budu politički tolerantnije (Sullivan et al., 1981). Obrazovanje uči da se kritičkim mišljenjem procene argumenti, reši konflikt i dođe do dobro obrazloženih rešenja za složene probleme (Allegretti & Frederick, 1995). Vaspitanje i obrazovanje su važni, jer su za fašizam u Nemačkoj odgovorni vaspitni stil i obrazovni sistem (Romanish, 1995), što dovodi do zaključka da je obrazovanje u rukama autoritarnosti oruđe za postizanje moći. Nevit Sanford je smatrao da je obrazovanje sredstvo za oslobađanje od autoritarnosti (Sanford, 1973). Još jedan od načina kako autoritarnost može uticati na obrazovanje je ograničenje i isključenje određenih društvenih grupa koje imaju pristup obrazovanju. Novistari autoritarni režim u Avganistanu još od 1996. godine zabranjuje devojkama

pravo na obrazovanje (Bogaert, 2022). Na taj način ne samo da se cenzuriše pristup znanju, već se mogu produžiti nejednakost i ojačati postojeće strukture moći. S druge strane, autoritarni režimi ne uskraćuju uvek obrazovanje, već na sofisticiran način podržavaju visoko obrazovanje u skladu sa njihovim interesima i pod njihovim nadzorom (Perry, 2015). Razumevanje korena desničarskog autoritarizma je ključno za rešavanje izazova koje postavlja autoritarnost i promovisanje demokratskih vrednosti i praksi (Altemeyer, 1988).

Nedostaci sprovedenog istraživanja mogu se ogledati u veličini uzorka, te neka naredna istraživanja mogu biti usmerena na sprovođenje istog istraživanja na većem uzorku, i to tako da se uticaj sociodemografskih varijabli proveriti kod različitih društvenih slojeva i grupa, kao i pripadnika različitih verskih uverenja.

### **Zaključak**

Odnos desničarske autoritarnosti i sociodemografskih varijabli, kao što su pol, starost, obrazovanje i religioznost, bio je predmet mnogih istraživanja. Sprovedeno istraživanje pokazalo je da sociodemografske karakteristike imaju uticaja na desničarsku autoritarnost, te da faktori obrazovanja i religioznosti, ali i biološki faktori pola i starosti utiču na formiranje autoritarnih stavova ispitanika. Rezultati ove studije imaju važne implikacije na intervencije za smanjenje rasprostranjenosti desničarskog autoritarizma i kreiranje politika za suzbijanje njegovih negativnih efekata na pojedince i društvo. Predrasude i međugrupni sukob kao posledice autoritarnosti potiču od dva pozitivno povezana društvena ideološka stava: desničarskog autoritarizma i orijentacije na društvenu dominaciju (Osborne et al., 2023). Desničarski autoritarizam ima implikacije na antiekološke društvene stavove (Stanley et al., 2017), naučni skepticizam (Kerr & Wilson, 2021) i konspirativno mišljenje (Wood & Gray, 2019). Iako je većina istraživanja ispitivala desničarski autoritarizam, buduća istraživanja trebalo bi da se fokusiraju na levičarski autoritarizam, njegove uzroke i posledice. Trebalo bi da ispitaju kako različite poddimenzije desničarskog i levičarskog autoritarizma utiču na društvene i ekonomske ideologije, te da uporede poddimenzije sa drugim varijablama, poput pozitivnih ekoloških stavova, podrške demokratskim vrednostima i liderima sistema. Na ovaj način mogu se ispitivati razlike u ispoljavanju autoritarnosti među onima koji se identifikuju sa političkom desnicom i onima koji se identifikuju sa političkom levicom. Preporuka je da se istraživanja usmere na identifikovanje karakteristika autoritarnih lidera kako bi se zaštitile demokratske institucije.

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## Influence of sociodemographic characteristics on right-wing authoritarianism

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*Introduction.* This paper explores the impact of sociodemographic characteristics on right-wing authoritarianism. Right-wing authoritarianism is defined as a combination of three attitudinal clusters: authoritarian submission, authoritarian aggression, and conventionalism. *Objective.* The aim of the study is to examine the influence of gender, age, education, and religiosity on right-wing authoritarianism. *Methods.* In the conducted research, right-wing authoritarianism was defined as the criterion variable,

while others were specified as predictors. The Right-Wing Authoritarianism (RWA) scale, consisting of 12 questions and measured at an interval level, was used to assess right-wing authoritarianism. The study was conducted on 112 participants of different genders and ages from the general population in Serbia, using a non-random, voluntary sample. *Results.* The obtained data show that, on average, respondents exhibit a slightly more pronounced right-wing authoritarianism (both in terms of the overall scale and its subscales). There were gender differences in the degree of right-wing authoritarianism, with men being more authoritarian than women. Age-related differences in the degree of right-wing authoritarianism were found, as well as the fact that respondents with higher levels of education are less prone to authoritarianism, while those who emphasize their religiosity are more inclined toward authoritarianism. *Conclusion.* The results of this study have important implications for interventions to reduce the prevalence of right-wing authoritarianism and the development of policies to mitigate its negative effects on individuals and society. Based on the obtained results, implications for further research are presented.

*Keywords:* right-wing authoritarianism, gender, age, education, religion

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## Primarne motoričke stereotipije

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*Uvod:* Motoričke stereotipije se skoro uvek povezuju sa razvojnim smetnjama, kao što je poremećaj iz spektra autizma, intelektualna ometenost i dr. Najčešće se javljaju kao simptom senzorne deprivacije, ali se prepoznaju i kao izolovane. Primećeno je da se javljaju kod dece tipičnog razvoja. Ovakve izolovane stereotipije nazivaju se primarne motoričke stereotipije. *Cilj:* Cilj ovog rada jeste da pruži bolji uvid u specifičnosti ove smetnje i da prikaže kako utiče na osobe (deca), kao i da pruži uvid u uzrok nastanka stereotipija i moguće pristupe u tretmanu. *Metode:* Deskriptivna metoda istraživanja sa pregledom literature objavljene u prethodnih deset godina, uz kritički osvrt. Definisani su kriterijumi za uključivanje i isključivanje radova. Sagledana su istraživanja o uzroku nastanka primarnih motoričkih stereotipija, istraživanja o primarnim motoričkim stereotipijama i njihovom tretmanu. *Rezultati:* Primarne motoričke stereotipije kod deteta tipičnog razvoja negativno utiču na svakodnevne aktivnosti i remete socijalni razvoj, što dovodi do društvene stigmatizacije. Pronađene su mnogobrojne intervencije kod dece sa poremećajem autističnog spektra (jedna od glavnih odlika autizma su stereotipije), ali je broj objavljenih istraživanja o intervencijama i tretmanima primarnih motoričkih stereotipija veoma mali. Koren problema primarnih motoričkih stereotipija je kompleksan i uključuje određene delove korteksa i puteve prenosa informacija. Problem predstavlja i identifikovanje ove vrste smetnje, što dalje utiče na same intervencije. *Zaključak:* Uzrok nastanka primarnih motoričkih stereotipija još uvek nije poznat, a kao mogući tretmani primarnih motoričkih stereotipija izdvajaju se bihevioralne terapije. Na osnovu dostupnih istraživanja primećuje se da o ovoj temi ne postoji mnogo literature, što pruža izuzetan potencijal i prostor za otkrivanje novih informacija i saznanja, uz pomoć kojih bi mogli da se pronađu novi načini rada sa ovim osobama.

*Ključne reči:* primarne motoričke stereotipije, deca i adolescenti

## Uvod

Prateći vremenski tok izučavanja primarnih motoričkih stereotipija (PMSt) uočava se da su one sagledavane kroz prizmu intelektualne ometenosti i povezivane su sa razvojnim smetnjama. Odnosile su se na decu sa senzornom deprivacijom i skoro uvek su se nalazile u grupi dece sa poremećajem iz spektra autizma. Danas se ovi pokreti prepoznaju kao izolovani i primećeno je da se javljaju i kod dece tipičnog razvoja. Neki autori ističu da se ovi pokreti javljaju kod 3-4% populacije u periodu ranog detinjstva (Mahone et al., 2016). Oni pokreti koji se javljaju kod dece tipičnog razvoja označavaju se kao primarne motoričke stereotipije, dok stereotipije koje se javljaju kod dece sa poremećajem iz spektra autizma, osoba sa intelektualnom ometenošću ili nekim drugim neurološkim problemima označavaju se kao sekundarne motoričke stereotipije (Signer, 2009). Sam naziv „primarne” označava da se javljaju kod dece tipičnog razvoja, kod koje su oni primarni, osnovni simptomi ili nisu uzrokovani drugim smetnjama. Primećeno je da se primarne motoričke stereotipije uglavnom javljaju izolovano, odnosno bez drugih tipova stereotipija, kao što je vokalizacija (Ghosh et al., 2012). Isti autori navode da sekundarne stereotipije imaju za 50% više udruženih drugih stereotipija. Najčešće su to kombinacije motoričkih i foničnih stereotipija. Primarne motoričke stereotipije javljaju se u ranom detinjstvu, uglavnom i pre treće godine života. Zvaničan uzrok PMSt nije poznat. Smatra se da postoji genetska osnova i u 25 do 40% slučajeva neko u porodici, bilo bližoj ili daljoj, ima sličan problem (Baizabal-Carvallo & Jankovic, 2017). Kako postaju starija, deca vremenom nauče da kontrolišu stereotipije.

Osnovne karakteristike primarnih motoričkih stereotipija je da su nevoljne, ritmičke, fiksirane, bez ikakve očigledne svrhe i namene, traju od nekoliko sekundi do minut ili duže i prestaju prilikom neke druge ometajuće radnje, kao što je dozivanje ili dodirivanje osobe/deteta (Harris et al., 2008; Mackenzie, 2018). Kod dece se najčešće javljaju u vidu igranja sa prstima, sisanja palca, podrhtavanja noge i ljuljanja tela. Odrasli takođe pokazuju određene stereotipije. Primećuju se u situacijama igranja sa kosom, stopalima, nogom, ljuljanja uz muziku i sl. Mogu da se jave i stereotipije u vidu pomeranja glave (pokreti glave „da” i „ne”) i pokreti ramenima (Mahone et al., 2004; Oakley et al., 2015; Signer, 2011). Pored ovih „jednostavnih”, postoje i kompleksnije stereotipije.

Ispoljavanje zavisi od podneblja, kulture i samog pojedinca (Freeman et al., 2010). Kada ove „bezazlene” stereotipije postanu intenzivnije, neobičnije (van društvenog konteksta) ili duže traju, tada se obično javlja sumnja ili određena doza zabrinutosti. Deci, kada su mala, PMSt ne predstavljaju problem i ne smetaju im, ali se izvesna zabrinutost javlja kod roditelja, kako zbog samog poremećaja, društvene sredine i stigme, tako i da će se školovanje i surova dečja iskrenost odraziti na njihovo samopouzdanje, rad i školski

uspeh. Deca sa PSMt mogu se u školskom okruženju osećati uznemireno, a ovaj period školovanja izaziva im stres. Upravo u tim situacijama stereotipije se pojačavaju i mogu da budu izraženije. Deca mogu da se povuku u sebe i da gube samopouzdanje, pogotovo ukoliko ne dobiju adekvatan tretman. Sve ovo može da dovede do sniženog školskog uspeha, pošto deca gube motivaciju i želju za učenjem.

Fokus interesovanja ovog rada jesu primarne motoričke stereotipije kod dece tipičnog razvoja, dok je cilj pružanje detaljnijeg uvida u nju. U radu će biti prikazano kako PMSt utiču na osobe (deca), ali će biti date i informacije o uzrocima nastanka stereotipija, kao i mogućim pristupima u tretmanu PMSt. Kroz teorijski pristup opisane su osnovne karakteristike PMSt i razlike u odnosu na druga stanja.

### **Metod rada**

Primarne motoričke stereotipije sagledane su iz dostupne literature u periodu od poslednjih deset godina. Primenjena je deskriptivna metoda istraživanja dostupnih radova. Pretražene su sledeće baze podataka: PubMed, NIMH, MedLine, ERIC, JSTOR i baza kliničkih ispitivanja – ClinicalTrials.gov. Kriterijumi koji su korišteni za izbor literature i osnovne baze podataka su: (1) primarne motoričke stereotipije bez udruženih smetnji, kao što je spektar autizma, intelektualna ometenost i druge razvojne smetnje; (2) radovi objavljeni u poslednjih deset godina; (3) deca tipičnog razvoja; (4) istraživanja koja se odnose na tretman osoba sa primarnim motoričkim stereotipijama; (5) uzorak u istraživanjima odnosi se na decu i adolescente. Kriterijumi za uključivanje podrazumevali su radove napisane na engleskom jeziku, koji su objavljeni u recenziranim naučnim časopisima. U istraživanje nisu uključeni radovi koji su opisivali studije slučaja, metaanalize ili systemske preglede literature. Prema fokusu interesovanja formirane su i ključne reči, koje bliže opisuju srž teme: primarne motoričke stereotipije, tipičan razvoj, tretman PMSt. Pretraživanjem primarnih motoričkih stereotipija u bazama podataka pronađeno je svega 97 članaka. Od toga, većina je uključivala spektar autizma, jer predstavljaju jednu od njegovih osnovnih karakteristika. Pregledom naslova i apstrakata isključeni su oni radovi koji nisu ispunjavali navedene kriterijume. U obzir su uzeti članci koji su za osnovni cilj istraživanja imali uzrok nastanka PMSt, istraživanja o samim PMSt ili njihov tretman. Na osnovu toga izdvojena su četiri članka u kojima se opisuje koren problema primarnih motoričkih stereotipija, četiri članka čiji su se autori bavili istraživanjem primarnih motoričkih stereotipija i dva članka o terapijskim postupcima primarnih motoričkih stereotipija. Kako bi se detaljnije opisali terapijski postupci PMSt, u rad je uključen i jedan članak koji premašuje opseg od deset godina.

### Osnovne karakteristike primarnih motoričkih stereotipija

Primarne motoričke stereotipije definišu se kao ponavljajući ritmički pokreti, koji na prvi pogled izgledaju svrsishodno, ali nemaju funkciju ili određenu namenu. Nemaju očiglednu adaptivnu funkciju, a obično prestaju sa nekom drugom senzornom stimulacijom ili ometanjem neke druge prirode (Singer, 2011). Motoričke stereotipije razlikuju se od tikova po samom uzroku, po koordinaciji pokreta, njihovom ponavljanju i javljanju, ritmičkim karakteristikama i po tome što nisu vezane za refleksivne pokrete (Harris et al., 2008; Mahone et al., 2004). Smatra se da ovi pokreti počinju i pre treće godine života. Motoričke stereotipije definišu se kao nevoljni, šablonski, koordinisani, repetitivni, ritmički nerefleksivni pokreti koji traju od nekoliko sekundi do jednog minuta, obično su grupisani, a povezani su sa periodima uzbuđenja, stresa, umora ili dosade (Mahone et al., 2004). Motoričke stereotipije mogu se podeliti na primarne i sekundarne. Primarne stereotipije su izolovane i ne javljaju se u sklopu drugih smetnji, dok sekundarne pripadaju drugim smetnjama i oboljenjima, kao što je poremećaj iz spektra autizma. Motoričke stereotipije mogu da se dele i prema uključenosti određenih delova tela i prema složenosti samih pokreta. Primarni su jednostavniji ili sastavljeni iz jednog pokreta, dok su sekundarni složeniji ili uključuju više delova tela (Ghosh et al., 2012). Još jedna karakteristika po kojoj se primarne motoričke stereotipije razlikuju od sekundarnih jeste i vreme trajanja. Sekundarne stereotipije kod dece sa pervazivnim razvojnim poremećajem imaju duže trajanje motoričkih i foničkih stereotipija (MacDonald et al., 2007). PMSt mogu trajati nekoliko sekundi ili minuta i obično se javljaju više puta dnevno. Mogu se brzo zaustaviti stimulisanjem čula na drugi način, odvratanjem pažnje deteta, ili jednostavno dozivanjem deteta imenom.

Pored navedenih osnovnih karakteristika PMSt, potrebno je ukratko objasniti i karakteristike po kojima se PMSt razlikuju od njima sličnih stanja. Najčešće se PMSt mešaju i spominju u kontekstu tikova, ali tikovi su brzi, iznenadni pokreti i uključuju ili jedan pokret, ili složeniji niz pokreta. Dalje, stereotipije se javljaju ranije nego tikovi, dosledniji su i u pogledu trajanja motorne kontrakcije, fiksni su i ritmični. Tikovi su, s druge strane, iznenadni i uključuju određeni nagon ili jaku želju da se tik izvede. Tikovi ne prestaju sa dozivanjem ili ometanjem osobe na neki drugi način, kao što je to slučaj kod stereotipija (Martino & Hedderly, 2019).

U Tabeli 1 ukratko su navedene osnovne razlike između tikova i stereotipija (preuzeto iz Barry et al., 2011).

Stereotipije ne uključuju samopovređivanje (udaranje, ugrize, grebanje), kao što je to slučaj kod drugih stanja. Ne uključuju ni kompulzije (besmislene radnje kojima osoba ne može da odoli), npr. pranje ruku, stalno dodirivanje stvari, proveravanje, brojanje. Najčešći podtip primarnih motoričkih stereotipija jesu primarni složeni (kompleksni) motorički stereotipi, koji spadaju u primarni

oblik ovog stanja i karakterišu ih složene motoričke stereotipije. Motorički pokreti se odvijaju sa obe strane tela i duže traju: od nekoliko sekundi, minuta do jedan sat. Vremenom mogu da poprime i složenije oblike. Sve ostale karakteristike su iste kao i kod osnovnih PMSt (Harris et al., 2008; Oakley et al., 2015). Deca uglavnom nisu svesna ovih pokreta, izvođenjem stereotipija pružaju sebi osećaj zadovoljstva, a ponekad razmišljaju o TV programu ili nekim aktivnostima (vizualizuju).

**Tabela 1.**

*Razlike između tikova i stereotipija*

<b>Odlika</b>	<b>Tikovi</b>	<b>Stereotipije</b>
Uzrast u kom se javljaju	5–7	<2
Obrazac javljanja	Varijabilan	Fiksiran, identičan, predvidljiv
Pokret	Treptanje, grimase, previjanje, trzanje	Ruka ili šaka: talasasti pokreti, držanje ruku, podrhtavanje
Ritam	Brz, iznenadan, besciljan	Ritmičan
Trajanje	Isprekidani, kratki, nagli	Isprekidani, ponavljaju se, produženo trajanje
Senzomotoričke pojave pre početka	Da	Ne
Okidač	Uzbuđenje, stres	Uzbuđenje, stres, požuda
Potiskivanje	Samousmereno, kratkotrajno ukoliko je povezano sa nelagodnom	Spoljnim ometanjem, retko svesnim ličnim naporom, često izgledaju prijatno
Porodična istorija	Često je povezana	Nije uvek povezana
Tretman	Prvenstveno neuroleptici	Retko reaguju na lekove

### **Koren problema motoričkih stereotipija**

Zvanična patofiziologija PMSt nije poznata. Razlika je u tome što kod dobrovoljnih, voljnih pokreta postoji kortikalni potencijal za izvođenje određenog pokreta, dok kod stereotipnih pokreta ova radnja izostaje (Harris et al., 2016). Ova definicija je i dokazana istraživanjem iz 2014. godine (Houdayer et al., 2014), gde su istraživači uz pomoć elektroencefalografije (EEG) pratili kortikalni potencijal voljnih pokreta sa kortikalnim potencijalom stereotipija. Njihov cilj je bilo upoređivanje moždane aktivnosti koja se javlja prilikom iniciranja voljnih pokreta sa pokretima koji se javljaju kod primarnih motoričkih stereotipija u određenim regionima mozga. Praćena je grupa dece sa primarnim motoričkim stereotipijama (10 dece) i kontrolna grupa (sedmero učesnika) uzrasta od 8 do 12 godina. Istraživači su došli do zaključka da se stereotipni pokreti drugačije iniciraju od voljnih pokreta, jer nijedan kortikalni potencijal nije identifikovan pre pojave PMSt. Navode da premotorna područja u frontalnom korteksu verovatno nisu uključena u

pripremu primarnih motoričkih stereotipija, te da su mehanizmi stereotipija drugačiji od mehanizama voljnih kontrolisanih pokreta. Prema Mahone i saradnicima (Mahone et al., 2016), pretpostavlja se da je koren problema u putevima prenosa, odnosno regiona koji se međusobno povezuju. Put prenosa voljnih pokreta uobičajeno se kreće od prefrontalnog korteksa, premotorne regije, do bazalnih ganglija, tačnije zadnjeg dela putamena. Autori su na osnovu ove pretpostavke sproveli studiju kako bi otkrili abnormalnosti kod osoba sa primarnim složenim motoričkim stereotipijama (PSMSt), ukoliko postoje. Koristili su funkcionalnu magnetnu rezonancu i naglašavali regione mozga za koje se smatra da se nalaze u osnovi PSMSt. U studiji je učestvovalo 20 dece sa PSMSt bez dijagnoze autizma, urednog intelektualnog statusa i bez drugih udruženih smetnji i 20 dece tipične populacije (12 dečaka i osam devojčica). Rezultati ukazuju da nisu pronađene značajne statističke razlike kod grupe dece sa PSMSt i kontrolne grupe u delu prefrontalnog korteksa i volumena leve i desne hemisfere. Značajna statistička razlika u ukupnoj zapremini putamena pronađena je kod dece sa PSMSt, a rezultati ukazuju na značajno smanjenje volumena putamena u odnosu na kontrolnu grupu ( $p=.045$ ). Ovom studijom se mogu otvoriti nova pitanja u pogledu anatomskih puteva primarnih motoričkih stereotipija, kao i mogućim strukturalnim promenama kod osoba sa PMSt. Dalje, kako bi se otkrila problematika koja se javlja kod PMSt, naučnici su pokušali da je objasne i kroz promene neurohemijske prirode. Merene su koncentracije gama-aminobuterne kiseline (GABA), glutamata, glutamina, N-acetilspartata i holina u regijama koje povezuju prefrontalni lobus i bazalne ganglije. Dokazano je da neurotransmiteri imaju veliku ulogu u povezivanju i prenosu informacija između ova dva regiona (Harris et al., 2016). Autori su uz pomoć MR spektroskopije 7T jačine magnetnog polja (*magnetic resonance spectroscopy*) pratili nivoe neurotransmitera kod 18 dece sa PSMSt i rezultate upoređivali sa 24 dece iz grupe dece tipičnog razvoja, uzrasta od pet do 10 godina. Sagledavanjem rezultata primetili su da deca sa PSMSt imaju niže nivoe GABA u prednjem cingularnom korteksu i u korpusu strijatumu, odnosno delu bazalnih ganglija. U ostalim regionima i ostali neurotransmiteri nisu pokazali značajnu statističku razliku PSMSt grupe u odnosu na grupu dece tipičnog razvoja. Navodi se da su rezultati u prednjem cingularnom korteksu bili direktno povezani sa ozbiljnošću motoričkih stereotipija ( $p=.021$ ). Sagledavanjem ovog istraživanja prilazi se korak bliže uzroku problema primarnih motoričkih stereotipija. U tome je od pomoći i istraživanje iz 2022. godine (Dean et al., 2022), koje je za razliku od puteva prenosa signala ispitivalo samu funkciju malog mozga (cerebeluma). Pronađeno je da su zadnji deo i određeni regioni malog mozga koji su zaduženi za posturalnu ravnotežu, skradične pokrete očiju, koordinaciju i motoričku adaptaciju (Stoodley & Schmanhmann, 2010) deficitarni kod osoba sa PMSt (Dean et al., 2022), tj. da kod dece sa PMSt postoji smanjen volumen bele materije u

zadnjim regionima vermisa. Ove hipoteze potrebno je dodatno istražiti u cilju otkrivanja pravog uzroka, odnosno uzročnika, kako bi se vremenom pronašao i odgovarajući tretman za ovaj tip stereotipija. Istraživači se slažu u jednom – da koren problema primarnih motoričkih stereotipija nije u jednom centru i da za ovu vrstu poremećaja nije zadužen samo jedan region, već je problem mnogo kompleksniji i uključuje određene delove korteksa, puteve prenosa informacije, neurotransmitere i zapreminu.

### **Istraživanja primarnih motoričkih stereotipija**

Istraživanja o zastupljenosti primarnih motoričkih stereotipija su veoma oskudna. Podaci Singera (Singer, 2009) govore da u SAD kod oko 20% dece postoje uobičajene primarne motoričke stereotipije. Pod uobičajenim motoričkim stereotipijama podrazumeva se, na primer, uvrtanje kose, tapkanje olovkom, grickanje noktiju i sl. Kompleksiji oblici primarnih motoričkih stereotipija pojavljuju se otprilike kod 3–4% slučajeva (Singer, 2009). Oakley i saradnici (Oakley et al., 2015) sproveli su 2015. godine longitudinalnu studiju sa 49 ispitanika sa kompleksnim oblikom PMSt, kojom su potvrdili da su se kod 98% ispitanika PMSt pojavile pre treće godine. Svi ispitanici, osim jednog, i dalje su imali PMSt (ispitivani uzrast je bio od 6 do 20 godina), a 39% ispitanika potvrdilo je da je neko u porodici imao sličan problem. Novije rezultate istraživanja nije bilo moguće pronaći. Istraživanja se uglavnom svode na uzroke motoričkih stereotipija ili tretmane. Prema Valente i saradnicima (Valente et al., 2019) najlošiji rezultati motoričkog profila kod dece sa PMSt primećeni su na testovima za ravnotežu i manuelnu spretnost. Važno je napomenuti da su ispitivana deca predškolskog uzrasta, od treće do šeste godine. Autori su želeli da opišu neuropsihološki profil kod dece sa PMSt. Izuzeli su decu koja imaju dijagnoze intelektualne ometenosti ili poremećaj iz spektra autizma. Ispitivano je 26 dece sa PMSt, a kontrolnu grupu činilo je 27 dece tipične populacije. Rezultati za procenu stereotipija kod dece sa PMSt ukazuju na blage smetnje u svakodnevnom životu. Rezultat baterije testova za procenu kretanja kod ove grupe dece bio je za 15% niži u odnosu na kontrolnu grupu, i to najviše za podtestove ravnoteže i manuelne spretnosti. Deca koja su imala niže skorove na testu za procenu kretanja, takođe su imala niže skorove i u grupi testova za vizuo-motornu koordinaciju. Ovo istraživanje dovelo je do nekih novih saznanja u pogledu motoričkog profila dece sa PMSt i da je moguće da deca sa PMSt imaju nešto drugačiji fenotip motoričkog razvoja nego deca tipične populacije. Kako bi se nastavilo bavljenje ovom tematikom, potrebno je pre svega otkriti ovu decu. Dijagnostički kriterijum za ovu vrstu smetnje gotovo da i ne postoji. Ovu vrstu stereotipija teško je dijagnostikovati a da se prethodno ne otklone sve moguće dijagnoze, odnosno stanja u kojima se stereotipije javljaju kao sekundarne (udružene). Pretpostavka je da i kad se

roditelji jave usled zabrinutosti zbog stereotipija, nakon određenih testova (najčešće samo za autizam), koji su obično negativni, nemaju više potrebu da traže odgovor i puštaju da stereotipije „prođu” same. Upravo ovakvo jedno istraživanje sprovedeno je u Rimu, gde su, da bi se dijagnostikovale primarne motoričke stereotipije, prvo isključili sva ostala stanja uz pomoć testova i sastavili razvojni profil ove dece (Cardona et al., 2016). U istraživanje je uključeno 23 dece sa motoričkim stereotipijama koje traju duži vremenski period. Na osnovu specijalizovanih testova istraživači su isključili spektar autizma i druge poremećaje. Navode da su svi pacijenti pokazivali motoričke stereotipije u trajanju od šest do 77 meseci i da su se stereotipije kod ove dece pokazale kao blage, odnosno blage smetnje u svakodnevnom životu. Skala repetativnog ponašanja bila je pozitivna kod sve ispitivane dece, a sva deca imala su uredan kognitivni razvoj. Pored stereotipija, 22% dece pokazivalo je probleme u ponašanju i deficitu pažnje. Na skali koja procenjuje spektar autizma četvero je odgovaralo simptomima umerenog autizma, četvero je odgovaralo simptomima blagog autizma, dok 15 dece nije pokazivalo znake autizma. Prema autorima, kod 65% dece iz ovog uzorka dijagnostikovano je da imaju primarne motoričke stereotipije. Zanimljivo istraživanje o primarnim motoričkim stereotipijama govori o inhibiciji kontrole kod dece sa PMSt (Mirabella et al., 2020). Naime, ukoliko se motoričke stereotipije posmatraju kao izolovane, može se smatrati da postoji oštećenje neke vrste inhibicije. Reaktivna inhibicija ima za zadatak da zaustavi odgovor kada se dobije određena instrukcija za zaustavljanje, dok proaktivna inhibicija ima zadatak da oblikuje motoričke instrukcije prema određenom kontekstu. Ispitujući 20 dece (uzrasta od šest do deset godina) sa PMSt i upoređujući ih sa 20 dece bez PMSt došlo se do zaključka da je reaktivna inhibicija kod dece sa PMSt značajno narušena. Prilikom testiranja ispitanici su imali dva zadatka koja su morali da odrade koristeći dominantnu ruku. Jedan zadatak je merio vreme reakcije od davanja instrukcije do izvršavanja signala (*go*), dok je drugi merio vreme zaustavljanja od vremena davanja signala (*stop*). Autori su procenili da je inhibitorna kontrola kod dece sa PMSt oštećena, za razliku od dece bez stereotipija, te da je reaktivna inhibicija u deficitu, dok deca sa PMSt imaju očuvanu proaktivnu inhibiciju. U ovom istraživanju otkriveno je da postoji određeni deficit u inhibiciji kod PMSt, ali se ne može sa sigurnošću tvrditi da je on glavni uzrok PMSt, jer je sam mehanizam inhibicije veoma složen. Pretraživanjem baza podataka i istraživanja, potvrđena je sumnja o broju sprovedenih istraživanja koja su se bavila tretmanom PMSt. U prethodnih deset godina pronađena su samo dva takva istraživanja. Usled specifičnosti i manjka istraživanja, u ovom radu biće navedeni i njihovi metodološki postupci. U onlajn bazi kliničkih istraživanja (ClinicalTrials.gov) nije pronađeno nijedno aktivno ili završeno istraživanje koje se direktno tiče PMSt ili mogućih tretmana. Pronađeno je jedno starije istraživanje, iz 2006. godine, o mogućoj



bihevioralnoj terapiji (Miller et al., 2006), u kojem su učestvovala deca uzrasta od šest do 14 godina. Uzorak je činilo deset dečaka i dve devojčice. Svi su imali dijagnozu fiziološkog stereotipnog poremećaja kretanja. Kriterijumi prema kojima su dijagnostikovani pripadaju današnjim primarnim motoričkim stereotipijama. Istraživanje je bilo podeljeno na sesije na kojima su istraživači vršili opservaciju, a roditelji su između sesija sprovodili tretman prema instrukcijama istraživača. Vrednosti na početku tretmana i nakon kasnijeg telefonskog praćenja pokazuju značajno poboljšanje, odnosno pad prosečnih rezultata na skalama za merenje ozbiljnosti stereotipija ( $p=.009$ ). U ovom istraživanju autori su koristili i skalu koja meri motivaciju kod dece i navode da postoji značajna korelacija između ova dva faktora. Samim tim zaključuje se da neka vrsta bihevioralne terapije, uz neizostavnu motivaciju deteta, ali i samih terapeuta i roditelja, doprinosi poboljšanju ili, u ovom slučaju, smanjenju motoričkih stereotipija. Dva istraživanja govore o tretmanima koji su sprovodili roditelji u kućnim uslovima. U oba istraživanja koristila se metoda snimljenih uputstava na DVD-u za roditelje. U istraživanju iz 2017. godine (Specht et al., 2017) učestvovalo je 54 dece, koja su završila celokupno istraživanje, odnosno procene nakon mesec dana, dva i tri meseca. Uzrast ispitanika kretao se od sedam do 17 godina. Tretman se sastojao prvo od podizanja svesti dece kada se jave primarne motoričke stereotipije, a zatim od njihovog suzbijanja. Roditelji su imali zadatak i da beleže kada se javljaju stereotipije, u koje vreme, prilikom kojih situacija. Kao rezultat ovog istraživanja autori navode da je došlo do smanjenja PMSt za oko 20%. Najviše dostignuća primećeno je kod dece uzrasta sedam i osam godina, za razliku od dece starijeg uzrasta. Ova dostignuća bila su vidljiva nakon testiranja koje se sprovodilo mesec dana od početka tretmana. Autori navode da nije bilo značajne statističke razlike nakon dva i nakon tri meseca od tretmana. Slično istraživanje, prema istim principima, sprovedli su Singer i saradnici (Singer et al., 2018). Kako navode autori, bihevioralna terapija kod kuće, uz asistenciju roditelja, a koja je ispraćena telefonskim pozivom terapeuta, predstavlja uspešan metod za smanjenje PMSt kod dece. I ovo istraživanje došlo je do istih rezultata kao i istraživanje sprovedeno godinu ranije. Pored bihevioralne terapije, potrebno je istražiti i druge mogućnosti rada sa ovom decom. Za sada vrste tretmana ograničene su i fokusirane samo na jedno područje.

### **Zaključak**

Pregledom dostupne literature primećuje se da ovo polje nije dovoljno istraženo, pogotovo na našim prostorima. Primarne motoričke stereotipije javljaju se kod dece urednog razvoja. Ispoljavaju se igrom sa prstima ili igračkom, pokretima glave, a mogu da se ispolje i pokretima celog tela. Uzrok nastanka nije još uvek poznat i postoji nekoliko teorija o tome šta utiče na

nastanak primarnih motoričkih stereotipija i na njihovo ispoljavanje. Autori se slažu da problem PMSt nije u anatomskim strukturama i da se verovatno uzrok nalazi u putevima prenosa signala. Postoji i nedoumica kada se javljaju PMSt. Primećeno je da su to uglavnom periodi uzbuđenja, stresa ili izrazite sreće. Deca sa ovom vrstom smetnje ostaju u senci i često ne dobijaju adekvatan tretman. Uvidom u dostupna istraživanja pokazalo se da su bihevioralni tretmani uspešni u pogledu smanjivanja ove vrste stereotipija, a navodi se i da su roditelji značajni učesnici u tretmanu. Može se zaključiti da ova vrsta stereotipija zaslužuje više pažnje i istraživanja kako bi se dobile nove informacije u vezi sa ovom smetnjom. Sagledana istraživanja mogu pomoći u identifikovanju ovih osoba i u načinu rada sa njima. Preporuka za buduća istraživanja je da se, pre svega, pronade odgovarajući dijagnostički materijal kako bi se otkrila deca sa primarnim motoričkim stereotipijama. Na osnovu toga praksa specijalne edukacije i rehabilitacije moći će da odredi motorički profil i u skladu sa tim pronade odgovarajući tretman.

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## Primary motor stereotypies

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*Introduction.* Motor stereotypies are almost always associated with developmental disorders, such as autism spectrum disorder, intellectual disability, etc. Although they most often occur together with sensory deprivation, they are also recognized as isolated. They occur in children with normal, typical development. These isolated stereotypies are called primary motor stereotypies. *Aim.* The aim of this paper is to provide a better insight into the specificity of this disorder and to show how it affects people (children), as well as to provide insight into the cause of primary motor stereotypies and possible approaches to treatment. *Method.* Descriptive method with a review of the literature published in the previous ten years, with a critical review. Inclusion and exclusion criteria were defined. Research on the cause of primary motor stereotypies, primary motor stereotypies themselves, and the treatment of primary motor stereotypies was reviewed. *Results.* Primary motor stereotypies in children with typical development negatively affect daily activities and disrupt social development, which leads to social stigmatization. Many interventions have been found in children with autism spectrum disorder (stereotypies are one of the main features of autism), but there is very little published research on interventions and treatments for primary motor stereotypies. The root of the problem of primary motor stereotypies is complex and involves certain parts of the cortex and pathways of information transmission. The problem is also the identification of this problem, which further affects the interventions themselves. *Conclusion.* The cause of primary motor stereotypies is still unknown, and behavioral therapies are the possible treatments for primary motor stereotypies. Based on the available research, there is not much literature on this topic, which provides us with exceptional potential and space for discovering new information and knowledge. With new information, there are many ways to work with these people.

*Keywords:* primary motor stereotypies, children and adolescents

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