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- FORMATIVE ASSESSMENT AND STUDENTS' ATTENTION
- EARLY DIAGNOSIS OF AUTISM SPECTRUM DISORDER
- LEXICON AND HEARING IMPAIRED CHILDREN
- OSOBE SA OŠTEĆENJEM VIDA I POLNO PRENOSIVE BOLESTI
- STAVOVI UČENIKA PREMA INKLUZIVNOM OBRAZOVANJU

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Formative assessment in Physical Education and its relation to the level of attention of primary school children

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Introduction. The aim of this study was to analyse the relationship between primary school students' perception of the Physical Education teacher's formative assessment practices in terms of their level of attention. *Methods*. In this descriptive cross-sectional study that included 172 students, attention was assessed through the Perception of Similarities and Differences test and the teacher's formative assessment practices through the teacher performance questionnaire associated with formative assessment practices whose scores were validated. *Results*. With regard to gender, Student's *t*-test showed no significant differences except for the number of errors in favour of males ($p < .05$). In relation to the level of attention, we detected statistically significant differences in metacognitive ($p < .05$) and retrospective ($p < .05$) formative assessment in favour of those with a lower level of attention. However, the linear regression test showed a negative association between attention and metacognitive formative assessment ($R^2 = .28$). *Conclusion*. It can be concluded that a lower level of attention seems to be associated with a higher perception of primary school students of metacognitive assessment practice associated with internal information processing and with retroactive assessment practice, which is related to the anticipation of learning difficulties. Being aware of the importance of formative assessment in the teaching-learning process, it would be advisable to involve the whole educational community in order to arouse interest among teachers, as it provides essential knowledge in their professional work, contributing to the improvement of academic development as well as to the comprehensive training of all schoolchildren.

Keywords: attention, formative assessment, schoolchildren, Physical Education, education

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Introduction

Evaluation has historically been understood as an ideal instrument of selection and control (Guzmán-Simón et al., 2020). Initially, it was used to try to implement forms of individual control and its extension to forms of social control. In the beginning, it appeared as an activity and technique called the exam, which aimed to assess the knowledge possessed by students after a given teaching (López-Lozano et al., 2018; Rosales, 2014).

Later, in the 20th century, educational assessment was born and developed under the protection of Experimental Psychology. It is conceived as a systematic activity integrated within the educational process with the purpose to optimise it. It aims to provide maximum information to improve this process, readjusting objectives, critically reviewing plans, programmes, methods and resources, and providing maximum help and guidance to students (Talanquer, 2015). Therefore, educational assessments should be accompanied by a school purpose that emphasises the development of human capabilities rather than sorting and selecting (Hortigüela-Alcalá et al., 2016). Making good assessments based on quality feedback, can enhance the teaching/learning process, resulting not only in an increase in grades but also in lasting learning for students (Azpilicueta Amorín, 2020).

Depending on the content to be assessed, different types of assessment can be used (depending on the technique, reference, fields of application or the subject being assessed). The main purpose of assessment from a holistic viewpoint is to improve students' learning and make them participants in their own assessment process through different techniques developed throughout the literature review. For this reason, there is no ideal type of evaluation, but rather, depending on the moment and the agent, one type or another should be used (Soria et al., 2022).

However, among the existing different types of assessment, formative assessment has been identified as the most suitable to be carried out within the teaching and learning processes with the purpose of opening up processes of reflection on them and overcoming and/or avoiding them; learning to be competent in life. To this end, assessment instruments that are coherent with the system itself and integrated into the teaching and learning processes should be used (Herranz & López, 2017). The main characteristics of these formative assessment proposals are (1) that they are at the service of those being trained and of educational practice; (2) that they are democratic, as they require the participation of all subjects who are affected by the educational event; (3) that they train, motivate and guide the learning process; and (4) that they are transparent and guarantee knowledge of the criteria used (Córdoba Jiménez et al., 2018).

Recently, Physical Education (PE) teachers have been identified as using formative assessment systems given the motor nature of the area (Carrillo-

López & Hortigüela-Alcalá, 2022). I.e., in a certain sense, the use of summative assessment aimed at the motor area brings with it a certain incoherence, since one of the hallmarks of a formative assessment model is self-regulation during the development of the teaching and learning process (Carrillo-López, 2022). Moreover, in the motor area, it is more coherent to observe how each student usually behaves than to try to find out what they are capable of doing in a motor test at the end of the process (López-Pastor et al., 2020).

In this sense, PE teachers consider that the fundamental advantage of formative assessment is that students become aware and improve their learning process (Molina Soria et al., 2020). Specifically, in a case study, Córdoba Jiménez et al. (2018) indicate how teachers move from a summative and qualitative assessment model, the result of their experience as students and their initial training, to a model based on formative assessment and reflective practice. This model of assessment, at the service of student learning and its consequences in society, is presented as a new challenge consistent with 21st century education. Once the challenge of offering education for all at the end of the 20th century has been overcome, strategies must be implemented to offer quality education for all, and more specifically to ensure that Spanish pupils are on a par with the European average in the face of a future that looks very competitive.

Likewise, the results of the study provided by González et al. (2021) indicate that there is a transfer between the assessment experiences lived during the initial training of PE teachers and the application of these assessment systems in their first years of work. However, on other occasions, the implementation of these assessment systems is the result of the experience acquired in the in-service training carried out by teachers.

Based on these characteristics, it is clear that formative assessment is at least a two-way affair: the sender and the receiver. However, it is prescriptive to point out that when it is learning that is being assessed, the feedback to the learner from the analysis of the results does not always guarantee the modification of their learning process as it requires the cognitive processes that regulate this information processing (Kluger & DeNisi, 1996; Kulhavi, 1977; Janković-Nikolić, 2020).

One of the main cognitive functions that has aroused great interest among scientists, educators and sports coaches has been the analysis of attention, as it is directly related to mechanisms such as perception, memory, executive functioning and processes such as learning (Rosa-Guillamón et al., 2019). Attention has been defined as the ability to generate, direct and maintain an adequate state of activation for correct information processing (Rueda et al., 2015). It has been described that there is a large number of students diagnosed with Attention Deficit Hyperactivity Disorder or many "absent-minded" students in classrooms (Gamo, 2017). In this line of argument, it is worth asking: *what type of formative assessment do students perceive according to their attentional*

capacity, and will those who are more attentive perceive greater formative assessment from the teacher?

Based on these precedents, the main objective of this study was to analyse the relationship between the student's perceptions of the formative assessment practices of Physical Education teachers according to their level of attention. This main objective was broken down into four secondary objectives:

I. To assess the students' perceptions of the formative assessment practices of Physical Education teachers and their level of attention, taking into account gender (*male vs. female*).
II. To analyse the relationship between the students' perceptions of the formative assessment practices of the Physical Education teacher and the different types of attention (*Inhibitory control, Attentional efficiency, and Global Attention Index*).
III. To determine the relationship between the students' perceptions of the formative assessment practices of the Physical Education teacher according to their level of attention (*higher vs. lower*).
IV. To establish the predictive value of the formative assessment practices of the Physical Education teacher on the level of students' attention.

Methods

Participants

A total of 172 schoolchildren (93 boys and 79 girls) belonging to the Autonomous Community of the Canary Islands (South of Tenerife), aged 10-13 years ($M \pm SD$ = 11.40 ± 1.68 years) participated in this empirical descriptive and cross-sectional *ex post facto* study. Sampling was non-probabilistic, chosen non-randomly and by convenience. A public school was selected in the district of Arona. This centre had a medium socioeconomic level. In previous meetings with the school representative, she was informed of the study protocol, and informed consent was requested from the parents or legal guardians so that the schoolchildren could participate. Inclusion criteria were 10–12 years of age and regular school attendance (90% of classes during the months of the current academic year). Exclusion criteria included not meeting any of the aforementioned inclusion criteria, incorrect or incomplete completion of any of the tests, having a medical contraindication that prevented normal activity practice, or being in the process of dietary or food restriction.

Variables and instruments

Criterion variable

The questionnaire: teaching performance associated with formative assessment practices (Cerón Urzua et al., 2020) was used to assess the student's perception of the teacher's formative assessment practices. This instrument is composed of 21 items grouped into six sub-scales. Each sub-scale refers to formative assessment associated with grading (summative) (items 1-3), proactive formative assessment (items 4-6), interactive formative assessment (items 7-10), metacognitive formative assessment (items 11-14), retroactive formative assessment (items 15-18) and adjusted formative assessment (items 19-21). The overall scale score is obtained from the average score obtained for each subscale. The higher the score, the higher the teacher's level of formative assessment practices from students' perspective. The response alternatives were given through a Likert-type scale with: 1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Frequently, and 5 = Very Frequently. The estimated response time was between 10 to 15 minutes. The psychometric analyses carried out on this formative assessment questionnaire at classroom level corroborated the degree of reliability of this instrument, which obtained per se scores making this questionnaire a valid (RMR = .04; RMSEA = 0.041) and reliable instrument (α = .93).

Specifically, in this research, internal consistency indices (Cronbach's α) of .88 (summative), .79 (proactive), .84 (interactive), .89 (metacognitive), .91 (retrospective) and .89 (adjusted) were obtained in the following dimensions, which are considered adequate (Cumming & Calin-Jageman, 2016), as has been done in another study (Carrillo-López & Hortigüela-Alcalá, 2022).

Predictor variable

Students' Selective attention was estimated using the thirteenth version of Thurstone & Yela's (2019) Test of Perception of Similarities and Differences (Faces-R). This test measures the ability to perceive, with the highest processing speed, similarities, differences, and partially ordered stimulus patterns. It is used for subjects aged six to 18 years. It consists of 60 graphic items, each comprising three schematic drawings of faces with the mouth, eyebrows and hair represented with elementary strokes. In each set of three faces, two are the same, and the task is to determine which is different and cross it out.

This test has been widely used in education to assess perceptual and attentional aspects in schoolchildren with and without attention and hyperactivity problems (Rosa-Guillamón et al., 2019). The strategies adopted to discriminate between the different items are inhibited when performing the test. When the subject finds a different face, they must cross it out and continue with the rest of the sets. There is no order in which to complete the test. The subject has a total time of three minutes. The score is obtained directly from the total number of correct answers, the maximum score being 60 points.

Test-retest reliability studies conducted by Crespo-Eguílaz et al. (2006) with individuals aged six years and older showed a reliability coefficient of .95. Taking these aspects into account, the following variables were considered in this study: (1) hits (A): total number of correct responses; (2) errors (E): number of incorrect responses; (3) omissions (O): figures not indicated in the task; (4) Inhibitory Control (IC): ratio of the difference between correct and incorrect responses, divided by the sum of correct and incorrect x 100 ((A - E / A + E) x 100); (5) Attentional efficiency (AE): the number of correct answers divided by the number of correct answers plus errors plus omissions x 100 ((A / A + E + O) x 100).

In addition, based on the indicative criteria of the CARAS-R test (Thurstone & Yela, 2019), the enneatypes were calculated and understood as a global index of attention. The enneatypes were also classified into: *lower* v. *higher attention*. Taking into account that the enneatypes are a typical scale whose mean is five and standard deviation is two, scores between enneatypes three and seven would reflect performance within the normal range. In this sense, the variable (6) level of attention was created: *lower attention*: (enneatypes; ≤ 4 points) and *higher attention* (enneatypes; ≥ 5 points).

Procedure

This study was carried out at the end of the academic year 2020/2021. School heads and representatives of parents' associations were informed of the purpose and protocol of the research at a meeting in September. The working team consisted of a principal researcher (PhD in Education with special mention in Physical Education and physical education teacher) and two collaborating doctors. A theoretical session was held with each study group in order for the participants to understand the test questionnaire. The principal researcher administered the test in the natural class groups following the given protocol, i.e., prior to the completion of the test, the questionnaire was explained again and all doubts were resolved so that all students understood all items perfectly. All questionnaires were administered during the first three school sessions in order to avoid the possible fatigue of the school day and to interrupt the school dynamics as little as possible.

The teacher's training to apply formative assessment was at an advanced level in research, innovation, evaluation and quality of educational and/or training centres, people, institutions, services, and organisations, both in formal and non-formal contexts. In this sense, in order to obtain more precise data, a formative assessment was carried out during the course of the school year, which implies understanding that the students have a full academic year to develop the learning of the assessment criteria. In this way, up-to-date and valuable information is obtained on the students' level of achievement, as it enables learning difficulties to be detected and redirected, and the teaching process to be improved.

It should be noted that formative assessment was carried out in all its dimensions by the teacher who taught Physical Education throughout the course. The students answered the questionnaires with this particular teacher in mind. That is, proactive

formative assessment (e.g., before working on an activity, written instructions were given with what was to be achieved in the task); interactive (e.g., when working on an activity, the teacher reviewed the work for immediate feedback); metacognitive (e.g., when formatively assessing by means of a formative assessment, the teacher gave the students feedback); and metacognitive (e.g., when formatively assessing by means of a formative assessment, the teacher gave the students feedback on their work). When students were evaluated formatively through open-ended questions or problem-solving, they were given the reason or the reason for the answer); retroactive (e.g., when answering incorrectly, the teacher helped them to find the correct answer through other questions that guided them to the solution); and finally, adjusted and associated with the grade (e.g., when a test was given, a brief note was written on the test itself explaining the main errors and difficulties).

The research was developed following the deontological standards recognized by the Declaration of Helsinki (2013 revision), following the recommendations of Good Clinical Practice of the EEC (document 111/3976/88 of July 1990) and the current Spanish legal regulations governing clinical research on humans (Royal Decree 561/1993 on clinical trials).

Statistical analysis

A descriptive analysis was performed and the normality of the study variables was analysed using the Kolmogorov-Smirnov test. The variables showed a normal distribution. The differential analysis on the scale of teachers' formative assessment practices according to students' gender (male vs. female) and attention (lower vs. higher) was carried out using the Student's *t*-test. Effect size was calculated using Cohen's *d* (0.20 = small, 0.50 = medium, and 0.80 = large effect) (Cumming & Calin-Jageman, 2016). Inferential analysis was carried out using an analysis of bivariate correlations between the study variables (Pearson's test). A linear regression analysis was also conducted to study the dependency relationship between attention and the students' perception of teachers' formative assessment. Statistical significance was set at a $p < .05$. Statistical analysis of the data was performed using Statistical Package for Social Science® software (v.30.0 by SPSS Inc., Chicago, Illinois, USA).

Results

When analysing the differences in the responses of the students' perception of teachers' formative assessment dimensions considering gender (Table 1), the Student's *t*-test showed no significant differences ($p > .05$). However, considering the attention variables, significant differences were found in the number of errors in favour of males (2.68 vs. 2.10, $t = 1.054$, $df = 144.002$, $p < .05$, $d = 0.32$).

Table 1

Basic descriptive data of the study sample according to gender

Variables	Males (n = 93) $M \pm SD$	Females (n = 79) $M \pm SD$	p	d
FA associated with the qualification (summative) (3-15)	9.49 ± 2.67	9.03 ± 2.69	.25	0.16
Proactive FA (3-15)	10.83 ± 2.73	11.35 ± 2.46	.19	0.17
Interactive FA (4-20)	14.67 ± 3.11	14.79 ± 3.40	.80	0.08
Metacognitive (4-20)	14.62 ± 3.12	13.97 ± 4.98	.21	0.17
Retroactive FA (4-20)	14.29 ± 3.01	14.57 ± 3.75	.60	0.10
Adjusted FA (3-20)	10.23 ± 2.96	10.08 ± 3.08	.75	0.09
Global index of FA (21-105)	74.17 ± 13.04	73.79 ± 12.32	.84	0.08
Number of successes (0-60)	36.84 ± 9.22	37.22 ± 10.66	.40	0.10
Number of errors (0-60)	2.68 ± 0.26	2.10 ± 0.30	.02*	0.32
Number of omissions (0-60)	20.30 ± 9.41	20.20 ± 9.97	.65	0.10
Inhibitory control (1-100)	87.01 ± 17.92	88.18 ± 15.03	.14	0.18
Attentional efficiency (1-100)	61.57 ± 15.29	62.39 ± 17.36	.53	0.10
Global Attention Index (1-9)	5.15 ± 2.21	5.28 ± 2.24	.97	0.02
Age (years)	10.21 ± 0.64	10.51 ± 0.48	.17	0.17

Note. FA – Formative assessment; $M \pm SD$ = Mean ± Standard Deviation; $^{*}p < .05$; calculated with Student's t-test; d = d of Cohen's d.

For the inferential analysis, a Pearson's r test was applied to analyse the possible correlation between the study variables. The analysis of bivariate correlations showed that higher values in the formative metacognitive assessment correlated with higher values in the number of omissions and lower values in the number of successes, attentional efficiency, and global attention index ($p_s < .05$).

Table 2

Bivariate correlations between students' perception of the PE teacher's formative assessment practices and attention

Variables	Hits	Errors	Omissions	Inhibitory control	Attentional efficiency	Global Attention Index
	r (p)	r (p)	r (p)	r (p)	r (p)	r (p)
FA associated with the qualification (summative)	-.05 (.55)	.02 (.76)	.02 (.78)	-.04 (.64)	-.04 (.61)	-.06 (.46)
Proactive FA	.10 (.23)	.07 (.38)	-.09 (.29)	-.12 (.37)	.09 (.24)	.08 (.33)
Interactive FA	.04 (.69)	.01 (.84)	-.04 (.37)	.07 (.47)	.06 (.44)	-.01 (.91)
Metacognitive FA	-.19 (.02)*	.10 (.76)	.18 (.03)*	-.41 (.59)	-.19 (.01)*	-.18 (.02)*
Retroactive FA	-.04 (.54)	.01 (.84)	.03 (.69)	.03 (.64)	-.04 (.54)	-.05 (.19)
Adjusted FA	-.09 (.81)	.01 (.16)	-.03 (.63)	-.07 (.34)	-.04 (.96)	-.09 (.27)
Global index of FA	-.05 (.51)	.05 (.48)	.01 (.84)	-.03 (.77)	-.04 (.59)	-.01 (.22)

Note. FA – Formative assessment; $^{*}p < .05$.

Table 3 shows the analysis of formative assessment practices according to the level of attention. Student's *t*-test detected statistically significant differences in metacognitive (14.85 vs. 13.64, $t = 1.927$, $df = 134.834$, $p < .05$, $d = .21$) and retrospective (15.30 vs. 14.30, $t = 2.150$, $df = 147.665$, $p < .05$, $d = .26$) formative assessment in favour of those with a lower level of attention.

Table 3

Differential data between students' perception of the PE teacher's formative assessment practices and level of attention

Variables	Lower Attention $n = 88$ $M \pm SD$	Higher Attention $n = 84$ $M \pm SD$	*p*	*d*
FA associated with the qualification (summative) (3-15).	9.63 ± 2.64	9.17 ± 2.88	.36	0.10
Proactive FA (3-15).	11.54 ± 2.55	11.62 ± 2.17	.80	0.08
Interactive FA (4-20).	15.15 ± 3.41	14.51 ± 3.26	.29	0.12
Metacognitive FA (4-20).	14.85 ± 3.64	13.64 ± 3.57	.04*	0.21
Retroactive FA (4-20).	15.60 ± 3.08	14.30 ± 3.48	.03*	0.26
Adjusted FA (3-20).	10.55 ± 2.72	9.87 ± 2.87	.19	0.16
Global index of FA (21-105).	77.29 ± 13.14	73.11 ± 11.26	.06	0.19

Note. FA – Formative assessment; $M \pm SD$ = Mean ± Standard Deviation; * $p < .05$; calculated with Student's *t*-test; *d* = d of Cohen's d.

Finally, in order to perform a predictive analysis of the students' perception of teachers' FA on the level of students' attention, a linear regression analysis test was carried out (see table 4). The model yielded $R^2 = .28$. The ANOVA yielded $F = 2.64$, $df1 = 6$, $df2 = 153.677$, $p = .03$, and it was found that lower values in attention were associated with higher values in metacognitive formative assessment ($\beta = -.19$, $p = .02$). These differences were maintained after adjusting the model for age and gender.

Table 4

Association between students' perception of the PE teacher's formative assessment practices and attention

Variables	Global Attention Index			
	β	*SE*	*t*	*p*
FA associated with the qualification (summative)	-.06	0.11	-0.06	.46
Proactive FA	.08	0.10	0.96	.33
Interactive FA	-.01	0.13	-0.11	.91
Metacognitive FA	-.19	0.14	-2.21	.02*
Retroactive FA	-.11	0.13	-1.31	.19
Adjusted FA	-.09	0.11	-1.10	.27
Global index of FA	-.11	0.49	-1.21	.22

Note. FA – Formative assessment; * $p < .05$.

Discussion

The aim of this study was to analyse the relationship between students' perception of the formative assessment practices of physical education teachers as a function of their level of attention. The main findings show that a lower level of students' attention is associated with their higher perception of teachers' metacognitive assessment practice, which is associated with internal information processing, and with teachers' retroactive assessment practice, which is related to the anticipation of learning difficulties.

Given that no studies have been found in the scientific literature on schoolchildren at any educational stage that analyse the association between these variables from the student's perception in the area of Physical Education, this prevents us from making direct comparisons. Likewise, the studies that analyse the relationship between formative assessment practices and student cognitive performance are very scarce in primary school students (Herranz & López, 2017; Molina Soria et al., 2020), hence the original focus of our study. In this sense, these results take on greater importance given the age of the sample, since these are transcendental stages of life where greater feedback in the construction of their learning can have an impact on students' academic achievement (Rosa-Guillamón et al., 2019).

Bearing in mind that Physical Education students have mostly stated that they always or almost always know what they are working on in class (Herranz & López, 2017), these results may be due to the fact that students who are less attentive have, in turn, more cognitive and motor difficulties in the subject of Physical Education and, therefore, the teacher has to provide them with more feedback, in order to maximise the students' academic achievement (Kulhavi, 1977). In this sense, assessing metacognition is not specifically measuring how much a student says or does, but helping them to become aware of their strategic procedures throughout the entire teaching and learning process, related to the specific knowledge they are appropriating (Hortigüela-Alcalá et al., 2015).

Retroactive assessment practices, on the other hand, are assessments that allow for the creation of learning opportunities after carrying out a punctual measurement at the end of a motor situation. In other words, carrying out reinforcement exercises after carrying out a punctual assessment to achieve that learning (Sáiz-Manzanares & Montero-García, 2015). Hence, it is possible that students with less attention experience greater academic difficulties, for which the teacher applies, in greater quantity, a formative assessment approach. This aspect was carried out since the assessment of the learning of students with and without difficulties is the curricular element that most influences how students learn, influencing the entire teaching-learning process (López-Pastor et al., 2019).

Furthermore, the results found in the study by Hernán et al. (2019) indicate that the application of formative assessment systems improves student involvement and participation in their own learning and favours the

regulation of the teaching and learning process. Students take the area of PE more seriously and teachers organise the teaching process better in search of assessment systems that are more coherent with their educational beliefs, especially valuing participation in ongoing training activities that provide them with useful and applicable experiences in their daily practice. This aspect is in line with Hortigüela-Alcalá et al. (2019), who indicate that the purpose of designing the formative assessment of any educational process is to guarantee the conditions, in the time frame in which it is carried out, for truly competent and conscious learning. Learning that, through the promotion of the autonomy and organisational capacity of the student, allows them to conceive their true contribution to the solution of tasks through enjoyment.

In fact, students feel that being able to participate in their assessment and marking processes always or almost always helps them to learn more, realise their mistakes, and know where they need to improve. All of this helps students to perceive that their learning and academic performance improves thanks to the use of these formative assessment systems (González et al., 2021; Herranz & López, 2017). For other students, formative assessment allows them to move towards "authentic assessment" systems, as they help to generate a strong relationship between theory and practice, as well as the acquisition of knowledge and competences that are more applicable in real work situations, especially to cater for diversity (Gallardo-Fuentes et al., 2020). However, Physical Education teachers highlight the workload involved, both for teachers and students, in the application of formative assessment (Molina Soria et al., 2020).

Along these lines, teachers report problems in coping with the diverse abilities of students in Primary Education (Japundža-Milisavljević et al., 2022), which may affect their personal satisfaction as teachers (Žunić-Pavlović & Pavlović, 2020). In this sense, creating a good school climate, and especially formative school programmes and practices in the domain of learning, can contribute to improving the adaptive characteristics of students with more difficulties (Đurišić & Žunić-Pavlović, 2021).

Conclusion, limitations and future prospects

Students with a lower level of attention perceive greater metacognitive and retroactive assessment practice in Physical Education classes (Students' perception of teachers' Formative metacognitive assessment is higher among students with a lower number of successes, more omissions and lower attentional efficacy). Also, boys have a higher number of errors than girls. Being aware of the importance of formative assessment in the teaching-learning process, it would be advisable to involve the whole educational community, in order to arouse interest among teachers, as it provides essential knowledge in their professional work, contributing to the improvement of academic development as well as to the comprehensive training of all schoolchildren.

The findings of this study should be interpreted with caution given the methodological limitations derived from its cross-sectional nature (causal relationships cannot be established), as well as the size of the sample.

A further limitation is that the questionnaire captures the students' views on the formative assessment applied by the teacher. This view is therefore subjective, since the nature of perception and one's perspective is always subjective and interpretative, and, therefore, not objective.

Aware of these limitations, for the future, we propose a longitudinal study with a larger sample, collecting the formative assessment applied by the teacher in an objective manner, the application of these formative assessment systems in other academic subjects in both primary and other educational stages. We also consider other variables such as the Physical Education teaching profile, teaching hours, initial training and continuing education of teachers, and the inclusion of other variables related to student perceptions.

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Formativno ocenjivanje u fizičkom vaspitanju i njegov odnos prema nivou pažnje dece osnovnoškolskog uzrasta

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Uvod: Cilj ovog istraživanja bio je da se analizira povezanost između percepcije učenika osnovnih škola o primeni formativnog ocenjivanja od strane nastavnika fizičkog vaspitanja i nivoa njihove pažnje. *Metode:* U ovoj deskriptivnoj transverzalnoj studiji, koja je obuhvatila 172 učenika, pažnja je procenjena testom Percepcija sličnosti i razlika, a praksa nastavnika u formativnom ocenjivanju putem upitnika o uspešnosti nastavnika koji je u vezi sa praksom formativnog ocenjivanja i čiji su rezultati validirani. *Rezultati:* S obzirom na pol, Studentov t-test nije pokazao značajne razlike, osim u broju grešaka u korist dečaka ($p < .05$). S obzirom na nivo pažnje, nađene su statistički značajne razlike u metakognitivnom ($p < .05$) i retrospektivnom ($p < .05$) formativnom ocenjivanju u korist onih sa nižim nivoom pažnje. Međutim, test linearne regresije pokazao je negativnu povezanost između pažnje i metakognitivnog formativnog ocenjivanja ($R^2 = .28$). *Zaključak:* Može se zaključiti da je niži nivo pažnje izgleda povezan sa povišenom percepcijom učenika osnovnih škola o primeni metakognitivnog ocenjivanja koje je povezano sa internom obradom informacija i sa primenom retroaktivnog ocenjivanja, što je povezano sa pretpostavljenim teškoćama u učenju. Imajući u vidu značaj formativnog ocenjivanja u procesu nastave i učenja, bilo bi preporučljivo da se uključi celokupna obrazovna zajednica, kako bi se podstaklo interesovanje nastavnika, jer ono pruža suštinska znanja u njihovom profesionalnom radu, doprinosi unapređenju akademskog razvoja i sveobuhvatnoj obuci sve dece školskog uzrasta.

Ključne reči: pažnja, formativno ocenjivanje, deca školskog uzrasta, fizičko vaspitanje, obrazovanje

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The importance of early diagnosis of autism spectrum disorder for adequate treatment and rehabilitation in Macedonia

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Introduction. Autism spectrum disorder (ASD) has unclear etiology and no known universal treatment, making it difficult to obtain an accurate and timely diagnosis. The evidence that highlights the importance of early diagnosis and treatment is growing. *Objective*: The research was done to evaluate the impact of early diagnosis and its significance, as well as the effectiveness in obtaining the diagnosis in the past years and decades in Macedonia. *Methods.* We carried out a comparative analysis of the collected data from 95 subjects divided into three groups: 30 parents, 35 special educators and rehabilitators, and 30 members of the professional team that participated in diagnosing autism, using an original research tool in the form of three questionnaires. The data from the study refers to a research study conducted in Macedonia. *Results.* Many prenatal, perinatal, and postnatal factors can lead to ASD. The most common symptoms include: lack of speech, delayed speech for a specific age, not responding to their name, no eye contact, weak social skills, hyper/hyposensitivity, and isolation. Autism more frequently occurs isolated than accompanied by other conditions. The mean age of diagnosis used to be 5.6, while, in recent years, it has been 4.2. Children wait around 2.1 years from the first symptoms to obtain a diagnosis. Parents visit fewer institutions in the process of obtaining an ASD diagnosis. There is still a significant number of misdiagnoses. *Conclusions.* Many factors play a role in the occurrence of autism. There are a number of symptoms that appear in most cases. In the last decade, autism has been diagnosed earlier than before. The approach and process of diagnosing autism in Macedonia have improved.

Keywords: autism spectrum disorder, early diagnosis, treatment, rehabilitation

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Introduction

Autism spectrum disorder (ASD) is still a condition of unknown etiology. As a result, it cannot be detected through genetic testing and medical tests. Therefore, greater emphasis is placed on the early detection of specific symptomatology.

Despite a significant increase in the number of ASD diagnoses over the past decades, which has indicated that this life-long neurodevelopmental disorder affects around 1–1.5% of the general population, making ASD a relatively common disorder, the topic of missed diagnoses and misdiagnoses continues to be an important issue (Schilbach, 2022).

Even with extensive research and greater public awareness, ASD has an unclear etiology and no known universal treatment, making it difficult to obtain an accurate and timely diagnosis. The evidence that highlights the importance of early diagnosis and treatment is growing, which can significantly improve the quality of life of people with ASD, their caregivers, and families.

Numerous studies show that children with ASD, thanks to early intervention, have positive outcomes in cognitive and adaptive functioning (Reichow et al., 2018; Remington et al., 2007; Zachor et al., 2007).

One study shows that children with ASD who were diagnosed earlier exhibited a larger reduction in the severity of social ASD symptoms within 1–2 years. Specifically, children diagnosed before 2.5 years of age were nearly three times more likely to exhibit considerable reductions in the severity of social symptoms compared to children diagnosed at older ages. Equivalent results were evident when examining boys and girls, suggesting that boys and girls benefit similarly from early diagnosis. These findings reveal that ASD diagnosis before the age of 2.5 is associated with considerable improvement in social symptoms. Greater brain plasticity and behavioral flexibility enable younger children to benefit more from ASD interventions, even in community settings with heterogeneous services. This motivates further prioritization of early ASD screening (Gabbay-Dizdar et al., 2021).

Through early diagnosis, parents of autistic children can learn how to help their child progress mentally, emotionally, and physically during developmental stages with the help of professionals. Finally, the discovery of ASD and the early handling of the situation also benefit the relationship between parents. Exhaustive care for an autistic child can be a daily challenge for them, but with early diagnosis and intervention, parents can prepare emotionally and mentally to deal with specific situations.

In Macedonia, only physicians (psychiatrists and pediatricians) are allowed to diagnose autism officially. There is a lack of knowledge on ASD among professionals involved in working with children with ASD and a lack of standardized protocols for early detection, diagnosis, and assessment tools. The precarious use of international classifications and diagnostic tools results in low

and late detection of autism. There is still no national strategy for ASD in the country (Trajkovski, 2017).

In Macedonia, this particular kind of research has not been done so far. This topic has importance for future diagnostic practices leading to earlier detection and timely and accurate diagnosis. It is an example of the ASD recognition state from a sample in Macedonia and for further comparison with practices of this kind in the world.

The aim of the research was to examine the impact of early diagnosis and its significance for successful treatment of autistic symptoms, as well as the effectiveness in obtaining the diagnosis in the past years and decades in Macedonia.

Methods

Sample

The research sample included 95 participants divided into three groups: 30 parents of children with ASD aged three to 24 years at the time of the research, 35 special educators and rehabilitators, and 30 members of the professional team that participated in diagnosing ASD (psychologist, special educator and rehabilitator, pediatrician, family doctor, speech therapist, psychiatrist, neurologist, teacher, specialist for preschool vaccination). Parental consent was obtained for the information required for the research.

The research started on 30th July 2021 and was completed on 27th October 2021. It was conducted on the territory of Macedonia, in public and private institutions, rehabilitation centers, hospitals, schools, day care centers, and online groups.

Instruments

An original research tool was created for the purpose of this research in the form of three questionnaires intended for parents who have a child with ASD, special educators and rehabilitators, and the team that participated in early detection and diagnosis in children with ASD. Each questionnaire contained 7–28 questions based on the research needs and the information we could obtain from each category of participants.

In the questionnaire intended for parents who have a child with ASD, the questions covered the parent and child's age, gender, prenatal, perinatal, and postnatal complications, when and which symptoms were noticed, how many institutions the parents visited before an accurate diagnosis, age of diagnosis, and previously made misdiagnoses.

The questionnaire intended for special educators and rehabilitators detailed the symptoms in children with ASD.

The questionnaire intended for the team participating in the detection and diagnosis of people with ASD included questions about the participant's profession,

the most common age of ASD diagnosis, which diagnostic methods and tools they most often used, the occurrence of ASD as an isolated case or with associated disorders, how often parents came with an already made diagnosis to confirm or reconsider it, and the most commonly observed symptoms.

Statistics

The data obtained from the research were grouped, tabulated, and graphically processed in the Microsoft Office Excel 2016 program. The data was processed with the online Statistical Calculator program. We used descriptive and inferential percentage displays of the given categories of answers, the Chi-squared test, and linear correlation with Pearson's coefficient. Significance was determined at the level of $p < 0.05$.

Results

The results show the factors that can lead to ASD, clinical features and comorbidity states that may occur, the age at which ASD occurs most frequently, the age of diagnosis, proper diagnosis, most commonly used diagnostic tests and procedures, and institutions parents often refer to.

According to the data obtained from the responses of parents who have a child with autism, there was a significant difference in relation to gender. ASD was more common in boys. There were 23 boys with a percentage representation of 76.7%, while in seven girls, the percentage representation was 23.3%. The ratio of male versus female was 3:1.

Table 1 shows significant risk factors according to the answers of parents who have a child with ASD.

Table 1

Risk factors associated with ASD

Risk factors	%
Genetic diseases	1.3
Mother's age > 35 years	7.7
Previous miscarriage	6.4
Paternal illnesses	1.3
Illnesses/infections during pregnancy	8.9
Medications during pregnancy	12.8
Prenatal complications	14.1
Perinatal complications	7.7
Cesarian section	15.4
Incubator/oxygen	3.9
Preterm labor	3.9
Low birth weight	5.1
Infections, diseases or injuries in the first years of a child's life	11.5

The prenatal, perinatal, and postnatal factors are thoroughly specified below.

Prenatal complications listed by parents included: antepartum hemorrhage 18.1%, diabetes 18.1%, preeclampsia 9.1%, stress 9.1%, subchorionic hematoma 9.1%, hydronephrosis 9.1%, low umbilical cord blood flow 9.1%, infection 9.1%, and prolonged leakage of amniotic fluid after amniocentesis 9.1%.

Perinatal complications listed by parents included: premature delivery 30%, oligohydramnios 20%, breech fetal position 10%, post-term pregnancy 10%, asphyxia 10%, placental abruption 10%, and failure to progress 10%.

Infections, diseases, poisoning, and physical injuries listed by the parents in the first years of the child's life included: infections 45.5%, injuries 27.2%, vaccine 18.2%, and febrile condition 9.1%.

Table 2

Comparative statistics of the most common symptoms according to the three groups of participants

Symptoms	fo	ft	fo-ft	$(fo-ft)^2$	$(fo-ft)^2/ft$
Absence of speech, late or delayed speech for a specific age	71	59	12	144.00	2.44
Not responding to their name	59	59	0	0.00	0.00
No eye contact	63	59	4	16.00	0.27
Poor social skills	60	59	1	1.00	0.02
Hyper/hyposensitivity	52	59	-7	49.00	0.83
Isolation	49	59	-10	100.00	1.69
Total	354				5.25
Chi square = 5.25		$p > .05$		$df = 5$	

Comparative statistics of the most common symptoms according to the three groups of participants showed no statistically significant difference in participants' answers at the level of significance of .05 (Chi-square = 5.25, $p > .05$, $df = 5$) (see Table 2).

Comparative analysis according to the results of parents and the professional team showed that primary ASD occurred in 57% of the participants. The remaining 43% had a secondary form of ASD with the following most common comorbidities: epilepsy 11%, attention deficit disorder (ADD) 11%, cerebral palsy (CP) 11%, intellectual disability (ID) 5%, and delayed psychomotor development 5%.

The team that participated in the detection and diagnosis of autism stated that the frequency of parents coming to confirm or reconsider the diagnosis already established elsewhere was: very common 30%, common 20%, not very common 50% (Table 3).

Table 3

How often parents come to confirm or reconsider an already established diagnosis

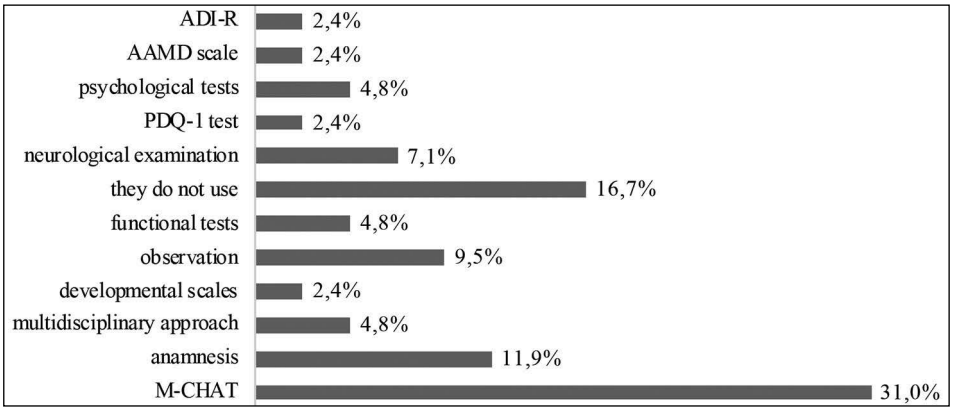
Claims of the participants	f	ft	fo-ft	$(fo-ft)^2$	$(fo-ft)^2/ft$
Very common	9	10	-1	1.00	0.10
Common	6	10	-4	16.00	1.60
Not very common	15	10	5	25.00	2.50
Total	30				4.20
Chi square = 4.20		$p > .05$		$df = 2$	

There was no statistically significant difference in participants' answers to the question *How often parents come to determine or reconsider an already established diagnosis* (Chi-square = 4.20, $p > .05$, $df = 2$).

Professionals participating in autism detection and diagnosis cited the diagnostic tests and procedures they used most often, and their responses are shown in Chart 1.

Chart 1

Most used diagnostic tests and procedures



Comparative age statistics of diagnosis according to the views of the parents and the professional team showed no statistically significant difference in participants' answers ($r = .43$, $p > .05$, df = 6) (Table 4).

Table 4

Comparative age statistics of diagnosis according to the views of the parents and the professional team

Claims of the participants	Parents	Professionals			
Age	X	У	x^2	$У^2$	XxУ
1 year	0	5	0	25	0
2 years	4	6	16	36	24
3 years	8	10	64	100	80
4 years	4	7	16	49	28
5 years	3	2	9	4	6
6 years	4	0	16	0	0
7 years	6	0	36	0	0
8 years	1	0	1	0	0
Total	30	30	158	189	138
$r = .43$		$p > .05$		$df = 6$	

A comparative analysis of the age of diagnosis was performed. Children with ASD were divided into two categories according to the year of birth: 1997–2010 and 2011–2021. In the group of children born from 1997–2010, the age of diagnosis was: seven years 20%, six years 20%, five years 20%, four years 20%, three years 13.3%, and two years 6.7%. The average age of ASD diagnosis in the first group was 5.1 years.

In the group of children born from 2011–2021, the age of diagnosis was: three years 40%, two years 20%, seven years 20%, four years 6.7%, six years 6.7%, and eight years 6.7%. The average age of ASD diagnosis in the second group was 4.2 years (Table 5).

Table 5

Comparative age statistics of diagnosis

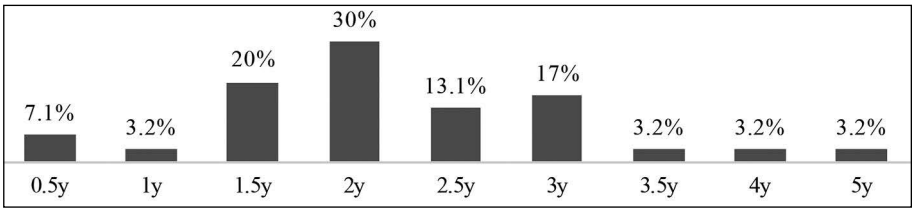
Year	1997–2010	2011–2021			
Children's age	X	У	x^2	$У^2$	XxУ
2 years	1	3	1	9	3
3 years	2	6	4	36	12
4 years	3	1	9	1	3
5 years	3	0	9	0	0
6 years	3	1	9	1	3
7 years	3	3	9	9	9
8 years	0	1	0	1	0
Total	15	15	41	57	30
$r = -.15$		$p > .05$		$df = 5$	

With regard to the comparative age statistics of diagnosis, we did not find a statistically significant difference between the two variables at the level of significance of .05 ($r = -.15$, $p > .05$, $df = 5$).

According to parents, the first symptoms were most frequently noticed at: two years 30%, one and a half years 20%, three years 17%, and two and a half years 13.1% (Chart 2). The mean value of the first observed symptoms was 2.2 years.

Chart 2

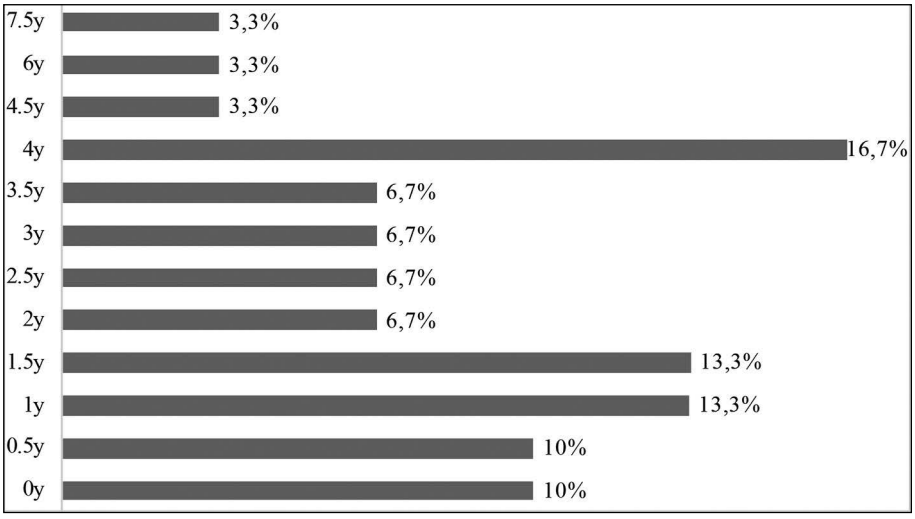
Age of the child at the first noticed symptoms



The time frame from the first noticed symptoms to the diagnosis, according to data obtained from parents of children with ASD, is shown in Chart 3. The average value of the given data indicates that 2.1 years was the waiting period from the onset of symptoms to the diagnosis.

Chart 3

Time frame from the first symptoms to the diagnosis of ASD



In relation to the process of obtaining the ASD diagnosis for children born from 1997–2010, the number of specialized institutions parents visited was: five and more than five 47%, two 27%, three 13%, one 13%. While for children born from 2011–2021, the number of specialized institutions parents visited was: two 33%, three 27%, five and more than five 27%, one 13%.

Table 6

Comparative statistics on how many institutions were visited before the diagnosis of children born from 1997–2010 and 2011–2021

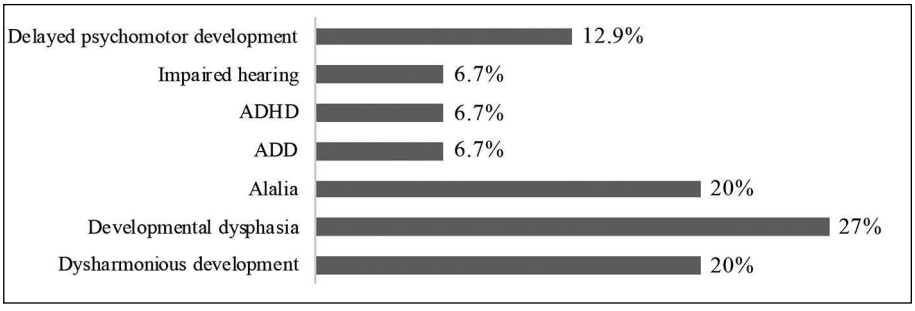
Claims of the participants	fo	ft	fo-ft	$(fo-ft)^2$	$(fo-ft)^2/ft$
A	2	0.6	1.4	1.96	3.27
B	2	0.6	1.4	1.96	3.27
C	4	4.5	-0.5	0.25	0.06
D	5	4.5	0.5	0.25	0.06
E	2	3	-1	1	0.33
F	4	3	1	1	0.33
G	7	5.5	1.5	2.25	0.41
H	4	5.5	-1.5	2.25	0.41
Total	30	27.2	2.8	10.92	8.13
Chi square = 8.13		$p < .01$		$df = 2$	

Comparative statistics on how many institutions were visited before the diagnosis of children born from 1997–2010 and 2011–2021 showed a statistically significant difference at the level of significance of .01 (Chi-square = 8.13, $p < .01$, $df = 2$). The results show that the attendance of several institutions in the period from 1997–2010 was higher compared to the period from 2011–2021 (Table 6).

According to data obtained from parents, 60% of children got a correct initial diagnosis, while the initial misdiagnosis was made in 40% of the children. Initial misdiagnoses included: developmental dysphasia 27%, alalia 20%, and disharmonious development 20% (Chart 4).

Chart 4

Misdiagnosis before the diagnosis ASD



Discussion

According to our research, ASD is more common in males in the ratio of 3:1, and the prevalence of ASD with other comorbidities is frequent (43%). The most common comorbidities included: epilepsy, ADD, CP, ID, and delayed

psychomotor development. Our results confirm the findings of Lai et al. (2014) that autism affects more male than female individuals and that comorbidity is common (> 70% have concurrent conditions).

Many risk factors were found to affect the emergence of ASD, which most often occur together. The most common factors that can lead to ASD include: cesarean section, prenatal complications (antepartum hemorrhage, diabetes, preeclampsia, stress, subchorionic hematoma, hydronephrosis, low umbilical cord blood flow, infection, prolonged leakage of amniotic fluid after amniocentesis), medications during pregnancy, infections, diseases or injuries in the first years of a child's life, vaccine, febrile condition, maternal illnesses/infections during pregnancy, maternal age > 35 years, perinatal complications (premature delivery, oligohydramnios, breech fetal position, post-term pregnancy, asphyxia, placental abruption, failure to progress, previous miscarriage, low birth weight, incubator/oxygen, history of genetic diseases, and paternal illnesses. Mothers often say that pregnancy with a child with ASD was more difficult.

Several prenatal factors in our research, such as parents over 35 years of age, parents' race, and maternal diseases during pregnancy, are associated with one meta-analysis (Wang et al., 2017). Similarities between the two studies were found in the following perinatal factors: cesarean section, prematurity, spontaneous delivery, induced delivery, breech fetal position, preeclampsia, and fetal distress. Furthermore, postnatal factors associated with the increased risk of ASD were brain anomaly, low birth weight, postnatal bleeding, and male gender (Wang et al., 2017).

Although in each child the symptoms vary, parents, special educators and rehabilitators, and the professional team reported the following as the most common symptoms: absence of speech, delayed or inappropriate speech with regard to age, not responding to their name, no eye contact, poor social skills, hyper/hyposensitivity, and isolation. Our results are in accordance with the research by Parmeggiani et al. (2019), where they conclude that social interaction and relationships (93.3%) and language (92.4%) are the categories of early signs represented the most in their sample.

Our results show that ASD most often occurs isolated. However, when accompanied by other conditions, the most common comorbidities were: epilepsy, ADD, CP, ID, and delayed psychomotor development. Trajkovski (2019) found that persons with ASD had high frequencies of one or more co-occurring non-ASD developmental, psychiatric, neurologic, metabolic, immune, gastrointestinal, and possibly causative medical diagnoses. Medical co-morbidity and consecutive pathological processes can negatively affect the behavior, socialization, communication, cognitive function, and sensory processing of individuals with autism (Trajkovski, 2019).

According to the results, the most frequently used diagnostic tests and methods are M-CHAT, anamnesis, observation, and neurological examination. However, the drawback is that around 17% do not use any diagnostic tests or methods for detecting ASD.

At present, ASD can be diagnosed with a high degree of reliability between 18 months and 2 years of age. However, the first symptoms are already present long before the diagnosis is made (Paula-Pérez & Artigas-Pallarés, 2014). In our study, the symptoms of ASD were noticed even at six months of age, but the mean age of the onset of the symptoms was 2.2 years, indicating the aim of diagnosing ASD as soon as possible.

The mean age of diagnosis used to be 5.6 years, while it has been 4.2 years in the past 10 years. This shows that ASD diagnosis has been obtained earlier in the last 10 years, which means the diagnostic methods and practices have improved. Some authors report the global average age of ASD diagnosis as determined by the meta-analysis based on 35 studies from 35 countries, comprising 66,966 individuals with ASD. The current mean age of ASD diagnosis is 60.48 months (95% *CI*: 50.12–70.83) with a range of 30.90–234.57 months. Although progress is being made, early detection of ASD should continue to be a global priority (Van't Hof et al., 2020).

Over the years, there has been an improvement in the age reduction of diagnosis to 1.4 years, while the waiting time from noticing the first symptoms until obtaining the ASD diagnosis is 2.1 years. However, this is still very different from the research conducted by Penner et al. (2018), where the results show that the average waiting time for diagnosis is 7 months.

There is also a large number of children (one-third) with misdiagnosis, which as a value is greater than the results obtained by King & Bearman (2009), where changes in practices for diagnosing ASD had a significant effect on the number of ASD cases, which is a quarter of the increase in California prevalence between 1992 and 2005.

Recommendations

From the results of this research, and the conclusions we can make, the following recommendations may be welcome for future practice: using M-CHAT as a diagnostic tool that helps in making a diagnosis, greater use of ADI-R, ADOS, and DSM-5 criteria. Apart from the formal diagnostic process, informing all professionals working with children about early ASD symptoms and how to recognize the condition is especially important. We should emphasize the significance of raising parents' awareness of the proper development, deviations from it, and how to recognize when they should contact a professional. Finally, everyone involved in the development of these children should focus on the latest research on etiology, children's monitoring approach, diagnostic procedures and tests, and conducting more research on this topic in our country.

Limitations

This research has some limitations, the first of which is the sample size. The impact of selection bias can be a result of sampling, nonresponse, and poor coverage of people with no internet. Due to the low response rate, the results could not be generalized beyond the sample. We had limited ability to gain access to the appropriate type or geographic scope of participants. Thus, the people who responded to our survey questions may not truly be a random sample. There is no specific information about the gender structure, age, years of work experience, and institutions in which the professionals work. We do not have information on the number of children with ASD that the parents have. Also, the experiences reported by parents versus professionals may not be directly comparable since professionals' perceptions were based on a large sample of experiences while users' perceptions were limited to their personal experiences.

Conclusions

ASD is more common in males in the ratio of 3:1. The most common factors that can lead to ASD are: cesarean section, prenatal complications (bleeding, diabetes), medications during pregnancy, infections, illnesses or injuries in the first years of a child's life, maternal illnesses/infections during pregnancy, mother age > 35y, perinatal complications (premature delivery, oligohydramnios) miscarriage, and low birth weight.

Each child's symptoms are different, but the most common symptoms, regardless of age, include: lack of speech, delayed or inadequate speech for a specific age, not responding to their name, no eye contact, weak social skills, hyper/hyposensitivity, and isolation.

The prevalence of ASD as an isolated case is higher, and if it is accompanied by comorbid disorders, they most often include: epilepsy, ADD, CP, ID, and delayed psychomotor development.

The most commonly used diagnostic tests and procedures for diagnosing ASD are: M-CHAT, anamnesis, and observation.

There is a significant difference in the claims about the age at which the ASD diagnosis is obtained. On the one hand, professionals say the mean age is 3.5 years, while according to the parents, it is 4.5 years. The age of diagnosis used to be 5.6 years, while it has been 4.2 years in the past 10 years.

The waiting time frame from noticing the first symptoms to getting the ASD diagnosis is 2.1 years. Compared to before, the number of institutions visited by parents before receiving a definite diagnosis of ASD is lower. More than a third of the children are misdiagnosed. The most common misdiagnoses are: developmental dysphasia, alalia, and disharmonious development. The obtained results refer to the sample of this research and thus cannot be applied to the general population of children with ASD in Macedonia.

Children with ASD have an increased need for pediatric and psychiatric specialist services, both for their core functional deficits and concurrent medical conditions. Appropriate and individualized medical assessment must be carried out in all cases, including a documented clinical examination.

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Važnost rane dijagnoze kod poremećaja iz spektra autizma za adekvatan tretman i rehabilitaciju u Makedoniji

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Uvod: Poremećaj iz spektra autizma (PSA) ima nejasnu etiologiju i nije poznat univerzalni tretman, što otežava dobijanje tačne i blagovremene dijagnoze. Broj dokaza koji ukazuju na važnost rane dijagnoze i tretmana raste. *Cilj*: Istraživanje je urađeno da bi se procenio uticaj rane dijagnoze i njen značaj, kao i efikasnost u postavljanju dijagnoze u proteklim godinama i decenijama u Makedoniji. *Metodologija*: Izvršili smo uporednu analizu prikupljenih podataka od 95 ispitanika podeljenih u tri grupe, od kojih su 30 roditelji, 35 su specijalni edukatori i rehabilitori, a 30 članovi profesionalnog tima koji učestvuju u dijagnostikovanju autizma. Korišćen je originalni istraživački instrument u obliku tri upitnika. *Rezultati*: Mnogi prenatalni, perinatalni i postnatalni faktori mogu dovesti do PSA. Najčešći simptomi su: nedostatak govora, kašnjenje u razvoju govora, neodazivanje na ime, izostanak kontakta očima, nedovoljno razvijene socijalne veštine, hiper/hiposenzibilnost, izolacija. Autizam se češće javlja kao primarni, nego sekundarni. Srednja vrednost uzrasta na kome se postavlja dijagnoza ranije je bila 5.6 godina a u poslednje vreme je 4.2 godine. Na postavljanje dijagnoze čeka se oko 2.1 godinu od prvih primećenih simptoma. Roditelji posećuju manje institucija u procesu dobijanja dijagnoze. Još uvek postoji značajan broj pogrešno uspostavljenih dijagnoza. *Zaključak*: Mnogi faktori igraju ulogu u pojavi autizma. Postoje određeni simptomi koji se pojavljuju u većini slučajeva. U poslednjoj deceniji dijagnoza autizma se uspostavlja na ranijem uzrastu. Poboljšan je pristup i proces dijagnostikovanja autizma.

Ključne reči: poremećaji iz spektra autizma, rana dijagnoza, tretman, rehabilitacija

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The development of lexicon in children with hearing impairment in the context of interpreting pictures in comic-strip form

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Introduction. Pictures in the comic-strip form are often used in practice as a means of examining the development of speech and language of children with hearing impairment. *Objectives.* The aim of the research was to establish the development of the lexicon and the level of content comprehension of pictures in the comic-strip format in written expression of students with hearing impairment 11–15 years of age (and to establish whether the age affected students' success and compare their results with their typical peers). *Methods.* A story in the comic-strip form, designed for the needs of this study, was used in the research. It comprised four pictures interconnected through the sequence of events. Each picture was allocated a number of expected answers. *Results.* The obtained results point to the difficulties in understanding the content of pictures in the comic-strip format in written expression of children with hearing impairment and their underdevelopment compared to their typical peers. It was observed that age had a partial effect on the development of vocabulary (no statistically significant differences) (t = -0.87, df = 122.9, p = .39). However, the trend of achievement with age was observed. *Conclusion.* We found that children with hearing impairment failed to understand the story, observe important elements, and comprehend the essence. The abstract side of the pictures in the series, which gives sense, was neglected, and thus, the conclusion was not made, nor was the message grasped.

Keywords: series of pictures, vocabulary, expected answers, students with hearing impairment, typical peers

Introduction

Language is the most common system of communication, which is the agreed organised system of elements and signs that becomes speech through practical implementation, which is a language in use. A child learns speech and

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language as a result of the need to communicate with others and for functional communication in everyday situations. The language is realised in oral and written form, i.e. through speech and writing (Pavičević-Franić, 2005).

On the one hand, language involves speaking (expression), and on the other, understanding (reception). Linguistic expression (expressive linguistic skills) includes content (semantics), form (phonology, morphology and syntax), and the correct use of language in a certain context (pragmatics), while linguistic understanding (receptive linguistic skills) means understanding spoken and written language (Dulčić & Pavičić-Dokoza, 2013).

The process of learning a language is directed to the development of general communication abilities and the development of vocabulary, the development of literacy skills, a student's expression, learning of sentence structure and linguistic acts of active listening, speaking, reading, and writing in the mother tongue.

Sarif (2019) underlines that linguistic skills are very important for the improvement of the overall knowledge which is passed on to children. Language is part of the cognitive potential of each individual, and Hudzaifah et al. (2021) emphasize that cognitive abilities are comprised of various mental processes linked to comprehension, attention and contemplation.

The work on the development of linguistic skills is a form of learning, and it aims to enable listening and expression through speech, extend the vocabulary and bring about the recognition of symbols which represent the speaker (Parida, 2019).

Oral and written expression are extremely complex and demand skills which involve a certain level of development of cognitive and linguistic abilities. The ability of oral expression and oral structuring of a story, i.e. creation of the beginning, the middle, and the end of a story, requires a certain level of the development of cognitive functions, while the application of language and linguistic shaping of a story require linguistic development (Kuvač, 2005, as cited in Velički, 2013).

Apart from the development of cognitive functions, written expression means mastering different skills, such as: learning and forming the graphemic system (writing letters in accordance with the type of script in which the communication is established), learning orthographic and grammatical norms of a standard language at morphological, syntactic, and lexical level, learning stylistic norms and knowledge of text structure, the ability to observe and evaluate a text, and the ability to observe mistakes in a text (Rosandić, 2001).

Language in children with hearing impairment

Language is the system which consists of phonic signs, and its main features involve organised composition, inventiveness, and cultural effect (Siregar et al., 2018).

In children with hearing impairment, sign language develops parallel to the development of oral and written speech. Although American Sign Language (ASL) is the language of the population of the deaf, let us remind ourselves that the vast majority of deaf children (~95%) were born in families that can hear. For the majority of deaf children, ASL is the language they are never exposed to at an early age. Instead, many families that can hear are faced with complex decisions about the system of communication with their child, such as insisting on the spoken language, lip-reading, or the system of signs based on the English language (Anderson, 2006).

Learning the written or spoken language opens the possibilities for deaf children to acquire new knowledge. Access to the natural sign language facilitates this process. Although the research proves the benefits of natural sign languages, many experts still suggest insisting on the spoken manner of expression (Hall et al., 2019). However, the results of children with hearing impairment on language tests are still poor despite early detection, early rehabilitation, and provision of support (Erbasi et al., 2017).

Wasita (2012, as cited in Hudzaifah et al., 2021) believes that many children with hearing impairment have barriers to understanding and composing sentences in the Indonesian language. The outcomes of teaching children with hearing impairment are also low. They have narrow vocabulary, difficulties in understanding abstract and impaired speech. Indriyani (2019) states that due to that, there is a lack of motivation to teach children with hearing impairment and to learn the Indonesian language. The author partially explains that as a result of the lack of contemporary teaching media provided by a teacher in a classroom. Wati et al. (2020) point out that the teaching media represents every person, material, tool, or event, which can create effective conditions that enable students to acquire knowledge and skills and form opinions.

The skills of oral expression and literacy are also developed through telling and writing stories on the basis of pictures (a story in a series of pictures, a story in the comic-strip format, etc.). Telling and writing stories on the basis of pictures enable the development of expression, vocabulary, imagination, logic, linking, and understanding. Wright (1990) points out that the pictures find their usage in learning vocabulary, spelling newly acquired words, and teaching reading and writing. As'ad (2019) says that describing pictures was efficient for the development of the logical speaking ability of students.

On the one hand, a story in a picture or pictures offers the possibility for independent expression, imagination and creativity, while on the other hand, it gives children the opportunity to create dialogues and enrich the story as they wish by examining it thoroughly. Picture stories provide the possibility for excellent insight into the structure of the story, and they enable children to observe the entire story with all its important parts by looking at it. They stimulate visualization in children, making it possible for children to observe

the existence of a pictorial representation for each event. Older children may find inspiration in picture stories, which may stimulate their imagination and be a convenient means for examining the speaking and linguistic skills of students of all ages. Gallion (2016) underlines that the most effective way when teaching vocabulary to students with hearing impairment is to start with visual representation. Nonetheless, authors differ in their opinions. For many reasons, deaf children and adults achieve poor results when learning through the material presented in pictures (Conway et al., 2009; Lévesque et al., 2014).

The entire linguistic and intellectual development (the development of speech and thinking) is delayed in children with hearing impairment. Underdeveloped linguistic skills prevent them from seeing abstract relations, which is only possible through verbal expression. The delay in elementary developmental expression, i.e. a notion, affects vocabulary enrichment, the turning of the passive deposit of words into the active verbal vocabulary, the development of logical thinking and overall expressive speech, thus also affecting comprehension and acquisition of knowledge (Isaković et al., 2010).

Considering the difficulties in the development of language, deaf and hard of hearing children structure stories following the series of pictures with great difficulty. Most frequently, they follow the sequence well, and they understand causal relations, but they encounter difficulties in morphological and syntactic shaping (Kelić, 2013). Depending on the maturity and the capability of oral expression, deaf and hard of hearing students will list persons and actions that are taking part in the picture, or they will form a story (Kovačević, 2005).

Herega (2014) states that the majority of persons whose hearing was impaired before they learnt speech and language (prelingual deafness) have huge difficulties in understanding a written text and in oral expression. Considering the fact that the language is learnt through listening, deaf persons learn the written language with difficulty, especially if their surroundings (the family and the school) do not direct them to everyday learning of new terms and reading. Written expression of people with hearing impairment is often agrammatical, scarce, of incorrect syntax, and hard to understand. The comprehension of a written text is poor in the majority, which is the result of deafness and not of intellectual deficit. This data points to the necessity of using simple words and sentences.

Many authors have analysed the achievements of deaf and hard of hearing children when describing pictures and observed the following characteristics. Analysing the results on the occasions of picture story description, Vujasinović and Isaković (2007) have observed that students name the notions they notice in the pictures. Few students connect pictures into a story using sign language when describing a picture story.

In her research, Isaković (2007) concluded that in written expression, deaf and hard of hearing children mostly used the present tense, rarely the past tense,

while they almost never used the future tense. Kovačević et al. (2010) concluded that when describing pictures, deaf and hard of hearing children mostly used so-called notional words – nouns and verbs, and they used adjectives and adverbs much less. As for functional words, the children mostly used exclamations. They used prepositions and conjunctions significantly less, while they never used pronouns, numbers and particles.

Kovačević and Isaković (2016) conclude that written and oral expression of deaf and hard of hearing students in describing pictures is linguistically poor. Students communicate their thoughts, feelings, and reflections with difficulty. Dimić et al. (2011) examined the function of a comic-strip story in language teaching. They concluded that simple sentences are used the most, while simple sentences with a complement are used at an older age. The authors assert that it is necessary to work more intensely on the development of vocabulary, learning new words that will have greater functional value, which will certainly improve the use of words in oral and written expression. In their research, Kovačević and Isaković (2014) analysed the ability to describe pictures. They found that deaf and hard of hearing students do not use all parts of speech with equal success. The leading categories of words used in describing pictures (in sign and spoken expression) are nouns and verbs, which points to the significance of visual perception in the development of the language of deaf and hard of hearing children. The students used certain words only in sign language expression. The majority of words yielded within sign and spoken language expression were obtained as a result of listing words (persons and actions) without connecting them with the entire action the pictures showed.

In order for the results and the achievements of deaf and hard of hearing students to be better, the fostering and development of oral speech should be one of the priority tasks in education. Working on oral speech development with students, the teacher widens the vocabulary and phraseology, and teaches them to express their thoughts logically and consequentially, which is essential for the development of written expression (Dimić, 2002).

A deaf child experiences difficulties in everyday social functioning (Haenudin, 2013). Deaf children are educated in schools intended for deaf and hard of hearing children and in regular schools with children who can hear. The manner in which deaf children receive information and acquire knowledge is rather specific. The lack of auditive information impedes acquiring and processing what is said, which causes poor communication (Hudzaifah et al., 2021). Children with hearing impairment gain knowledge through the material they are presented with at schools by teachers, depending on their capabilities.

The way in which deaf students process syntactic and semantic signs while reading and writing a sentence is unclear. While certain studies supported the preference for semantic signs, other failed to do so (Gómez-Merino et al., 2021).

Objectives

The aim of the research was to establish the development of vocabulary and the level of content comprehension of pictures in the comic-strip format in written expression in students with hearing impairment 11–15 years of age. The obtained results were compared to the achievements of their typical peers. The effect of age on the achievements of children with hearing impairment was also examined.

Methods

Sample

The research sample included 127 students, of whom 64 (50.4%) had a hearing impairment, and 63 (49.6%) were typical peers. Students with hearing impairment in the sample were 11–15 years of age and attended schools for children with hearing impairment in Sarajevo, Tuzla, Banja Luka, Belgrade and Zemun, where the research was conducted. There were 19 students (29.7%) aged 10–12, 21 students (32.8%) aged 13–14, and 24 students (37.5%) who were 15 years old. The sample comprised 32 girls (50%) and 32 boys (50%). The sample included students without additional difficulties (lower cognitive functioning), neurological problems, and other forms of disabilities.

In the group of typical peers ($n = 63$), 26 students (41.3%) were 10–12 years old, 24 students (38.1%) were 13–14, and 13 students were 15 years old (20.6%). This group comprised 34 girls (54%) and 29 boys (46%). Analysing the sample by gender, we can observe that the groups are equal ($\chi^2 = 0.20$, $df = 1$, $p = .65$).

The group of typical peers was selected on the basis of the chronological age of students attending a school in Sarajevo.

Instrument and procedure

A specially constructed story in the comic-strip format was used in this research to examine a certain aspect of linguistic development of the participants stimulated by the effect of visual perception. The internal consistency coefficient (Cronbach's alpha) obtained in this sample was .62.

The story is composed of four pictures which are simple and appealing to children. The pictures are set in regular order and interconnected by the sequence of events, and are set before the students in such an order. Looking at them, the students were tasked with writing a story based on the given pictures. The maximum number of expected answers was 14. The number of expected answers was analysed. The answers which did not entirely match the expected answers (in terms of grammar or orthography) were also accepted. The accepted answer could be both a word and a sentence which match the offered expected answers.

The expected answers include the following:

Picture	Expected answer
I	It is raining. Children are going home. School. Rain pool
II	A boy and a girl saw a dog. Sad dog (The dog is sad.). Wet dog (The dog is wet.)
III	The children took a dog (and took it home.). They gave it food and water.
IV	They are playing. Happy children (The children are happy.) Happy dog (The dog is happy.) The dog got a house. (The dog has a house.). The children helped the dog.

Data analysis

The statistical package for data analysis IBM SPSS Statistics 23.0 was used for data processing. Descriptive statistics (*M* and *SD*), as well as the statistical significance of differences in average values (t-test for paired samples, for checking significance of difference at the level of the entire sample, and ANOVA test for checking statistical significance of differences among students) were applied. The Chi-square test was used as well.

Results

Table 1

The results of students with hearing impairment on the story in the comic-strip format

	Minimum	Maximum	*M*	*SD*
I picture	0	4	1.89	0.76
II picture	0	3	1.84	0.70
III picture	0	2	1.49	0.74
IV picture	0	5	1.70	1.07
Total	0	14	6.92	2.48

As shown in Table 1, the students had the highest number of expected answers when describing the first picture ($M = 1.89$, $SD = 0.76$), and the lowest when describing the third picture ($M = 1.49$, $SD = 0.74$), and this difference was statistically significant ($t = 3.77$, $df = 6$, $p < .001$). The lowest number of given answers was 0, and the highest was 14. Producing all expected answers points to the comprehension of the story presented in the comic-strip format and to the students' ability to make up and write a story. While the results of the students with hearing impairment in writing a story were followed, it often happened that the answers were not written in the form offered but were accepted as such as they reflected the comprehension of a certain segment of the story. Such results may be interpreted by the fact that the students did not perceive the presented situations and emotions in the best possible way, i.e. they had difficulties in their linguistic shaping for the use of abstraction that represents a problem.

Table 2

The comparison of results of students with hearing impairment and typical peers in all four pictures

Picture	Students with hearing impairment		Typical peers		*t*	*df*	*p*
	M	*SD*	*M*	*SD*			
I picture	1.89	0.76	1.77	1.08	0.69	109.8	.49
II picture	1.84	0.70	1.58	0.78	1.96	121.1	.052
III picture	1.49	0.74	1.71	0.49	-1.94	108.2	.055
IV picture	1.70	1.07	2.24	1.34	-2.50	116.6	.014
Total	6.92	2.48	7.31	2.49	-0.87	122.9	.39

We also compared the results of students with hearing impairment and typical peers in all four pictures, and we observed approximately similar results (Table 2). On average, the students with hearing impairment achieved the highest results in the first picture and the lowest in the third picture, while the typical peers achieved the highest results in the fourth picture and the lowest in the second picture.

By using the independent samples t-test, a statistically significant difference was observed between the results of the students with hearing impairment and the typical peers in the fourth picture (t = -2.50, df = 116.6, p = .014), which points to a better understanding of the story considering the fact that those last pictures presented the resolution of the events. The fourth picture represents the denouement of events, it carries a message, and thus the children who can hear showed a more efficient way of linguistic shaping of pictures in a series. Marginal significance obtained in the second and the third pictures point to the tendency for better linguistic expression and comprehension of content, which was eventually shown in the fourth picture.

Students with hearing impairment had lower results (M = 6.92, SD = 2.48) than the typical peers (M = 7.31, SD = 2.49). Comparing the results of these two groups, we can observe that the students with hearing impairment, on average, achieved a lower level of results, while it should be noted that no statistically significant difference was observed (t = -0.87, df = 122.9, p = .39).

Most students used the following sentences: “It is raining” (95.2%), “A boy and a girl saw a dog” (84.1%) and “The children took the dog” (79.4%), while the fewest students used the following sentences: “Happy children” (6.3%) and “The children helped the dog” (6.3%).

Table 3

The results of students with hearing impairment – by pictures

Picture		Expected answers	Percentage correct
I	I	It is raining.	95.2
	II	Children are going home.	71.4
	III	School	15.9
	IV	Rain pool	6.3
II	V	A boy and a girl saw a dog.	84.1
	VI	Sad god (The dog is sad.)	77.8
	VII	Wet dog (The dog is wet.)	22.2
III	VIII	The children took the dog (and took it home.)	79.4
	IX	They gave it food and water.	69.8
	X	They are playing.	58.7
IV	XI	Happy children (The children are happy.)	42.9
	XII	Happy dog (The dog is happy.)	39.7
	XIII	The dog got a house. (The dog has a house.)	22.2
	XIV	The children helped the dog.	6.3

The obtained results show a significant drop in the number of used expected answers in the third and fourth pictures, which indicates that the majority of students did not understand the point of the story, i.e., the story in its entirety, as the third and the fourth pictures present the resolution of the events. The percentage of used sentences points to the fact that the students observed only the concrete content shown in the picture, while they failed to observe emotions and more abstract aspects. Thus, they produced sentences which indicate that the emotions of the characters in the story and the complete background of the entire story were observed more rarely.

In the majority of cases, when writing the story, the students only listed nouns and occasionally a verb. The words were often misspelt and used inadequately (inadequate use of gender, number, person and case), for example: "skola" (instead of "škola" for school), "kuča" (instead of "kuća" for house), "devojica" (instead of "devojčica" for girl), "vezela" (instead of vesela" for happy), "djesa" (instead of "djeca" for children), "vitjela" (instead of "vidjela" for past tense of the verb to see), etc.

In certain cases, they wrote incomplete and incorrect "sentences", such as the sentences given in the footnote.[1]

1 [Translator's note] The approximate translation of the sentences given respectively: "At school over. Children are go home. Boy is a smile. Smiling is. At school when finish go home. Children home. Children go home rain falling. It was rain falling. Children sees dog wet. Dog water wet. Dog is sad. Children are taken and I go home. The wiped it dog wet. Gave food and water dog eats. They are happiness. Now they sad. Dog in yard happy. Children to make house for dog. Children a lot help dog. Boy and girl are help dog."

Based on all of the aforementioned, we can notice that the children with hearing impairment did not recognise or distinguish important elements of the plot (retelling) from less important ones, and they failed to sufficiently perceive the entire story and understand its essence. The affective and the abstract side of the story, which lends sense to the entire story, was disregarded, and thus the students could not draw a conclusion nor understand the moral of the story.

Table 4

The results of children with hearing impairment on the comic-strip story in relation to their age

Age	*M*	*SD*	*N*	*F*	*df*	*p*
10–12 years old	6.58	2.44	19			
13–14 years old	7.15	2.84	20	0.34	2.61	.71
15 years old	7.32	2.55	24			

The students aged 10–12 achieved the lowest results (M = 6.58, SD = 2.44), followed by the results of the students aged 13–14 (M = 7.15, SD = 2.84), while the oldest students achieved the best results (M = 7.32, SD = 2.55). We notice that the students' results show a continuous tendency to rise but without a statistically significant difference. This can be explained by individual differences among students within the groups, which are often observed, as well as by a certain form of mild stagnation in linguistic development, which is observed at that age. Vasić (1981) points to the occurrence of a certain kind of crisis in linguistic development during prepuberty and puberty, which does not mean linguistic underdevelopment, but it can signify the tendency towards the development of individual linguistic expression.

Discussion

The results of our research indicate poorer results of the students with hearing impairment on average, while in certain aspects of language development, they also point to the reduced ability to write content based on the offered pictures compared to the typical peers. On the one hand, this is the result of receiving auditory information with more difficulty and insufficiently acquired mother tongue, and on the other hand, it is the consequence of linguistic processing being harder.

Judging by the results of students with hearing impairment in relation to their age, the highest results were achieved by the oldest students, and the poorest results were achieved by the youngest students (no statistically significant differences were observed among the students of different ages, but progress in line with age was observed). We can say that such results show the significance of school and continuous work with children. We can see that the linguistic abilities and the ability to write based on the given pictures

increase with age. However the results are still rather moderate and they point to insufficient language development.

Our research results agree with the research of Kovačević and Isaković (2010), who observed that written and oral expression of deaf and hard of hearing students in describing pictures was difficult to analyse, agrammatical, and linguistically poor. Oral expression was a special problem. Thoughts were given form and conveyed to a written medium with a particular difficulty. Inadequate use of personal pronouns and agrammatical structures was confirmed. In her research, Isaković (2013) determined that the number of used words decreased with age, while the number of used sentences increased. When describing pictures, the oldest students used only sentences, which also confirms the results of our research, which shows better results of older students. Isaković (2007) also found frequent addition of prepositions and auxiliary verbs, omission of words (conjunctions, particles and auxiliary verbs) and the use of meaningless lexemes. With some of the participants, the level of sentences was not reached, but the picture description consisted of listing persons and objects observed in the picture. In their research, a group of authors (Pantelić et al., 2007) concluded that when interpreting pictorial material, children with hearing impairment used a higher number of words than children with normal hearing. Around 30% of sentences were agrammatical, and sentences had 5.3 words on average.

When describing pictures, students do not grasp the moral of the given story, regardless of the interpretation method they use – verbal or in signs (Vujasinović & Isaković, 2007).

Our research, as well as many others, corroborates the fact that the essential problem of deaf persons is not deafness as such and not even communication, but literacy, comprehension of pictures, and writing skills, i.e. linguistic competences (Pribanić, 2007).

Similar results were obtained by other authors, who also confirm our conclusion and assert that written and oral expression is characterised by agrammatism, omission of punctuation, and dominant use of nouns (Dimić & Isaković, 2008). A group of authors also claim that deaf children produce poorer results, especially in grammar development (Lederberg et al., 2012).

Waltzman et al. (2003) point out that children with hearing impairment have severe deficiencies and underdevelopment in receptive and expressive areas of the oral English language, including vocabulary, grammar, notions and pragmatics. Moreover, they assert that poorer achievement at school arises as a result of linguistic shortcomings, which is particularly noticeable in reading and writing. The authors underline that numerous scientists noticed that the linguistic abilities of children with hearing impairment are twice as less developed than in children who can hear.

Based on the research conducted in Indonesia, the authors conclude that children with hearing impairment experience difficulties in their ability

to compose sentences. Mistakes are observed in wrong word order in a sentence containing a subject (S), a predicate (P) and an object (O), which the children omitted (Ruspitayanti et al., 2015, as cited in Hudzaifah et al., 2021). We obtained the same results analysing the sentences in our research, where the listing of words, most usually nouns, which did not have the function of sentences occurred.

Certain teachers point out that the communication of children through nonstandard sign language, which disregards correct orthography and grammatical rules of written language, leads to such an issue. Furthermore, it results in slow answers to longer and more complex questions, which the children do not use in their written expression (Hudzaifah et al., 2021).

The essential problem deaf children encounter is the exchange of information. This brings about misunderstandings in everyday life situations (Wikasanti Sitepu, 2014, as cited in Hudzaifah et al., 2021). Correctly structured sentences and their adequate use are imperative for mutual understanding of all the participants in a conversation.

The results of our research agree with the research of a group of authors who find that children with hearing impairment in primary school have obstacles and low ability to compose a sentence as a result of poor motivation, lack of innovation and creativity in education, media which should be used more – pictures, graphs, presentations, applications (Hudzaifah et al., 2021).

In this research, we observed that the written sentences are usually short, very simple, most frequently consisting only of a subject and a verb, with a rather limited stock of used words, which in most cases reflects only a concrete action shown in the pictures. All of this points to the fact that writing is not only a writing technique but also a way of thinking and expressing oneself. For somebody to write, they must have developed linguistic experience as the skill of writing is always linked to the level of linguistic abilities. For those reasons, the problems children with hearing impairment experience in listening, speaking and writing are reflected and often increased in writing on their own.

The most frequently observed mistakes were as follows: mixing capital and small letters, writing sentences with the small first letter, omission of punctuation (the full stop at the end of the sentence, a coma in a sentence), frequent agrammatism (gender, person, case, tenses, word order in a sentence, etc.), substitution of sounds, omission of functional words in a sentence, lack of verbs and auxiliary verbs in a sentence, mere stringing of words in a sentence (usually only nouns), writing several sentences in a series, without a full stop, a coma, a capital letter, mixing Latin and Cyrillic script, writing a capital letter in the middle of a sentence where unneeded, mixing tenses in a sentence ("Immediately took and brings to house"), writing sentences in the first person. Isaković (2007) obtained similar results in her research, where she observed problems in understanding, constructing, and using a sentence. The sentences

were short, with a small number of words arranged one after another in an unconnected sequence.

A very interesting result obtained in our research is that the students with hearing impairment demonstrated the highest results in writing the content of the first and the second pictures, with a noticeable decline in their results in writing the content of the third and the fourth pictures, in which the resolution of events was shown and where more abstract content was presented. The students with hearing impairment achieved higher results than their typical peers in the first and the second pictures, which showed a concrete action.

The limitation of the research

We consider the lack of national and foreign research on this topic to be an aggravating factor in comparing and interpreting the results of this research. Namely, the analysis of the form and the content of what is written on the basis of pictures, the understanding of the meaning of pictorial material and its verbalization are not the frequent research topic. Considering the fact that children with hearing impairment are compelled to turn to visual perception and that it is vital in forming different types of terms, the extension of vocabulary and written linguistic expression, we considered this issue to be significant.

The abundance of pictorial material is used in working with the deaf, which helps in the development of oral and written expression. However, as a result of the lack of more recent research on this topic, we referred to some older research carried out in our language speaking countries. The linguistic expression changes, but these changes are not dramatic and they do not occur quickly. Moreover, the sample of our research comprises students with hearing impairment who attend special schools in Bosnia and Herzegovina and the Republic of Serbia, and it is not wide. The reason for that is that it did not comprise children with associated disabilities, whose number in these schools is growing.

Recommendations

It was important to conduct several similar research studies, which can give us more information on the development of language, lexis, semantics, syntax, and pragmatics of children with hearing impairment. Cognitive abilities, perception, inferring, and the development of abstract thinking would be the current topics which would find their implementation in practice. It would be interesting and essential to conduct similar research studies which could explore the linguistic development of students with cochlear implants, considering the fact that we have an increasing number of these students nowadays. Such information could be of great significance for the study of language development with a view to devising fresh methods and processes in work focusing on the linguistic progress of students with hearing impairment

and students with cochlear implants, which would be more functional and better used in their education.

Conclusion

Writing content based on a series of pictures is a complex activity requiring a developed ability to understand a picture, convey a visual medium into a written one, observe causal relations, compose sentences, and establish coherence and meaningfulness. What was observed in our research, as well as in many national and foreign studies, is that students with hearing impairment complete a task like the one given here with difficulty and less success. The contents are written in simple language, with the use of a limited stock of words, using concrete sentences with noticeable agrammatism and misspelling, which points to the limited knowledge of more complex language structures.

Statistically significant differences in the results of students with hearing impairment and their typical peers were not observed in our sample, but it is likely that a wider sample would have shown statistically significant differences.

Considering the obtained results, we conclude that students with hearing impairment have not sufficiently developed the linguistic abilities required for writing content based on pictures in line with their age. Understanding content and the sequence of events is also done with difficulty. Writing a story in the comic-strip format was characterized by listing words, most usually nouns, which were often written incorrectly. Isolated words and sentences which were incomplete and agrammatical were used. Various spelling mistakes, which made understanding the content more difficult, were also observed.

Based on all of the aforementioned, we can notice that the deaf children did not recognise or distinguish the important elements of the plot (retelling) from less important ones, and they failed to sufficiently perceive the entire story and understand its essence. The affective and the abstract side of the story, which lends sense to the entire story, was disregarded, and thus the students could not draw a conclusion from the story nor understand the moral of the story.

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Razvijenost rečnika kod dece oštećenog sluha u kontekstu interpretacije slika u formatu stripa

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Uvod: Slike u formatu stripa se u praksi često koriste kao sredstvo za ispitivanje razvijenosti govora i jezika dece oštećenog sluha. *Cilj:* Cilj istraživanja bio je da se utvrdi razvijenost rečnika i nivo razumevanja sadržaja slika u formatu stripa, u pisanom izrazu, kod učenika oštećenog sluha uzrasta od 11 do 15 godina (takođe da se utvrdi da li postoji uticaj uzrasta na uspešnost učenika i da se njihovi rezultati uporede sa rezultatima tipičnih vršnjaka). *Metode:* U istraživanju je korišćena priča u formi stripa dizajnirana za potrebe istraživanja. Ona se sastojala od četiri slike međusobno povezane sledom događaja. Za svaku sliku određen je broj očekivanih odgovora koje je trebalo navesti. *Rezultati:* Dobijeni rezultati ukazuju na teškoće u razumevanju sadržaja slika u formatu stripa, u pisanom izražavanju kod učenika oštećenog sluha, ali i zaostajanje u odnosu na tipične vršnjake. Uočeno je da uzrast ima delimičan uticaj na razvijenost rečnika (nema statistički značajnih razlika) (t = -0.87, df = 122.9, p = .39), ali se uprkos tome uočava trend porasta postignuća sa uzrastom. *Zaključak*. Uočeno je da učenici oštećenog sluha nisu razumeli priču, nisu uočili važne elemente, niti su shvatili suštinu. Apstraktna strana slika u nizu, koja daje smisao, je zanemarena, pa samim nije izveden zaključak, niti uočena poruka.

Ključne reči: slike u nizu, rečnik, očekivani odgovori, učenici oštećenog sluha, vršnjaci tipičnog razvoja

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Znanje osoba sa oštećenjem vida i osoba tipične populacije o polno prenosivim bolestima

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Uvod: Polno prenosive bolesti predstavljaju javno-zdravstveni, medicinski i socijalni problem. Nalaze se među pet najčešćih bolesti u svetu. Znanje o polno prenosivim bolestima, kao i zaštiti od njih predstavlja jednu od najznačajnijih metoda prevencije i zaštite seksualno-reproduktivnog zdravlja. *Ciljevi*: Glavni cilj rada bio je utvrđivanje znanja osoba sa oštećenjem vida o polno prenosivim bolestima. Ostali ciljevi su utvrđivanje razlika u znanju o polno prenosivim bolestima između osoba sa oštećenjem i bez oštećenja vida, kao i između ispitanika različitog pola, uzrasta i stepena obrazovanja. *Metode*: Istraživanjem je obuhvaćeno 50 ispitanika sa oštećenjem vida i 50 ispitanika bez oštećenja, ujednačenih prema polu, uzrastu i stepenu obrazovanja. Podaci su prikupljeni onlajn putem tokom maja 2020. godine i za te potrebe korišćen je Ilustrativni upitnik za ispitanike – anketa za mlade. *Rezultati*: Dobijeni rezultati pokazali su da postoji statistički značajna razlika između osoba sa oštećenjem i bez oštećenja vida u znanju o vrstama polno prenosivih bolesti. U poduzorku ispitanika sa oštećenjem vida postoje statistički značajne razlike u zavisnosti od pola ispitanika, ali ne postoje razlike u zavisnosti od uzrasta i stepena obrazovanja. *Zaključak*: Potrebno je posvetiti više pažnje osobama sa oštećenjem vida u području seksualno-reproduktivnog zdravlja kroz organizovanje edukacija i radionica radi povećanja znanja o ovoj temi.

Ključne reči: oštećenje vida, osobe tipične populacije, polno prenosive bolesti

Uvod

Polno prenosive bolesti spadaju u grupu zaraznih bolesti koje se najčešće prenose seksualnim kontaktom, prilikom porođaja i tokom dojenja, kao i korišćenjem nesterilnih igala prilikom korišćenja psihoaktivnih supstanci, izazivajući promene na koži ili sluzokoži inficirane osobe (Radošić, 2021).

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Ove vrste infekcija prepoznaju se kao javni problem već duži niz godina i predstavljaju značajan medicinski, ali i socijalni problem u zemljama širom sveta, jer se u svetu dnevno registruje oko jedan milion novoobolelih odraslih ljudi (World Health Organization [WHO], 2018). S obzirom na to da broj obolelih nije beznačajan i da polno prenosive bolesti mogu značajno negativno da utiču na opšte zdravstveno stanje, klasifikuju se kao visoko rizičan zdravstveni problem. Mogu izazvati hroničnu upalu male karlice, sterilitet, dovesti do vanmaterične trudnoće ili, u slučaju nelečenja HIV-a, do potencijalno smrtnog ishoda (Milošević, 2018). Posebno je zabrinjavajuća činjenica što se ove infekcije teže dijagnostikuju kod osoba ženskog pola, jer mogu imati nespecifičnu kliničku sliku koja podseća na urinarne infekcije (Popov et al., 2019; Sherrard et al., 2018; Živanović, 2004, prema Živanović i sar., 2018).

Najmanji procenat zaraženih osoba polno prenosivim bolestima u svetu je u zemljama istočne Azije i Pacifika, severne Afrike i Bliskog istoka, a najviša prevalencija u zemljama saharske Afrike, dok se Evropa nalazi na sredini liste po broju novozaraženih (Kenyon et al., 2014). Najčešći izazivači ovih bolesti su HIV, gonoreja i sifilis, s tim što je HIV na vrhu liste (Munthali et al., 2004). Slično je i u našoj zemlji, s tim što su osobe tipične populacije (TP) najviše upoznate s HIV-om/AIDS-om, dok su im hlamidija i hepatitis B nepoznati (Popov et al., 2019), što indirektno govori da ne znaju ni kako da se zaštite od njih.

Kada je u pitanju populacija sa smetnjama u razvoju, polno prenosive bolesti mogu biti značajan zdravstveni problem (Kassa et al., 2014) jer ih povećan rizik od ovih bolesti usled nedovoljne informisanosti često dovodi u još veću marginalizaciju u društvu (Carneito & Veiga, 2004, prema Aragão et al., 2016; Cavalcante et al., 2015). Iako broj istraživanja koja se bave populacijom sa smetnjama u razvoju i zaštitom reproduktivnog zdravlja nije veliki (Duckett & Pratt, 2001; Saulo et al., 2012), studije koje su rađene, a tiču se polno prenosivih bolesti, najčešće se bave HIV-om/AIDS-om. U istraživanju Ejda i saradnika (Eide et al., 2011) o znanju osoba sa smetnjama u razvoju o ovoj vrsti polno prenosive bolesti, pokazalo se da je znanje o načinima zaštite na niskom nivou. Slični rezultati dobijeni su i u istraživanjima koja se bave osobama sa oštećenjem vida (OV). Prema istraživanju Sodelija i saradnika (Sodelli et al., 2014) pripadnici ove populacije su pod velikim zdravstvenim i socijalnim rizikom upravo iz istog razloga do kojeg su došli Ejda i saradnici (Eide et al., 2011). To se pokazalo u još nekoliko istraživanja. Osobe sa OV su, često zbog pogrešnih i nepotpunih informacija, u većem riziku od zaražavanja polno prenosivim bolestima, a pogotovo HIV-om ,u odnosu na osobe TP (Cavalcante et al., 2015; Groce, 2003, prema Aval et al., 2019; França et al., 2019; Nicolau et al., 2013). Takođe, u nedavnom istraživanju Franka i saradnika (França et al., 2019) koje se bavilo znanjem ispitanika o

kliničkim simptomima polno prenosivih bolesti, znanje je bilo na vrlo niskom nivou, dok su i Joši i Joši (Joshi & Joshi, 2019) otkrili da osobe sa OV nemaju dovoljno znanja o kompletnom reproduktivnom zdravlju (kontracepciji, prevenciji polno prenosivim infekcijama i menstrualnoj higijeni). U nekoliko istraživanja otkriveno je da je uzrok nižeg znanja u populaciji osoba sa OV to što su domeni seksualno-reproduktivnog zdravlja još uvek tabu i stigmatizirana tema (Araújo et al., 2015; Barbosa, 2013; Bezerra & Pagliuca, 2010).

U nekoliko studija poređeno je znanje osoba sa OV o ovoj oblasti zdravlja u odnosu na pol i uzrast. Studija Arauja i saradnika iz 2015. godine (Araujo et al., 2015) pokazala je da žene i starije osobe sa OV nemaju adekvatno znanje o prevenciji i prenošenju polno prenosivih bolesti. Iste rezultate u svom istraživanju dobili su i Bezera i Pagliuka (Bezerra & Pagliuca, 2010), koji su pretpostavili da je razlog tome to što se žene sa OV, u poređenju sa muškarcima sa OV, suočavaju sa više izazova u vezi sa seksualno-reproduktivnim zdravljem, međutim to nije dokazano.

Iz brojnih razloga, prvenstveno zbog posledica koje polno prenosive bolesti mogu imati po reproduktivni trakt i, generalno, po sveukupno zdravlje, prevencija i kontrola polno prenosivih bolesti trebalo bi da bude sastavni deo sistema zdravstvene zaštite. Međutim, u nekim istraživanjima ispitanici sa OV izjavili su da informacije o seksualno-reproduktivnom zdravlju nikada nisu dobijali od medicinskih radnika, naročito u vezi sa vrstama polno prenosivih bolesti, načinima prenošenja i zaštite (Cavalcante et al., 2015; Eide et al., 2011).

Imajući to na umu, treba razmišljati o rešavanju tog problema, jer seksualna i reproduktivna zdravstvena nega žena, ali i muškaraca, treba da bude prioritet u svim zdravstvenim ustanovama (Pagliuca et al., 2009; Saulo et al., 2012). Jedan od načina prevazilaženja niskog nivoa znanja o ovim temama jeste povećana dostupnost informacija u zdravstvenim ustanovama, ali i pravovremena edukacija, za koju su Aval i saradnici (Aval et al., 2019) dokazali da povećava znanje o menstrualnoj higijeni, reproduktivnom zdravlju, polno prenosivim bolestima i nezi trudnoće.

Bez obzira na sve, činjenica je da prisustvo ili odsustvo smetnje u razvoju ne bi trebalo da utiče na interesovanje za teme seksualno-reproduktivnog zdravlja, i to ne bi smelo da se dovodi u pitanje (Bezerra & Pagliuca, 2010).

Nakon pregleda literature i uvida da u našoj zemlji i regionu ne postoji studija koja sa bavi ovom temom, osnovni cilj ovog istraživanja je da se utvrdi znanje osoba sa OV o polno prenosivim bolestima. Dodatni ciljevi su utvrđivanje razlika između osoba sa OV i TP u znanju o polno prenosivim bolestima, zatim utvrđivanje postojanja statistički značajnih razlika prema polu, uzrastu i stepenu obrazovanja u poduzorku osoba sa OV i među poduzorcima.

Metode

Uzorak

Uzorak je činilo 50 osoba sa OV i 50 osoba TP oba pola (42 muškarca i 58 žena) ujednačenih po uzrastu (od 20 do 40 godina) i stepenu obrazovanja (niže i više obrazovanje). Mlađi ispitanici su bili uzrasta od 20 do 29 godina (60%), a stariji od 30 do 40 godina (40%). Niže obrazovanje činili su ispitanici sa završenom osnovnom i srednjom školom (40%), a više obrazovanje sa završenom višom školom, fakultetom, master/magistraturskim i doktorskim studijama (60%).

Instrumenti

Za prikupljanje sociodemografskih podataka korišćen je opšti upitnik. Za procenu znanja o polno prenosivim bolestima korišćen je deo Ilustrativnog upitnika za ispitanike – anketa za mlade (Illustrative Questionnaire for Interview-Surveys with Young People; Cleland, 2001). Upitnik sadrži pitanja iz 11 područja: sociodemografski i porodični podaci, izvori informacija i znanja o reproduktivnom zdravlju, trenutni/najnoviji heteroseksualni odnos, tipovi heteroseksualnih odnosa, prvi seksualni odnos, homoseksualna iskustva, znanje o upotrebi kontraceptivnih metoda, znanje o HIV-u/AIDS-u i polno prenosivim bolestima, znanje o kondomu i njegova upotreba, seksualnost, pol i rodne norme, percepcija i pristupačnost zdravstvenih ustanova i usluga koje se bave reproduktivnim zdravljem. Javnom dozvolom autora upitnik je preveden i prilagođen srpskom govornom području. Za potrebe ovog istraživanja iskorišćeni su ajtemi iz domena polno prenosive bolesti (vrste i prenošenje polno prenosivih bolesti). Ispitanici su imali mogućnost da označe više odgovora za koje misle da su tačni. Kako bi se računalo da su tačno odgovorili na pitanje u vezi sa poznavanjem vrste polno prenosivih bolesti bilo je potrebno da označe šest odgovora, tj. da su sifilis, HIV/AIDS, gonoreja, kondilomi, genitalni herpes i hepatitis B polno prenosive bolesti. Da bi tačno odgovorili na pitanje u vezi sa prenošenjem polno prenosivih bolesti bilo je potrebno da označe četiri odgovora: „transfuzija krvi", „deljenjem kontaminirane igle", „nezaštićenim seksualnim odnosom" i „ljubljenjem". Ukoliko su označavali još neki odgovor, ili ukoliko neki odgovor nisu obeležili, dobijali su 0 bodova. Krombah-alfa koeficijent za ove dve upotrebljene skale je niži od prihvatljivog i za subskalu u vezi sa vrstom polno prenosivih bolesti iznosi .32, a za subskalu prenošenje polno prenosivih bolesti .42.

Procedura ispitivanja

Ispitivanje je sprovedeno onlajn (preko Google forms platforme) tokom maja 2020. godine na teritoriji Republike Srbije. Do ispitanika se došlo putem ličnih poznanstava, kontaktiranjem telefonskim putem ili preko društvenih mreža. Nakon što su dobijene usmene saglasnosti za učestvovanje u istraživanju, upitnik im je prosleđivan putem mejla, a zatim su ga popunjavali samostalno i anonimno.

Obrada podataka

Za opis podataka korišćeni su deskriptivni statistici: procenti, medijane i interkvartalni rasponi. Za inferencijalnu obradu podataka korišćen je hi-kvadrat test i neparametrijska tehnika poređenja grupa, Man–Vitnijev test, jer se korišćenjem Šapiro–Vilkove analize za proveru normalnosti distribucije pokazalo da podaci na varijablama Vrsta polno prenosivih bolesti i Prenošenje polno prenosivih bolesti nisu normalno distribuirani ($p < .001$). Analiza i obrada podataka rađena je uz pomoć paketa namenjenog statističkoj obradi podataka za društvene nauke (SPSS for Windows, version 25.0).

Rezultati

U Tabeli 1 prikazana je distribucija odgovora ispitanika vezanih za vrstu i prenošenje polno prenosivih bolesti, tj. procentualno je prikazano koliko je ispitanika označilo pojedinačne odgovore.

Tabela 1

Procentualni prikaz učestalosti označavanja odgovora o vrsti i prenošenju polno prenosivih bolesti

Varijable		Ispitanici sa OV	Ispitanici TP
		%	%
Vrste polno prenosivih bolesti	Sifilis*	19.1	17.9
	HIV/AIDS*	22.5	19.9
	Gonoreja*	12.0	12.0
	Kondilomi*	10.0	15.1
	Genitalni herpes*	16.7	15.9
	Hepatitis B*	9.1	8.4
	Hepatitis C	9.6	10.8
	Ne znam	1.0	-
Prenošenje polno prenosivih bolesti	Transfuzijom krvi*	23.9	27.3
	Deljenjem kontaminirane igle*	23.9	29.8
	Deljenjem hrane	0.9	-
	Rukovanjem	0.9	-
	Nezaštićenim seksualnim odnosom*	41.9	41.3
	Ljubljenjem*	7.7	1.7
	Ne znam	0.9	-

Napomena: * tačan odgovor

Rezultati prikazani u Tabeli 1 pokazuju da je najveći procenat ispitanika označio HIV kao polnu bolest, zatim sifilis, pa genitalni herpes. Što se tiče prenošenja polnih bolesti, najveći procenat ispitanika u obe grupe označio je da se mogu preneti nezaštićenim seksualnim odnosom. Kada je sagledano

koliko je ispitanika sa OV i ispitanika TP potpuno tačno odgovorilo na pitanje o vrsti i prenošenju polno prenosivih bolesti, odnosno označilo sve potrebne odgovore, pokazalo se da je to izuzetno mali broj. U vezi sa vrstom polno prenosivih bolesti niko od ispitanika sa OV nije dao potpuno tačne odgovore, dok je to uradilo samo 4% ispitanika TP, dok je u vezi sa prenošenjem polno prenosivih bolesti samo 16% ispitanika sa OV dalo potpune odgovore i 20% ispitanika TP.

U Tabeli 2 prikazani su deskriptivni statistici koji su bili potrebni za Man–Vitnijevu analizu poređenja grupa.

Tabela 2

Deskriptivni statistici u vezi vrste i prenošenja polno prenosivih bolesti

Varijable		*Mdn*	*IQR*	*U*	*p*
Vrste polno prenosivih bolesti	Ispitanici sa OV	5	1.75	958.00	.04
	Ispitanici TP	5	2		
Prenošenje polno prenosivih bolesti	Ispitanici sa OV	5	2	1137.50	.40
	Ispitanici TP	4	1		

Man–Vitnijevom analizom pokazano je da postoji statistički značajna razlika u znanju o vrsti polno prenosivih bolesti među poduzorcima, odnosno da ispitanici TP imaju viši nivo znanja o ovoj temi. Međutim, statistički značajne razlike ne postoje u znanju o prenošenju polno prenosivih bolesti.

U Tabeli 3 dat je prikaz deskriptivnih statistika vezanih za pol, uzrast i stepen obrazovanja ispitanika sa OV koji su potrebni za Man–Vitnijevu analizu.

Tabela 3

Deskriptivni statistici u vezi sa vrstom i prenošenjem polno prenosivih bolesti u funkciji pola, uzrasta i stepena obrazovanja na poduzorku osoba sa OV

Varijable	Ispitanici sa OV		*Mdn*	*IQR*	*U*	*p*
Vrste polno prenosivih bolesti	Pol	Muški pol	4	2	174.50	.009
		Ženski pol	5	2		
	Uzrast ispitanika	20–29	4	2	243.00	.25
		30–40	5	2		
	Stepen obrazovanja	Niže obrazovanje	4	2	243.50	.26
		Više obrazovanje	5	1.75		
Prenošenje polno prenosivih bolesti	Pol	Muški pol	3	2	190.50	.02
		Ženski pol	5	1		
	Uzrast ispitanika	20–29	4	2	266.00	.05
		30–40	5	1.25		
	Stepen obrazovanja	Niže obrazovanje	4	2	278.50	.05
		Više obrazovanje	5	2		

Nakon sprovedene Man–Vitnijeve analize među kategorijama (pol, uzrast i stepen obrazovanja) u okviru poduzorka sa OV otkriveno je da postoje statistički značajne polne razlike u znanju o vrstama polno prenosivih bolesti i o prenošenju polno prenosivih bolesti. Osobe ženskog pola sa OV pokazale su veće znanje u odnosu na osobe muškog pola. U odnosu na uzrast i stepen obrazovanja ne postoje značajne razlike.

Zatim je sprovedena hi-kvadrat analiza za svaku vrstu i način prenošenja polno prenosivih bolesti među kategorijama ispitanika (pol, uzrast, obrazovanje) oba poduzorka. U Tabeli 4 prikazana je procentualna distribucija odgovora oba poduzorka u vezi sa vrstom polno prenosivih bolesti u odnosu na kategorije i statistici hi-kvadrat testa.

Nakon urađene hi-kvadrat analize o vrsti polno prenosivih bolesti, pokazalo se da su muškarci TP stastički značajno bili uspešniji od muškaraca sa OV u vezi sa prepoznavanjem sifilisa kao polno prenosive bolesti. Zatim, u vezi sa kondilomima veće znanje pokazali su muškarci TP u odnosu na muškarce sa OV, žene TP u odnosu na žene sa OV, mlađi ispitanici TP u odnosu na mlađe ispitanike sa OV, stariji ispitanici TP od starijih ispitanika sa OV, ali i više obrazovani ispitanici TP u odnosu na više obrazovane ispitanike sa OV. Za ostale vrste polno prenosivih bolesti nisu se pojavile statistički značajne razlike među kategorijama poduzoraka.

U Tabeli 5 prikazana su procentualna distribucija odgovora oba poduzorka u vezi sa prenošenjem polno prenosivih bolesti u odnosu na kategorije i statistici hi-kvadrat testa. Za odgovor deljenje kontaminirane igle u vezi sa prenošenjem polno prenosivih bolesti veće znanje pokazalo je više muškaraca TP u odnosu na muškarce sa OV. Za odgovor ljubljenjem više su se opredilile žene sa OV nego žene TP, mlađi ispitanici sa OV od mlađih ispitanika TP i više obrazovani ispitanici sa OV nego više obrazovani ispitanici.

Diskusija

Zaštita od polno prenosivih bolesti predstavlja bitan segment reproduktivnog zdravlja, koji usled usled neznanja, nezainteresovanosti i neinformisanosti može biti narušen. Posebno je zabrinjavajuća činjenica da postoji uvreženo mišljenje da osobe sa smetnjama u razvoju ne polažu pravo na seksualno i reproduktivno zdravlje, kao ni na znanje o određenim domenima (Banks & Polack, 2014, prema Obasi et al., 2019; Ortoleva & Lewis, 2012).

Shodno tome, cilj ovog istraživanja bilo je utvrđivanje znanja o ovom domenu zdravlja u populaciji sa OV, ali i poređenje njihovog znanja sa osobama TP. Statistički značajna razlika u znanju među ispitanicima sa OV i ispitanika TP postoji u vezi sa poznavanjem vrsta polno prenosivih bolesti, ali ne postoji u vezi sa znanjem o prenošenju polno prenosivih bolesti. Jedan od razloga takvog rezultata može biti to što se polno prenosive bolesti mnogo češće pominju u mas-medijima nego načini prenošenja ovih bolesti i zaštita od njih.

Tabela 4

Distribucija odgovora o vrstama polno prenosivih bolesti prema polu, uzrastu i stepenu obrazovanja ispitanika i statistici hi-kvadrat testa

			Vrsta polno prenosivih bolesti													
			Sifilis		HIV/AIDS		Gonoreja		Kondilomi		Genitalni herpes		Hepatitis B		Hepatitis C	
			%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)
Pol	Muški	OV	35.7	4.29*	45.2	2.10	16.7	2.40	11.9	6.22*	31.0	1.00	19.0	0.10	28.6	0.38
		TP	47.6		50.0		28.6		31.0		38.1		21.4		23.8	
	Ženski	OV	43.1	0.00	48.3	1.02	31.0	0.00	27.6	6.47*	37.9	0.42	19.0	0.07	31.0	1.73
		TP	43.1		50.0		31.0		43.1		41.4		20.7		22.4	
Uzrast	20–29	OV	32.3	1.00	46.7	2.07	16.7	0.27	16.7	5.41*	33.3	0.08	25.0	0.27	26.7	0.60
		TP	43.3		50.0		25.0		31.7		35.0		21.7		21.7	
	20–29	OV	42.5	1.11	47.5	1.03	27.5	1.03	27.5	8.53*	37.5	3.14	10.0	1.91	35.0	1.97
		TP	47.5		50.0		37.5		47.5		47.5		20.2		25.0	
Stepen obrazovanja	Niže	OV	37.5	1.56	47.5	1.03	22.5	0.00	22.5	0.90	32.5	0.48	20.0	0.11	27.5	0.10
		TP	45.0		50.0		17.5		30.0		37.5		17.5		25.0	
	Više	OV	41.7	0.58	46.7	2.07	20.0	1.93	20.0	14.07*	36.7	0.88	18.3	0.62	31.7	2.41
		TP	45.0		50.0		38.3		43.3		41.7		23.3		21.7	

Napomena: * $p < .05$

Tabela 5

Distribucija odgovora o prenošenju polno prenosivih bolesti prema polu, uzrastu i stepenu obrazovanja ispitanika i statistici hi-kvadrat testa

			Prenošenje polno prenosivih bolesti											
			Transfuzijom krvi		Deljenjem kontaminirane igle		Deljenjem hrane		Rukovanjem		Nezaštićenim seksualnim odnosom		Ljubljenjem	
			%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)	%	χ^2 (df = 1)
Pol	Muški	OV	21.4	2.40	16.7	4.67*	47.6	1.02	47.6	1.02	47.6	1.02	9.5	0.78
		TP	33.3		33.3		50.0		50.0		50.0		4.8	
	Ženski	OV	32.8	0.00	36.2	0.90	50.0	0.00	50.0	0.00	50.0	0.00	8.6	5.47*
		TP	32.8		37.9		50.0		50.0		50.0		0.0	
Uzrast	20–29	OV	26.7	1.76	23.3	3.36	48.3	1.02	48.3	1.02	50.0	0.00	11.7	5.19*
		TP	35.0		35.0		50.0		50.0		50.0		1.7	
	20–29	OV	30.0	0.00	35.0	0.13	50.0	0.00	50.0	0.00	47.5	1.01	5.0	0.36
		TP	30.0		37.5		50.0		50.0		50.0		2.5	
Stepen obrazovanja	Niže	OV	32.5	0.11	25.0	0.40	50.0	1.03	50.0	1.03	50.0	1.03	7.5	0.23
		TP	30.0		30.0		50.0		50.0		50.0		5.0	
	Više	OV	20.5	2.50	30.0	2.86	50.0	0.00	50.0	0.00	50.0	0.00	10.0	6.67*
		TP	35.0		40.0		50.0		50.0		50.0		0.0	

Napomena: * $p < .05$

Kada se sagledaju odgovori o polno prenosivim bolestima (sifilis, HIV, gonoreja, kondilomi, genitalni herpes, hepatitis B i hepatitis C) ispitanici TP su značajno češće davali tačne odgovore u odnosu na ispitanike sa OV. Međutim, ovde bi trebalo skrenuti pažnju na to da je više ispitanika sa OV nego ispitanika TP označilo hepatitis C kao polno prenosivu bolest. Hepatitis C se ne vodi kao polno prenosiva bolest jer se najčešće prenosi parenteralnim putem (Smoljan, 2017), što može sugerisati da osobe sa OV nemaju pristup proverenim informacijama u meri u kojoj je to omogućeno osobama TP. To se slaže sa podacima iz prethodnih studija (Carneito & Veiga, 2004, prema Aragão et al., 2016; Cavalcante et al., 2015; Eide et al., 2011).

Rezultati hi-kvadrat testa pokazali su da o sifilisu i kondilomima znaju više muškarci i žene TP nego sa OV, mlađi i stariji ispitanici TP nego sa OV i više obrazovani ispitanici TP nego sa OV. U suštini, ispitanici sa OV pokazali su manje znanja o svim vrstama polno prenosivih bolesti od ispitanika TP, što ide u prilog prethodno diskutovanoj statistički značajnoj razlici u tačnim odgovorima. Zabrinjavajuće je to što se dobijeni nalazi slažu sa rezultatima istraživanja koja su sprovedena pre više godina (Araújo et al., 2015; Barbosa, 2013; Bezerra, & Pagliuca, 2010), jer se nameće zaključak da i dalje vlada opšte neznanje osoba sa OV o ovom domenu zdravlja.

Osvrtom na postojanje statistički značajnih razlika kod osoba sa OV, primetno je da postoje polne razlike, tj. da ispitanice znaju više o vrstama polno prenosivih bolesti nego ispitanici. Iako razlog dobijenih razlika može biti to što je učestvovalo nešto više ispitanica nego ispitanika sa OV, čini se da reproduktivno zdravlje osoba muškog pola još uvek nije popularizovano i da se većinom žene redovno kontrolišu. Međutim, naši rezultati se razlikuju od istraživanja iz 2015. godine koje su sprovodili Araujo i saradnici (Araujo et al., 2015), gde se pokazalo da žene imaju nedovoljno znanja o ovoj temi. Istraživači su to objasnili još uvek prisutnim rodnim razlikama zbog kojih žene imaju manja prava od muškaraca, uključujući i pravo na brigu o zdravlju.

Zatim, nisu otkrivene značajne razlike u znanju o vrstama polno prenosivih bolesti u zavisnosti od uzrasta i stepena obrazovanja ispitanika sa OV. Ovo istraživanje dalo je slične rezultate kao istraživanje iz Brazila (Araujo et al., 2015), gde je procentualno više osoba starijeg uzrasta pokazalo neznanje, ali taj rezultat nije bio statistički značajan. Takođe, u pomenutom istraživanju nisu se pokazale razlike u zavisnosti od stepena obrazovanja ispitanika, kao ni kod nas. Ispitanici iz istraživanja sa teritorije južne Afrike (Eide et al., 2011) smatrali su da stepen obrazovanja može imati uticaja na nivo znanja o ovoj temi, jer vlada mišljenje da su osobe sa visokim obrazovanjem informisanije o svim životnim temama od osoba sa niskim obrazovanjem.

Kada je u pitanju sveukupno znanje o prenošenju polno prenosivih bolesti, Man–Vitnijeve analize pokazale su da se ispitanici sa OV i ispitanici TP statistički značajno ne razlikuju. Oba poduzorka pokazala su nedovoljno znanja,

čime smo dobili iste rezultate kao i u istraživanju Franka i saradnika (França et al., 2019). Najviše ispitanika znalo je da se ove infekcije prenose nezaštićenim seksualnim odnosom, zatim deljenjem kontaminirane igle, transfuzijom krvi, ali za prenošenje ljubljenjem nisu bili sigurni.

Muškarci TP su u odnosu na muškarce sa OV pokazali veće znanje o prenošenju ove vrste infekcija preko kontaminiranih igala. Međutim, o prenošenju bolesti ljubljenjem više su znale žene sa OV nego žene TP, mlađi ispitanici sa OV nego mlađi TP i više obrazovani ispitanici sa OV nego više obrazovani ispitanici TP. Iako se vidi da su ispitanici sa OV pokazali više znanja o nekim načinima prenošenja ove vrste infekcija, razlika nije statistički značajna. S obzirom na to da su ispitanici sa OV pokazali neznanje u vezi svega ostalog, ostaje da se u narednim istraživanjima ovaj nalaz proveri.

U poduzorku ispitanika sa OV žene znaju više o prenošenju polno prenosivih bolesti od muškaraca, dok ne postoje razlike u zavisnosti od stepena obrazovanja i uzrasta. To je iznenađujuće jer se očekivalo da više obrazovani i mlađi ispitanici imaju veće znanje zbog boljeg snalaženja na tehnološkim uređajima i efikasnijeg pronalaženja informacija (Griffin-Shirley et al., 2017).

Na kraju, ono što može da predupredi prikazano neznanje o polno prenosivim bolestima zasigurno jeste veća dostupnost informacija (Sedlecki, 2001). Osobama sa OV treba obezbediti samostalno pristupanje informacijama, te stoga treba prilagoditi štampane materijale i vizuelne medije i posebno internet izvore. Iako se postavlja pitanje validnosti informacija koje se ovim putem mogu dobiti, mladi sa OV ne smatraju lekare i stručna lica koja se bave ovim domenom zdravlja kao značajan izvor informisanja, pa ne preostaje ništa drugo nego da se informacije o seksualno-reproduktivnom zdravlju približe putem medija (Stekić i sar., 2020).

Sem dostupnosti informacija, rešenje bi bila i pravovremena edukacija, koja bi započinjala još od najranijeg uzrasta (Telebak i sar. 2013) bez obzira da li su u pitanju osobe TP ili sa OV. Na primer, u istraživanju Franka i saradnika (França et al., 2019) pokazalo se da je edukacija o ovom segmentu reproduktivnog zdravlja povećala znanje ispitanika sa OV. Takođe, Aval i saradnici (Aval et al., 2019) dokazali su da ova vrsta edukacije ima efekta, sem na uvećanje znanja, i na menjanje stavova o seksualnosti i reprodukciji osoba sa OV ženskog pola, a ne sumnja se ni da bi se takvi efekti postigli i sa osobama muškog pola sa OV. Stoga, kako bi se organizovala efikasna edukacija sa ciljem povećanja znanja o reproduktivnom zdravlju, potrebno je organizovati kontinuiran zdravstveno-savetodavni rad, zatim podići svest o redovnim i preventivnim ginekološkim i urološkim pregledima i učiniti zdravstvene ustanove i njihove zaposlene dostupnijim osobama sa OV (Bošnjak i Rakić, 2020). Nesumnjivo je da u našoj zemlji treba detaljno analizirati trenutnu situaciju u vezi sa seksualno-reproduktivnim zdravljem i te rezultate iskoristiti kao osnovu za planiranje i sprovođenje kvalitetne edukacije. Ali dok se to ne desi, trebalo bi naći način i

u većoj meri angažovati zdravstvena savetovališta da se ovim temama bave na otvoreniji i pristupačniji način.

Na kraju, postoji nekoliko ograničenja ovog istraživanja. Glavno ograničenje ove studije je mali broj ispitanika, zbog čega nije moguće rezultate generalizovati na celu populaciju osoba sa OV. Sledeće ograničenje je to što je istraživanje sprovedeno onlajn, pa mnogi ispitanici sa OV nisu bili u mogućnosti da učestvuju zbog nedostupnosti računara, pametnog telefona ili internet mreže. Takođe, dodatan problem pri ovakvom načinu sprovođenja istraživanja jeste nedostatak ličnog kontakta ispitanika i ispitivača i eventualno pojašnjenje nedoumica. Poslednje, ali vrlo bitno ograničenje jeste to što je upitnik koji se koristio u ovom istraživanju imao nizak koeficijent pouzdanosti.

Kao preporuka za naredna istraživanja predlaže se uključivanje većeg broja ispitanika sa OV i kontrolne grupe ili ponavljanje istraživanja na istim poduzorcima nakon organizovane i sprovedene edukacije o seksualno-reproduktivnom zdravlju. Ne bi bilo na odmet da se u okviru uzorka sa OV nalazi podjednak broj slepih i slabovidih ispitanika, pa da se znanje uporedi i po toj osnovi. Takođe, za naredna istraživanja potrebno je pronaći upitnik sa većim koeficijentom pouzdanosti.

Zaključak

Polno prenosive bolesti nalaze se među prvih pet bolesti u svetu, a ipak se u mnogim istraživanjima pokazalo da znanje o reproduktivnom zdravlju nije na visokom nivou. Nakon sprovedenog istraživanja dobijeni su nalazi da ispitanici TP imaju veće znanje o vrstama polno prenosivih bolesti u odnosu na ispitanike sa OV. Međutim, pomoću rezultata se može videti da ni populacija sa OV, ni populacija TP nema visoko znanje o polno prenosivim bolestima, pa se onda postavlja pitanje kako da se zaštite od njih i prepoznaju simptome infekcije na vreme. Jedino ispravno rešenje tog problema bilo bi organizovanje edukacija o ovoj temi i povećanje dostupnosti informacija. Iako je činjenica da je u Republici Srbiji seksualno-reproduktivna edukacija još uvek samo zamisao i inicijativa, neophodno je kontinuirano raditi na organizovanju zdravstveno-vaspitnog rada sa decom, mladima, roditeljima, nastavnicima i odraslima sa OV, a za to vreme omogućiti pristup pouzdanim informacijama na ovu temu putem mas-medija.

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Knowledge of persons with visual impairment and typically developing persons about sexually transmitted diseases

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Introduction. Sexually transmitted diseases are a public health, medical and social problem. They are among the five most common diseases in the world. Knowledge about sexually transmitted infections and protection from them is one of the most important methods of prevention and protection of sexual and reproductive health. *Objectives*. The main aim of this paper was to determine the knowledge of persons with visual impairments about sexually transmitted diseases. Other objectives included determining the differences between knowledge of persons with and without visual impairments about sexually transmitted diseases and determining gender, age, and educational differences. *Methods*. The study included 50 participants with visual impairment and 50 participants without visual impairment, equal in gender, age, and level of education. Data were collected online in May 2020. The Illustrative Questionnaire for Interview-Surveys with Young People was used for this purpose. *Results*. The main results showed a statistically significant difference between persons with and those without visual impairment in terms of knowledge about the types of sexually transmitted diseases. In the subsample of participants with visual impairment, there were statistically significant differences related to gender, but no age and educational differences. *Conclusion*. It is necessary to pay more attention to people with visual impairment with regard to sexual and reproductive health through the organization of training and workshops in order to increase knowledge on this topic.

Keywords: visual impairment, typically developing persons, sexually transmitted diseases

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Stavovi učenika tipičnog razvoja prema inkluzivnom obrazovanju u Republici Srpskoj

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Uvod: Stavovi učenika tipičnog razvoja, te njihova priprema za prihvatanje i saradnju sa vršnjacima s ometenošću, važan su faktor za realizaciju i uspjeh inkluzivnog obrazovanja. *Cilj*: Cilj istraživanja je da se utvrde stavovi učenika tipičnog razvoja prema inkluzivnom obrazovanju i njihova povezanost sa stavovima prema osobama s ometenošću, učestalošću kontakta, klimom u odjeljenju, polom i razredom. *Metode*: Uzorak čini 331 učenik od trećeg do petog razreda redovne osnovne škole. Podjeljen je na dva poduzorka: ispitanike koji pohađaju inkluzivna i neinkluzivna odjeljenja. Za procjenu su korišteni: Skala za procjenu stavova vršnjaka prema osobama sa hendikepom, Čedok–Mekmasterova skala za procjenu stavova prema osobama sa hendikepom, Skala za procjenu kontakta sa osobama s ometenošću i Inventar moga odjeljenja. *Rezultati*: Rezultati pokazuju da su stavovi učenika prema inkluzivnom obrazovanju vršnjaka s ometenošću pretežno negativni. Kao značajni prediktori ovih stavova izdvojili su se: učestalost kontakta, nesuglasice, kompetitivnost i razred koji učenici pohađaju. S druge strane, pohađanje odjeljenja zajedno sa vršnjacima s ometenošću, stavovi prema osobama s ometenošću, zadovoljstvo odjeljenjem i pol nisu bili značajni prediktori. *Zaključak*: Rezultati ukazuju na potrebu za ranom pripremom učenika tipičnog razvoja za zajedničko obrazovanje sa vršnjacima s ometenošću kroz kontakt i njegovanje saradničke klime u odjeljenju.

Ključne riječi: učenici tipičnog razvoja, stavovi, inkluzivno obrazovanje

Uvod

Inkluzivno obrazovanje podrazumijeva restrukturisanje sistema redovnog obrazovanja, tako da svaka škola bude u stanju da se prilagodi svakom djetetu, bez obzira na ometenost ili neku drugu karakteristiku, kao i da obezbijedi da svi učenici pripadaju zajednici (Brojčin, 2013). Djeca s ometenošću imaju pravo na kvalitetno obrazovanje, kao i njihovi vršnjaci tipičnog razvoja (TR), a najbolji način da se to ostvari jeste da budu u istom

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obrazovnom okruženju (Hsiao, 2020; Odom & Diamond, 1998). Pored akademskih dobrobiti, zagovornici inkluzivnog obrazovanja smatraju da će zajedničko obrazovanje imati za rezultat i bolje socijalne ishode, kako kod učenika s ometenošću, tako i kod učenika TR (Bunch & Valeo, 2004; Kart & Kart, 2021).

Stavovi, namjere i ponašanje učenika TR prema vršnjacima s ometenošću važni su faktori u uključivanju djece s ometenošću u zajednički život (Bebetsos et al., 2013). Stavovi se definišu kao naučene i stabilne predispozicije da se prema određenom objektu, osobi ili grupi ponašamo na stereotipan i dosledan način (Hunt & Hunt, 2000). Odnosno, stavovi predstavljaju misli, vjerovanja, osjećanja i ponašanja prema osobi, objektu ili situaciji (Çiçek Gümüş & Öncel, 2021).

Stavovi učenika TR, njihova priprema za prihvatanje i saradnju sa vršnjacima s ometenošću u istom odjeljenju, u okviru redovne škole, smatraju se jednim od najvažnijih faktora za realizaciju i uspjeh inkluzivnog obrazovanja (Panagiotou et al., 2008; Werner et al., 2015). Učenici koji imaju pozitivnije stavove prema ometenosti, imaju tendenciju da češće stupaju u interakciju sa vršnjacima s ometenošću u odjeljenju (Cross et al., 2004; Kwon et al., 2017; Okagaki et al., 1998). Prihvatanje i interakcija sa vršnjacima s ometenošću jedan je od bitnijih faktora koji čini da učenici s ometenošću budu percipirani kao članovi odjeljenja, kao i da se oni sami osjećaju kao pripadnici grupe (Reina et al., 2016).

Važno je da učenici imaju pozitivnu percepciju inkluzivnog obrazovanja. Ukoliko učenici imaju pozitivno viđenje takvog načina obrazovanja, onda mogu biti i spremniji da budu prijatelji sa vršnjacima s ometenošću (Cheung et al., 2015). Pozitivni stavovi učenika TR prema vršnjacima s ometenošću mogu da ukazuju na njihova pozitivna uvjerenja i spremnost da se oni uključe u inkluzivnu nastavu (Bebetsos et al., 2014; Soulis et al., 2016). Negativni stavovi prema vršnjacima s ometenošću, s druge strane, predstavljaju glavnu barijeru socijalnoj participaciji učenika s ometenošću unutar škole (Çiçek Gümüş & Öncel, 2021; McDougall et al., 2004), jer mogu nepovoljno uticati na učešće, interakciju i prihvatanje učenika s ometenošću (Cheung et al., 2015; Fisher et al., 1998; Kwon et al., 2017). Takođe, mogu dovesti i do neprihvatanja od vršnjaka, odbačenosti, usamljenosti ili bulinga (de Boer et al., 2012).

Rezultati studija koje su se bavile ispitivanjem stavova učenika TR prema inkluzivnom obrazovanju ne daju ujednačenu sliku o stavovima prema uključivanju učenika s ometenošću u redovnu nastavu i kreću se od pozitivnih (Kapinga, 2020; McGregor, 2003; McKay et al., 2015; Radisavljević Janić i sar., 2018) do negativnih (Cheung et al., 2015; Soulis et al., 2016; Wang & Qi, 2020). Nešto pozitivnije stavove učenici TR imaju prema zajedničkom obrazovanju sa učenicima s tjelesnim invaliditetom i učenicima sa vizuelnim smetnjama (Kapinga, 2020; McGregor & Forlin, 2005; Roberts & Lindsell, 1997) u odnosu na učenike s intelektualnom ometenošću ili bihevioralnim

problemima (McGregor & Forlin, 2005). Na primjer, rad Siperstajna i saradnika (Siperstein et al., 2007) pronalazi da učenici smatraju da inkluzija ima dobre i loše strane i vjeruju da učenici s intelektualnom ometenošću mogu da učestvuju u neakademskoj, ali ne i akademskoj nastavi. U drugom istraživanju, sprovedenom u Grčkoj, pronađeno je da su učenici spremniji da imaju druga s ometenošću u školi, kao i da zajedno rade školske zadatke, nego da sjede s njim, igraju se ili pohađaju isto odjeljenje (Magiati et al., 2002).

Ispitani su neki faktori za koje se pretpostavljalo da mogu biti u vezi sa stavovima učenika prema inkluzivnom obrazovanju, poput kontakta, pola i razreda.

Jedna od najčešće citiranih teorija kojom se nastoji objasniti smanjivanje predrasuda među različitim grupama jeste Olporova teorija kontakta (*Allport Intergroup Contact Theory*, Allport, 1954, prema Bridges & Tomkowiak, 2010). Prema njoj, kontakt može dovesti do pozitivnijih stavova ukoliko su zadovoljeni određeni uslovi, poput toga da kontakt ne smije biti površan, da mora da bude podržan i ohrabren od autoriteta, da bude prijatan i da učesnici koji stupaju u kontakt imaju jednak status, pri čemu ciljevi treba da budu kooperativni, a ne kompetitivni, kao i da se pripadnici manjinske grupe vide kao pozitivni primjeri te grupe (Allport, 1954, prema Bridges & Tomkowiak, 2010; Barr & Bracchitta, 2015).

Istraživački nalazi po pitanju uticaja kontakta na stavove učenika TR prema inkluziji učenika s ometenošću u redovne razrede nisu konzistentni. Prema Hant i Hant (Hunt & Hunt, 2000) veća učestalost kontakta vodi pozitivnijim stavovima, dok pozitivne socijalne interakcije među učenicima mogu voditi smanjivanju predrasuda i stigmatizacije (Salend & Garrick Duhaney, 1999). Rezultati većeg broja studija idu u prilog postojanja pozitivne veze između kontakta i stavova učenika prema inkluziji (Al Salim, 2021; Campos et al., 2014; Clunies-Ross & O'meara, 1989; Ocete et al., 2020; Reina et al., 2019; Roberts & Lindsell, 1997; Wang & Qi, 2020). S druge strane, postoje i studije čiji rezultati ukazuju na negativnu korelaciju između ovih varijabli (Hall, 2003; Hutzler & Levi, 2008; McKay et al., 2018). Takođe, uočeno je da pohađanje odjeljenja zajedno sa učenicima s ometenošću u velikoj mjeri utiče na stavove učenika prema inkluziji. Tako učenici koji pohađaju nastavu zajedno sa vršnjacima s ometenošću, imaju i pozitivnije mišljenje o tome da učenici s ometenošću treba da pohađaju redovne razrede (Soulis et al., 2016; Wang & Qi, 2020).

Različite rezultate pronalazimo i kada je u pitanju veza između stavova učenika prema inkluzivnom obrazovanju i pola. U većini slučajeva djevojčice imaju pozitivnije stavove prema uključivanju učenika s ometenošću u redovne razrede (Al Salim, 2021; Campos et al., 2014; Hutzler, 2003; Reina et al., 2019; Wang & Qi, 2020). S druge strane, postoje i studije u kojima nije potvrđena veza između stavova i pola (Arampatzi et al., 2011;McKay et al., 2018).

Mali broj studija razmatrao je vezu između stavova prema inkluziji i razreda. U pojedinim studijama učenici mlađeg školskog uzrasta imaju i pozitivnije stavove prema uključivanju učenika u redovne razrede (Hall, 2003; Radisavljević Janić i sar., 2018). Druge studije ne uočavaju statistički značajnu vezu u pogledu razreda koji učenici pohađaju i stavova prema inkluziji (Verderber et al., 2003; Wang & Qi, 2020).

Veliku važnost za uključivanje učenika s ometenošću u redovno obrazovanje imaju stavovi prema toj populaciji. U literaturi pronalazimo brojne studije kojima su ispitivani stavovi učenika TR prema vršnjacima s ometenošću. Velika većina njih govori o pozitivnim ili neutralnim stavovima učenika (Alnahdi, 2019; Anku et al., 2021; de Boer et al., 2012; Georgiadi et al., 2012; Gonçalves & Lemos, 2014; Soulis et al., 2016). Takođe, uočeno je da učenici manje pozitivne stavove izražavaju prema vršnjacima koji imaju bihevioralne probleme ili intelektualnu ometenost, u odnosu na učenike s tjelesnom invalidnošću, kao i oštećenjem vida ili sluha (Barr & Bracchitta, 2015; Brown et al., 2011; de Laat et al., 2013; Hastings & Oakford, 2003; Nowicki, 2006). Pored toga, učenici koji pohađanju odjeljenja ili škole u kojima se nalaze učenici s ometenošću izražavaju i pozitivnije stavove prema njima (Alnahdi, 2019; Alnahdi et al., 2021; Bunch & Valeo, 2004; Georgiadi et al., 2012; Nikolaraizi et al., 2005; Nowicki & Sandieson, 2002; Sirlopu et al., 2008). S druge strane, postoje i studije u kojima nije dobijena razlika u stavovima učenika prema vršnjacima s ometenošću u odnosu na prisustvo učenika s ometenošću u njihovim odjeljenjima (Schwab, 2017; Szumski et al., 2020).

Iako postoji razumna pretpostavka o važnosti stavova prema osobama s ometenošću za pozitivnije viđenje i ostvarljivost samog procesa inkluzivnog obrazovanja, istraživanja u kojima je ispitivana direktna povezanost ova dva faktora rijetko su realizovana. Soulis i saradnici (Soulis et al., 2016) bavili su se ispitivanjem stavova učenika prema vršnjacima s ometenošću i njihovim viđenjem inkluzivnog obrazovanja. Na reprezentativnom uzorku od 2.683 učenika TR rezultati pokazali su da učenici imaju pozitivne stavove prema njihovim vršnjacima s ometenošću, ali ne i toliko pozitivno viđenje inkluzivnog obrazovanja. Većina učenika smatrala je da učenici s ometenošću ne bi trebalo da budu u inkluzivnim učionicama. Ipak, nije dobijena statistički značajna povezanost između ovih varijabli.

Stvaranje prijatne socioemocionalne klime u razredu, u kojoj će se učenici osjećati bezbjedno, cijenjeno i prihvaćeno i gdje im je obezbjeđeno aktivno učešće, važan je uslov za uspješan razvoj inkluzivne prakse (Santos et al., 2009, prema Santos et al., 2016). Poštovanje različitosti unutar grupe može da koristi cjelokupnoj klimi u razredu (Allodi, 2002). Klima u razredu odnosi se na ukupnu atmosferu u učionici, koju oblikuju interakcije koje se odvijaju u učionici, uključujući ponašanje nastavnika, interakciju između nastavnika i učenika, kao i interakcije među učenicima (Gazelle, 2006; Khalfaoui et al., 2021).

Najčešće se pravi razlika između pozitivne i negativne klime u odjeljenju. Kao pozitivne karakteristike navode se postojanje osjećaja sigurnosti i prihvaćenosti, razumijevanje perspektive drugog, tolerantnost, uvažanje različitosti i slično. S druge strane, kao glavne odlike negativne klime navode se postojanje otpora i nezadovoljstva kod nastavnika i učenika, sukobljavanje, neprihvaćenost, kao i distanca između nastavnika i učenika (vidjeti u Marković, 2018; Radovanović i Kovačević, 2020). U nekim istraživanjima pronalazi se da odjeljenja u koja su uključeni učenici s ometenošću karakteriše nizak nivo neslaganja, takmičenja ili individualizma. Nasuprot tome, stepen kohenzivnosti je visok u poređenju sa odjeljenjima u kojima nema takvih učenika (Allodi, 2002; Schmidt & Čagran, 2006). Postoje i istraživanja koja pronalaze veoma mali uticaj djece s ometenošću na klimu u razredu, i to samo u određenim aspektima koji su uključivali podršku nastavnika u aktivnostima učenja i nivo saradnje tokom školskih aktivnosti (Bochiş et al., 2020).

Uključivanje učenika s ometenošću u redovne razrede posljednjih decenija postalo je globalni trend. Uprkos toj činjenici na području Bosne i Hercegovine, kao i susjednih zemalja, pronalazimo samo par studija koje su se bavile ispitivanjem stavova učenika TR prema inkluzivnom obrazovanju. Najveći procenat učenika smatrao je da učenici s ometenošću treba da pohađaju redovne razrede, dok je manji procenat onih koji su kao najbolje rješenje za obrazovanje učenika s ometenošću vidjeli u posebnim školama ili posebnim odjeljenjima pri redovnim školama (Bermanec, 2018; Džafić, 2015; Radisavljević Janić i sar., 2018; Rodić, 2019;Takacz, 2019).

Imajući u vidu nedostatak relevantnih podataka na području Republike Srpske (BiH), cilj ovog rada je da utvrdi stavove učenika TR prema inkluzivnom obrazovanju i njihovu povezanost sa stavovima ovih učenika prema osobama s ometenošću, učestalošću kontakta, klimom u odjeljenju, polom i razredom koji pohađaju.

Metode

Uzorak

Uzorkom istraživanja obuhvaćen je 331 učenik iz 18 odjeljenja, od trećeg do petog razreda redovne osnovne škole. Učenici su pohađali škole iz opština Gacko, Nevesinje, Istočno Novo Sarajevo (Lukavica i Kasindo), Istočna Ilidža (Vojkovići), Šekovići i Sokolac, kao i grada Trebinja.

Uzorak je podijeljen na dva poduzorka – ispitanike koji pohađaju inkluzivna odjeljenja (IOD), odnosno odjeljenja koje pohađa i jedan učenik s intelektualnom ometenošću (u ospegu od umjerene do lake intelektualne ometenosti) i neinkluzivna odjeljenja (NIOD), tj. odjeljenja u kojima nema učenika sa ometenošću. Učenici s intelektualnom ometenošću razvrstani su na osnovu nalaza i mišljenja prvostepene stručne komisije za procjenu potreba i usmjeravanje lica sa smetnjama u razvoju.

U IOD je uključeno 49.2% ispitanika, a u NIOD 50.8%. Najveći broj ispitanika je pohađao treći razred (40.5%), potom peti (38.1%), dok je najmanje ispitanika pohađalo četvrti razred (21.5%). Prema polnoj strukturi u uzorku je bilo 48.6% dječaka i 51.4% djevojčica.

Instrumenti istraživanja

Skala za procjenu stavova vršnjaka prema osobama sa hendikepom (*Peer Attitude Toward the Handicapped Scale* – PATHS; Bagley & Greene, 1981) korištena je za procjenu stavova učenika prema inkluzivnom obrazovanju. Sadržaj ajtema odnosi se na izražavanje mišljenja učenika u pogledu najpogodnijeg obrazovnog okruženja za učenika sa različitim vrstama ometenosti. Instrument se sastoji od 30 ajtema, a svaki od njih opisuje hipotetičkog učenika sa tjelesnim invaliditetom, oštećenjem vida ili sluha, teškoćama u učenju i problemima u ponašanju. Od učenika se očekuje da pročitaju vinjete i na osnovu toga izaberu jedno od pet ponuđenih okruženja, u zavisnosti od toga gdje, po njihovom mišljenju, opisani učenik treba da se obrazuje. Moguće opcije su: (1) u mom odjeljenju (sa mnom u grupi), (2) u mom odjeljenju, ali ne u mojoj grupi, (3) individualno sa nastavnikom (bez drugih učenika), (4) u drugom odjeljenju ili prostoriji i (5) kod kuće (ne dolazi u školu). Odgovori se rangiraju od pet do jedan, pri čemu viši skor ukazuje na pozitivnije stavove. Za popunjavanje Skale potrebno je u prosjeku 15 minuta, a može da se zadaje individualno ili grupno.

Instrument je pokazao zadovoljavajuću pouzdanost unutrašnje konzistencije za ukupan skor na skali (α = .80), kao i za subskalu kojom se izražavaju stavovi prema obrazovanju učenika sa tjelesnim invaliditetom (α = .71). Međutim, za druge dvije subskale, kojima se procjenjuju stavovi prema obrazovanju učenika sa teškoćama u učenju i problemima u ponašanju, dobijene su niže vrijednosti Krombahovog alfa koeficijenta (α = .63, α = .64), pa je u daljoj analizi uzet u obzir samo ukupan skor na skali.

Stavovi učenika TR prema osobama s ometenošću procjenjeni su Čedok–Mekmasterovom skalom za procjenu stavova prema djeci sa hendikepom (*Chedoke-McMaster Attitudes towards Children with Handicaps scale* – CATCH; Rosenbaum et al., 1986). Skala je zasnovana na trokomponentnom modelu stavova Triandisa (Triandis, 1971) i obuhvata kognitivni, afektivni i bihevioralni domen. Namijenjena je za procjenu stavova djece uzrasta od devet do 13 godina. Obuhvata 36 ajtema, od kojih je u svakoj komponenti po 12 ajtema, sa jednakim brojem pozitivnih i negativnih tvrdnji. CATCH je petostepena skala Likertovog tipa, pri čemu viši skorovi na skali ukazuju na prisustvo pozitivnijih stavova. U ovom radu korišten je samo ukupan skor na skali. Izračunavanjem Krombahovog koeficijenta utvrđeno je da skala u cjelini ima visoku pouzdanost unutrašnje konzistencije (α = .86).

Učestalost kontakta sa vršnjacima s ometenošću procjenjena je Skalom za procjenu kontakta s osobama s ometenošću (*The Contact with Disabled Persons Scale* – CDP; Yuker & Hurley, 1987). Skala se sastoji od 20 ajtema, Likertovog je tipa, sa sljedećim vrijednostima koje opisuju učestalost kontakta: 1 (nikada), 2 (jednom ili dva puta), 3

(nekoliko puta), 4 (često) i 5 (veoma često). Veći skorovi ukazuju na veću učestalost kontakta. Interna konzistentost mjerena Krombahovim alfa koeficijentom je .84.

Za procjenu klime u odjeljenju korišten je Inventar moga odjeljenja (*My Class Inventory* – MCI; Fisher & Fraser, 1981). Primijenjena je kraća forma instrumenta, koja je konstruisana na osnovu široko primjenjivanog instrumenta pod nazivom Inventar okruženja za učenje (*Learning Environment Inventory* – LEI; Fraser et al., 1982). Instrument sadrži 25 ajtema, podjeljenih u pet subskala (kohezivnost, nesuglasice, poteškoće, zadovoljstvo i kompetitivnost). Faktorskom analizom na našem uzorku izdvojena su tri faktora (nesuglasice, kompetitivnost i zadovoljstvo). Novonostale subskale pokazuju zadovoljavajuću pouzdanost izraženu pomoću Krombahovog alfa koeficijenta (prvi faktor $\alpha = .79$, drugi $\alpha = .74$ i treći $\alpha = .69$). Ispitanici biraju između dva ponuđena odgovora: „da" – ukoliko se nešto odnosi na njihovo odjeljenje, odnosno „ne" ukoliko se ne odnosi. Ispitivač vrednuje njihove odgovore tako što ispitanik dobija tri poena ukoliko je dao potvrdan odgovor, odnosno jedan poen ukoliko je odgovorio negativno. Veći skor na subskali nesuglasice ukazuje na viši stepen nesuglasica u odjeljenju. Odnosno, veći skor na subskali kompetitivnost i zadovoljstvo ukazuje na viši nivo kompetitivnog ponašanja, kao i na viši stepen zadovoljstva odjeljenjem.

Za prikupljanje podataka o polu, uzrastu, razredu i nivou intelektualnog funkcionisanja korišten je sociodemografski uputnik posebno kreiran za potrebe ovog istraživanja. Podaci su preuzeti iz dokumentacije koju vodi pedagoško-psihološka služba škole.

Procedura istraživanja

Istraživanje je sprovedeno tokom drugog polugodišta školske 2019/2020. godine i realizovano je u nekoliko faza. U prvoj fazi dobijena je saglasnost Ministarstva prosvjete i kulture Republike Srpske za sprovođenje istraživanja u osnovnim školama. Tokom druge faze uspostavljen je kontakt sa predstavnicima škola sa područja tri regije (Sarajevsko-romanijska, Istočna Hercegovina i Podrinje), nakon čega su prikupljeni podaci o djeci sa smetnjama u razvoju. Takođe, upravi škole je dostavljen dokument sa detaljno objašnjenim ciljem i svrhom istraživanja, zajedno sa odobrenjem Ministarstva. Treća faza obuhvatala je odabir odgovarajućih odjeljenja u kojima se nalaze učenici s intelektualnom ometenošću, kao i odjeljenja u kojima nema učenika s ometenošću. Bilo je neophodno da odjeljenja budu istog razreda, kao i da se nalaze u istoj školi. U četvrtoj fazi uspostavljen je kontakt sa predmetnim nastavnicima kojima je objašnjen cilj istraživanja, kao i način njegove realizacije. Nastavnici su sa istraživanjem upoznali i djecu, i njihove roditelje. Pri tome je pribavljena informisana saglasnost roditelja. Završna faza obuhvatala je prikupljanje podataka i procjenu ispitanika. Procjenu je obavljao sam istraživač, a u prisustvu predmetnog nastavnika. Ispitanici su instrumente popunjavali tokom dva školska časa. Učenicima su data uputstva i detaljno im je objašnjen način popunjavanja svakog korištenog instrumenta. Takođe, istaknuto je da je istraživanje anonimnog karaktera, da nema tačnih i pogrešnih odgovora, kao i da rezultati neće uticati na njihove ocjene u školi.

Obrada podataka

Statistička obrada podataka urađena je pomoću SPSS (*Statistical Package for the Social Sciences, version 20*) softverskog statističkog paketa. Za procjenu normalnosti distribucije skrova korišten je Kolmogorov–Smirnov test, koji je pokazao da su podaci normalno raspoređeni samo na PATHS skali (p = .20). U odnosu na to, za prikazivanje deskriptivnih parametara korištena je medijana, minimalne i maksimalne vrijednosti i kvartili. Pri dovođenju u odnos ispitivanih varijabli korišten je Man–Vitnijev U test, Spirmanova korelacija ranga, point biserijska korelacija i višestruka regresiona analiza.

Rezultati istraživanja

Nakon obrade podatka pristupilo se analizi rezultata dobijenih procjenom stavova učenika prema uključivanju vršnjaka s ometenošću u redovan vaspitno-obrazovni sistem, kao i njihovoj povezanosti sa drugim varijablama, poput stavova prema osobama s ometenošću, učestalošću kontakta s tom populacijom i percipiranom klimom u odjeljenju.

Analizom podataka prikazanih u Tabeli 1 uočavamo da postoji statistički značajna razlika u stavovima učenika TR u IOD i NIOD prema inkluzivnom obrazovanju (U = 11976.50, Z = -1.97, p = .05). Učenici u IOD imaju značajno pozitivnije stavove prema inkluzivnom obrazovanju vršnjaka s ometenošću. Međutim, raspodjela po kvartilima ukazuje na to da obje grupe učenika naginju ka negativnijim stavovima prema uključivanju vršnjaka u redovno obrazovanje, budući da najveći procenat ispitanika ostvaruje skorove niže od 82 (neinkluzivna odjeljenja), odnosno 85 (inkluzivna odjeljenja).

Tabela 1

Rezultati dobijeni procjenom stavova prema inkluzivnom obrazovanju

PATHS	*Mdn*	*Min*	*Max*	*Q1*	*Q3*	Man–Vitnijev *U*	*Z*	*p*
IOD	75.00	45	116	67.00	85.00	11976.50	-1.97	.05
NIOD	73.00	37	105	64.00	82.00			

Napomena: teorijski raspon skorova na PATHS skali kreće se od 30 do 150

Pronađena je statistički značajna pozitivna korelacija, ali zanemarljive visine (r_s = .17, p = .03), između stavova učenika prema inkluzivnom obrazovanju vršnjaka s ometenošću i stavova prema osobama s ometenošću kod učenika u IOD. S druge strane, veza između stavova učenika prema inkluzivnom obrazovanju i učestalosti kontakta sa osobama s ometenošću (r_s = .13, p = .09), kao i faktora putem kojih je sagledavana klima u odjeljenju, nije bila statistički značajna (nesuglasice: r_s = .05, p = .53, kompetitivnost: r_s = -.14, p = .06, zadovoljstvo: r_s = .12, p = .13). Takođe, uočene su značajne, pozitivne i niske korelacije između stavova učenika prema osobama s ometenošću sa učestalošću kontakta s njima (r_s = .27, p < .001) i nivoa zadovoljstva učenika odjeljenjem

(r_s = .19, p = .02), kao i između nivoa nesuglasica i prisustva kompetitivnog ponašanja kod učenika (r_s = .30, p < .001). S druge strane, značajne, negativne i niske korelacije pronađene su između nivoa nesuglasica i zadovoljstva učenika odnosima u odjeljenju (r_s = -.33, p < .001), kao i između kompetitivnosti učenika i zadovoljstva (r_s = -.26, p < .001).

U NIOD su uočene stastički značajne, pozitivne i niske korelacije stavova učenika prema inkluzivnom obrazovanju sa stavovima učenika prema osobama s ometenošću (r_s = .21, p = .01), učestalošću kontakta sa osobama s ometenošću (r_s = .33, p < .001) i nivoa nesuglasica među učenicima u odjeljenju (r_s = .19, p = .01). Dakle, pozitivniji stavovi prema osobama s ometenošću, veća učestalost kontakta sa tom populacijom, ali i veći stepen nesuglasica u odjeljenju, povezani su sa pozitivnijim stavovima učenika prema inkluzivnom obrazovanju. Statistički značajne, pozitivne i niske korelacije pronađene su između stavova učenika prema osobama s ometenošću i učestalosti kontakta sa tom populacijom (r_s = .36, p < .001), kao i nivoa nesuglasica i kompetitivnog ponašanja učenika (r_s = .39, p < .001). Nasuprot tome, značajne i negativne korelacije dobijene su između zadovoljstva učenika i nivoa nesuglasica među učenicima u odjeljenju (r_s = - .50, p < .001), kao i nivoa kompetitivnog ponašanja učenika i njihovog zadovoljstva odjeljenjem (r_s = -.19, p = .01) (Tabela 2).

Tabela 2

Odnos stavova učenika prema inkluzivnom obrazovanju vršnjaka s ometenošću sa stavovima učenika prema osobama s ometenošću, kontaktom i klimom u odjeljenju

Varijable	1.	2.	3.	4.	5.	6.
PATHS		.17*	.13	.05	-.14	.12
CATCH	.21**		.27***	-.76	-.11	.19*
CDP	.33***	.36***		.14	.01	.02
Nesuglasice	.19**	-.11	.02		.30***	-.33***
Kompetitivnost	-.00	-.08	-.03	.39***		-.26***
Zadovoljstvo	-.04	.13	-.04	-.50***	-.19**	

Napomena: iznad dijagonale – vrednosti za IOD, ispod dijagonale – vrednosti za NIOD; $^{*}p \leq .05$, $^{**}p \leq .01$, $^{***}p \leq .001$

Statistički značajna i pozitivna korelacija dobijena je i između stavova učenika prema inkluzivnom obrazovanju i razreda koji učenici pohađaju, iako su dobijene vrijednosti zanemarljive i niske (IOD: r = .17, p = .03; NIOD: r = .26, p < .001). S druge strane, nije bilo statistički značajne povezanosti između stavova učenika prema inkluzivnom obrazovanju i pola (IOD: r = .11, p = .18; NIOD: r = .06, p = .43) (Tabela 3).

Tabela 3

Odnos stavova učenika prema inkluzivnom obrazovanju sa polom i razredom

PATHS	Razred		Pol	
	r_s	*p*	r_{bis}	*p*
IOD	.17	.03	.11	.18
NIOD	.26	.001	.06	.43

Rezultati provjere pokazuju da pretpostavke o nepostojanju multikolinearnosti, normalnosti, linearnosti i homogenosti varijanse nisu bile narušene (Tabela 4). Primjenom hijerarhijske višestruke regresije promjenljive su unošene postepeno, unaprijed određenim redosljedom. U prvom koraku unijete su varijable: pohađanje inkluzivnih/neinkluzivnih odjeljenja i kontakt. U drugom koraku unijete su druge dvije varijable: stavovi prema osobama s ometenošću i klima u odjeljenju, a u trećem koraku pol i razred.

Tabela 4

Značajnost regresionih koeficijenata za rezultate dobijene procjenom stavova prema inkluzivnom obrazovanju vršnjaka s ometenošću

Prediktori	R^2	ΔR^2	β	*t*	*p*
1. Korak					
IOD/NIOD	.07	.07	-.05	-0.96	.34
CDP			.24	4.32	< .001
2. Korak					
IOD/NIOD	.12	.05	-.06	-1.07	.29
CDP			.19	3.30	.001
CATCH			.13	2.39	.02
Nesuglasice			.20	3.35	.001
Kompetitivnost			-.12	-2.23	.03
Zadovoljstvo			.06	0.97	.33
3. Korak					
IOD/NIOD	.14	.02	-.07	-1.27	.21
CDP			.16	2.81	.005
CATCH			.10	1.75	.08
Nesuglasice			.16	2.63	.009
Kompetitivnost			-.12	-2.22	.03
Zadovoljstvo			.05	.92	.36
Pol			.06	1.09	.28
Razred			.14	2.59	.01

Na osnovu rezultata hijerarhijske regresione analize, koja je imala za cilj da utvrdi prediktivnu vrijednost nezavisnih varijabli na stavove prema inkluzivnom obrazovanju, utvrđeno je da postoji mogućnost predikcije skorova

u vrijednosti od 13.9% objašnjene varijanse (kada se posmatra model kao cjelina) ($F = 4.49$, df1 = 8, df2 = 322, $p < .001$).

Analizom dobijenih rezultata uočavamo da varijable unijete u prvom koraku objašnjavaju 6.8% varijanse rezultata dobijenih ispitivanjem stavova prema inkluziji vršnjaka s ometenošću, pri čemu samo varijabla kontakt daje statistički značajan doprinos. Ukoliko se zanemari njihov uticaj, nove varijable (stavovi prema osobama s ometenošću, nesuglasice, kompetitivnost i zadovoljstvo) povećavaju mogućnost predikcije na 11.9%, odnosno 13.9%, ako sagledamo doprinos varijabli koje su dodate u trećem koraku (pol i razred). Na kraju, u cjelokupnom modelu izdvajaju se sljedeće promjenljive koje daju statistički značajan i pozitivan doprinos u objašnjavanju rezultata: kontakt ($\beta = .16$, $p = .005$), nesuglasice ($\beta = .16$, $p = .009$) i razred ($\beta = .14$, $p = .010$), dok je negativan uticaj zabilježen kod kompetitivnosti ($\beta = -.12$, $p = .027$). Što znači, viši nivo kompetitivnosti utiče na izražavanje manje pozitivnih stavova učenika prema inkluzivnom obrazovanju. Prilikom sagledavanja procenta objašnjene varijanse u obzir su uzete vrijednosti parcijalnih koeficijenata korelacije, koji kada ih podignemo na kvadrat pokazuju koliki dio ukupne varijanse zavisne promjenljive jedinstveno objašnjava ta nezavisna promjenljiva. Na osnovu toga zaključujemo da kontakt objašnjava 2.1% (.145), nesuglasice 1.9% (.136), razred 1.8% (.134) i kompetitivnost 1.3% (-.115) varijanse u vrijednostima skorova na PATHS skali.

Diskusija

Rezultati ovog istraživanja pokazuju da se stavovi učenika prema uključivanju vršnjaka s ometenošću u redovne razrede kreću u opsegu od vrlo negativnih do blago pozitivnih, s tim što je veći procent onih koji naginju ka negativnijim stavovima. Dobijeni rezultati su u saglasnosti sa rezultatima drugih istraživanja, koji izvještavaju o negativnim stavovima učenika prema inkluzivnom obrazovanju (Cheung et al., 2015; Soulis et al., 2016). Na primjer, u radu Soulis i saradnika (Soulis et al., 2016) većina učenika TR misli da učenici s ometenošću ne treba da budu u redovnim odjeljenjima, već da je bolje da se obrazuju u posebnim odjeljenjima ili posebnim školama za učenike s ometenošću. Suprotne rezultate pronalazimo u studijama u Bosni i Hercegovini i Hrvatskoj, gdje su učenici skloniji ideji da učenici s ometenošću budu uključeni u redovna odjeljenja, dok manji procenat njih favorizuje posebna odjeljenja ili posebne škole (Bermanec, 2018; Džafić, 2015; Rodić, 2019; Takacz, 2019). Takođe, na osnovu dobijenih rezultata možemo zaključiti da učenici koji pohađaju IOD imaju nešto pozitivnije stavove prema inkluzivnom obrazovanju u odnosu na učenike u NIOD. Međutim, regresiona analiza pokazuje da prisustvo učenika s ometenošću u redovnim odjeljenjima nije faktor koji je značajno uticao na dobijene rezultate. Dakle, samo prisustvo učenika s ometenošću ne utiče na

mišljenje učenika o inkluzivnom obrazovanju. Neke druge studije, takođe, pokazuju da prisustvo učenika s ometenošću u odjeljenju nije povezano s mišljenjem učenika TR o inkluzivnom obrazovanju (Kapinga, 2020; McGregor, 2003). Nasuprot tome, pronalazimo i studije u kojima učenici koji pohađaju nastavu zajedno sa vršnjacima s ometenošću imaju i pozitivnije stavove prema njihovom uključivanju u redovne razrede (Campos et al., 2014; Soulis et al., 2016; Wang & Qi, 2020). Možemo da pretpostavimo da je na naše rezultate mogla da utiče nedovoljna pripremljenost učenika TR za zajedničko pohađanje nastave sa vršnjacima s ometenošću, kao i nedostatak znanja o vršnjacima s ometenošću. Takođe, upitno je koliko se primijenjuju različite aktivnosti u kojima djeca s ometenošću imaju priliku da učestvuju sa vršnjacima TR i da budu predstavljeni kao pozitivni primjeri. To naročito važi za akademske aktivnosti, ako imamo u vidu da istraživanja pokazuju kako učenici TR te aktivnosti izdvajaju kao poseban problem u zajedničkom obrazovanju (Magiati et al., 2002; Siperstein et al., 2007). Budući da se u ovom radu nismo bavili ispitivanjem stavova u odnosu na uključenost učenika s ometenošću u određene nastavne ili vannastavne aktivnosti, bilo bi značajno da to bude predmet interesovanja narednih studija.

Stavovi učenika obje grupe prema inkluzivnom obrazovanju vršnjaka s ometenošću su značajno i pozitivno korelirali sa stavovima učenika prema osobama s ometenošću, iako su vrijednosti korelacija zanemarljive i niske. U uvodnom dijelu je već rečeno da se stavovi učenika prema vršnjacima s ometenošću razmatraju kao važan faktor za uspješnu implementaciju inkluzivnog obrazovanja, pa možemo reći da su rezultati očekivani. Međutim, izostaju istraživački nalazi koji bi to potvrdili. Pretragom literature pronađeno je samo jedno istraživanje u kojem su ove dvije varijable dovođene u korelacioni odnos, s tim što nije potvrđena statistički značajna povezanost. Učenici su imali pozitivne stavove prema vršnjacima s ometenošću, ali su bili manje pozitivni u pogledu njihovog uključivanja u redovna odjeljenja (Soulis et al., 2016). Povezanost između stavova učenika prema inkluzivnom obrazovanju i stavova učenika prema vršnjacima s ometenošću nije potvrđena u regresionoj analizi, u završnom modelu. Budući da su vrijednosti korelacije niske, interpretacija dobijenih rezultata treba da bude uzeta s oprezom. Nadalje, moguće je da bi sprovođenje istraživanja na većem uzorku ispitanika pružilo jasniju sliku ovog odnosa.

U NIOD stavovi učenika prema inkluzivnom obrazovanju su pozitivno povezani sa učestalošću kontakta sa vršnjacima s ometenošću, iako je i u ovom slučaju visina korelacije zanemarljiva. S druge strane, kod učenika u IOD nije pronađena značajna povezanost između stavova učenika TR prema inkluzivnom obrazovanju i učestalosti kontakta sa vršnjacima s ometenošću. Međutim, regresionom analizom je potvrđeno da je učestalost kontakta sa vršnjacima s ometenošću značajan prediktor njihovih stavova prema inkluzivnom obrazovanju.

Rezultati dobijeni u poduzorku učenika u NIOD pokazuju slaganje sa rezultatima drugih studija u kojima je dobijena pozitivna povezanost između kontakta sa osobama s ometenošću sa stavovima učenika prema inkluziji (Al Salim, 2021; Campos et al., 2014; Clunies-Ross & O'meara, 1989; Ocete et al., 2020; Reina et al., 2019; Wang & Qi, 2020). Pored toga, i u drugim istraživanjima kontakt se pokazao kao pozitivan prediktor stavova učenika TR prema inkluziji (Campos et al., 2014; Radisavljević Janić i sar., 2018; Reina et al., 2019). Takođe, rezultati dobijeni kod učenika u IOD nisu tako iznenađujući ako imamo u vidu da kontakt sam po sebi nije dovoljan za predviđanje stavova prema učenicima s ometenošću (Barr & Bracchitta, 2015). Tako, na primjer, Alnahdi i saradnici (Alnahdi et al., 2021) pronalaze da je kontakt sa vršnjacima s ometenošću tokom zajedničkih aktivnosti bolji prediktor pozitivnijih stavova učenika prema vršnjacima s ometenošću od pohađanja zajedničke nastave. I drugi autori saopštavaju da površni kontakt sa vršnjacima s ometenošću, u okviru redovnih odjeljenja, ne dovodi do promjene njihovih stavova prema osobama s ometenošću. S druge strane, kontakt tokom zajedničkih aktivnosti povezan je sa pozitivnijim stavovima. Autori kao moguće objašnjene tih rezultata navode da učenici TR ne mogu da biraju da li će da se obrazuju zajedno sa vršnjacima s ometenošću ili ne, ali mogu odlučivati da li će ostvarivati kontakt s njima tokom zajedničkih aktivnosti (McGregor & Forlin, 2005; Schwab, 2017).

Kada je u pitanju utvrđivanje odnosa između stavova učenika prema inkluzivnom obrazovanju i faktora kojima je procjenjivana klima u odjeljenju, rezultati su pokazali da postoji značajna korelacija, zanemarljive visine, sa nivom nesuglasica unutar odjeljenja i to kod učenika u NIOD. Budući da ne postoje istraživački nalazi koji bi nam podobnije objasnili ovu vezu, vjerujemo da su odnosi među učenicima u odjeljenju određeni više nekim drugim, individualnim faktorima, a manje onima koji se vezuju za izražavanje stavova prema inkluziji. Svakako da je rezultat interesantan i zahtijeva provjeru u narednim istraživanjima.

U regresionoj analizi, pored nesuglasica, i nivo kompetitivnosti pokazao se kao faktor od značaja za objašnjenje rezultata procjene stavova prema inkluzivnom obrazovanju. I u drugim istraživanjima viši nivo kompetitivnosti povezan je sa manje pozitivnim stavovima učenika prema inkluziji (Al Salim, 2021; McKay et al., 2018). Na primjer, u radu u kojem su ispitivani stavovi učenika TR prema uključivanju učenika s ometenošću u nastavu fizičkog vaspitanja, kompetitivnost je razmatrana kao jedan od faktora koji bi mogao da ima uticaja na stavove učenika (Ocete et al., 2020). Isto tako, učenici s višim nivoom kompetitivnosti mogu da pokazuju otpor prema uključivanju učenika u inkluzivnu nastavu jer vjeruju da će postići lošije rezultate (Block & Brady, 1999, prema Ocete et al., 2020). Radisavljević Janić i saradnici (2018) u jednom istraživanju sprovednom u Srbiji pronalaze povezanost između nivoa kompetitivnosti učenika i njihovih stavova prema inkluziji, iako u regresionoj

analizi nije potvrđen značajan doprinos ovog faktora u objašnjavanju rezultata na skali kojom su procjenjivani stavovi prema inkluzivnom obrazovanju. Takođe, preporučuju da bi u narednim istraživanjima trebalo detaljnije ispitati povezanost kompetitivnosti učenika i njihovih stavova prema inkluziji, navodeći da su pozitivne interakcije među učenicima, koje podrazumijevaju saradnju i podršku prije nego takmičarsku klimu u nastavi, jedan od uslova za razvijanje pozitivnih stavova učenika TR prema uključivanju učenika s ometenošću u nastavi fizičkog vaspitanja (Radisavljević Janić i sar., 2018).

Rezultati dobijeni u ovom radu pokazuju da postoje značajne, ali zanemarljive i niske korelacije između rezultata ostvarenih na skali kojom su procjenjivani stavovi prema inkluzivnom obrazovanju i razreda koji učenici pohađaju (kod oba poduzorka). Takođe, regresiona analiza potvrdila je da je razred pozitivan prediktor dobijenih rezultata, sugerišući da učenici viših razreda imaju i nešto pozitivnije stavove prema inkluziji. Dobijeni rezultati su u saglasnosti sa istraživanjima drugih autora, koji pokazuju da učenici starijeg uzrasta imaju i pozitivne stavove prema vršnjacima s ometenošću (Alnahdi, 2019; Çiçek Gümüş & Öncel 2020, 2021; Vignes et al., 2009), što ukazuje na to da se stavovi djece u osnovnoškolskom periodu mogu mijenjati i razvijati i da sa odrastanjem postaju pozitivniji (Ahlborn et al., 2008; Bossaert et al., 2011). Samim tim naglašava se važnost primjene programa usmjerenih ka poboljšavanju stavova i većem prihvatanju osoba s ometenošću od učenika TR (Brojčin, 2008; Talijan i sar., 2018). Ima studija koje su dobile drugačije rezultate – one ne pronalaze vezu između stavova prema inkluziji i razreda koji učenici pohađaju (Verderber et al., 2003; Wang & Qi, 2020), ili čak saopštavaju da učenici nižih razreda imaju nešto pozitivnije stavove prema uključivanju učenika s ometenošću u redovnu nastavu (Hall, 2003; Radisavljević Janić i sar., 2018). Nekonzistentni rezultati po ovom pitanju ukazuju na potrebu za daljim istraživanjima kojima bi se to razjasnilo.

Rezultati nisu ukazali na značajnu povezanost između stavova učenika prema inkluziji i pola, što je potvrđeno i u regresionoj analizi. Dobijeni rezultati su u saglasnosti sa rezultatima drugih studija (Bebetsos et al., 2014; McKay et al., 2018).

Prilikom interpretacije dobijenih rezultata potrebno je uzeti u obzir i ograničenja ove studije. Kao prvo, prigodan uzorak ispitanika ograničava generalizaciju rezultata budući da su obuhvaćena samo odjeljenja u kojima su uključeni učenici s intelektualnom ometenošću, ali ne i učenici s drugim vrstama ometenosti. Pored toga, u istraživanju su učestvovali samo učenici mlađeg školskog uzrasta, zbog čega nije bilo moguće provjeriti kako i u kom smjeru se razvijaju ispitivani stavovi kod starijih učenika.

Zaključak

Stavovi ispitivanih učenika TR prema uključivanju vršnjaka s ometenošću u redovne razrede su pretežno negativni. Na dobijene rezultate značajan uticaj imali su učestalost kontakta sa vršnjacima s ometenošću i klima u odjeljenju posmatrana kroz nivo nesuglasica i kompetitivnog ponašanja među učenicima. S druge strane, prisustvo učenika s intelektualnom ometenošću u odjeljenjima, kao ni stavovi učenika prema vršnjacima s ometenošću, nisu uticali na dobijene rezultate.

Uzeti zajedno, rezultati ukazuju na potrebu za ranom i sveobuhvatnom pripremom učenika TR za zajedničko obrazovanje sa vršnjacima s ometenošću. Ističe se značaj kontakta i učešća u zajedničkim aktivnostima, kako u školi, tako i van nje. U tome, pored samih učenika TR, važna uloga pripada i nastavnicima, a naročito u domenu stvaranja klime saradnje unutar odjeljenja.

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Attitudes of typically developing students toward inclusive education in the Republic of Srpska

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Introduction. Attitudes of typically developing students, their preparation for acceptance, and cooperation with peers with disabilities are important factors for the realization and success of inclusive education. *Objective*. The aim of the research was to determine the attitudes of typically developing students toward inclusive education and their relation to the attitudes toward people with disabilities, frequency of contact, classroom climate, gender, and class. *Methods*. The sample included 331 students from 3rd to 5th grade of regular primary school. The sample was divided into two subsamples: participants attending inclusive and non-inclusive classes. The following scales were used for evaluation: Peer Attitude Toward the Handicapped Scale, Chedoke–McMaster Attitudes Towards Children with Handicaps Scale, The Contact with Disabled Persons Scale, and My Class Inventory. *Results*. The results show that students' attitudes toward inclusive education of peers with disabilities are mostly negative. The most important predictors of their attitudes were: frequency of contact, disagreements, competitiveness, and grade. On the other hand, attending classes with peers with disabilities, attitudes toward them, satisfaction with the class, and gender were not the predictors of importance. *Conclusion*. The results indicate the need for early preparation of students with typical development for joint education with peers with disabilities through contact and nurturing a collaborative climate in the classroom.

Keywords: typically developing students, attitudes, inclusive education

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