# RESEARCH IN EDUCATION AND REHABILITATION

R E R ISSN 2637-2037

VOLUME 3
ISSUE 2
DECEMBER, 2020

# RESEARCH IN EDUCATION AND REHABILITATION

Research in Education and Rehabilitation is a multidisciplinary peer reviewed international journal edited by Faculty of Education and Rehabilitation University of Tuzla. The aim of the journal is to share and disseminate knowledge and good practices in the field of education and rehabilitation and related disciplines.

Year 2020, Volume 3, Issue 2.

## PUBLISHER


University of Tuzla, Faculty of Education and Rehabilitation

Univerzitetska nr. 1, 75000,Tuzla, Bosnia and Herzegovina

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**PRINT**

Agenda Studio Tuzla

Kraljice Katarine 6, 75000 Tuzla, Bosnia and Herzegovina
Tel: +387 61 729 471

The Journal publishes twice a year

Printed on acid-free paper

**Date of print**

2020. / 2020.

**Circulation**

100

ISTRAŽIVANJE U EDUKACIJI I REHABILITACIJI
RESEARCH IN EDUCATION AND REHABILITATION

GODINA 2020 / VOLUMEN 3 / BROJ 2

YEAR 2020 / VOLUME 3 / No 2

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## *P R E D G O V O R*

Poštovani čitaoci, autori, saradnici,

Zadovoljstvo nam je predstaviti novo izdanje časopisa *Defektologija* sa izmjenjenim nazivom – Istraživanja u edukaciji i rehabilitaciji. Razvoj defektološke nauke, teorije i prakse, ali suštinska promjena društvenog viđenja invalidnosti, rezultirali su, pored ostalog, izmjenom naziva *defektologija* u naziv *edukacijsko-rehabilitacijska znanost*. Samim tim, javila se potreba da se časopis *Defektologija*, koji je u kontinuitetu izlazio pune 23 godine, terminološki uskladi sa nazivom znanosti čije teorijske i praktične rezultate istražuje, prikazuje i unapređuje. Nadamo se da ćete u časopisu naći korisne i interesantne teme iz područja edukacijsko rehabilitacijske znanosti, ali i iz srodnih disciplina, a naša misija je da stvorimo prostor za dinamičan i progresivan istraživački dijalog.

Zahvaljujemo se svima koji su nas pratili u dosadašnjem znanstvenom putovanju, ali i svima onima koji će nam se pridružiti u budućnosti.

Uredništvo

## *F O R E W O R D*

Dear readers, authors, associates,

It is our pleasure to introduce you a new edition of the jornal Defectology with the changed name - Research in Education and Rehabilitation. The development of defectology as science, theory and practice, but also, a fundamental change in the social vision of disability, resulted in, among other things, the change of the name defectology into the name education and rehabilitation science. Consequently, the need for the jornal "Defectology", which has been continuing for 23 years to come, has been terminologically aligned with the name of science, whose theoretical and practical results are investigates, displays and promots. We hope that you will find useful and interesting reading from the wide field of education and rehabilitation science, but also from related disciplines, and our mission is to create a place for dynamic and progressive research dialogue.

We thank all those who have followed us in the current scientific journey, but also to all those who will join us in the future.

Editorial

 

Research in Education and Rehabilitation 2020; 3(2): 1-16.

# SOME OF THE PREDICTORS OF THE VOCABULARY SCOPE OF DEAF AND HARD-OF-HEARING STUDENTS

# NEKI OD PREDIKTORA OBIMA RJEČNIKA GLUHIH I NAGLUHIH UČENIKA

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**Original Scientific Article**

Received: 12/08/2020
Accepted: 23/10/2020

## ABSTRACT

The main aim of the research is to examine the characteristics of the development of vocabulary of hearing impaired children of primary school age, the structure of vocabulary of certain word classes, and to determine whether the degree of hearing impairment, time of emergence of hearing impairment, chronological age, gender and school achievement (grade) in the subject of respondent's native language affect the vocabulary scope of deaf and hard-of-hearing students. The sample consisted of 65 hearing-impaired children of primary school age (grades 3rd to 8th). In accordance with the general objectives/aims, hypotheses, sample structure of respondents and analyzed variables, in the statistical processing of collected data, the following was applied: the method of descriptive statistics, variance analysis, discriminant analysis, and regression analysis. Based on the conducted research, we conclude that: there is a statistically significant difference in the vocabulary scope of certain word classes in respondents with hearing impairment. We also found that chronological age and school achievement (grade) in the subject of respondent's native language are relevant predictors of vocabulary scope and structure, while no statistically significant difference in the vocabulary scope of word classes in hearing impaired respondents was found in relation to gender, time of emergence of hearing impairment, and degree of hearing impairment

**Key words: deafness, hard-of-hearing, vocabulary, predictors**

## SAŽETAK

Glavni cilj istraživanja je da se ispitaju karakteristike razvoja rječnika djece oštećena sluha osnovnoškolske dobi, struktura rječnika pojedinih vrsta riječi, te da se utvrdi da li stepen i vrijeme nastanka oštećenja sluha, hronološka dob, spol i uspjeh ispitanika iz maternjeg jezika, utiču na obim rječnika gluhih i nagluhih učenika. Uzorak je činilo 65 djece oštećena sluha osnovnoškolske dobi (od 3. do 8. razreda).

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U skladu sa opštim ciljevima, hipotezama, strukturom uzorka ispitanika i analiziranim varijablama, u statističkoj obradi prikupljenih podataka primjenjene su: metoda deskriptivne statistike, analiza varijance, diskriminativna analiza, te regresijska analiza. Na osnovu provedenog istraživanja, utvrdili smo da: postoji statistički značajna razlika u obimu rječnika pojedinih vrsta riječi u ispitanika oštećena sluha. Utvrdili smo da su hronološka dob i uspjeh iz maternjeg jezika relevantni prediktori obima i strukture rječnika, dok nije utvrđena statistički značajna razlika, u obimu rječnika vrsta riječi u ispitanika oštećenog sluha u odnosu na spol, vrijeme nastanka oštećenja sluha, stupanj oštećenja sluha.,

**Ključne riječi**: gluhoća, nagluhost, rječnik, prediktori.

## INTRODUCTION

Hearing impairment is mostly reflected in the area of speech-language communication, given the fact that speech and language are spontaneously acquired through the sense of hearing (Avdić, 2015). At birth, a hearing-impaired child does not differ much from a non-hearing-impaired child. However, the consequences of hearing impairment are those that determine different trajectories in later development. The impossibility of complete perception of speech through the remnants of hearing and through "reading" speech from the face and lips is only one of many obstacles to the educability of a child with hearing impairment (Huremović, 2020). This is directly reflected in the quantity of concepts mastered by hearing-impaired children. Hearing impairment also has consequences for a person's bio-psycho-social structure. These consequences are conditioned by several factors. The literature most often mentions the degree of hearing impairment, the time of emergence of hearing impairment, the chronological age when the impairment occurred, the time of detection of impairment, the beginning of education and rehabilitation, the level of education of the environment in which a person with hearing impairment develops, and many other factors. This gives a very different picture of the difficulties that leave consequences in the psychological, emotional, social and cultural life of the person who has suffered the impairment. Within each of these groups, there are large individual differences, both in the character of the predictor and in the consequences it leaves on the overall development of the person. Moeller (1986; according to Wake, Poulakis, Hughes, Carey-Sargeant, & Rickards, 2004) considers that the time of diagnosis of the impairment is one of the most important factors that are reflected on the vocabulary scope: if hearing impairment is diagnosed before the 6th month of the child's age, on average, such children later are 3 years ahead of hearing impaired children in whom the impairment was diagnosed after the 6th month of the child's age in regard to language skills. Contradictory results were obtained by Wake et al. (2004). They examined 88 children, ages 7-8 years, who had been wearing a hearing aid for 4.5 years and had no additional intellectual or major physical disabilities. The time of diagnosis of hearing impairment and average hearing impairment on the better-hearing ear were set as predictors (21% of respondents had mild hearing impairment, 34% of respondents had moderate hearing impairment, 21% of respondents had severe hearing impairment and 24% of respondents were practically deaf).

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The authors concluded that the time of diagnosis of the impairment is not statistically significant in correlation with language achievement, while the degree of hearing impairment is highly but negatively correlated with vocabulary scope, i.e. the higher the degree of hearing impairment the smaller the vocabulary scope. However, it is not uncommon for children who we would expect to achieve better results during the educational process, in relation to these factors, to surprise us with their achievements and lead to the conclusion that it is necessary to examine the level of influence of individual factors or predictors.

## AIM OF THE RESEARCH

The main aim of the research was to determine whether and to what extent some of the predictors affect the vocabulary scope of deaf and hard-of-hearing children. In accordance with the aim defined in this way, at the beginning of the research the hypothesis was set:

$H_1$ – The degree of hearing impairment, the time of emergence of hearing impairment, chronological age, gender, and school achievement (grade) in the subject of respondent's native language are predictors of the vocabulary scope of deaf and hard-of-hearing children.

## RESEARCH METHODS

### Sample of respondents

The research sample consisted of 65 hearing-impaired respondents, who were attending primary school at the time of the research. The eliminatory control characteristics of the respondents were: diagnosed additional difficulties of the respondents. Respondents were classified into several groups according to the following criteria: chronological age, gender, degree of hearing impairment, time of emergence of hearing impairment, and school achievement (grade) in the subject of respondent's native language. According to chronological age, the respondents were classified into 7 groups. The first group consisted of 6 respondents aged 9. The second group consisted of 5 respondents aged 10. The third group consisted of 11 respondents aged 11. The fourth group consisted of 8 respondents aged 12. The fifth group consisted of 9 respondents aged 13. The sixth group consisted of 20 respondents aged 14. The seventh group consisted of 6 respondents aged 15. According to the gender criterion, the respondents were classified into two groups. The first group consisted of 35 male respondents, and the second group consisted of 30 female respondents. According to the criterion of the degree of hearing impairment, the respondents were classified into 4 groups. The first group consisted of 10 respondents with moderate hearing loss. The second group consisted of 34 respondents with severe hearing loss. The third group consisted of 17 respondents who were practically deaf, while the fourth group consisted of 4 respondents with an implanted cochlear implant. According to the criterion of the time of emergence of hearing impairment, the respondents were classified into two groups.

The first group consisted of 62 respondents whose impairment emerged in the prelingual period, and the second group consisted of three respondents whose impairment emerged in the postlingual period. According to the criterion of school achievement (grade) in the subject of respondent's native language, the respondents were classified into three groups. Since only two respondents achieved a "D" grade in the subject of native language, together with respondents who achieved a "C" grade, they were classified in the first group. The first group consisted of a total of 18 respondents. The second group consisted of 21 respondents who achieved a "B" grade. The third group consisted of 26 respondents who achieved an "A" grade.

**Measuring instrument**

To assess the scope of the vocabulary, we used the Diagnostic Material for Oral Speech Examination - Vocabulary Development Examination Area (Bjelica and Posokhova, 2001). The main reason why we opted for this instrument is that it allows us to accurately identify areas that create difficulties for hearing-impaired children. It consists of several areas: vocabulary of nouns, vocabulary of adjectives, vocabulary of verbs, vocabulary of adverbs, vocabulary of prepositions, and vocabulary of pronouns. Data such as the degree of hearing impairment, time of emergence of hearing impairment, chronological age, gender, and school achievement (grade) in the subject of respondent's native language were taken from the Anamnestic data of the respondents

**Method of conducting research**

The data collection procedure was preceded by preparation, a "Research Notice" was sent to institutions where hearing-impaired children are educated, which contained information about the research itself, the aim of the research, the manner of conducting the research, and the conditions necessary for conducting the research. Data collection was conducted individually, in optimal conditions. During the examination, respondents with hearing impairment were wearing an individual hearing amplifier. The method of conducting the examination was adapted to the respondents, taking into account the very nature of the impairment. Instructions for performing tasks and explanations were given orally and by using sign language. The profiles of the respondents also include the Anamnestic data, which contains information gathered by interviewing informants or by analyzing documentation.

**Data processing methods**

In accordance with the general aims, hypotheses, the structure of the sample of respondents and the analyzed variables, appropriate statistical procedures were applied in the statistical processing of the collected data. We used the method of descriptive statistics, i.e. the calculation of basic statistics: mean values, standard deviations, variances, standard errors, and minimum and maximum values; to examine variations between groups and within groups. The examining of the significance of variations was performed using the method of variance analysis. The examining of the significance of the model set up, in order to predict the development of vocabulary in respondents with intact hearing, was performed using the method of regression analysis.

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## RESULTS AND DISCUSSION

Respondents with hearing impairment wrote a total of 14080 words on the "Vocabulary Development Examination" test. 7204 words were nouns, 3885 were adjectives, 1065 were verbs, 954 were adverbs, 439 were prepositions and 533 were pronouns (Table 1). Since the data on the development of the vocabulary were collected by writing, in addition to correctly spelled words, we accepted those words that have been changed, regardless of whether it is a metathesis, addition, substitution, omission or citation of the changed word form, as long as it does not interfere with understanding. Regardless if the words are given/written in a grammatical case or wrong gender or grammatical number - if they don't interfere with the understanding, we have classified them as acceptable. Words that were altered/changed, and could not be correlated to anything, were not accepted, such as e.g. (Bosnian) „todo“, „nedi“, „žado“, „dapo“. The highest maximum and minimum results, as well as the highest mean values, but also the values of standard deviations, were achieved in the area of vocabulary of nouns, then in the area of vocabulary of adjectives and further as follows: verbs, adverbs, prepositions and pronouns (Table 1).

Table 1. Descriptive statistics of respondents' vocabulary development

| | Arithmetic mean | Standard deviation | Minimum | Maximum | Total |
|---|---|---|---|---|---|
| Nouns | 110,83 | 59,67 | 6,00 | 221,00 | 7204 |
| Adjectives | 59,78 | 28,68 | 1,00 | 102,00 | 3885 |
| Verbs | 16,38 | 12,06 | ,00 | 36,00 | 1065 |
| Adverbs | 14,67 | 9,46 | ,00 | 31,00 | 954 |
| Pronouns | 8,20 | 4,56 | 3,00 | 15,00 | 533 |
| Prepositions | 6,75 | 3,98 | 2,00 | 12,00 | 439 |
| Total | 216,63 | 112,12 | 12,00 | 412,00 | 14080 |

### Impact of respondent's chronological age on the vocabulary scope and structure

The chronological age of the respondents ranged from 9 to 15 years. Respondents aged 9 years wrote a total of 189 words, of which as many as 110 were nouns, followed by adjectives (32), pronouns (18), prepositions (18), verbs (10) and adverbs (7). Respondents aged 10 years wrote a total of 612 words. Regarding these words, 316 of them were nouns, 180 were adjectives, 35 were adverbs, 32 were verbs, 27 were pronouns and 22 written words were prepositions. Respondents aged 11 years wrote a total of 2,045 words. Regarding these words, 1006 of them were nouns, 633 were adjectives, 146 were verbs, 137 were adverbs, 67 were pronouns and 55 words were prepositions. Respondents aged 12 years wrote a total of 2167 words, of which as many as 1079 were nouns, then followed by adjectives (592), verbs (179), adverbs (149), pronouns (90) and prepositions (78). Respondents aged 13 years wrote a total of 2343 words. Regarding these words, 1185 of them were nouns, 654 were adjectives, 176 were verbs, 170 were adverbs, 87 were pronouns and 71 words were prepositions. Respondents aged 14 years wrote a total of 5,325 words. Regarding these words, 2752 of them were nouns, 1410 were adjectives, 454 were verbs, 356 were adverbs, 194 were pronouns and 159 words were prepositions.

 
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Respondents aged 15 years wrote a total of 1,400 words. Regrading these words, 755 of them were nouns, 385 were adjectives, 100 of them were adverbs, 58 were verbs, 50 were pronouns and 42 words were prepositions. Based on the results of descriptive statistics, mean values and values of standard deviations (Table 2), we can conclude that the vocabulary scope of all word classes increases through the function of chronological age.

Table 2. Descriptive statistics of vocabulary development in relation to chronological age

| | | Maximum | Minimum | Arithmetic mean | Standard deviation | N |
|---|---|---|---|---|---|---|
| 9 | Nouns | 35,00 | 7,00 | 18,33 | 10,74 | 6 |
| | Adjectives | 10,00 | 2,00 | 5,33 | 2,87 | 6 |
| | Verbs | 3,00 | 1,00 | 1,67 | ,81 | 6 |
| | Adverbs | 2,00 | ,00 | 1,17 | ,98 | 6 |
| | Prepositions | 2,00 | 2,00 | 2,00 | ,00 | 6 |
| | Pronouns | 3,00 | 3,00 | 3,00 | ,00 | 6 |
| 10 | Nouns | 136,00 | 6,00 | 63,20 | 49,57 | 5 |
| | Adjectives | 72,00 | 1,00 | 36,00 | 29,62 | 5 |
| | Verbs | 18,00 | ,00 | 6,40 | 6,87 | 5 |
| | Adverbs | 28,00 | ,00 | 7,00 | 11,78 | 5 |
| | Prepositions | 8,00 | 2,00 | 4,40 | 2,60 | 5 |
| | Pronouns | 9,00 | 3,00 | 5,40 | 2,61 | 5 |
| 11 | Nouns | 191,00 | 11,00 | 91,45 | 54,32 | 11 |
| | Adjectives | 88,00 | 6,00 | 57,54 | 23,74 | 11 |
| | Verbs | 33,00 | 1,00 | 13,27 | 11,73 | 11 |
| | Adverbs | 28,00 | 2,00 | 12,45 | 8,98 | 11 |
| | Prepositions | 11,00 | 2,00 | 5,00 | 3,32 | 11 |
| | Pronouns | 13,00 | 3,00 | 6,09 | 3,51 | 11 |
| 12 | Nouns | 221,00 | 91,00 | 134,87 | 44,13 | 8 |
| | Adjectives | 100,00 | 55,00 | 74,00 | 15,52 | 8 |
| | Verbs | 34,00 | 10,00 | 22,38 | 10,01 | 8 |
| | Adverbs | 30,00 | 8,00 | 18,62 | 7,44 | 8 |
| | Prepositions | 12,00 | 6,00 | 9,75 | 1,91 | 8 |
| | Pronouns | 15,00 | 7,00 | 11,25 | 2,49 | 8 |
| 13 | Nouns | 211,00 | 54,00 | 131,66 | 59,09 | 9 |
| | Adjectives | 98,00 | 17,00 | 72,66 | 23,35 | 9 |
| | Verbs | 36,00 | 3,00 | 19,55 | 11,64 | 9 |
| | Adverbs | 30,00 | 2,00 | 18,88 | 9,07 | 9 |
| | Prepositions | 12,00 | 2,00 | 7,88 | 4,01 | 9 |
| | Pronouns | 15,00 | 3,00 | 9,67 | 4,8990 | 9 |
| 14 | Nouns | 220,00 | 60,00 | 137,60 | 51,52 | 20 |
| | Adjectives | 102,00 | 17,00 | 70,50 | 21,89 | 20 |
| | Verbs | 36,00 | 4,00 | 22,70 | 10,49 | 20 |
| | Adverbs | 31,00 | 8,00 | 17,80 | 7,37 | 20 |
| | Prepositions | 12,00 | 2,00 | 7,95 | 4,15 | 20 |
| | Pronouns | 15,00 | 3,00 | 9,70 | 4,91 | 20 |
| 15 | Nouns | 176,00 | 85,00 | 126,00 | 31,30 | 6 |
| | Adjectives | 85,00 | 25,00 | 64, 00 | 20,73 | 6 |
| | Verbs | 31,00 | 0,00 | 11,33 | 11,21 | 6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Adverbs | 24,00 | 5,00 | 16,67 | 8,19 | 6 |
| | Prepositions | 11,00 | 2,00 | 7,00 | 4,10 | 6 |
| | Pronouns | 13,00 | 3,00 | 8,33 | 4,50 | 6 |

In order to examine the significance of differences in the arithmetic means of groups of respondents, classified by chronological age, the method of variance analysis was applied in the development of vocabulary. Given the results of the analysis (Table 3), we can conclude that there is a statistically significant difference in the development of the vocabulary of all word classes in hearing-impaired respondents in relation to chronological age.

Table 3. Variance analysis of the vocabulary development in relation to chronological age

| Source of variation | | Sum of squares | df | Centre of square | F | sig. |
|---|---|---|---|---|---|---|
| Nouns | Between groups | 91052,60 | 6 | 15175,43 | 6,43 | 0,00 |
| | Within groups | 136814,54 | 58 | 2358,87 | | |
| | Total | 227867,14 | 64 | | | |
| Adjectives | Between groups | 26186,48 | 6 | 4364,41 | 9,56 | 0,00 |
| | Within groups | 26491,06 | 58 | 456,74 | | |
| | Total | 52677,54 | 64 | | | |
| Verbs | Between groups | 3233,04 | 6 | 538,84 | 5,14 | 0,00 |
| | Within groups | 6076,35 | 58 | 104,76 | | |
| | Total | 9309,38 | 64 | | | |
| Adverbs | Between groups | 1947,36 | 6 | 324,56 | 4,98 | 0,00 |
| | Within groups | 3780,86 | 58 | 65,19 | | |
| | Total | 5728,22 | 64 | | | |
| Prepositions | Between groups | 309,52 | 6 | 51,59 | 4,26 | 0,00 |
| | Within groups | 702,54 | 58 | 12,11 | | |
| | Total | 1012,06 | 64 | | | |
| Pronouns | Between groups | 389,26 | 6 | 64,88 | 3,98 | 0,00 |
| | Within groups | 945,14 | 58 | 16,30 | | |
| | Total | 1334,40 | 64 | | | |
| Total | Between groups | 352063,57 | 6 | 58677,26 | 7,52 | 0,00 |
| | Within groups | 452525,57 | 58 | 7802,16 | | |
| | Total | 804589,14 | 64 | | | |

Shafiei & Nemat Zadeh (2004) found that hearing-impaired children at the age of 10 achieve poorer results in the ability to process and associate words, primarily antonyms and synonyms. The same authors point out that the ability to learn these concepts develops with the increase of chronological age, which is related to the quantity of language experiences. These results suggest that chronological age is a significant predictor of vocabulary development in hearing-impaired children, but they also indicate that there are other equally significant predictors that have led to this redistribution of results.According to the results of regression analysis (Table 4), the correlation coefficient (0.553) leads us to the conclusion that this is a moderate degree of correlation between the results of the respondents in relation to the chronological age. Based on the coefficient of determination (0.306), we conclude that the chronological age with a percentage of 30.60% determines the number of points achieved

on the test, and the rest is the influence of other factors. We found that the chronological age of the respondents as a predictor was significant in the model.

Table 4. Regression analysis of the vocabulary development results in relation to age

| PREDICTOR | | CRITERION |
|---|---|---|
| Age | | Total points achieved |
| R | | ,553 |
| $R^2$ | | ,306 |
| $df_1$ | | 1 |
| $df_2$ | | 63 |
| F | | 27,77 |
| Sig. F | | 0,00 |
| const. | | 0,00 |
| b<br>$b_1$ | | -203,10<br>33,76 |
| β | | ,553 |
| t | Age | -2,523 |
| | Age **2 | 5,27 |
| sig. t | age | ,014 |
| | Age **2 | ,000 |

**Impact of respondent's gender on the vocabulary scope and structure**

According to the results of descriptive statistics, male and female respondents achieved approximately equal average values, with equally approximate values of standard deviations, and minimum and maximum results on all test variables of the Vocabulary Development Examination Test (Table 5).

Table 5. Descriptive statistics of respondents' vocabulary development in relation to gender

| | | Max. | Min. | Arithmetic mean | Standard deviation | Total |
|---|---|---|---|---|---|---|
| Female | Nouns | 221,00 | 6,00 | 114,87 | 60,09 | 3446 |
| | Adjectives | 102,00 | 1,00 | 58,80 | 29,68 | 1764 |
| | Verbs | 36,00 | ,00 | 16,07 | 12,20 | 482 |
| | Adverbs | 31,00 | ,00 | 13,00 | 9,18 | 390 |
| | Prepositions | 12,00 | 2,00 | 6,43 | 4,04 | 193 |
| | Pronouns | 15,00 | 3,00 | 7,8667 | 4,66 | 236 |
| | Total | - | - | 217,03 | 113,42 | 6511 |
| Male | Nouns | 220,00 | 10,00 | 107,37 | 59,96 | 3758 |
| | Adjectives | 98,00 | 3,00 | 60,60 | 28,2189 | 2121 |
| | Verbs | 36,00 | 1,00 | 16,65 | 12,1145 | 583 |
| | Adverbs | 30,00 | ,00 | 16,11 | 9,5971 | 564 |
| | Prepositions | 12,00 | 2,00 | 7,03 | 3,9592 | 246 |
| | Pronouns | 15,00 | 3,00 | 8,49 | 4,5333 | 297 |
| | Total | - | - | 216,2857 | 112,6600 | 7570 |

In order to examine the significance of differences in the arithmetic means of groups of respondents, classified by gender, the method of variance analysis was applied in the development of the vocabulary. Given the results of the analysis (Table 6), we can conclude that there is no statistically significant difference in the vocabulary scope of certain word classes in hearing-impaired respondents in relation to gender.

Table 6. Variance analysis of respondents' vocabulary development in relation to gender

| Source of variation | | Sum of squares | df | Centre of square | F | sig. |
|---|---|---|---|---|---|---|
| Nouns | Between groups | 907,50 | 1 | 907,500 | ,252 | ,617 |
| | Within groups | 226959,63 | 63 | 3602,534 | | |
| | Total | 227867,13 | 64 | | | |
| Adjectives | Between groups | 52,33 | 1 | 52,338 | ,063 | ,803 |
| | Within groups | 52625,20 | 63 | 835,321 | | |
| | Total | 52677,53 | 64 | | | |
| Verbs | Between groups | 5,63 | 1 | 5,632 | ,038 | ,846 |
| | Within groups | 9303,75 | 63 | 147,679 | | |
| | Total | 9309,38 | 64 | | | |
| Adverbs | Between groups | 156,67 | 1 | 156,673 | 1,772 | ,188 |
| | Within groups | 5571,54 | 63 | 88,437 | | |
| | Total | 5728,21 | 64 | | | |
| Prepositions | Between groups | 5,72 | 1 | 5,723 | ,358 | ,552 |
| | Within groups | 1006,33 | 63 | 15,974 | | |
| | Total | 1012,06 | 64 | | | |
| Pronouns | Between groups | 6,19 | 1 | 6,190 | ,294 | ,590 |
| | Within groups | 1328,21 | 63 | 21,083 | | |
| | Total | 1334,40 | 64 | | | |
| Total | Between groups | 9,02 | 1 | 9,029 | ,001 | ,979 |
| | Within groups | 804580,11 | 63 | 12771,113 | | |
| | Total | 804589,13 | 64 | | | |

**Impact of time of emergence of hearing impairment on the vocabulary scope and structure**

A large number of researches point out that children who lost their hearing in a later period remember sound performances and use them. These sound performances are further reinforced through visual, tactile, and other extra-auditory pathways. The consequences of hearing impairment on speech and language development are more pronounced in those individuals in whom hearing loss occurred earlier. However, in our study, according to the results of descriptive statistics, respondents classified into groups according to the criterion of whether hearing impairment emerged prelingually or postlingually, achieved approximately equal average values, with equally approximate values of standard deviations, and minimum and maximum results on all test variables on the Vocabulary Development Examination Test (Table 7). The reason for such results is the insufficient differentiation of the sample in relation to this criterion, which should be kept in mind when interpreting the results and which should be taken into account in future tests.

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Table 7. Descriptive statistics of respondents' vocabulary development in relation to the time of emergence of hearing impairment

| | | Maximum | Minimum | Arithmetic mean | Standard deviation |
|---|---|---|---|---|---|
| Prelingual | Nouns | 221,00 | 6,00 | 107,80 | 58,64 |
| | Adjectives | 100,00 | 1,00 | 59,24 | 28,35 |
| | Verbs | 36,00 | ,00 | 16,12 | 11,83 |
| | Adverbs | 30,00 | ,00 | 14,38 | 9,35 |
| | Prepositions | 12,00 | 2,00 | 6,69 | 3,99 |
| | Pronouns | 15,00 | 3,00 | 8,12 | 4,57 |
| | Total | - | - | 212,40 | 110,75 |
| Postlingual | Nouns | 216,00 | 113,00 | 173,33 | 53,72 |
| | Adjectives | 102,00 | 25,00 | 70,66 | 40,45 |
| | Verbs | 36,00 | 1,00 | 21,66 | 18,33 |
| | Adverbs | 31,00 | 8,00 | 20,66 | 11,67 |
| | Prepositions | 12,00 | 4,00 | 8,00 | 4,00 |
| | Pronouns | 15,00 | 5,00 | 9,66 | 5,03 |
| | Total | - | - | 304,00 | 127,05 |

In order to examine the significance of differences in the arithmetic means of groups of respondents, classified according to the time of emergence of hearing impairment in the development of vocabulary, the method of variance analysis was applied. According to the results shown in Table 8, we conclude that there is no statistically significant difference in the vocabulary scope of word classes in hearing-impaired respondents, in relation to the time of emergence of hearing impairment.

Table 8. Variance analysis of vocabulary development in relation to the time of emergence of hearing impairment

| Source of variation | | Sum of squares | df | Centre of square | F | sig. |
|---|---|---|---|---|---|---|
| Nouns | Between groups | 12286,79 | 1 | 12286,79 | 3,591 | ,063 |
| | Within groups | 215580,34 | 63 | 3421,910 | | |
| | Total | 227867,14 | 64 | | | |
| Adjectives | Between groups | 373,50 | 1 | 373,50 | ,450 | ,505 |
| | Within groups | 52304,04 | 63 | 830,23 | | |
| | Total | 52677,54 | 64 | | | |
| Verbs | Between groups | 87,75 | 1 | 87,75 | ,599 | ,442 |
| | Within groups | 9221,63 | 63 | 146,37 | | |
| | Total | 9309,38 | 64 | | | |
| Adverbs | Between groups | 112,84 | 1 | 112,83 | 1,266 | ,265 |
| | Within groups | 5615,37 | 63 | 89,13 | | |
| | Total | 5728,21 | 64 | | | |
| Prepositions | Between | 4,88 | 1 | 4,88 | ,306 | ,582 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | groups | | | | | |
| | Within groups | 1007,17 | 63 | 15,98 | | |
| | Total | 1012,06 | 64 | | | |
| Pronouns | Between groups | 6,766 | 1 | 6,76 | ,321 | ,573 |
| | Within groups | 1327,63 | 63 | 21,07 | | |
| | Total | 1334,40 | 64 | | | |
| Total | Between groups | 24008,22 | 1 | 24008,22 | 1,938 | ,169 |
| | Within groups | 780580,92 | 63 | 12390,17 | | |
| | Total | 804589,14 | 64 | | | |

Discriminant analysis produced one discriminant function that did not prove statistically significant. Similar results are obtained by Wake et al. (2004). The authors concluded that the time of emergence of hearing impairment and diagnosis of impairment is not statistically significant in correlation with language and vocabulary achievement. Moeler (1986; according to Wake et al., 2004), however, prefers the time of diagnosis of impairment, as a factor that reflects on the volume of vocabulary: if hearing impairment is diagnosed before 6 months of age, on average, such children later in language skills were 3 years in front of hearing-impaired children in whom the impairment was diagnosed after 6 months of age of the child.

**Impact of the degree of hearing impairment on the respondents' vocabulary scope and structure**

According to the results of descriptive statistics, respondents with moderate hearing loss achieved better average results compared to other groups. It was observed that respondents with severe hearing loss achieved on average the weakest average results compared to the remaining groups of respondents, on all variables of the Test (Table 9).

Table 9. Descriptive statistics of vocabulary development in relation to the degree of hearing impairment

| | | Max | Min | Arithmetic mean | Standard deviation | Total |
|---|---|---|---|---|---|---|
| Moderate hearing loss | Nouns | 216 | 65 | 133,40 | 53,42 | 1334 |
| | Adjectives | 102 | 25 | 66,50 | 23,77 | 665 |
| | Verbs | 36 | 1 | 19,50 | 13,58 | 195 |
| | Adverbs | 31 | 2 | 16,20 | 10,54 | 162 |
| | Prepositions | 12 | 4 | 8,70 | 3,20 | 87 |
| | Pronouns | 15 | 5 | 10,40 | 4,01 | 104 |
| | Total | - | - | 254,70 | 100,16 | 2547 |
| Severe hearing loss | Nouns | 221 | 6 | 97,79 | 61,68 | 3325 |
| | Adjectives | 100 | 1 | 52,79 | 30,53 | 1795 |
| | Verbs | 36 | 0 | 13,41 | 11,84 | 456 |
| | Adverbs | 30 | 0 | 12,03 | 9,45 | 409 |
| | Prepositions | 12 | 2 | 5,71 | 3,99 | 194 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Pronouns | 15 | 3 | 7,06 | 4,55 | 240 |
| | Total | - | - | 188,82 | 115,55 | 6420 |
| Total deafness | Nouns | 220 | 11 | 120,35 | 54,41 | 2046 |
| | Adjectives | 98 | 6 | 69,41 | 22,94 | 1180 |
| | Verbs | 36 | 1 | 20,71 | 10,79 | 352 |
| | Adverbs | 30 | 2 | 18,41 | 7,48 | 313 |
| | Prepositions | 12 | 2 | 7,24 | 3,85 | 123 |
| | Pronouns | 15 | 3 | 8,65 | 4,37 | 147 |
| | Total | - | - | 244,76 | 98,58 | 4161 |
| Children with implanted cochlear implant | Nouns | 186 | 20 | 124,75 | 73,24 | 499 |
| | Adjectives | 90 | 5 | 61,25 | 39,61 | 245 |
| | Verbs | 29 | 1 | 15,5 | 12,15 | 62 |
| | Adverbs | 26 | 2 | 17,5 | 10,88 | 70 |
| | Prepositions | 12 | 2 | 8,75 | 4,57 | 35 |
| | Pronouns | 15 | 3 | 10,5 | 5,26 | 42 |
| | Total | - | - | 238,25 | 143,90 | 953 |

In order to examine the significance of differences in the arithmetic means of groups of respondents, classified according to the degree of impairment in vocabulary development, the method of variance analysis was applied. Given the results of the analysis (Table 10), we can conclude that there is no statistically significant difference in the vocabulary scope of all word classes in hearing-impaired respondents in relation to the degree of hearing impairment. This is supported by the results of Mayne (1999), where the degree of hearing impairment also did not prove to be a significant predictor of vocabulary scope in hearing-impaired children. However, Wake, et al. (2004) point out that the degree of hearing impairment is highly but negatively correlated with the vocabulary scope, i.e. the higher the degree of hearing impairment the smaller the vocabulary scope/volume. Kovačević (2006) points out that the degree of hearing impairment has an impact on the degree of vocabulary acquisition. Frisch & Pisoni (1998) conclude that better results on the vocabulary test are achieved by hearing-impaired respondents who use a cochlear implant, and who have undergone, as the authors themselves call a “total communication program,” compared to those respondents who have undergone an "oral communication program”. Eisenberg, Kirk, Martinez, Ying, & Miyamoto (2004) examined language abilities/skills in children with implanted cochlear implants and children who used standard hearing aids. Respondents with standard hearing aids achieved significantly higher scores than respondents with cochlear implants. According to the authors, the reason for this is that the group of respondents with a cochlear implant is significantly lower in chronological age than the group of respondents with hearing aids, and that they had slightly less experience with their new aids during the examination.

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Table 10. Variance analysis of vocabulary development in relation to the degree of hearing impairment

| Source of variation | | Sum of squares | df | Centre of square | F | sig. |
|---|---|---|---|---|---|---|
| Nouns | Between groups | 13188,55 | 3 | 4396,18 | 1,25 | 0,30 |
| | Within groups | 214678,59 | 61 | 3519,32 | | |
| | Total | 227867,14 | 64 | | | |
| Adjectives | Between groups | 3696,61 | 3 | 1232,20 | 1,53 | 0,21 |
| | Within groups | 48980,93 | 61 | 802,97 | | |
| | Total | 52677,54 | 64 | | | |
| Verbs | Between groups | 718,12 | 3 | 239,37 | 1,70 | 0,18 |
| | Within groups | 8591,26 | 61 | 140,84 | | |
| | Total | 9309,38 | 64 | | | |
| Adverbs | Between groups | 530,53 | 3 | 176,84 | 2,08 | 0,11 |
| | Within groups | 5197,69 | 61 | 85,21 | | |
| | Total | 5728,22 | 64 | | | |
| Prepositions | Between groups | 95,09 | 3 | 31,70 | 2,11 | 0,11 |
| | Within groups | 916,97 | 61 | 15,03 | | |
| | Total | 1012,06 | 64 | | | |
| Pronouns | Between groups | 117,24 | 3 | 39,08 | 1,96 | 0,13 |
| | Within groups | 1217,16 | 61 | 19,95 | | |
| | Total | 1334,40 | 64 | | | |
| Total | Between groups | 56108,29 | 3 | 18702,76 | 1,52 | 0,22 |
| | Within groups | 748480,85 | 61 | 12270,18 | | |
| | Total | 804589,14 | 64 | | | |

Discriminant analysis produced three functions, none of which were statistically significant. Based on the analysis, we conclude that the degree of hearing impairment did not prove to be a relevant predictor of the vocabulary scope of the hearing-impaired respondents.

**The impact of school achievement (grade) in the school subject of respondent's native language on respondents' vocabulary scope and structure**

The results of descriptive statistics indicate that the vocabulary scope of all word classes in hearing-impaired respondents increases linearly with an increase in the achievement/grade from the respondent's native language school subject. Thus, respondents who achieved "A" grades in their native language school subject wrote on average the largest number of words regardless of the word class, with the lowest values of standard deviations.

Table 11. Descriptive statistics of vocabulary development in relation to school achievement (grade) in the school subject of respondent's native language

| | | N | Arithmetic mean | Standard deviation | Min | Max |
|---|---|---|---|---|---|---|
| Nouns | Grade "C" | 18 | 35,47 | 25,05 | 6,00 | 132,00 |
| | Grade "B" | 21 | 106,71 | 50,24 | 11,00 | 202,00 |
| | Grade "A" | 26 | 148,08 | 52,15 | 35,00 | 221,00 |
| | Total | 65 | 110,83 | 59,66 | - | - |
| Adjectives | Grade "C" | 18 | 20,20 | 14,82 | 1,00 | 72,00 |
| | Grade "B" | 21 | 62,76 | 20,06 | 6,00 | 91,00 |
| | Grade "A" | 26 | 75,61 | 22,37 | 10,00 | 102,00 |
| | Ukupno | 65 | 59,76 | 28,68 | - | - |
| Verbs | Grade "C" | 18 | 3,25 | 2,68 | 0,00 | 14,00 |
| | Grade "B" | 21 | 17,71 | 10,35 | 1,00 | 36,00 |
| | Grade "A" | 26 | 22,92 | 11,76 | ,00 | 36,00 |
| | Ukupno | 65 | 16,38 | 12,06 | - | - |
| Adverbs | Grade "C" | 18 | 8,56 | 6,58 | ,00 | 18,00 |
| | Grade "B" | 21 | 14,33 | 8,44 | 2,00 | 30,00 |
| | Grade "A" | 26 | 19,76 | 8,95 | 2,00 | 31,00 |
| | Ukupno | 65 | 14,67 | 9,46 | - | - |
| Prepositions | Grade "C" | 18 | 5,25 | 3,54 | 2,00 | 11,00 |
| | Grade "B" | 21 | 6,19 | 3,77 | 2,00 | 12,00 |
| | Grade "A" | 26 | 8,50 | 3,84 | 2,00 | 12,00 |
| | Ukupno | 65 | 6,75 | 3,97 | - | - |
| Pronouns | Grade "C" | 18 | 6,37 | 3,77 | 3,00 | 13,00 |
| | Grade "B" | 21 | 7,47 | 4,23 | 3,00 | 15,00 |
| | Grade "A" | 26 | 10,30 | 4,59 | 3,00 | 15,00 |
| | Ukupno | 65 | 8,20 | 4,56 | - | - |
| Total | Grade "C" | 18 | 131,37 | 78,43 | 12,00 | 247,00 |
| | Grade "B" | 21 | 215,19 | 90,00 | 25,00 | 383,00 |
| | Grade "A" | 26 | 285,19 | 97,19 | 55,00 | 412,00 |
| | Total | 65 | 216,63 | 112,12 | - | - |

Thus, students who achieved an "A" grade in the school subject of native language wrote on average from 8 words in the vocabulary area of pronouns to 148 words in the vocabulary area of nouns. There were minimal differences in the achieved maximum and minimum results in students with an "A" grade and a "B" grade in the school subject of native language. Students with an average grade of "B" in the school subject of native language wrote from 6 words in the vocabulary area of prepositions to 117 words in the vocabulary area of nouns. Students with a "C" grade and below wrote from 0 words in the vocabulary area of verbs to 68 words in the vocabulary area of nouns.

In order to examine the significance of differences in the arithmetic means of groups of respondents, classified according to school achievement (grade) in the school subject of native language in relation to the results of vocabulary development, the method of variance analysis was applied (Table 12).

We can conclude that there is a statistically significant difference in the vocabulary scope of all word classes in hearing-impaired respondents in relation to the school achievement (grade) in the school subject of native language.

Table 12. Variance analysis of vocabulary development in relation to school achievement (grade) in the school subject of native language

| Source of variation | | Sum of squares | df | Centre of square | F | sig. |
|---|---|---|---|---|---|---|
| Nouns | Between groups | 85004,06 | 3 | 28334,69 | 12,09 | ,000 |
| | Within groups | 142863,06 | 61 | 2342,01 | | |
| | Total | 227867,13 | 64 | | | |
| Adjectives | Between groups | 21321,13 | 3 | 7107,04 | 13,826 | ,000 |
| | Within groups | 31356,40 | 61 | 514,03 | | |
| | Total | 52677,53 | 64 | | | |
| Verbs | Between groups | 3378,75 | 3 | 1126,25 | 11,584 | ,000 |
| | Within groups | 5930,63 | 61 | 97,22 | | |
| | Total | 9309,38 | 64 | | | |
| Adverbs | Between groups | 1648,99 | 3 | 549,66 | 8,220 | ,000 |
| | Within groups | 4079,22 | 61 | 66,87 | | |
| | Total | 5728,21 | 64 | | | |
| Prepositions | Between groups | 167,32 | 3 | 55,77 | 4,028 | ,011 |
| | Within groups | 844,73 | 61 | 13,84 | | |
| | Total | 1012,06 | 64 | | | |
| Pronouns | Between groups | 233,87 | 3 | 77,95 | 4,321 | ,008 |
| | Within groups | 1100,52 | 61 | 18,04 | | |
| | Total | 1334,40 | 64 | | | |
| Total | Between groups | 313931,61 | 3 | 104643,87 | 13,010 | ,000 |
| | Within groups | 490657,52 | 61 | 8043,56 | | |
| | Total | 804589,13 | 64 | | | |

## CONCLUSIONS

The results obtained during the research can be reduced to the following conclusions:

- Respondents with hearing impairment wrote a total of 14080 words on the Vocabulary Development Examination test. 7204 words were nouns, 3885 words were adjectives, 1065 words were verbs, 654 words were adverbs, 438 words were prepositions, and 893 words were pronouns. There is also a statistically significant difference in the vocabulary scope of certain word classes.
- The analysis of the volume and structure of the vocabulary of hearing-impaired respondents in relation to chronological age showed that the best results were achieved by respondents aged 12 , then by respondents aged 13, 15, 14, 10 and 9. Since the increase in chronological age can be related to the quantity of language experiences/skills, such results suggest that chronological age is a significant predictor of vocabulary development in hearing-impaired children, but also indicate that there are other equally significant predictors that led to this redistribution of results.

- Gender as a predictor did not show impact on the vocabulary scope and structure of hearing-impaired respondents.
- In our study, differences in the vocabulary scope and structure in relation to the time of emergence of hearing impairment did not prove statistically significant. The reason for such results is the insufficient differentiation of the sample in relation to this criterion, which should be kept in mind when interpreting the results and which should be taken into account in future examinations.
- According to our results, the scope and structure of the vocabulary of hearing-impaired respondents does not statistically significantly change in relation to the degree of hearing impairment.
- In conditions of hearing impairment, the scope and structure of the respondent's vocabulary increases proportionally with school achievement (grade) in the school subject of respondent's native language.

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Research in Education and Rehabilitation 2020; 3(2): 17-26.

# INSTITUTIONAL CARE OF CHILDREN WITHOUT PARENTAL CARE IN THE P.I. „HOME FOR CHILDREN WITHOUT PARENTAL CARE“ IN TUZLA

# INSTITUCIONALNO ZBRINJAVANJE DJECE BEZ RODITELJSKOG STARANJA U J.U. „DOM ZA DJECU BEZ RODITELJSKOG STARANJA“ TUZLA

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**Professional Article**

Received: 19/08/2020
Accepted: 30/10/2020

## ABSTRACT

Caring for children whose development is endangered in their own family, and thus the accommodation/housing of a child in an institution as one of the possible forms of help and care, is a special task of the community. In most countries of the world (including our state too), institutional accommodation/housing has always been the predominant form of care and assistance, and even today. Living in institutional conditions permanently impairs the physical, intellectual, emotional and social development of a child. Accommodation/housing of children in the "Home for children without parental care" begins when, due to age, characteristics and developmental needs, it is not possible to place them in another family. This method of caring for children is applied in accordance with the provisions of the Law on Social Protection and Ensuring Social Security of Citizens. "Home for Children without Parental Care" in Tuzla as a form of institutional protection provides children with proper development and education. The educators in the Home take care of the physical and mental development of the children. Accommodation, food, clothing, social, legal and medical assistance is provided. The life of children in the Home is organized in accordance with the obligations that children have. The process of deinstitutionalization in recent years has largely transformed the Tuzla "Home for Children without Parental Care". Within the Home, the following areas were formed: Reception Centre and Shelter House, Maternity Home, Day-care Centre for Children and Mobile Team.

**Key words:** institutional accommodation/housing, children without parental care, deinstitutionalization.

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## SAŽETAK

Briga o djeci čiji je razvoj ugrožen u vlastitoj porodici, pa tako i smještaj djeteta u ustanovu kao jednog od mogućih oblika pomoći i brige, poseban je zadatak zajednice. U većini je zemalja svijeta (pa tako i kod nas) institucionalni smještaj bio i još uvijek jeste prevladavajući oblik brige i pomoći. Život u institucionalnim uslovima trajno oštećuje fizički, intelektualni, emocionalni i socijalni razvoj djeteta. Smještanju djece u Dom za djecu bez roditeljskog staranja počinje onda kada ih zbog uzrasta, karakteristika i razvojnih potreba, nije moguće smjestiti u drugu porodicu. Ovakav način zbrinjavanja djece primjenjuje se u skladu sa odredbama Zakona o socijalnoj zaštiti i osiguravanju socijalne sigurnosti građana. Dom za djecu bez roditeljskog staranja Tuzla kao oblik institucionalne zaštite osigurava djeci pravilan razvoj i vaspitanje. Vaspitači u Domu brinu o fizičkom i psihičkom razvoju djece. Dječiji domovi omogućuju smještaj, ishranu, odijevanje, socijalnu, pravnu i medicinsku pomoć. Život djece u domu organizuje se u skladu sa obavezama koje djeca imaju. Proces deinstitucionalizacije posljednjih godina u velikoj mjeri je transformisao Dom za djecu bez roditeljskog staranja Tuzla. U skopu Doma formirani su: Prihvatni centar sa Prihvatilištem, Materinski dom, Dnevni centar za djecu i Mobilni tim.

**Ključne riječi:** institucionalni smještaj, djeca bez roditeljskog staranja, deinstitucionalizacija.

## INTRODUCTION

Caring for children whose development is endangered in their own family, and thus the accommodation/housing of a child in an institution as one of the possible forms of help and care, is a special task of the community. For many adults, including professionals, children who benefit from social care are just "objects" and we think we know best what they need, based on beliefs primarily on experiential knowledge, and in accordance with the practical possibilities of help and support.

Based on the Convention on the Rights of the Child (UN, 1989), one of the fundamental rights is the active participation of the child in all matters affecting its life, freedom to express its views and the right to have its views taken seriously according to age and maturity of the child. Furthermore, following the idea of postmodern social work, which emphasizes the importance of the relationship and process between the social worker, educator and beneficiary and all participants in the process of working with children deprived of parental care, it must be emphasized that helping a child whose development is endangered in the family and who is in care and assistance outside its own family, should be achieved through joint relations, within which the social worker, educator and beneficiary, but also the family of the beneficiary, find new solutions in the existing beneficiaries' historical, social and cultural context ( Mwoma, Pillay, 2016).

Institutional care for children without parental care in Bosnia and Herzegovina takes place in 13 institutions; 12 of them are located in the Federation of Bosnia and Herzegovina and there is one institution in Republic of Srpska.

 
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Also, there are nine other institutions that primarily care for other categories of children, among which there is a small number of children without parental care. According to available data, it is estimated that one third of the total number of children without parental care live in institutions.

It is a worrying fact that more than three quarters of children without parental care (76%) have both or one parent alive, and those children still live in the public care system (SOS Children's Villages Bosnia and Herzegovina, 2013). Also, one of the burning problems is the lack of reliable data on the number of children up to 3 years of age. It is estimated that this is about 4.7% of the total number of children without parental care, of which 87% are placed in UNICEF institutions (2017). This form of care is the most unfavourable option for children of such a young age, because it is known that this is the most important period for the development of children in which it is necessary to provide them with the best possible family form of care.

Although the first serious objections to the institutional accommodation/housing of children without adequate parental care were made more than fifty years ago (Bolwby, 1953, 1969, 1982, 1988), institutional accommodation/housing has only recently been subjected to significant criticism from the professionals and the public. In most countries of the world (including Bosnia and Herzegovina too), institutional accommodation/housing has always been the predominant form of care and assistance. The findings of modern research warn that it is necessary to completely avoid the accommodation/housing of very young children (aged from birth to the third year of life) in institutions due to the negative consequences of staying in the institution, such as psychological, social and neurological problems. It is believed that permanent consequences occur after only two months of a very young child's stay in a typical children-home environment. The institutional environment does not provide the so-called individualized care for the child, which jeopardizes the development of safe and stable feeling of affection in children - beneficiaries of institutional care. The creation of a lasting emotional relationship or affection relationship between a guardian / parent and a child is already perceived as an equally important segment of child care such as providing basic physical needs and security needs (Ajduković, Kregar-Orečković and Laklija, 2007).

The definition of children without parental care is given in the provisions of the entity Laws on Social Protection: A child without parental care is a child without both parents; whose parents are unknown; abandoned by parents; whose parents have been deprived or prevented from parental rights. Family laws do not have a specific definition of children without parental care. In practice, the term children without parental care means two groups of children: children deprived of moral family life and children deprived of family care. The first group includes children whose development is hindered by family circumstances such as disturbed family relations, divorced parents, parental absence due to illness or serving a sentence, unsettled material and housing conditions... The second group includes children without parents in a situation where both parents have died, when the parents are unknown, when the parent is deprived of legal capacity or deprived of parental rights (Perić and Petrović, 1979).

 
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Accommodation/housing of children in the "Home for children without parental care" begins when, due to their age, characteristics and developmental needs, it is not possible to situate them in another family. In any case, in international conventions and domestic legislation, children-home accommodation is treated as a last resort in the care of children without parental care. Nevertheless, due to the small number of children who can be adopted or the lack of foster families and the long tradition of children-care accommodation/housing, this form of institutional child protection is dominant, often applied, and necessary for some children (Grujić, 2005).

The children's home as a form of institutional protection ensures the proper development and upbringing of children. The educators in the home take care of the physical and mental development of the children. Accommodation, food, clothing, social, legal and medical assistance is provided. The life of children in the Home is organized in accordance with the obligations that children have. Some of the daily activities are: learning, sections, socially useful work, but there is also time for fun (Tomić, Osmić, Karić, 2006).

## The policy of the protection of children without parental care

At the level of the Federation of Bosnia and Herzegovina, the main bearers of responsibility for the protection of children's rights and protection issues are: the Federal Ministry of Labour and Social Policy and the cantonal government. According to the Constitution of the Federation of Bosnia and Herzegovina, the Federal Government and the cantons have joint responsibility for social protection and education policy issues, as well as for establishing a legal framework. The Federal Ministry is responsible for the adoption of policies, strategies and standards, monitoring and supervision of various forms of care for children without parental care, as well as professional activities of institutions established by the Federation of Bosnia and Herzegovina. The cantonal authorities, via cantonal laws, regulate in more detail the activities in the field of social protection, supervise the work of institutions and finance child protection and education. The main obstacles in fulfilling these responsibilities are: the lack of a unified system of public revenue collection that would ensure a minimum of social security, and the lack of a centralized database and a strategic and consistent approach to policy making. Although funding is the responsibility of the cantons, financial resources are insufficient and constant tensions between the entity and cantonal levels of government at least lead to unequal position and discrimination of children living in different cantons (Selimović, Softović, 2010).

Currently, several legal documents at the state or entity level are relevant for the protection of children without parental care: the UN Convention on the Rights of the Child; Code of ethics for research with and on children in Bosnia and Herzegovina, 2013; The situation of children in Bosnia and Herzegovina, analysis of the situation of children without parental care and / or children at risk of loss of parental care based on children's rights, 2014 (document prepared periodically by SOS Children's Villages Bosnia and Herzegovina organization with the aim of monitoring the status of children and improving their status and rights as proposed by the Convention on the Rights of the Child); Strategy for deinstitutionalization and transformation of social protection institutions in Federation of Bosnia and Herzegovina (2014-2020), where the main goal is to provide an environment closest to the conventional family environment of

children through a social protection system based on community services; Strategy for improving social protection of children without parental care (Republic of Srpska) (2015-2020), which aims to develop and improve systemic models of action in the field of social protection of children, which have the capacity to optimally respond to the needs of children without parental care and the needs of children at risk from separation from parents in accordance with the best interests of the child (Sofović, 2019).

Bosnia and Herzegovina has ratified the UN Convention on the Rights of the Child, which is included in Annex I of the Constitution of Bosnia and Herzegovina (Additional human rights agreements to be applied in Bosnia and Herzegovina). However, the Constitution of Bosnia and Herzegovina does not mention the manner of application of the Convention on the Rights of the Child (directly or through the adoption of domestic laws), nor about the priority in case of non-compliance with domestic legislation. Of particular importance is the fact that there are no bylaws with specific criteria for exercising the rights of the child, as well as responsibility for their violation, and that the provisions of the Convention on the Rights of the Child are not fully implemented in all branches of law. The Convention on the Rights of the Child is a legal document that guarantees a better life for children, but domestic legislation is not fully in line with its provisions. Also, there are no mechanisms for dealing with cases where the provisions of the Convention are violated, mechanisms for monitoring the implementation, as well as sanctioning violators. The key precondition for improving the position of children is to provide an institutional framework for the implementation of adopted policies in the field of social protection as well as the adoption of new ones. It is also important to involve all segments of society, all available resources of the governmental and non-governmental sector, families and individuals, in achieving meaningful action to improve living conditions in the interest of children's development and respect for their rights. This implies an intersectoral and multidisciplinary approach and the design of social actions and measures that will be aimed at improving the position of the child in Bosnia and Herzegovina.

## ORGANIZATION MANNER OF THE PUBLIC INSTITUTION “HOME FOR CHILDREN WITHOUT PARENTAL CARE” IN TUZLA

In decades of work (about 50 years), the Home has taken care of nearly 3,000 children from all over Bosnia and Herzegovina, who have been left without parental care due to specific circumstances. Prior to its establishment, the "Home for Children without Parental Care" was an Inpatient Hospital for children who lost their parents during the war and who needed social care and protection. In 1967, the Children's Home "Vojo Perić" was founded, which is also the first organized, independent and systematic care institution for children without parental care in the Tuzla region. The concept of the organization of the Home back then was based on the need to provide social care for children and youth without parental care, aged 5 to 18, whose development was hindered in the family environment, until the conditions for their return to the family were created or other appropriate protection was provided.

In the post-war period, the institution changed its name to the Public Institution "Dom za djecu bez roditeljskog staranja" (Eng. "Home for Children without Parental Care") in Tuzla. Pursuant to the new regulations that deal with this issue, the institution for the reception and

 
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admission of children from birth to 18 years of age was registered. There are currently about 60 children in the Home. The concept of the work of the Home was based, in the period between 1980 and 2011, on the principle of home-family. Children are accommodated in eight spatially separated groups - families, heterogeneous by gender of each child. The Home provides the residents with accommodation, schooling, provides assistance for mastering educational programs, organizes various forms of work and life of children and youth, and takes care of their upbringing and health (Dizdarević, 1999). The Home underwent a transformation in 2011, abandoning the principle of home-family organization by turning to developing alternative care services for children without parental care.

The organizational structure of the Home aims for a quality children's growing up. The establishment of a functional internal organizational structure of the House took decades. The search for the best model was fraught with numerous problems, primarily the lack of adequate staff and lack of financial resources. In these searches, at the beginning of the 2000s, the concept of organization changed again, in order to get the outlines of a functional organization, aimed at the development, upbringing and education of children. In recent years, the internal structure of the Home has functioned as follows: a baby ward and a school ward.

Baby ward intended for accommodation of children from birth to 6 years of age, divided into three groups: group of babies from birth to 18 months of age, day-care group from 18 to 36 months of age, preschool group from 3 to 6 years of age. This department is separated into a special annex of the building intended for the needs of children from birth to start of their schooling. It has a capacity of 20 to 30 children.

The school ward includes children attending primary and high school. After finishing high school, reaching adulthood, or after fulfilling the conditions for independent living, children have the opportunity to stay in a youth home within the NGO "Tuzlanska Amika", where they are further involved in life outside the home. This department is organized according to the principle of educational groups classified by gender and age. Recently, efforts have been made to engage a male-female pair of educators in each educational group as an imitation of the family environment. This ward is organized into two male and two female educational groups. The accommodation capacity of the "Home for Children without Parental Care" is about 70 rooms for children from 6 to 18 years of age.

In the process of transformation in the "Home for Children without Parental Care", new services have been provided in recent years, i.e. new departments/wards of the Home have been formed: Reception Station and Shelter House, Maternity Home, and Day-care Centre for Children, and Mobile Team.

Reception Station and Shelter House

The reception station was opened in 2014. The reception station is intended for emergency accommodation of children aged 5 to 18 years of age. This department is open 24 hours a day, every day of the week. Children can stay in the reception station for 24 hours until an adequate solution is found for them: accommodation in a shelter, home, foster family, or return to the biological family. The capacity of the receiving station is five places in two physically separate rooms.

 
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The shelter house is primarily intended for children who are caught wandering, begging for labour and economic exploitation. During the operation of the service, there was a need for a wider range of users, so the Shelter changed the structure and all children who need social care are admitted to the Shelter. The placement of a child in the Shelter is limited to ninety days, in order to determine the deadline by which all necessary actions must be taken to find the best solution for the child. Children from the Shelter usually return to their biological family if the necessary conditions are created during that time. In the Shelter, they receive a safe environment, clothes and shoes, food, necessary hygienic and professional help, and paperwork regulation such as birth registrations, exercising the right to health and social protection, and inclusion in the education system.

Maternity Home

The maternity home was opened at the beginning of 2015 and is a modern form of taking care of pregnant women and mothers with babies in a state of need. The purpose of the service is to provide temporary accommodation to pregnant women and mothers with children in order to prevent the separation of children from their mothers and to provide various forms of support. In this way, targeted efforts are made to preserve family integrity, the adequate functioning of the family and the upbringing of children in a stimulating environment. Through a carefully planned plan of work with mother and child, the priority is to create an affective bond between mother and child, to continuously develop the mother's parental competencies, introduce the mother to her social rights, refer to local community resources, and enable her to continue her education or re-training. Providing support in independence, developing personal competencies and helping to find employment are some other aspects offered by the Maternity Home.

Day-care Centre for Children

The Day-care Centre was opened in 2016. It enables children from families in which there is a risk of separation to stay in the family, and enables them to meet their needs in the Day-care Centre (social, educational, health). The families of these children are thus enabled to take adequate care of their children with the support of professionals. The Day-care Centre is a positive, safe, constructive and controlled environment that encourages the optimal development of children's individual potentials.

Mobile Team

It has existed as a separate service since the beginning of 2016 and is closely related to the work of the Day-care Centre, but also the Centre for Education and Counselling. The activity of the Mobile Team is to provide support to children and young people leaving the public care system. The Team ensures cooperation with foster families, adoptive parents and the biological family in the event of the child's return to the biological family.

Deinstitutionalization

The process of deinstitutionalization and transformation of social protection institutions began in Bosnia and Herzegovina with modest but significant steps. In the Republic of Srpska, the Regulation on Foster Care made it to the legislative framework in April 2014, which showed that this entity of Bosnia and Herzegovina has a clear commitment to family accommodation/housing of children without parental care. In the Federation of Bosnia and Herzegovina, the Public Policy on Foster Care was adopted in the second half of 2014, and then in 2017, the Law on Foster Care was adopted too.

 
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Also, in this entity of Bosnia and Herzegovina, the Strategy for deinstitutionalization and transformation of social protection institutions in the Federation of Bosnia and Herzegovina (2014-2020) was adopted. In addition to enacting legislation in both entities of the state, recruiting and training foster families and raising public and professional awareness of the importance of the family for the child's upbringing are important steps to support deinstitutionalization. In the city of Tuzla, the transformation of the Public Institution "Home for Children without Parental Care" is nearing completion, which included the opening of a number of new services for children and families - maternity home, shelter house for children, day-care centre for children at risk of separation from their family, mobile team, centre for education and counselling, and a small family home. These services should meet the needs of families and children to reduce the risk of their separation. According to the Glossary of Social Security (2010), deinstitutionalization is defined as a policy of providing protection and treatment to beneficiaries, that is, to medically and socially dependent persons in the community instead of in institutions. It includes avoiding the accommodation/housing of dependent persons in institutions, returning people to the community who can function and use community-based programs, and developing such a social environment that will contribute to the returning of such persons to the community as soon as possible.

An important feature of deinstitutionalization, and which is still the weakest link in the system in Bosnia and Herzegovina, is the prevention of child abandonment, i.e. the prevention of separation of children from biological families. Existing laws rarely or never require the implementation of specific prevention measures, but these measures are broadly and generally defined in several articles of the law, emphasizing this segment of prevention as very important. The most common legally defined forms of preventive measures at all levels of government in Bosnia and Herzegovina are tertiary, i.e. financial support to families and children at risk of separation, while primary and secondary forms of prevention are insufficiently present (Pavlović, Sofović, 2014, Sofović 2019). The document on the protection of children without parental care and families at risk of separation in the Federation of Bosnia and Herzegovina (2006-2016) (The Ministry of Labour and Social Policy of the Federation of Bosnia and Herzegovina (2010)) emphasizes the focus of the Federation of Bosnia and Herzegovina on deinstitutionalization and transformation of current institutions for the care of children without parental care, which also includes the parallel development and provision of a variety of services, which will provide adequate support to families and children during and after the transformation process. The main goals of the Strategy for Deinstitutionalization and Transformation of Social Care/Welfare Institutions in the Federation of Bosnia and Herzegovina (2014-2020) are the reduction of the entry into social institutions, the increase of the exiting from social institutions into new forms of care, especially stimulating family reintegration (guaranteeing one or more family support services in the local community ).

 
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## CONCLUSION

Bosnia and Herzegovina is a country that has traditionally relied on institutions and the state has long considered the social institution to be the best solution for a child who has no parents or for some reason can't live with its parents. Decades of research prove that growing up in social care institutions has detrimental psychological, emotional, and physical consequences for children, including disorders in bonding, cognitive and developmental delays, and lack of social and life skills, all resulting in multiple deficiencies in adulthood. It is important to emphasize the extremely important role of social work centres as direct executors and providers of services to families and children. Data from the field show that there is a continuous annual increase in the number of cases, but the number of social and other professional workers is not increasing, which directly affects the quality and timeliness of service to families and children. Social care institution accommodation/housing is considered a form of protection and care in an emergency, but the situation in our country shows that most children stay in this social institution until the age of eighteen and that this form of care and protection is dominant, although it should only be temporary.

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# PSYCHOMOTOR ABILITIES OF CHILDREN WITH DEVELOPMENTAL DISABILITIES, AS PREDICTORS OF FAMILY FUNCTIONING

# PSIHOMOTORNE SPOSOBNOSTI DJECE SA RAZVOJNIM TEŠKOĆAMA KAO PREDIKTORI PORODIČNOG FUNKCIONISANJA

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**Original Scientific Article**

Received: 22/08/2020
Accepted: 09/11/2020

## ABSTRACT

The family environment plays an important role in the development of children with no developmental disabilities and children with developmental disabilities. Most previous studies observe the family environment in terms of its impact on children's outcomes. The aim of this paper is to examine the influence of psychomotor abilities of children with developmental disabilities on family adaptability and cohesion. This research observes and examines the developmental abilities of children with disabilities, as predictors of family functioning. The sample of respondents included a total of 339 respondents, of which 139 children (69 children with developmental disabilities and 70 children without developmental disabilities) as well as 200 parents of children included in the study. The results of the research showed that there are differences in family adaptability of cohesion between families of children with developmental disabilities and families of children without developmental disabilities. Psychomotor abilities of children with developmental disabilities, i.e. their communication abilities, represent significant predictors of family adaptability, while they have not been determined as significant predictors of family cohesion.

**Key words**: children with developmental disabilities, family functioning, psychomotor

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## SAŽETAK

Porodično okruženje igra važnu ulogu u razvoju djeteta kako tipičnog razvoja tako i djece sa razvojnim teškoćama. Većina prethodnih studija posmatra porodično okruzenje sa aspekta njegovog uticaja na ishode djece. Cilj rada je ispitati uticaj psihomotornih sposobnosti djece sa razvojni teškoćama na porodičnu adaptabilnost i koheziju. Ovo istraživanje posmatra i ispituje razvojne sposobnosti djece sa teškoćama kao prediktore porodičnog funkcionisanja. Uzorak ispitanika je obuhvatio ukupno 339 ispitanika, od toga 139 djece (69 djece sa razvojnim teškoćama i 70 djece bez razvojnih teškoća) kao i 200 roditelja djece uključenih u istraživanje. Rezultati istraćivanja su pokazali da postoje razlike u porodičnoj adaptabilnosti kohezije između porodica djece sa i bez razvojnih teškoća. Psihomotorne sposobnosti djece sa razvojnim teškoćama, odnosno njihove komunikacijske sposobnosti, predstavljaju značajne prediktore porodične adatabilnosti, dok iste nisu utvrđene kao značajni prediktori porodične kohezije.

**Ključne riječi:** djeca sa razvojnim teškoćama, porodično funkcionisanje, psihomotorne

## INTRODUCTION

Children with developmental and intellectual disabilities, in the same manner as other children, come to an environment filled with hope and expectations. Unfortunately, the truth that a child's development is not orderly represents for parents an unpleasant surprise and even great disappointment, sometimes shock, and financial insecurity, as well as an adverse impact on the psycho-physical health and family environment (Vitoň, 2015). Parents of children with developmental disabilities need more inner/mental strength than parents of children with no developmental disabilities, not only to accept and overcome the difficulties of children, but also to face everyday challenges. Those parents who have developed a supportive environment and who possess the necessary skills to face challenges in a flexible way are more able to build a sense of security and protection that affects their family's development (Di Giulio, Philipov and Jaschinski, 2014).

Developmental disabilities and difficulties are heterogeneous and lifelong difficulties or obstacles that are often characterized by problems related to the functioning of the brain or senses and include genetic disorders that affect cognition, behaviour, and other body systems (Zablotsky, Anderson and Law, 2015). Developmental disabilities are a group of chronic conditions that often require lifelong coordinated, interdisciplinary and support services (Crocker, 1989; Yeargin-Allsopp, 1992 according to Braun et al., 2015). Available information indicates that children with developmental disabilities during early childhood show a low level of usage of services in early interventions, and only 17% of children with developmental delay up to 5 years actually receive early intervention services (Rosenberg, Zhang and Robinson, 2008).

The influence of social changes is obvious in many fields of daily functioning of individuals, under whose influence the family is inevitably affected, which represents a mediator between the needs of the individual and society (Zotović et al., 2008).

 
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Modern trends in society and the consumer way of life have imposed changes in the structure of the traditional family, which included that the mother of children is mostly not employed, dedicated to caring for children and raising children, organizing family meals and family leisure. In relation to this, roles within the family have changed with increasing participation of women in higher education, decreasing wages of men and increasing the number of families with both parents employed (Newland, Coyl, & Freeman, 2008). Such a modern family implies the necessary reorganization of free time and the way of distributing parental roles within the family, which relate to the way of caring for children and establishing the discipline of children. All this reflects on family interaction and functioning, the level of quality of life of family members and, ultimately, on their psycho-physical health. To keep pace with these changes, it is important that researchers reconsider parental contribution to children's outcomes, such as security and attachment, and in the context of the modern family using co-decision strategies and social support. The parent plays a major role in the child's psychological, social, and academic development (Dardas and Ahmad, 2015). Adverse family experiences, including family dysfunction and harsh parenting strategies, are associated with an increased risk of psychopathology in children, which in turn negatively affects the process of stimulating growth and development. Negative family functioning is associated with depression and anxiety in children (Jongerden et al., 2014; Ferro and Boyle, 2015), lower developmental achievement (Firk et al., 2015), and behavioural disorders in later life such as eating disorders (Berge et al., 2014), obesity (Halliday et al., 2014) or Internet addiction (Yan, Li, & Sui, 2014).

In recent years, the well-being of parents / guardians and family functioning have been gaining increasing attention from researchers. Research shows that a comprehensive observation of the family in relation to the exclusive focus on the child, leads to an improvement in the outcome of the family as a whole (Smith et al., 2010). It is important that parents are provided with support after diagnosing the child's developmental disabilities, in order to develop effective parenting strategies as a mechanism for coping and adapting to the new situation. It was found that knowledge of effective parenting strategies is more important than theoretical knowledge about the child's development. It often happens that parents, at key moments in a child's development, focus all their resources solely on encouraging development without the use of adequate parenting strategies. These negative parental reactions occur more frequently among parents of children with developmental disabilities and behavioural disorders (Williamson and Johnston, 2016).

This paper presents the results of examining the psychomotor abilities of children with developmental difficulties and their influence on the dimensions of the Circumplex model of family functioning with the dimensions of family cohesion and family adaptability. The circumplex model considers that extremely high or extremely low values of cohesion can be a problem for a person and his/her relationships within the family. On the other hand, individuals who achieve moderate cohesion values are able to balance their relationships in a functional way (Olson, 1999).

 
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Cohesion is defined as closeness between family members, while flexibility is defined as the ability of a family to change its structure, roles, and rules within a relationship in response to situational or developmental needs (Place et al., 2005). Specific concepts or variables that can measure the dimension of family cohesion include: emotional closeness, coalition, time, place, friends, decision-making, and interests. Family cohesion is an important dimension of understanding interactions between family members and represents a significant resource of support to families of children with intellectual disabilities (Hosseinkhanzadeh et al., 2013). Adaptability is considered to be the quality of family organization and leadership, the role and rules of relationships, and the way the family manages its stability and changes within the family (Olson, 2011). Family flexibility is the result of changes in its leadership, role relationships, and relationship rules. Specific concepts include leadership (control, discipline), negotiation styles, roles, and relationship rules (Olson and Gorall, 2003).

The aim of the research is to examine the psychomotor abilities of children with developmental disabilities and to determine the influence of the levels of these abilities on family adaptability and family cohesion. This includes examining children with developmental disabilities and their parents, as well as applying research methods to determine the impact between these two criteria.

## RESEARCH METHODS

### Sample of respondents

The total sample included 339 respondents: 139 children and 200 parents. The sample of children included 70 children with developmental disabilities and intellectual disabilities and 69 children of typical development, both genders, aged 0-6 years, who were a control sample, from Bosnia and Herzegovina (Federation of Bosnia and Herzegovina and Republic of Srpska). The sample of parents included 200 respondents, of which 100 parents of children of typical development, as a control group, both genders, from Bosnia and Herzegovina and whose children were included in the research, and 100 parents of children with developmental and intellectual disabilities, both genders, from Bosnia and Herzegovina whose children were included in the research.

### Design and Procedures

Nonprobability sampling of respondents was applied in the research. Of the total number of children with developmental disabilities and intellectual disabilities, in the educational and health institutions in which the research was conducted, every third child was included in the sample. Out of the total number of children of typical development, in the educational institutions in which the research was conducted, every fifth child was taken for the sample.

### Measures

To examine and determine the coefficient of psychomotor development, the Developmental Observation Checklist System - DOCS (Hresko et al., 1994) was applied, with the application of the development checklist and the obtained general coefficient of psychomotor functioning.

 
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The Developmental Observation Checklist System DOCS is a standardized measurement instrument designed to measure areas of normal development, parental needs, and assess interpersonal and contextual impacts. DOCS instrument includes a Development Checklist, a Behaviour Assessment Checklist, and a Parent Stress and Support Assessment Checklist. During the research for the assessment of psychomotor abilities of children, the Development Checklist was applied, which assesses 4 areas of development: motor skills, cognitive development, communication, and social development. Assessment using this checklist provides insight into the level of developmental abilities of the child in relation to all areas of assessment, and the general coefficient of psychomotor functioning. The Development Checklist contains a total of 475 assessment variables for 4 sub-areas of development. Based on the achieved number of points, the coefficient of psychomotor development is determined in relation to the tabulated standardized results.

The Family Adaptibility and Cohession Evaluation Scale (Olson, 1991) was constructed in relation to the Circumplex model (Olson, Russell, & Sprenkle, 1989) with the three most important dimensions: cohesion, flexibility, and communication. The scale is designed to measure family cohesion (level of connection or distance of family members), family adaptability / flexibility (how flexible the family system is and how it changes), and family type and functioning (extreme, moderate, and balanced families). The scale contains a total of 20 variables that can be used to assess all family members older than 12 years. Based on the number of points, the standard results of the two sub-scales of measurement and the type of family are determined.

### Method of conducting research and data processing

Research data were processed by the method of parametric and nonparametric statistics. The basic statistical parameters of frequency and percentages are calculated, and the obtained results are presented in tables and graphs. Multivariate regression analysis and optimal scaling were used to test the set research hypotheses. The research data were processed using the statistical package SPSS 20. for Windows.

## RESULTS AND DISCUSSION

Descriptive statistics of results in relation to the assessment of family functioning show the responses of parents of children with developmental and intellectual disabilities, and parents of children without developmental and intellectual disabilities, in the field of family adaptability and family cohesion.

Table 1 presents the results of the assessment of family adaptability of children with developmental disabilities and children without developmental disabilities. In relation to the presented results, the largest differences in the parents of children with developmental disabilities were observed in the variables "Parents and children discuss punishments" and "Children make decisions in our family". On the variable "Parents and children discuss punishments", the percentage of responses of "almost always" was 26% in parents of children with developmental disabilities, compared to 42.9% in parents of children without developmental disabilities.

In the sample of parents of children without developmental disabilities, only 1% of them "never" discussed punishments, compared to a percentage of 13% in parents of children with developmental disabilities. On the variable "Children make decisions in our family", 58% of parents of children with developmental disabilities answered "almost never", compared to a percentage of the same answer of 31.6% in parents of children with developmental disabilities. On the same variable, the response rate "almost always" was in 3% of parents of children with developmental disabilities, and the response rate of the same answer was in 2% of parents of children without developmental disabilities.

On the variable "In solving problems, children's suggestions are accepted" the results show that only 14% of parents of children with developmental disabilities and 10.2% of parents of children without developmental disabilities agree that they almost always accept children's suggestions, while 2% of parents of children without developmental disabilities and 12% of parents of children with developmental disabilities almost never do this. In relation to these results, we can see that parents of children with and without developmental difficulties do not accept children's suggestions in solving problems. Similar results were achieved by parents of children with and without developmental disabilities on the variable "We transfer family responsibilities from person to person", where the results showed that 31% of parents of children with developmental disabilities and 34.7% of parents of children without developmental disabilities almost never transfer family responsibilities from person to person, while 8% of parents of children with developmental disabilities and 3.1% of parents of children without developmental disabilities almost always do so.

Difficulties in determining the responsibility of each individual within the family were observed on the variable "It is difficult to determine the leader / s in our family", where the results show that 11.2% of parents of children without developmental disabilities almost always have this problem, and 17.3% of them often have this problem within the family. When it comes to parents of children with developmental disabilities, the percentages are lower and amount to 5% for answers "almost always" and 15% for "often". Similar results of parents of children with and without developmental disabilities related to the responsibilities of individuals within the family are visible on the variable "It is difficult to determine who does what type of work at home" where the results show that only 2% of parents of children with developmental disabilities, and 10.2% of parents of children without developmental disabilities almost always have this problem. On the other hand, 46% of parents of children with developmental disabilities and 36.7% of parents of children without developmental disabilities almost never have problems determining household chores/work for family members. These results show that parents of children with developmental disabilities better define individual roles and tasks for family members, compared to parents of children without developmental disabilities.

When it comes to the attitude towards changes within the family, on the variable "In our family the rules change" a high percentage of 23.5% was achieved by parents of children without developmental disabilities, and 23% was achieved by parents of children with developmental disabilities - both groups answered that the rules change often in their families.

 
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In relation to that, as many as 6.1% of parents of children without developmental disabilities answered that this almost always happens, which is higher than the percentage of parents of children with developmental disabilities of 3% - on the same answer.

Table 1. Family functioning: adaptation

| | | Almost never | | Once | | Sometimes | | Often | | Almost always | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| In solving problems, children's suggestions are accepted | parents of children without developmental difficulties | 2 | 2.0% | 2 | 2.0% | 47 | 48.0% | 37 | 37.8% | 10 | 10.2% |
| | parents of children with developmental difficulties | 12 | 12.0% | 17 | 17.0% | 33 | 33.0% | 24 | 24.0% | 14 | 14.0% |
| Children have the right to vote in their discipline | parents of children without developmental difficulties | 5 | 5.1% | 2 | 2.0% | 37 | 37.8% | 30 | 30.6% | 24 | 24.5% |
| | parents of children with developmental difficulties | 15 | 15.0% | 11 | 11.0% | 26 | 26.0% | 22 | 22.0% | 26 | 26.0% |
| Different people act as leaders of our family | parents of children without developmental difficulties | 46 | 46.9% | 5 | 5.1% | 28 | 28.6% | 12 | 12.2% | 7 | 7.1% |
| | parents of children with developmental difficulties | 42 | 42.0% | 7 | 7.0% | 25 | 25.0% | 25 | 25.0% | 1 | 1.0% |
| Our family changes change the way we perform tasks | parents of children without developmental difficulties | 13 | 13.3% | 4 | 4.1% | 54 | 55.1% | 21 | 21.4% | 6 | 6.1% |
| | parents of children with developmental difficulties | 15 | 15.0% | 12 | 12.0% | 44 | 44.0% | 28 | 28.0% | 1 | 1.0% |
| Parents and children discuss punishments | parents of children without developmental difficulties | 1 | 1.0% | 2 | 2.0% | 18 | 18.4% | 35 | 35.7% | 42 | 42.9% |
| | parents of children with developmental difficulties | 13 | 13.0% | 11 | 11.0% | 32 | 32.0% | 18 | 18.0% | 26 | 26.0% |

 
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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Children make decisions in our family | parents of children without developmental difficulties | 31 | 31.6% | 13 | 13.3% | 45 | 45.9% | 7 | 7.1% | 2 | 2.0% |
| | parents of children with developmental difficulties | 58 | 58.0% | 7 | 7.0% | 25 | 25.0% | 7 | 7.0% | 3 | 3.0% |
| In our family the rules change | parents of children without developmental difficulties | 7 | 7.1% | 0 | 0.0% | 62 | 63.3% | 23 | 23.5% | 6 | 6.1% |
| | parents of children with developmental difficulties | 9 | 9.0% | 10 | 10.0% | 55 | 55.0% | 23 | 23.0% | 3 | 3.0% |
| We transfer family responsibilities from person to person | parents of children without developmental difficulties | 34 | 34.7% | 11 | 11.2% | 42 | 42.9% | 8 | 8.2% | 3 | 3.1% |
| | parents of children with developmental difficulties | 31 | 31.0% | 14 | 14.0% | 36 | 36.0% | 11 | 11.0% | 8 | 8.0% |
| It is difficult to determine the leader / s in our family | parents of children without developmental difficulties | 34 | 34.7% | 11 | 11.2% | 25 | 25.5% | 17 | 17.3% | 11 | 11.2% |
| | parents of children with developmental difficulties | 41 | 41.0% | 6 | 6.0% | 33 | 33.0% | 15 | 15.0% | 5 | 5.0% |
| It is difficult to determine who does what type of work at home | parents of children without developmental difficulties | 36 | 36.7% | 10 | 10.2% | 31 | 31.6% | 11 | 11.2% | 10 | 10.2% |
| | parents of children with developmental difficulties | 46 | 46.0% | 14 | 14.0% | 21 | 21.0% | 17 | 17.0% | 2 | 2.0% |

Table 2 presents the results of the assessment of family adaptation of children with and without developmental difficulties. In relation to the presented results, the parents of children with developmental difficulties/disabilities had the largest differences on the variables „Family members feel closer to other family members than to other people“, „My family members feel very close and attached to each other“ and „Family closeness is very important in our family“, relating to family closeness.

 
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On the variable „Family members feel closer to other family members than to other people“ the response rate of the answer "almost always" in parents of children with developmental difficulties/disabilities was 22%, compared to a response rate of 45.9% on the same answer in parents of children without developmental difficulties/disabilities. Of the total number of parents of children without developmental difficulties/disabilities, 15% of them almost never felt closer to people outside the family than its members, while this percentage is lower in the sample of parents of children with developmental difficulties/disabilities and amounts to 10.2%. On the variable „My family members feel very close and attached to each other“ 51% of parents of children with developmental difficulties/disabilities answered "almost always", compared to 75.5% of parents of children without developmental difficulties/disabilities, on the same answer. On the same variable, the response rate of the answer "almost never" was 7% for parents of children with developmental difficulties/disabilities and 1% for parents of children without developmental difficulties/disabilities. On the variable „Family closeness is very important in our family“, 56% of parents of children with developmental difficulties/disabilities answered with "almost always", compared to as many as 82.7% of parents of children without developmental difficulties/disabilities, on the same answer. On the same variable, the percentage of responses with "almost never" was 9% in parents of children with developmental difficulties/disabilities, while no parent of children without developmental difficulties/disabilities on this variable chose this answer.

Based on these results, it is evident that the families of children without developmental difficulties/disabilities feel more closeness to family members and perceive family closeness present in their family, contrary to the families of children with developmental difficulties/disabilities.

Table 2. Family functioning: cohesion

| | | Almost never | | Once | | Sometimes | | Often | | Almost always | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| My family members are asking for help from each other | parents of children without developmental difficulties | 1 | 1.0% | 0 | 0.0% | 25 | 25.5% | 28 | 28.6% | 44 | 44.9% |
| | parents of children with developmental difficulties | 7 | 7.0% | 3 | 3.0% | 32 | 32.0% | 30 | 30.0% | 28 | 28.0% |
| We approve of each other's friends | parents of children without developmental difficulties | 11 | 11.2% | 2 | 2.0% | 9 | 9.2% | 23 | 23.5% | 53 | 54.1% |
| | parents of children with developmental difficulties | 10 | 10.0% | 3 | 3.0% | 7 | 7.0% | 29 | 29.0% | 51 | 51.0% |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| We love doing things in our immediate family | parents of children without developmental difficulties | 0 | 0.0% | 1 | 1.0% | 8 | 8.2% | 27 | 27.6% | 62 | 63.3% |
| | parents of children with developmental difficulties | 3 | 3.0% | 3 | 3.0% | 13 | 13.0% | 40 | 40.0% | 41 | 41.0% |
| Family members feel closer to other family members than to other people | parents of children without developmental difficulties | 10 | 10.2% | 4 | 4.1% | 15 | 15.3% | 24 | 24.5% | 45 | 45.9% |
| | parents of children with developmental difficulties | 15 | 15.0% | 4 | 4.0% | 28 | 28.0% | 31 | 31.0% | 22 | 22.0% |
| My family members like to spend their free time with each other | parents of children without developmental difficulties | 1 | 1.0% | 0 | 0.0% | 9 | 9.2% | 28 | 28.6% | 60 | 61.2% |
| | parents of children with developmental difficulties | 9 | 9.0% | 2 | 2.0% | 17 | 17.0% | 34 | 34.0% | 38 | 38.0% |
| My family members feel very close and attached to each other | parents of children without developmental difficulties | 1 | 1.0% | 1 | 1.0% | 5 | 5.1% | 17 | 17.3% | 74 | 75.5% |
| | parents of children with developmental difficulties | 7 | 7.0% | 2 | 2.0% | 7 | 7.0% | 33 | 33.0% | 51 | 51.0% |
| When our family does common things, everyone is present | parents of children without developmental difficulties | 0 | 0.0% | 1 | 1.0% | 27 | 27.6% | 33 | 33.7% | 37 | 37.8% |
| | parents of children with developmental difficulties | 6 | 6.0% | 7 | 7.0% | 34 | 34.0% | 33 | 33.0% | 20 | 20.0% |
| We can easily think about the things we do together as a family | parents of children without developmental difficulties | 1 | 1.0% | 0 | 0.0% | 13 | 13.3% | 47 | 48.0% | 37 | 37.8% |
| | parents of children with developmental difficulties | 3 | 3.0% | 6 | 6.0% | 40 | 40.0% | 33 | 33.0% | 18 | 18.0% |

 
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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| My family members advise other members about their decisions | parents of children without developmental difficulties | 12 | 12.2% | 3 | 3.1% | 33 | 33.7% | 33 | 33.7% | 17 | 17.3% |
| | parents of children with developmental difficulties | 7 | 7.0% | 10 | 10.0% | 42 | 42.0% | 28 | 28.0% | 13 | 13.0% |
| Family closeness is very important in our family | parents of children without developmental difficulties | 0 | 0.0% | 1 | 1.0% | 4 | 4.1% | 12 | 12.2% | 81 | 82.7% |
| | parents of children with developmental difficulties | 9 | 9.0% | 5 | 5.0% | 6 | 6.0% | 24 | 24.0% | 56 | 56.0% |

In order to assess the impact of psychomotor development of children with developmental and intellectual difficulties/disabilities on family interaction and family functioning, a multivariate method of regression analysis was applied. In this research, the system of predictors consists of variables of psychomotor development, which relate to communication, social development, motor skills and cognitive development, while the criteria is the variable family cohesion and adaptability.

Table 3 shows the results of regression analysis, i.e. the influence of psychomotor development variables on family adaptability. It can be seen from the table that the multiple correlation coefficient is 0.37, i.e. it shows that there is a relation between the variables of psychomotor development and family adaptability. The square of multiple correlation is 0.13, i.e. it shows that 13% of the variability of family adaptability can be explained under the influence of psychomotor development. The results of Fisher's test showed that at the level of statistical significance of 0.05, psychomotor development of children affects family adaptability.

Table 3. Results of regression analysis

| Model | | SC | df | PSC | F | p |
|---|---|---|---|---|---|---|
| 1 | Regression | 3399,76 | 4 | 849,94 | 2,61 | ,043 |
| | Residual | 21166,07 | 65 | 325,63 | | |
| | Total | 24565,84 | 69 | | | |

r= 0,37; $r^2$= 0,13; corrected $r^2$= 0,08

Table 4 shows the results of the beta coefficient, which represents the standardized partial regression coefficient. The logical and computational beta coefficient is very close to the partial correlation because it shows the partial (separate) share of an individual predictor in explaining the common variance of a set of predictors and criteria. From Table 2 it can be seen that based on the results of the beta coefficient, the greatest impact on family

 
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adaptability was achieved by the variable of communication skills of children with developmental disabilities.

Table 4. Beta coefficient results

| Model | | Non-standard coefficient. | | Standard coefficient. | t | p |
|---|---|---|---|---|---|---|
| | | B | SE | Beta | | |
| 1 | Constant | 66,68 | 18,17 | | 3,66 | ,000 |
| | motor skills | ,38 | ,43 | ,20 | ,87 | ,385 |
| | communication | 1,30 | ,52 | ,62 | 2,47 | ,016 |
| | social development | -,64 | ,52 | -,29 | -1,22 | ,224 |
| | cognitive development | -,68 | ,47 | -,32 | -1,42 | ,160 |

Choi and Yoo (2015) state that a child's level of developmental abilities, parental depression, and stress are negatively associated with family adaptability. A study with a sample of 126 parents of children with Down syndrome found that parental depression, family cohesion, and communication were significant predictors associated with family adaptability. These results suggest the need to prevent depression in parents of children with developmental difficulties and intellectual disabilities, and interventions should focus on improving family cohesion and communication within the family as the development of protective factors. It can be considered that a child who shows a higher level of acquired communication skills has a positive effect on family interaction and communication as a whole.

Table 5 shows the results of regression analysis in relation to the criterion of family cohesion, while the predictors are variables of psychomotor development. It can be seen from the table that the multiple correlation coefficient is 0.24, i.e. it shows that there is a relation between the variables of psychomotor development and family cohesion. The square of multiple correlation is 0.05, i.e. it shows that almost insignificantly 0.5% of the variability of family cohesion can be explained under the influence of psychomotor development. The results of Fisher's test showed no influence of psychomotor development on family cohesion.

Table 5. Results of regression analysis

| Model | | SC | df | PSC | F | p |
|---|---|---|---|---|---|---|
| 1 | Regression | 163,92 | 4 | 40,98 | 1,00 | ,411 |
| | Residual | 2646,42 | 65 | 40,71 | | |
| | Total | 2810,34 | 69 | | | |

r= 0,24 $r^2$= 0,05; corrected $r^2$= 0,00

Psychomotor abilities of children have not been identified as a significant predictor of family cohesion, which is contrary to previous results of research by Van Schoors et al. (2016), who consider child functionality and its characteristics to be related to cohesion within the family. Javadian (2011) indicates that families of children with developmental and intellectual disabilities show better family cohesion compared to families of children without

developmental disabilities, which is consistent with the obtained and described descriptive research results.

## CONCLUSION

The research examined the influence of the levels of psychomotor abilities of children with developmental disabilities on the dimensions of family functioning, as well as the individual influence of certain abilities of children with developmental difficulties. The assessment of family adaptation determined that the communication abilities of children with developmental difficulties and intellectual disabilities are a significant predictor of family adaptability. Family adaptability depends on a number of factors and there are several predictors of family adaptability. Lamb et al. (2016) found that a higher percentage of problem-focused coping, and a lower percentage of emotionally-focused coping are associated with more effective family functioning. In addition, these key variables are significantly associated with greater adaptability, as a dimension of family functioning.

The research found that psychomotor abilities of children with developmental difficulties do not represent a significant predictor of family cohesion, but descriptive descriptions indicate the existence of differences between families of children with and without developmental difficulties in this dimension of family functioning assessment, especially when it comes to family closeness.

Family functioning of families without developmental difficulties, as well as families of children with developmental difficulties, is a dynamic transactional process that cannot be effectively researched if it focuses exclusively on the assessment of individual family members and the cross-section of the situation within one time point (Pedersen et al., 2015). For a more detailed study of family well-being, it is necessary to conduct a series of longitudinal research studies that would examine changes within family processes and well-being.

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# THE INFLUENCE OF PRESCHOOL EDUCATION ON THE GENERAL KNOWLEDGE OF STUDENTS WITH A MILD DEGREE OF INTELLECTUAL DISABILITIES

# UTICAJ PREDŠKOLSKOG ODGOJA NA OPĆE ZNANJE UČENIKA SA BLAŽIM STEPENOM INTELEKTUALNIH TEŠKOĆA

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**Original Scientific Article**

Received:08/09/2020
Accepted:26/11/2020

## ABSTRACT

People with mild degrees of intellectual disabilities are not always easy to distinguish from people without intellectual disabilities. Most of such persons show no signs of brain pathology and belong to families with low formal education and lower socioeconomic status. The aim of this paper is to examine the level of school readiness of students with mild intellectual disabilities, and to determine whether there are differences between students who were included in preschool education and students who were not included in preschool education, in the field of "General Knowledge". The research was conducted on a sample of 60 students with mild intellectual disabilities, both genders, attending I and II grade. The sample of respondents was divided into two subsamples: students with mild intellectual disabilities who were included in preschool education (N = 25) and students who were not included in preschool education (N = 35). The study was conducted via the DABERON-2 test (Danzer, Frances Gerber, Lyonsi Voress, 1991). The test was designed for the examination of ten areas, however, for the purposes of this research, a part of the test related to the examination of the area "General Knowledge" was singled out. The maximum number of points that can be achieved in this area is 30. The results were presented by descriptive statistics, and the differences of the respondents were calculated via the t-test. Students with mild intellectual disabilities who didn't attend preschool education, in the summary variable of the area "General Knowledge", achieved an average score of 22.2 with a standard deviation of 4.8, while students with the same disabilities who did attend preschool education achieved an average score of 18.3, with a standard deviation of 7.9. The results of the t-test showed that there is a statistically significant difference between these groups of respondents, at the level of significance ($p < 0.01$).

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Research in Education and Rehabilitation 2020; 3(2): 42-51.

**Key words:** general knowledge, preschool education, students with mild intellectual disabilities, school readiness

## SAŽETAK

Osobe s blagim intelektualnim teškoćama nije uvijek lako razlikovati od osoba bez intelektualnih teškoća. Najveći broj takvih osoba ne pokazuje znakove patologije mozga i pripadaju porodicama sa niskim formalnim obrazovanjem i nižim socioekonomskim statusom Cilj rada je ispitati nivo školske spremnosti učenika sa blažim intelektualnim teškoćama, i utvrditi da li postoje razlike između učenika koji su bili obuhvaćeni predškolskim odgojem i učenika koji to nisu na području „Opće znanje“. Istraživanje je provedeno na uzorku od 60 učenika s blažim intelektualnim teškoćama, oba spola, I i II razreda. Uzorak ispitanika podjeljen je na dva subuzorka: učenici s blažim intelektualnim teškoćama koji su bili obuhvaćeni predškolskim odgojem (N=25) i učenici koji nisu obuhvaćeni istim (N=35). Istraživanje je provedeno testom DABERON-2 (Danzer, Frances Gerber, Lyonsi Voress, 1991). Test je konstruisan za ispitivanje deset područja, međutim za potrebe ovog istraživanja izdvojen je dio testa koji se odnosi na ispitivanje područja-opće znanje. Maksimalan broj bodova koji se može postići na ovom području je 30. Rezultati su predstavljeni deskriptivnom statistikom, a razlike ispitanika izračunate su t-testom. Učenici sa blagim intelektualnim teškoćama koji nisu bili obuhvaćeni predškolskim vidom odgoja i obrazovanja na sumarnoj varijabli područja „Opće znanje“ postigli su prosječan rezultat koji iznosi 22,2 uz standardnu devijaciju 4,8 dok su učenici sa istim teškoćama koji su bili obuhvaćeni predškolskim vidom odgoja i obrazovanja ostvarili prosječan rezultat od 18,3, uz standardnu devijaciju 7,9. Rezultati t-testa pokazali su da postoji statistički značajna ralika između navedenih skupina ispitanika, na nivou značajnosti 0,01.

**Ključne riječi:** opće znanje, predškolski odgoj, učenici s blažim intelektualnim teškoćama, školska spremnost

## INTRODUCTION

The American Association on Intellectual and Developmental Disabilities (AAIDD) defines intellectual disabilities as "reduced ability characterized by significant limitations in intellectual functioning and adaptive behaviour, expressed in conceptual, social, and practical adaptive skills." It occurs before the age of eighteen (Luckasson, Schalock, Spitalnik, SpreatS, & Tasse, 2002). Three main determinants of intellectual disabilities can be concluded from the definitions, and these are:

- Limitation in intellectual functioning;
- Difficulties in adaptive behaviour; and
- The occurrence before the age of eighteen (18).

Over the years, the terminology related to intellectual disabilities has often changed.

 
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Thus, the definitions have changed, from the former ones that put intellectual retardation in the foreground, emphasizing the incompetence and difficulties of persons, to the present ones that put the possibilities of socialization and training of persons with intellectual disabilities in the foreground. The former definitions were quite negative, so it can be assumed that this was the attitude of society towards people with intellectual disabilities, e.g. "they are the ones who can't do anything". Today's definitions are much more positive, which affects the perception of intellectual disabilities and their abilities in general, both among professionals and in society as a whole. Now the social definition of people with intellectual disabilities is "the one who can be trained to perform simple tasks" (Alimović, 2011).

When it comes to people with mild intellectual disabilities, in addition to intellectual limitations, there are individual strengths that can have a positive effect on improving the level of functioning in everyday life, if the support from the environment is directed personally and continuously provided (Sekušakć-Galeveš, 1994; according to Poredoš Lavor and Radišić, 2011).

Kostelnik, Onaga, Rohde, and Whiren (2004) state that there are large differences among children who have the same intellectual disability. If teachers rely too much on the difficulty the child is facing, they may create wrong assumptions, have inappropriate expectations of the child, or anticipate his or her strengths.

Each child is a unique bio-psycho-social structure whose development depends on a number of subjective (genetics, temperament, psycho-physical health) and objective (environment, atmosphere, parenting style, etc.) factors (Ljubetić, Mandarić and Zubac, 2010). So in addition to genetics, the environment has a great influence on the formation of the personality of each individual. In addition to parents and family, the educator / teacher has the most important role in motivating and preparing children for learning. The educator's/teacher's approach, proper assessment of the child's strengths and the teacher's commitment to their development, is in fact the basis for all future knowledge, skills and abilities that the child will acquire through the educational process.

## Aim of the research

The aim of this paper is to examine the level of school readiness of students with mild intellectual disabilities, and to determine whether there are differences between students who were included in preschool education and students who were not included in preschool education, in the field of "General Knowledge".

## Hypothesis

$H_{1.}$ – There is a statistically significant difference in the area of "General Knowledge" among students with mild intellectual disabilities who attended preschool education and students with the same disabilities who did not attend preschool education.

 
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## Sample of respondents

A total of 60 students with mild intellectual disabilities participated in the study, of which thirty-five students (N-35) did not attend preschool education and twenty-five students (N = 25) who attended preschool education. Students of both genders, attending first and second grade of primary school, were included in the research.

## Measuring instrument

The study was conducted with the DABERON-2 test by Danzer, Frances Gerber, Lyons Voress (1991). This test is used to assess school readiness. It consists of 122 variables, which examine the following areas: body parts, concept (understanding) of colours, concept of numbers, suggestions, following instructions, plural, general knowledge, visual perception, motor development, and categories. For the purposes of this research, one part of the test was used, namely the "General Knowledge" area, which refers to checking the knowledge of names and surnames, the concept of the first and last, understanding occupations, differences between subjects, etc.

## Method of conducting the research

The maximum number of points that can be achieved in this area is 30. The answers on the DABERON-2 test are scored as (R) - right, (W) - wrong, (N) - no answer, (I) - inadequate answer. The answer in most cases is correct or incorrect, and the child achieves a point only for correct answers, so the correct answer is 1 point, and an incorrect answer is no points (0). The research was conducted individually with each respondent, in a different duration. The average duration of the test is about 20 minutes. Due to the low percentage of children that attended preschool education, the research was conducted in several schools in Bosnia and Herzegovina. The schools in which the research was conducted are: Elementary School Safet-beg Bašagić, Elementary School Ivan Goran Kovačić, and Elementary School Musa Ćazim Ćatić - in the area of Gradačac; then in the area of Brčko District - in the First Elementary School and Second Elementary School - Brčko, in the Seventh Elementary School - Gornji Rahić, Eighth Elementary School - Brka and the Ninth Elementary School - Maoča; Special Elementary and High School Đorđe Natošević in the area of Prijedor, and Public Institution Centre for Children and Youth with Special Needs - Los Rosales - Mostar.

 
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## RESEARCH RESULTS

Table 1. Response percentage by students who did not attend preschool education - in the area of "General Knowledge".

| Number | Variable | NO | | YES | |
|---|---|---|---|---|---|
| | | f | % | f | % |
| 1 | Your name? | 0 | 0 | 35 | 100,0 |
| 2 | Your surname? | 5 | 14,3 | 30 | 85,7 |
| 3 | How old are you? (use fingers) | 14 | 40 | 21 | 60,0 |
| 49 | Put your finger on the middle. (bird) | 12 | 34,3 | 23 | 65,7 |
| 50 | Put your finger on the first. (child) | 5 | 14,3 | 30 | 85,7 |
| 51 | Put your finger on the last. (child) | 12 | 34,3 | 23 | 65,7 |
| 52 | Put your finger on the penultimate. (child) | 26 | 74,3 | 9 | 25,7 |
| 53 | Put your finger on the second. (child) | 20 | 57,1 | 15 | 42,9 |
| 73 | Which is bigger, a tree or a flower? | 4 | 11,4 | 31 | 88,6 |
| 74 | Which is slower, a car or a bike? | 11 | 31,4 | 24 | 68,6 |
| 75 | Which is heavier, the stove or the sock? | 5 | 14,3 | 30 | 85,7 |
| 76 | Where do we buy fuel? | 9 | 25,7 | 26 | 74,3 |
| 77 | Where can we find a cow? | 9 | 25,7 | 26 | 74,3 |
| 78 | Where do we go when we are sick? | 0 | 0 | 35 | 100,0 |
| 79 | What does a fire-fighter do? | 7 | 20,0 | 28 | 80,0 |
| 80 | What does a dentist do? | 1 | 2,9 | 34 | 97,1 |
| 81 | What do you do when you're sleepy? | 3 | 8,6 | 32 | 91,4 |
| 82 | What do you do when you're hungry? | 0 | 0 | 35 | 100,0 |
| 83 | What do you do when you're thirsty? | 2 | 5,7 | 33 | 94,3 |
| 84 | What are books for? | 6 | 17,1 | 29 | 82,9 |
| 85 | What is the stove for? | 3 | 8,6 | 32 | 91,4 |
| 86 | What is the key for? | 0 | 0 | 35 | 100,0 |
| 87 | What is an umbrella for? | 0 | 0 | 35 | 100,0 |
| 88 | What is the house for? | 9 | 25,7 | 26 | 74,3 |
| 89 | What is the chair made of? | 8 | 22,9 | 27 | 77,1 |
| 90 | What is the coat made of? | 23 | 65,7 | 12 | 34,3 |
| 91 | What is the house made of? | 11 | 31,4 | 24 | 68,6 |
| 92 | How are a fork and a shoe different? | 19 | 54,3 | 16 | 45,7 |
| 93 | How are a bird and a dog different? | 22 | 62,9 | 13 | 37,1 |
| 94 | How are wood and glass different? | 23 | 65,7 | 12 | 34,3 |

The results from the area of "General Knowledge" shown in Table 1 show that out of 35 students with mild intellectual disabilities who did not attend preschool education, all of them answered correctly on the following variables: „Your name?“, „Where do we go when we are sick?“, „What do you do when you're hungry?“, „What is the key for?“ and the variable „What is an umbrella for?“ and thus achieved a percentage of 100% of correct answers.

 
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A large number of correct answers were also achieved by the respondents on the following variables: „What does a dentist do?“ with 34 correct answers (97.1%), then on the variable „What do you do when you're thirsty?“ where the number of correct answers is 33 (94.3%), and on the variables „What is the stove for?“ and „What do you do when you're sleepy?“ with 32 correct answers (91.4%). The percentage of correct answers below 50%, in the area of "General Knowledge", was achieved by students who did not attend preschool education on the following six variables: „How are a fork and a shoe different?“, „Put your finger on the second. (child)“, „How are a bird and a dog different?“, „What is the coat made of?“, „How are wood and glass different?“ and on the variable „Put your finger on the penultimate. (child)“. With 16 correct answers on the variable „How are a fork and a shoe different?“, respondents achieved 45.7% of correct answers, on the variable „Put your finger on the second. (child)“, the number of correct answers is 15, i.e. (42.9%), then, the respondents achieved 13 correct answers on the variable „How are a bird and a dog different?“ with 37.1% of correct answers. The same number of correct answers, a total of 12, was achieved on the variables „What is the coat made of?“ and „How are wood and glass different?“ which resulted in 34.3% correct answers. The variable with the least number of correct answers is „Put your finger on the penultimate. (child)“, where the percentage of correct answers is 25.7%, i.e. the total number of correct answers is 9.

Table 2. Response percentage by students who did attend preschool education - in the area of "General Knowledge".

| Number | Variable | NO | | YES | |
|---|---|---|---|---|---|
| | | F | % | F | % |
| 1 | Your name? | 0 | 0 | 25 | 100,0 |
| 2 | Your surname? | 5 | 20,0 | 20 | 80,0 |
| 3 | How old are you? (use fingers) | 10 | 40,0 | 15 | 60,0 |
| 49 | Put your finger on the middle. (bird) | 7 | 28,0 | 18 | 72,0 |
| 50 | Put your finger on the first. (child) | 6 | 24,0 | 19 | 76,0 |
| 51 | Put your finger on the last. (child) | 9 | 36,0 | 16 | 64,0 |
| 52 | Put your finger on the penultimate. (child) | 17 | 68,0 | 8 | 32,0 |
| 53 | Put your finger on the second. (child) | 14 | 56,0 | 11 | 44,0 |
| 73 | Which is bigger, a tree or a flower? | 8 | 32,0 | 17 | 68,0 |
| 74 | Which is slower, a car or a bike? | 13 | 52,0 | 12 | 48,0 |
| 75 | Which is heavier, the stove or the sock? | 11 | 44,0 | 14 | 56,0 |
| 76 | Where do we buy fuel? | 10 | 40,0 | 15 | 60,0 |
| 77 | Where can we find a cow? | 8 | 32,0 | 17 | 68,0 |
| 78 | Where do we go when we are sick? | 2 | 8,0 | 23 | 92,0 |
| 79 | What does a fire-fighter do? | 6 | 24,0 | 19 | 76,0 |
| 80 | What does a dentist do? | 5 | 20,0 | 20 | 80,0 |
| 81 | What do you do when you're sleepy? | 8 | 32,0 | 17 | 68,0 |
| 82 | What do you do when you're hungry? | 6 | 24,0 | 19 | 76,0 |
| 83 | What do you do when you're thirsty? | 5 | 20,0 | 20 | 80,0 |
| 84 | What are books for? | 7 | 28,0 | 18 | 72,0 |

 
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| | | | | | |
|---|---|---|---|---|---|
| 85 | What is the stove for? | 7 | 28,0 | 18 | 72,0 |
| 86 | What is the key for? | 5 | 20,0 | 20 | 80,0 |
| 87 | What is an umbrella for? | 3 | 12,0 | 22 | 88,0 |
| 88 | What is the house for? | 11 | 44,0 | 14 | 56,0 |
| 89 | What is the chair made of? | 14 | 56,0 | 11 | 44,0 |
| 90 | What is the coat made of? | 18 | 72,0 | 7 | 28,0 |
| 91 | What is the house made of? | 14 | 56,0 | 11 | 44,0 |
| 92 | How are a fork and a shoe different? | 21 | 84,0 | 4 | 16,0 |
| 93 | How are a bird and a dog different? | 17 | 68,0 | 8 | 32,0 |
| 94 | How are wood and glass different? | 21 | 84,0 | 4 | 16,0 |

The results from the area of "General Knowledge" shown in Table 2 show that of the total of 25 students with mild intellectual disabilities who attended preschool education, all of them answered correctly on the variable "Your name?", and thus achieved 25 correct answers, or 100% of correct answers. A total of 23 correct answers were achieved on the variable „Where do we go when we are sick?“, and thus 92.0% of correct answers was achieved. The variable with 22 correct answers, i.e. with 88.0% of correct answers, is „What is an umbrella for?“, while on the variables: „Your surname?“, „What does a dentist do?“, „What do you do when you're thirsty?“ and on the variable „What is the key for?“, the number of correct answers is 20 and the percentage of correct answers on these variables is 80.0%. On a total of 30 variables in this area, the respondents achieved a percentage of correct answers of less than 50% on 9 variables. On the variable „Which is slower, a car or a bike?“, the number of correct answers is 12, that is, a percentage of 48%. Number of correct answers on variables „Put your finger on the second. (child)“, „What is the chair made of?“ and „What is the house made of?“ is 11, that is, a percentage of 44.0%. A small number of correct answers were also obtained by the respondents on the variables „Put your finger on the penultimate. (child)“ and „How are a bird and a dog different?“, where the number of correct answers is 8, and the percentage amounts to 32.0%, while on the variable „What is the coat made of?“ the number of correct answers is 7, i.e. 28.0%. The smallest number of correct answers is on the variables „How are a fork and a shoe different?“ and „How are wood and glass different?“, with only 4 correct answers, i.e. the percentage of correct answers is only 16.0%. Both groups of respondents achieved worse results in the area of "General Knowledge" compared to other surveyed areas. However, comparing the results achieved by students who did not attend preschool education, and the results of the group of students who did attend preschool education, we can see that better results were achieved by students who did not attend preschool education. The research showed that there is a statistically significant difference in this area between the examined groups.

 
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Table 3. Descriptive statistics coverage of preschool education of summary variables by areas for students with mild intellectual disabilities in relation to the attendance/

| Areas | Kindergarten | N | AM | SD |
|---|---|---|---|---|
| General Knowledge | YES | 25 | 18,36 | 7,98 |
| | NO | 35 | 22,28 | 4,89 |

In the area of "General Knowledge", differences in values of both arithmetic means and standard deviations are visible. In students with mild intellectual disabilities who attended preschool education, the arithmetic mean (AS = 18.3) is significantly smaller compared to the other group of respondents, whose arithmetic mean amounts to (AS = 22.2). There are also large differences in the values of the standard deviation, which is higher and amounts (SD = 7.9) for students who attended preschool education, while it is lower for the other group of respondents (SD = 4.8). The values of the standard deviation in this area also show us large individual differences among the respondents in the groups, especially in the first group of respondents.

Table 4. Differences in the level of school readiness of students with mild intellectual disabilities in relation to the attendance/coverage of preschool education

| | F | P | T | Df |
|---|---|---|---|---|
| General Knowledge | 6,902 | **0,011** | -2,358 | 58 |

The results shown in Table 4 showed that a statistically significant difference in the level of school readiness of students with mild intellectual disabilities in relation to the attendance/coverage of preschool education exists in the area of "General Knowledge" ($t = -2.358$; $p = 0.011$).

## DISCUSSION

Preschool education is the first and basic phase in formal education, and preschool is the first organized form of educational work in which a child is involved and in which it will spend a significant part of the childhood. Consequently, preschool education provides the first opportunities for the adoption of many contents that will enable the child to get to know both his/her natural and social environment. Inclusion of children with disabilities in the preschool education system requires serious multidisciplinary professional support and readiness for teamwork (Liber, et al. 2002, according to Sandberg and Ottosson, 2010).

In preschool, children will get a true picture of diversity on the basis of which they will form their first impressions and their first preferences (Sakač and Marić, 2013). Predispositions with which a child is born determine the pace and upper level of development, and the achievement of that level and quality within it depends on environmental factors and the learning process (Panić, 1984; according to Tomić, Osmić, Karić, 2006). Early learning should not be limited "only to the intellectual sphere of the personality, but engage all aspects of its development, physical sphere and emotions as well as the child's mental strength. It is especially important that the child, thanks to learning, multiplies and develops cognitive

 
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interests, develops a spirit open and ready for search and new experiences, which is the most precious characteristic of a person and a guarantee for many further achievements "(Kamenov, 1987; according to Selimović and Karić, 2011).

In order for preschool education to have a positive impact on the development of a child with developmental difficulties/disabilities, the cooperation of the preschool institution, experts of the appropriate profile, educators and parents is crucial in this process. If we start from an individual approach to the child, recognizing the strengths, needs and possibilities of the child and in creative cooperation find creative ways to meet and fulfil them, there is a greater chance that the goals of preschool education will be achieved.

Every child can achieve more through a thoughtful, creative and effective way of working. Over time, by getting to know itself, its abilities, the children through this type of work can learn to think better, remember better, and upgrade their own abilities. The support of parents, teachers, a positive attitude of peers and the environment, systematic and persistent work of experts - all this contributes to achieving better results in children with developmental difficulties/disabilities. The preschool child mainly acquires knowledge and skills through playing, and for that reason it is necessary to enable children to spend their stay in preschool institutions with quality, and that through creative games designed by experts and educators, the child acquires knowledge and skills in accordance with the child's age. Also, through playing as a basic form of learning for preschool children, in addition to pedagogical work, it is necessary to work on the development of its social interaction, on which the development of motivation in the child to acquire knowledge will depend. The environment in which the child is not accepted has negative impacts on all aspects of the child's development, from the establishment of interaction, communication, emotional development to the adoption of all forms of behaviour and necessary knowledge.

## CONCLUSION

Based on the presented research results, we can conclude that there is a difference in the area of "General Knowledge" between students with mild intellectual disabilities who attended preschool education and those with the same disabilities who did not attend preschool education. Better results were achieved by students with mild intellectual disabilities who did not attend preschool education. One of the possible reasons for the results obtained is the insufficient involvement of experts of appropriate profiles for working with children with these disabilities in preschool education institutions, which would apply methods and ways of working in accordance with the child's abilities and capabilities.

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## ACKNOWLEDGMENT

The abstract of this paper was published in the Publication of Abstracts of the 2nd scientific-professional conference „Improving the quality of life of children and youth with special needs“.

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Research in Education and Rehabilitation 2020; 3(2): 52-61.

# PARENTS EDUCATION AND FUNCTIONING OF FAMILIES OF CHILDREN WITH INTELLECTUAL DISABILITIES

# STRUČNA SPREMA RODITELJA I FUNKCIONIRANJE OBITELJI DJECE SA INTELEKTUALNIM TEŠKOĆAMA

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**Original Scientific Article**

Received14/09/2020
Accepted:30/11/2020

## ABSTRACT

The terms functionality and dysfunctionality are used to define the "normality" of the family, referring to patterns of organizing the family process. The study aims to examine the relationship between parents' educational attainment and the functioning of families of children with intellectual disabilities. The sample consisted of parents of children with intellectual disabilities of elementary school age (N = 40), of whom 28 were parents (70.0%) with completed primary school and 12 parents (30.0%) with completed high school. The Beavers Family Function Model was used to test family functioning, and the Family Inventory Scale of Family Inventory Version II was applied. The results of the study showed that of the 28 families with primary education parents, 7 (25.0) are functional and 21 (75.0) dysfunctional families. Of the families where parents indicated that they had a high school, 8 (66.6) were functional and 4 (33.3) dysfunctional families. Both groups achieve lower than average scores on all family dimensions, which means that they exhibit good competencies across all dimensions. The results of correlation showed that there is a weak negative correlation ($r = -0.323$; $p = 0.045$) that is, the lower the level of education, the greater the dysfunction in families. The obtained results should be taken with caution, since the parents' sub-samples are uneven and small concerning their education, and only one parent from the family participated in the research. To obtain a more complete picture of the functioning of families of children with intellectual disabilities, the identified shortcomings need to be addressed in future research.

**Key words:** family functioning, parent's education, children with intellectual disabilities

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## SAŽETAK

Pojmovi funkcionalnost i disfunkcionalnost se koriste kako bi se odredila „normalnost“ obitelji, a odnose se na obrasce organizovanja obiteljskog procesa. Cilj istraživanja je ispitati povezanost nivoa stručne spreme roditelja i funkcioniranja obitelji djece sa intelektualnim teškoćama. Uzorak ispitanika činili su roditelji djece s intelektualnim teškoćama osnovnoškolskog uzrasta (N=40), od čega je 28 roditelja (70,0%) sa završenom osnovnom školom i 12 roditelja (30,0%) sa završenom srednjom školom. Za ispitivanje funkcioniranja obitelji korišten je Beavers model obiteljskog funkcioniranja, a primjenjena je Skala samoprocjene obiteljskog inventara - verzija II (eng. *Family Inventory Scale of Family Inventory Version II*). Rezultati istraživanja su pokazali da je, od 28 obitelji u kojima su roditelji s osnovnim obrazovanjem, 7 (25.0) funkcionalnih i 21 (75.0) disfunkcionalnih obitelji. Od obitelji u kojima su roditelji naveli da imaju srednju stručnu spremu, 8 (66.6) je funkcionalnih i 4 (33.3) disfunkcionalne obitelji. Obje skupine na svim obiteljskim dimenzijama postižu rezultate koji su niži od prosječnih, što znači da ispoljavaju dobre kompetencije na svim dimenzijama. Rezultati ispitivanja povezanosti su pokazali da postoji slaba negativna korelacija (r=-0.323; p=0.045), odnosno što je manji nivo obrazovanja to je veća disfunkcionalnost u obiteljima. Dobijene rezultate treba uzeti s oprezom jer su subuzorci roditelja u odnosu na stručnu spremu neujednačeni i mali, te je u istraživanju sudjelovao samo jedan roditelj iz obitelji. Kako bi se dobila potpunija slika o funkcioniranju obitelji djece s intelektualnim teškoćama potrebno je u bućim istraživanjima otkloniti uočene nedostatke.

**Ključne riječi:** funkcioniranje obitelji, stručna sprema roditelja, djeca s intelektualnim teškoćama

## INTRODUCTION

There are numerous definitions of families in the literature from which we can deduce that this is a system that is built. The question is how to build a family? Petrović (2009) states that the formation of a marital union is the first and most important step in the formation of a family (or family union). Udovčić (2015) points out that from a legal view, the family is a fundamental form of human community and family relations are a type of social relations crucial for the survival of the individual and the social community. The family is not a simple set of individuals but a complex system of interrelationships (Klarin, 2006). The author Keresteš (2002, p. 83, according to Wagner Jakab, 2008) emphasizes that the “family is a complex and connected whole, a hierarchically organized system consisting of smaller subsystems (marital, parental, siblings), and therefore the family community is a complex relationship between members who also have numerous social relationships outside their families”.

Mijatović (1995, according to Jurković, 2017) believes that the family has a very large, perhaps even crucial importance for the individual, but also society as a whole and that it is important for the smallest, but also adults.

 
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The author points out that the child gains experience in it and builds his attitudes that he needs for life. For slightly older family members, it has a different meaning; adults understand it as a community whose foundations rest on friendship and love, where the individual can be what he is and develop his personality in such an environment. Therefore, marriage and the family are a place of security, of necessary mutual acceptance, where the individual can feel free and be unrestricted in his actions. The author further points out that no matter how hard society tries to take over some tasks of the family, it will never be able to completely replace it, nor find a close alternative to it.

A family must be functional to do its part of the "job" of educating and caring for all its members. Vukšić (2018) points out that functional families are those in which both mother and father strongly influence family life and invest their time and energy in shaping them. The author points out that in such families the boundaries are clearly defined and appropriate, and the need for individual privacy is respected. Communication is effective with the free expression of emotions, and there are optimism and humor in them. Ljubetić (2006, according to Vukšić, 2018) states that the basic characteristics of functional families are: open communication channels and willingness to cooperate, better preparedness to cope with stress, warm relationships within the family, trust in other people, self-confidence, free interactions with the environment, and more personal, family and external readiness.

As opposed to functional families, there are also dysfunctional families that result from a dysfunctional marriage and the unwillingness of the family to cope with the challenges it faces. Nikolić (2008, according to Vukšić, 2018) points out that normal family functions during its life cycle in four basic-areas, namely personal, marital, parental and socio-economic functioning. A family that does not function in one or all areas is dysfunctional.

Several models can found in the literature for observing family functioning. Cicović Maslovar (2015) states that the multidimensional systemic view of family functioning is presented in three most commonly used models: Circumplex model, Mc. Master model and Beavers model. The Beavers model of family functioning was used to examine family functioning in this study. The Beavers model of family functioning (Beavers and Hampson, 2000) assesses two dimensions: family competencies and family-style. The results can be shown in a diagram. Family-style is represented on the vertical axis, which in this model can be centripetal or centrifugal, while on the horizontal axis the results for family competencies are entered. By crossing these two dimensions, nine groups of families can be obtained. Two groups are functional families (optimal and adequate) and seven groups are dysfunctional (medium-range families - centripetal, centrifugal and mixed; border families - centripetal and centrifugal; severely dysfunctional families - centripetal and centrifugal).

The family goes through a continuous process of identity building defined as "family life-cycle", so the term "developmental stage" is no longer applied to individual members, but the family as a whole, emphasizing the interdependence between individual-life cycle and family life cycle (Iacolino, Pellerone, Pace, Ramaci, & Castorina, 2016). The family life cycle affects different critical events that may be caused by various factors, such as departure or departure of the family by one spouse, the arrival of a new member (stepfather, stepmother), illness in the family, the birth of a child with a disability, etc. The birth of a child with a disability significantly affects both, family functioning and parents who a more prone to stress and mental health problems.

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The family of people with disabilities often goes through periods of instability and disharmony, and the birth of a child with a disability can affect communication, problem solving, satisfaction, and the overall functioning of the family (Iacolino et al., 2016).

By studying the available literature, it is found that families with a child with a disability function differently. Research suggests that dysfunction is recorded in these families (Axelsson, Granlund & Wilder, 2013; Dyson, 1993; Fenning, J. Baker, B. Baker, & Crnic, 2007; Fenning, J. Baker, B. Baker & Crnic, 2014; Rani et al., 2018; Rieger & McGrail, 2013). Research on the functioning of families of children with disabilities mainly deals with the comparison of the functioning of families with and families without children with disabilities (Dyson 1993; Rani et al. 2018; Fenning et al., 2007; Fenning et al., 2014). Besides, the functioning of families with children with disabilities in general is mainly investigated, while very little research is focused on assessing the functionality of families with children with a particular type of disability. Research on the functioning of families is mainly focused on families with children with autism because it has been shown that they have a higher level of stress (Iacolino et al., 2016).

Several factors appear to influence the overall functioning of a family with a disabled child, including: the type of disability, the amount and nature of disability-related disorders, the structural and psychological characteristics of the family and the related motional, relational and educational dynamics, the socio-cultural level and the quantity and quality of social supports that the family has (Iacolino et al., 2016). Parents who experience higher parental stress perceive family cohesion lower and parents who are satisfied with marriage and social support of the immediate environment perceive family cohesion higher (Milić Babić, 2012).

The research mainly deals with the research of the mentioned factors and their influence on the functioning of families, while the research of factors by parents that can influence the functioning of the family is very small. Factors by parents of children with disabilities that could affect the functioning of the family are gender, age, education, education about the child's disability, etc. The impact of these factors on the functioning of the family should be checked in future research on this issue.

This research aims to examine the connection between the parent's education and the family functioning of children with intellectual disabilities. It is expected that there is a connection between parent's education and the family functioning of children with intellectual disabilities. Families of children with intellectual disabilities in which parents have a higher level of education will be more functional and vice versa.

## MATERIAL AND METHODS

### Sample of participant

The sample consisted of parents of children with intellectual disabilities of primary school age (N = 40) whose children attend the Public Institution "Institute for Education of Persons with Mental and Physical Development Disabilities" in Tuzla and parents whose children are beneficiaries of the Primary School "Cazin II" - Center for the Development of Inclusive Practices in Cazin. The criteria for selecting the parents of children with intellectual disabilities was the diagnosis of intellectual disabilities (mild and moderate intellectual disabilities) in the child.

 
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The sample is appropriate because the sample includes all parents of children with intellectual disabilities who were in these institutions. Concerning education, there were 28 parents (70.0%) with completed primary school, while 12 parents (30.0%) had completed secondary school.

**Method of conducting research**

After obtaining the necessary approvals, research was conducted in the area of the cities of Tuzla and Cazin. All parents, who made up the sample, gave their written consent to participate in the research and were made aware of the fact that the research was anonymous and that the data obtained would not be used for other purposes. The parents filled in the scale individually, after the principle of filling in the measuring instruments was explained to them.

**Measuring instruments**

Self-report Family Inventory scale version II – SFI (Beavers and Hampson, 1990, according to Beavers & Hampson, 2000) was used, which consists of 36 items. It is a Likert-type scale on which family members, in this case, parents, rate their family in the range of 1 to 5 (1 - YES, fits very well with my family; 3 - SOMETIMES, sometimes fits into my family; 5 - NO, does not fit into my family). If family members are unsure and think that this statement is between odd numbers, between YES and SOMETIMES or SOMETIMES and NO, they can round up even numbers between, respectively 2 or 4. SFI has a high internal consistency coefficient (Cronbach's Alpha between 0.84 and 0.93 and test-retest reliability of 0.85 or better). SFI assesses 5 family dimensions: health/competencies (average score 57), conflict (average score 36), cohesion (average score 12), leadership (average score 9), and emotional expressiveness (average score 15). Lower results indicate higher competencies in all dimensions. Results achieved on the health/competence dimension are used to interpret the results of the SFI scale in the diagram which are entered on the horizontal axis, while the result on the vertical axis is entered on the cohesiveness dimension, which is used to assess family style. In this study, the value of Cronbach's Alpha was 0.79.
A General Questionnaire was also used, which was constructed for this research to take general information about parents.

**Data processing methods**

The data were analysed using the statistical program SPSS 21.0 for Windows. Responses of participants were represented by frequencies and percentages, as well as descriptive statistics. The correlation was examined by the Pearson correlation test.

 
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## RESULTS AND DISCUSSION

Table 1. Groups of families of children with intellectual disabilities according to the Beavers model of family functioning concerning the education of parents

| PE | Functional families | | Dysfunctional families | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | OF | AF | CpMr | MMrF | MrCfF | BFCp | BFCf | SDCp | SDCf |
| | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) | N (%) |
| PrE | 0 (0.0) | 7 (25.0) | 11 (39.3) | 6 (21.4) | 2 (7.1) | 1 (3.6) | - | 1 (3.6) | - |
| | **7 (25.0)** | | | | **21 (75.0)** | | | | |
| SE | 2 (16.7) | 6 (50.0) | 1 (8.3) | 3 (25.0) | - | - | - | - | - |
| | **8 (66.6)** | | | | **4 (33.3)** | | | | |

**Legend**: PE (parental education); PrE (primary education); SE (secondary education); OF (optimal families); AF (adequate families); CpMr (Centripetal mid-range type); MMrF (Mixed type of medium-range families); MrCfF (Medium Range Centrifugal Family); BFCp (Boundary families of centripetal type); BFCf (Borderline families of centrifugal type); SDCp (Severely dysfunctional centripetal families); SDCf (Severely dysfunctional centrifugal families)

In Table 1 it can be seen that, out of 28 parents with primary education, 7 (25.0) estimate that their families are functional and 21 (75.0) parents estimate that their families are dysfunctional. Of the 12 parents with secondary education, 8 (66.6) estimate that their families are functional and 4 (33.3) assess that their families are dysfunctional. More parents with secondary education compared to parents with primary education estimate that their families are functional. Parents with primary education in a larger number consider that their families are dysfunctional compared to parents with secondary education. The result is somewhat expected given the fact that there are more parents with primary education in the sample.

The functioning of the families of children with intellectual disabilities concerning the education of the parents was also analyzed in relation to the family dimensions, and the results are presented in Figure 1.

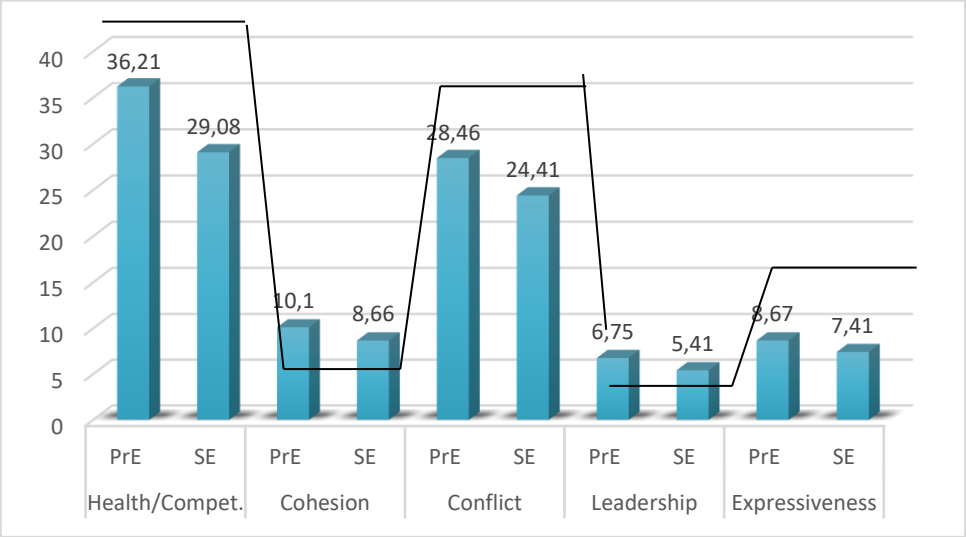


Figure 1. Distribution of parents' results on family dimensions concerning education of parents

 
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The results presented in Figure 1 show that parents of both groups, parents with primary education and parents with secondary education, on all family dimensions achieve results that are lower than the average results of dimensions (results below the boundary line), which means that they show good competencies in all dimensions. If we look at the arithmetic means of all five dimensions, parents with secondary education in all dimensions achieve lower results (health/competencies AS = 29.08; cohesion AS = 8.66; conflict AS = 24.41; leadership AS = 5.41; expressiveness AS = 7.41) from parents with primary education (health/competencies AS = 36.21; cohesion AS = 10.10; conflict AS = 28.46; leadership AS = 6.75; expressiveness AS = 8.467). This means that they show somewhat better competencies in all five dimensions. Thus, parents with secondary education in the Health/Competences dimension show more happiness, optimism, problem solving, and negotiation skills, family love, the strength of parent coalitions, and emphasize autonomy, individuality and responsibility. On the Conflict dimension, they show a greater tendency to negotiate and accept personal responsibility in resolving conflicts, while on the Cohesion dimension they show a greater family closeness. On the Leadership dimension, parents with secondary education express strong and consistent patterns of adult leadership in the family, while on the Expressiveness dimension they express a greater sense of closeness and more expressions of positive feelings, warmth, and care.

Pearson's correlation coefficient was used to examine the relationship between education and the functioning of families of children with intellectual disabilities (Table 2).

Table 2. Relationship between the level of education of parents and the functioning of families of children with intellectual disabilities

| | | Parental education | Family functioning |
|---|---|---|---|
| Parental education | Pearson Correlation | 1 | -0.323* |
| | p | | 0.042 |
| | N | 40 | 40 |
| Family functioning | Pearson Correlation | -0.323* | 1 |
| | p | 0.042 | |
| | N | 40 | 40 |

The results presented in Table 2 show that there is a statistically significant negative correlation between the education of parents and the functioning of families of children with intellectual disabilities ($r = -0.323$, $p = 0.042$). This is a negative weak correlation, that is, inversely proportional, the lower the level of education, the greater the dysfunction in the family and vice versa, the higher the level of education, the better the functionality of the family. The obtained results are expected, and they are confirmed by the previously presented results where it could be seen that parents with secondary education in large numbers believe that their families are functional and show better competencies in all five family dimensions.

There is no research on the impact of parental education of children with intellectual disabilities on the functioning of families in our region and beyond.

This fact is surprising given that research conducted among children of typical development shows that the level of education of parents affects the school success of children, their perception of family and family relationships. Thus, research conducted by Barušić, Babarović, and Marković (2010) indicates the existence of a real relationship between the achievement of students of typical development and the educational level of their parents. In all comparisons, students of more educated parents achieve statistically significantly better educational achievements. Research conducted by Zečević (2018) showed that children of more educated parents who attend regular educational institutions of their families and experience relationships in them are more intimate. Also, in this research, it was shown that the experience of family cohesion and adaptability is influenced by the education of the mother but not the father.

The results of these studies including this one show that parent's education is an important factor in the family functioning and the development of children. Therefore, it is necessary further investigate the impact of the education of parents of children with intellectual disabilities on the functioning of the family. Although this paper has shown that there is a connection between parental education and family functioning and that a lower level of education leads to greater family dysfunction, the results obtained should be taken with caution because parental subsamples are small compared to education and only parents with primary school and secondary education. The research should be repeated on larger subsamples of parents and include parents of other levels of education. Another limiting factor of this research is the fact that most mothers participated in it and that only they assessed the functioning of the family, so the question arises as to how credible the results obtained. Currently, the family is viewed as a system and their functioning depends on all the system elements. It would be interesting to compare family functioning assessments between mothers and fathers of children with intellectual disabilities. It would be also interesting to analyze individually the effects of mother's and father's education on the functioning of families of children with intellectual disabilities.

## CONCLUSION

There is a statistically significant weak correlation between the level of parental education and the functioning of the families of children with intellectual disabilities so that a lower level of education also results in greater family dysfunction. Given the limitations of the research, which include small subsamples of parents concerning education, the representation of only two levels of education, mothers mainly participate in research, the results obtained should be checked in future research.

The results obtained in practical terms imply that parents with a lower level of education need systematic support at all stages of the family cycle. Educational and rehabilitation experts in working with families should pay special attention to the families of children with intellectual disabilities in which parents have a lower level of education because they need a higher level of support.

Family functioning is influenced by several factors that can be classified into three groups: factors by the parents, factors by the child with a disability, and the environmental factors. All these factors individually and in interaction affect the functioning of the family, and

therefore research on the functioning of the family of children with intellectual disabilities should include all these factors. Thus, systematic, extensive, and longitudinal research on this issue is lacking.

## ACKNOWLEDGMENT

The paper was presented at the Days of Defectologists of Serbia, which were held from 20th to 23rd February 2020.

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# INTERNALIZED AND EXTERNALIZED BEHAVIORAL PROBLEMS WITH IMMIGRANTS FROM THE MIDDLE EAST AND NORTHEAST AFRICA

# INTERNALIZIRANI I EKSTERNALIZIRANI PROBLEMI U PONAŠANJU KOD IMIGRANATA SA BLISKOG ISTOKA I SJEVERNOISTOČNE AFRIKE

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**Original Scientific Article**

Received02/10/2020
Accepted:17/12/2020

## ABSTRACT

The European immigration crisis in 2015 is the name of the migration of the inhabitants of African and Asian countries to the countries of the European Union. Immigrants were initially from countries affected by the war conditions of Iraq and Syria, but over time, economic immigrants from other Asian and African economically underdeveloped countries also joined the emergency immigrants (UNHCR, 2015). Recognizing and adequately categorizing internalized and externalized problems among newly arrived immigrants in a particular, new environment in primary health and social care is difficult due to language differences and specific stressors that come with settling and living in a new environment. The aim of the study was to examine the presence of internalized and externalized behavioral problems in children and young immigrants. The sample of the study includes 100 respondents, immigrants, and locals, of different gender, ages, countries of origin, and other demographic factors. The survey was conducted at the St Andrew Church Refugee Service and online for anonymity in Egypt, Cairo. Data were collected by the ASEBA Youth Self-Report - YSR questionnaire. The results of the research after statistical analysis of the examined parameters, as one of the most important indicators of the existence of mental illness of immigrants, found that the immigrant subpopulation has more internalized and externalized behavioral problems compared to the domicile population.

**Keywords:** immigrants, domicile population, internalized, and externalized behavioral problems, mental health.

## SAŽETAK

Evropska imigracijska kriza 2015. godine naziv je migracije stanovnika afričkih i azijskih zemalja prema državama Evropske unije. Imigranti su na početku bili iz država pogođenih ratnim uvjetima Iraka i Sirije, ali su se s vremenom imigrantima iz nužde priključili i

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ekonomski imigranti iz ostalih azijskih i afričkih ekonomski slabo razvijenih država (UNHCR, 2015). Prepoznavanje i adekvatno kategoriziranje internaliziranih i eksternaliziranih problema među novopridošlim imigrantima u određenu, novu sredinu u primarnoj zdravstvenoj i socijalnoj zaštiti predstavlja poteškoću zbog razlika u jeziku i specifičnih stresora koje sa sobom donosi naseljavanje i život u novoj sredini. Cilj istraživanja je ispitati prisutnost internaliziranih i eksternaliziranih problema u ponašanju kod djece i mladih imigranata. Uzorak studije obuhvata 100 ispitanika, useljenika i domaćeg stanovništva, različitog spola, starosti, zemlje porijekla i drugih demografskih faktora. Ispitivanje je provedeno u „St Andrew Church Refugee Service“ te online radi anonimnosti na području Egipta, Kairo. Podaci su prikupljeni ASEBA Youth Self-Report – YSR upitnikom. Rezultati istraživanja nakon statističke analize ispitivanih parametara, kao jednog od najbitnijih pokazatelja postojanja mentalnih oboljenja useljenika, našla da imigrantska subpopulacija ima više prisutnih internaliziranih i eksternaliziranih problema u ponašanju u poređenju sa domicilnim stanovništvom.

**Ključne riječi:** imigranti, domicilno stanovništvo, internalizirani i eksternalizirani problemi u ponašanju, mentalno zdravlje.

## INTRODUCTION

One of the biggest consequences of unstable political systems and the various national, religious, racial, and other intolerances that are common, within and between the countries of the Middle East and Northeast Africa, is the growing number of refugees or immigrants to new, culturally diverse countries. various obstacles and problems in integration into society. As we are witnessing a new wave of immigration today, especially from the Middle East to European and Asian countries, it is very important to respond to the challenges they face with adequate assistance and protection measures. The number of international immigrants in the world has continued to grow rapidly over the last fifteen years, reaching 122 million in 2015, to 222 million in 2010, and 173 million in 2000. In 2014, the total number of refugees in the world was estimated at 19.5 million (UNHCR, 2015). More than half of the refugees (53%) worldwide come from three countries: the Syrian Arab Republic with 3.9 million, Afghanistan with 2.6 million, and Somalia with 1.1 million refugees. The number of refugees in the world reached the highest number since World War II. In 2014, the number of refugees was estimated at 19.5 million, accounting for 8% of all international immigration. Developed regions have received 86% of all world refugees (12.4 million people) making it the highest value in two decades. Underdeveloped countries have granted asylum to 3.6 million refugees, or 25% of the total number of refugees (UNHCR, 2015).

The European immigration crisis in 2015 is the name of the migration of residents of African and Asian countries to the countries of the European Union. Migrants were initially from war-torn countries created by the Islamic State of Iraq and the Levant, ie Iraq and Syria, but over time, economic migrants from other Asian and African economically underdeveloped countries joined the emergency migrants (UNHCR, 2015). . The legal status of immigrants depends on the cause of each migrant's migration: asylum seekers - if a person has emigrated from their country due to the imminent danger of war, such people are considered war

 
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refugees and under international law, each state has the right to asylum: enjoy other countries a refuge from persecution. ” (UN, 2015), labor immigrants - if a person has emigrated from their country for a more favorable economic future. Labor or economic migrants do not have the right to asylum and can be deported to the nearest previous country where their security is not endangered (EUROSTAT, 2019). The number of men seeking asylum in the European Union in 2015 is just over 900,000, while the number of women is just over 343,000 (EUROSTAT, 2019).

**Immigrant behavior problems**

In 1990, there were 17 million immigrants in the world, and that number rose to 40 million in 2000 after the break-up of Yugoslavia and the collapse of the USSR. The study of internalized and externalized problems of immigrant behavior is of great importance, because aggressive, rule-breaking behavior, withdrawal, attention disorders, and social problems interfere with the overall functioning of children and youth. In recent decades, there has been an increasing number of immigrants as well as behavioral disorders in children and young people from this group, in our country and in the world (Žunić-Pavlović, Kovačević-Lepojević, 2010). There has been a major shift in the understanding of behavioral disorders in children and young people in the last 150 years: behavioral disorders have received the status of a problem that deserves special attention of scientists and practitioners, different forms of behavioral disorders have been singled out. which were previously classified in the same group, a wide network of different institutions and professional orientations has been developed that work on the prevention and treatment of children and youth with behavioral disorders, etc. (Žunić-Pavlović, Kovačević-Lepojević, 2010).

Recognizing and adequately categorizing mental health problems among newly arrived immigrants in a particular, new environment in primary care is a difficulty due to language differences and the specific stressors that settlement and living in the new environment bring with it. A study by Kirmayer, Rashid, Munoz, and Ryder (2010) aimed to identify risk factors and strategies on how to approach mental health assessment and design a set of preventive and therapeutic measures to prevent and treat immigrant mental health problems in primary care. The authors searched and analyzed a set of literature data on the prevalence and risk factors for common mental health problems, the effects of cultural impacts on health and disease development, and clinical strategies to improve immigrant mental health. Publications and scientific papers were selected based on relevance, use of recent data, and quality of consultation with immigrant mental health experts.

The trajectory, that is, the course of the migrant process can be divided into three parts: pre-emigration, migration, and post-emigration settlement of a new area. Each phase is associated with specific risks and exposure to certain stressors. The prevalence of a particular type of mental health problem is influenced by the nature of the migration experience, in the context of negative experiences before, during, and after settling a new area (Kirmayer, Rashid, Munoz, Ryder, 2010).

 
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The study (Browne et al. 2017) aimed to study predictive factors for the occurrence of emotional problems among a sample of immigrants in Canada. This was about the mental status of the parents, with well-established cause-and-effect relationships between parenthood and the mental status of the parents. Data were collected by longitudinal monitoring and study of immigrants in Canada (N = 7055). Participants entered the sample and the follow-up process 6 months after arriving on Canadian soil and were followed for another 3 years thereafter. The study confirmed a higher likelihood of developing emotional problems in a group of two parents, a single parent and a divorced non-parent on the one hand, compared to immigrants who were not divorced and were not parents on the other.

Behavioral disorders, ie externalized behaviors, constitute one of the two existing groups of behavioral problems, ie externalized and internalized, although the division into two groups appears earlier only under the name of personality problems and behavioral problems (Fischer et al. 1984).

Childhood and adolescence are a time of increased risk for the development of externalized behaviors and related disorders (Steinberg, 2004). It is a period of human development associated with numerous changes in the behavioral, cognitive, emotional, and ideological spheres. These changes occur and at the same time often coexist with intense self-searching, emotional instability, persistent questions such as who am I? Where am I going? It is a time when new challenges arise and new research begins, as well as conflicts and misunderstandings in the family (Lubenko, Sebre, 2010).

### Research goal and hypothesis

The research aims to examine the presence of internalized and externalized behavioral problems in refugee children and youth.

The study started with the hypothesis that there is a statistically significant difference in the prevalence of internalized and externalized behavioral problems among immigrants in relation to the local population.

## METHODS

### Respondents

The sample of the study includes 100 respondents, immigrants, and locals, of different gender, ages, countries of origin, and other demographic factors. The survey was conducted at the St Andrew Church Refugee Service and online for anonymity in Egypt, Cairo.

The study involved 100 respondents, of which 49 respondents belonged to the domestic population (49.0%) and 51 respondents to the immigrant population (51.0%). Of the total number of immigrants, 33 (64.7%) were from the Middle East, and the rest, a smaller part, 18 (35.3%) were from North African countries. 71 respondents were male (71.0%) and 29 (29.0%) female. When it comes to the age of the respondents, 53 respondents (53.0%) were 14 years old, 25 respondents (25.0%) were 15 years old, and 22 respondents (22.0%) were 16 years old.

The research lasted from December 1, 2019. until 25.12.2019. years.

 
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**Measuring instrument**

Data were collected by the ASEBA Youth Self-Report - YSR questionnaire. The questionnaire consists of 112 questions. Participation in the study was voluntary, and data were collected anonymously.

**Method of data processing**

Statistical analysis of the data was done with the help of the SPSS software system (version 20). Of the statistical tests, the X2 (Hi-Square) test was used. The data are shown in a table. As a level of statistical significance of differences, the usual value of $p < 0.05$ was taken.

## RESULTS AND DISCUSSION

The results of the research will present the most frequent variables related to internalized and externalized behavioral problems on the YSR scale (Achenbach, Rescorla, 2007).

Regarding the claim that they behave childishly for their age, 21 respondents (21.0%) stated that the claim in their case was incorrect, 37 respondents (37.0%) stated that the claim in their case was Partially correct, and 42 (42.0%) stated that the claim in their case was correct (Table 1).

Table 1. Respondents' responses to the statement "I behave childishly for my age"

| I act childish for my Age | Number | Percentage (%) |
|---|---|---|
| Incorrect | 21 | 21,0 |
| Partly correct | 37 | 42,0 |
| Exactly | 42 | 42,0 |
| TOTAL | 100 | 100 |

Regarding the claim that there are not many things they enjoy, 29 respondents (29.0%) stated that the claim in their case was incorrect, 48 respondents (48.0%) stated that the claim in their case was Partially correct, and 10 (23.0%) stated that the claim in their case was correct (Table 2).

Table 2. Respondents' responses to the statement "There are not many things I enjoy"

| Not A Lot Of Things I Enjoy | Number | Percentage (%) |
|---|---|---|
| Incorrect | 29 | 29,0 |
| Partly correct | 48 | 48,0 |
| Exactly | 23 | 23,0 |
| TOTAL | 100 | 100 |

 
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Regarding the claim that they are arguing a lot, 30 respondents (30.0%) stated that the claim in their case was incorrect, 41 respondents (41.0%) stated that the claim in their case was partially correct, and 29 (29, 0%) stated that the claim in their case was correct (Table 3).

Table 3. Respondents' responses to the statement "I argue a lot"

| I argue a lot | Number | Percentage (%) |
|---|---|---|
| Incorrect | 30 | 30,0 |
| Partly correct | 41 | 41,0 |
| Exactly | 29 | 29,0 |
| TOTAL | 100 | 100 |

Regarding the statement that they cannot sit still, 23 respondents (23.0%) stated that the statement in their case was incorrect, 39 respondents (39.0%) stated that the statement in their case was partially correct, and 38 (38.0%) stated that the statement in their case was correct (Table 4).

Table 4. Respondents' responses to the statement "I can't sit still"

| I can't sit still | Number | Percentage (%) |
|---|---|---|
| Incorrect | 23 | 15,2 |
| Partly correct | 39 | 54,5 |
| Exactly | 38 | 30,2 |
| TOTAL: | 100 | 100 |

Regarding the claim that they cry often, 20 respondents (20.0%) stated that the claim in their case was incorrect, 46 respondents (46.0%) stated that the claim in their case was partially correct, and 34 (34.0 %) stated that the claim in their case was correct (Table 5).

Table 5. Respondents' responses to the statement "I cry often"

| I often cry | Number | Percentage (%) |
|---|---|---|
| Incorrect | 20 | 20,0 |
| Partly correct | 46 | 46,0 |
| Exactly | 34 | 34,0 |
| TOTAL | 100 | 100 |

Between the population category (domestic, or immigrant subpopulation) and the degree of a rule violation, a statistically significant difference was found ($\chi 2 = 9.004$, $p = 0.011$, Table 6), with the immigrant population significantly violating the rules.

Table 6. Comparison of population category (domestic or immigrant subpopulation) and degree of rule violation

| Population category | I break the rules Number (%) | | | $\chi^2$ | *p* |
|---|---|---|---|---|---|
| | Incorrect | Partly correct | Exactly | | |
| Domestic | 16 (16,0%) | 27 (27,0%) | 6 (6,0%) | | |
| Immigrants | 9 (9,0%) | 23 (23,0%) | 19 (19,0%) | 9,004 | 0,011 |

 
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| | | | | | |
|---|---|---|---|---|---|
| UKUPNO | 25 (25,0%) | 50 (50,0%) | 25 (25,0%) | | |

Between the category of the population (domestic or immigrant subpopulation) and the attitude of other people towards them, a statistically significant difference was found ($\chi 2$ = 4,908, p = 0,086, Table 7), where the immigrant population has a more pronounced feeling that other people in society do not have a positive attitude towards them.

Table 7. Comparison of population category (domestic or immigrant subpopulation) and other people's attitudes towards them

| Population category | I don't think anyone loves me (Number (%) | | | $\chi^2$ | *p* |
|---|---|---|---|---|---|
| | Incorrect | Partly correct | Exactly | | |
| Domestic | 11 (11,0%) | 31 (31,0%) | 7 (7,0%) | | |
| Immigrants | 13 (13,0%) | 21 (21,0%) | 17 (17,0%) | | |
| UKUPNO | 24 (24,0%) | 52 (52,0%) | 24 (24,0%) | 6,219 | 0,045 |

The study by Sapmaz et al. (2017) aimed to assess early-stage psychiatric disorders and factors related to these disorders in a group of post-immigrant refugee children due to the war in their homeland. The study was conducted between January and June 2016 in Turkey, and 89 children and their families were examined in clinical interviews by clinicians whose mother tongue was Arabic, or Persian. The mean age of the respondents (immigrant children) was 9.96 ± 3.98, with 56.2% (n = 50) girls and 43.8% (n = 39) boys. Among the respondents, that is, these children, 47 (52.8%) were from Syria, 27 (30.3%) from Iraq, 14 (15.7%) from Afghanistan, and 1 (1.1%) from Iran. A psychiatric disorder was found in 44 (49.4%) children. A total of 26 were diagnosed with anxiety disorders, 12 with depressive disorders, 8 with trauma and similar disorders, 5 with elimination disorders, 4 with attention disorders, and 3 with intellectual deficits. As the most important factors in the occurrence of these disorders, the presentation of a dead or injured person, father's unemployment, etc. are listed.

A study by Stevens et al. (2015), aimed to determine the impact of immigration on four indicators of emotional and behavioral disorders in 10 countries (Denmark, Germany, Greece, Iceland, Ireland, Italy, the Netherlands, Spain, USA, and Wales). The sample was composed of adolescents aged 11-15 years, who attended schools in these countries. Immigrant adolescents from these countries who participated in this study reported statistically significantly higher levels of physical confrontation and bullying and generally lower satisfaction with life and its quality, compared to local adolescents. Second-generation immigrant adolescents reported more psychosomatic symptoms than local adolescents. There were no major differences between immigrants in terms of gender, nor the state in which they attended school.

Purpose of the study Foo, S.Q. et al. (2018) was to examine the amount, i.e., the prevalence of depression in the immigrant subpopulation, with a summary of the results of a number of studies. A group of 25 studies was systematically reviewed and analyzed, and the authors

came to the conclusion and prevalence of 15.6% depression among the immigrant subpopulation, with factors such as level of education, employment, length of stay in the foreign country ), etc. Which significantly affects the level and prevalence of depressive disorders in immigrants.

This study found that such phenomena are definitely more common in immigrants than in the local population.

In two studies, Kauf, Asbrock, Issmer, Thorner, and Wagner (2015) analyzed the links between perceptions of deviant behavior by Muslim immigrants and discriminatory behavior toward these groups of foreigners by the local population. Based on a longitudinal and representative sample of the cross-sectional study, the authors showed that the two most common types of deviant behavior are lack of willingness to integrate into society and hostility to the rest of society (part of society outside a given immigrant group) by Muslim immigrants. related to passive discrimination (avoidance of contact and socialization) by the local population.

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RESEARCH IN EDUCATION AND REHABILITATION

## AIM & SCOPE

Journal **„Research in Education and Rehabilitation“ (RER, ISSN 2637-2037)** is a multidisciplinary peer reviewed international journal edited by Faculty of Education and Rehabilitation University of Tuzla. The aim of the journal is to share and disseminate knowledge and good practices in the field of education and rehabilitation and related disciplines. The journal was published under the title "Defectology" by 2017., but the development of scientific theory and practice resulted, among other things, by changing the name "Defectology" to the name of Education and Rehabilitation Science. Thus, the Jornal "Defektologija", which has been continuously published for 23 years, is terminologically aligned with the name of science which theoretical and practical results are being investigated. **Journal "Research in Education and Rehabilitation"** is published twice a year, containing original scientific papers, expert and review papers, case studies, books, doctoral and magisterial theses and information in the area of special education and rehabilitation, medicine, psychology, pedagogy and other related disciplines.

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