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# SCREENING EXAMINATION OF 5-6 YEARS OLD CHILDREN FROM A SOCIALLY DISADVANTAGED ENVIRONMENT

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The aim of the paper is to analyse the knowledge of preschool children after the implementation of the stimulation methodology according to Šilonová, Klein and Šinková and at the same time to compare the level of acquired knowledge of preschool children from the experimental and control groups. The result of our experiment is a confirmation of our hypothesis. Based on our findings, we recommend screening the children of preschool age and in case of any shortcomings, work with the children through a stimulation methodology. The result will be better school readiness of these children, it is also a way to prevent possible learning disabilities that could be a problem after entering primary school.

*Keywords:* screening, socially disadvantaged environment, sociology of childhood.

## Introduction

In the media, we hear about a kind of «trend» of automatic enrollment of children from socially disadvantaged backgrounds in special primary schools. There can be many reasons, they also influence each other. As an example, we will mention a child who does not speak Slovak, parents do not attach importance to it, which may give the impression of a child with impaired communication skills and thus a problem with enrollment in a regular primary school. According to the dictionary of foreign words, screening means «searching for certain diseases (sources of infection, early stages of the disease, etc.) in the whole population or in selected groups». Physical development in the preschool period includes the child's height of about 120 cm, weight 20 - 22 kg, the completed phase of stretching, replacement of the milk teeth for permanent, adequate development of gross motor skills and movement coordination. The child can direct the movements, does not waste forces, the movements are economical, he enjoys movement. Mental development is influenced by innate dispositions, family environment and kindergarten. The child should be able to pay attention to details, endure some time in some activity. In the field of thinking, analytical thinking prevails in the child, he orients himself in terms expressing quantity, size, order, causality and succession. Vocabulary should contain about 3000 to 4000 words, the child should pronounce correctly, express himself coherently, understand speech and know the basic numerical and time categories. From the personality traits, requirements are placed on the average level of general intellectual ability, interest in new knowledge and work at school, orientation in the value system and standards of behavior, self-regulation, positive attitude to oneself and adequate self-confidence.

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As we deal with children from socially disadvantaged backgrounds, we will also get closer to this concept. In the literature we find several definitions of socially disadvantaged environment, e.g. Klein, Rosinský, Zelina, Horňák, Portík and others. The state educational program for pupils with special educational needs defines a socially disadvantaged environment «as an environment which, due to social and linguistic conditions, insufficiently stimulates the development of mental, will and emotional characteristics of an individual, does not support his effective socialization and does not provide sufficient incentives for personality development. It causes socio-cultural deprivation, distorts the intellectual, moral and emotional development of the individual and from the aspects of education we consider him for these reasons to be a person with special educational needs». If the child's environment and surroundings are socially disadvantaged, there is a lack of support, motivation, there is not enough stimuli for his development, the child does not have sufficient cognitive development, development of his senses and personality traits. However, it can also be caused by the lack of time of parents for their child, or lack of interest in his upbringing or education . The result is an unprepared child to enter school, the child has problems with integration into the team and respect for standards. A child from this environment does not have adequate basic needs satisfied and the consequences of this psychological or cultural deprivation are manifested by lagging behind in development in terms of mental, social, emotional and professional. Various tests and assessment procedures are used to diagnose school readiness. The tests are aimed at verifying the level of development of fine motor skills, memory, attention, thinking, speech and visual motor skills. Similarly, the level of development in the emotional and social area is determined. There are several types of these tests, the most commonly used test for assessing school readiness is the Kern test, which contains three tasks: «1. drawing of a human figure (according to the idea), 2. imitation of written writing (according to the model) and 3. drawing of a group of 10 points (according to the model)». The evaluation is performed on a five-point scale (1 - best, 5 - worst). The aim of the school aptitude test is to reveal whether the child is ready to enter the first year of primary school. In the diagnosis of school competence, we can understand the detection of partial weakened areas of development, which is important to develop before entering the first year of primary school. «Screening is usually performed on children in the last, preparatory year of kindergarten in order to map their current level of cognitive abilities and skills and thus identify children in time who show signs of risk development in terms of their expected training». Screening also serves to verify the intellectual talent of children, which appear to be above average. The screening is carried out between September and December, respectively. to enrollment in the first year of primary school. However, it can also be implemented after enrollment, as there is still time for appropriate stimulation of children. The screening takes place in two stages, the first takes place in groups, the second stage is individual. However, screening is not performed through standardized tests such as school maturity. The child's legal guardian must consent to the screening required by kindergartens, in particular because «in the last school year of training they have the opportunity to adequately stimulate children after vocational guidance in cooperation with parents so that children can cope with schooling without difficulties». Screening does not serve for assessment of the postponement of compulsory school attendance, it has a screening role and is stimulating rather than an examination of school competence.

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it has a screening role and is stimulating rather than an examination of school competence.

The screening examination is performed in three stages. The first stage of screening takes place in a group, the second and third stages are individual. Screening in the group stage focuses on the following areas of the child's development: "understanding the instructions and ability to work according to the instructions in the group, graph motor skills, child behavior in the group, independence at work and emotional tuning and disposition of the child when working in the group." This stage is implemented in kindergarten, the number of children in one group is 10 to 16. Children sit down to the tables so that they all have enough space to work and at the same time do not write off from each other. At the beginning, the researcher introduces himself and continues in a playful way in fulfilling individual tasks. In addition to the tasks, the researcher also has an evaluation sheet available. The methodologies of the first stage include drawing the character and the scale of the child's behavior in group work. «The individual part of detection 1 deals with the diagnosis of partial function deficits.» These deficits are the causes of symptoms that can cause problems in various areas during development. Individual screening 1 focuses on the following sub-functions: "visual differentiation (tactile-kinesthetic perception, auditory memory, seriality - visual, auditory differentiation), intermodal visually auditory, auditory differentiation of figure and background (spatial orientation - body scheme, seriality - auditory, audio-visual intermodal, visual differentiation of figure and background, spatial orientation) and visual memory." This stage of screening takes place in the kindergarten classroom with each child separately. The researcher works with templates, record sheet and evaluation sheet. The last stage of screening focuses on identifying the following areas: "the extent of basic knowledge and information about oneself and family, the child's pronunciation and articulation level, the extent of the child's vocabulary, remembering visual stimuli, concepts related to areas of size, quantity and order, basic numerical ideas and ideas about quantity, behavior during the individual examination." The researcher has at his disposal templates, a record sheet and an evaluation sheet.

After screening and evaluation, detection of deficits, we work with individual children through training of partial functions. Training of partial functions should take place every day, max. 10 minutes, we constantly encourage the child. One area is always trained, after mastering it, you move on to the next. The desirable qualities of a trainer include natural authority, self-confidence, directness, consistency, perseverance, decency, correct interpretation of individual instructions, which he should also control.

In our research, we focused on the diagnosis of visual perception associated with the mathematical field. Prerequisites for mathematics are already developing in the preschool period, when the nervous system and the whole mental and physical side of the child mature according to general developmental tendencies, but also strictly individually.

Dyscalculia involves a specific impairment of basic mathematical skills that cannot be explained by mental retardation or incorrect teaching. Dyscalculia means the child's inability to acquire mathematical skills using common methods used in school. We must emphasize that success in mathematics also depends on other learning disabilities. Early detection of shortcomings in basic numerical concepts, in distinguishing geometric shapes, problems in determining the number, order or size can greatly help in the prevention of learning disability.

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The authors Šilonová, V., Klein, V., Arslan Šinková P. and Souček Vaňová M. state the following games suitable for the development of mathematical ideas: Take less - more than I have (to understand the concepts more, less, as well, .. .), Sort by size, name the smallest, largest, medium, etc., What does not belong to the group - exercises for sorting, logical categorization, Divide them into fruits and vegetables, yellow and green, round and square shapes, etc.

**Research problem and research questions**

The aim of our research was to analyze the knowledge of preschool children after the implementation of the stimulation methodology according to Šilonová, Klein and Šinková and at the same time to compare the level of acquired knowledge in preschool children in the experimental and control groups. During the implementation of the research part, we chose diagnostic methods - experiment and description of children. At the beginning, we diagnosed 18 preschool children from socially disadvantaged backgrounds with parental consent. The next step to carry out the experiment was to create two groups, control and experimental. In both groups, the results from the diagnosis of children were approximately the same. Then we did a screening examination with both group as well. The children from the experimental group subsequently underwent a screening-stimulation tool in the period from September 2018 to June 2019, also with parental consent. We implemented the screening-stimulation program during the day in kindergarten. In addition, according to the school curriculum, their teachers also worked with the children. After its completion, both groups were subjected to a screening examination with the same tasks as at the beginning. We supplemented the experimental method with a description of the children.

**Method**

During the implementation of the research part, we chose diagnostic methods - experiment and description of children. The experimental group consists of three children, the control group of three children.

**Characteristics of the studied group**

We carried out our research in a kindergarten in Nálepkovo, where Roma pupils predominate in the classroom. Students come from an environment where they do not have motivating role models, there is a lack of someone to answer their needs, which negatively affects the development of their brains. Many of these children do not go to kindergarten regularly, they do not care for them at home, which is reflected in their inability to hold a proper pencil, they do not have basic hygiene habits and the like. Of course, this cannot be done in kindergarten. Negative factors that do not motivate these children are also low employment in their surroundings and low level of education.

**The course of research**

At the beginning, we diagnosed 18 preschool children from socially disadvantaged backgrounds with parental consent. The next step to carry out the experiment was to create two groups, control and experimental. In both groups, the results from the diagnosis of children were approximately the same. Then we did a screening examination with both group as well. The children from the experimental group subsequently underwent a screening-stimulation tool in the period from September 2018 to June 2019, also with parental consent. We implemented the screening-stimulation program during the day in kindergarten. In addition, according to the school curriculum, their teachers also worked with the children. After its completion, both groups were subjected to a screening examination with the same tasks as at the beginning.

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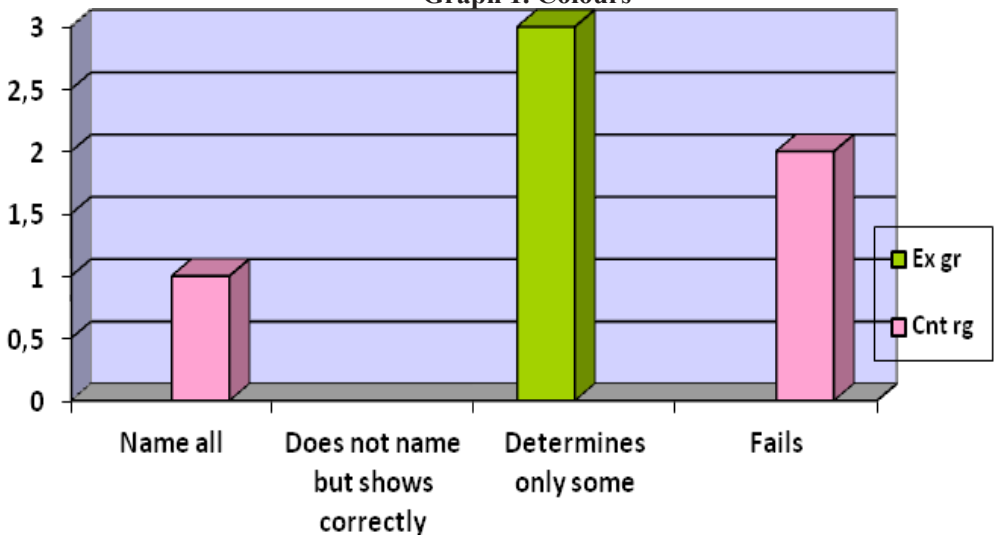
We supplemented the experimental method with a description of the children.

**Findings**

First, we record the results from the first screening, which we carried out according to template 1 (appendix). The first graph shows the results of the initial diagnostics, the second graph will show the results of the diagnostics after the end of the stimulation program in the experimental group.

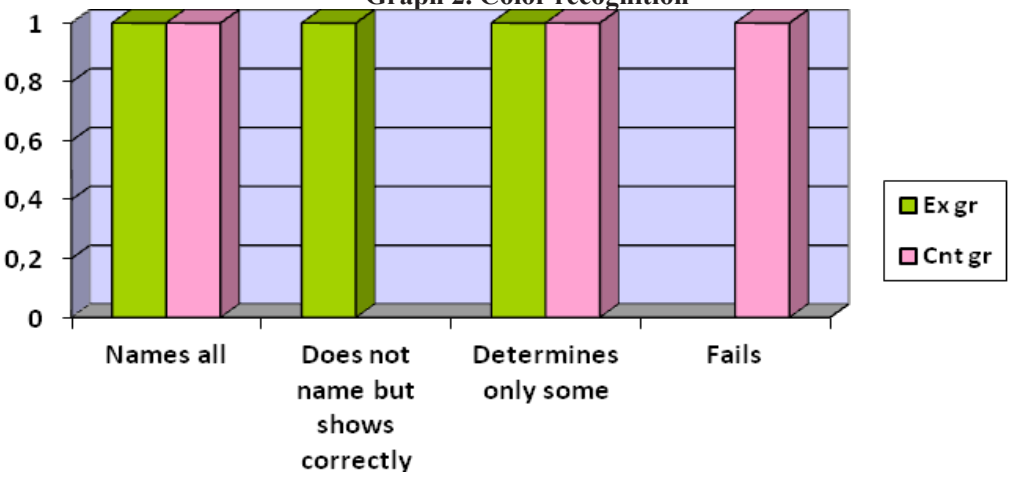
**Graph 1. Colours**




Source: the author's own work

All children from the experimental group determined the correct colors only some, from the control group 1 child determined the correct colors, 2 children failed, they could not determine the correct color.

**Graph 2. Color recognition**




Source: the author's own work

Results of the experimental group after the end of the stimulation program in color recognition: 1 child names all colors, 1 child does not name colors, but shows a message and 1 child can only detect colors.

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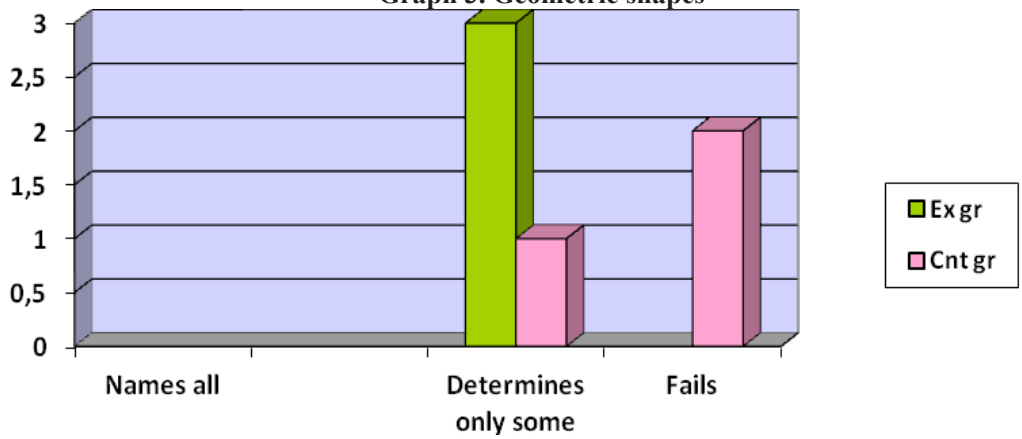
Children from the control groups of the obtained results: 1 child names all colors, 1 child can have only colors and 1 child can have colors when determining the color.

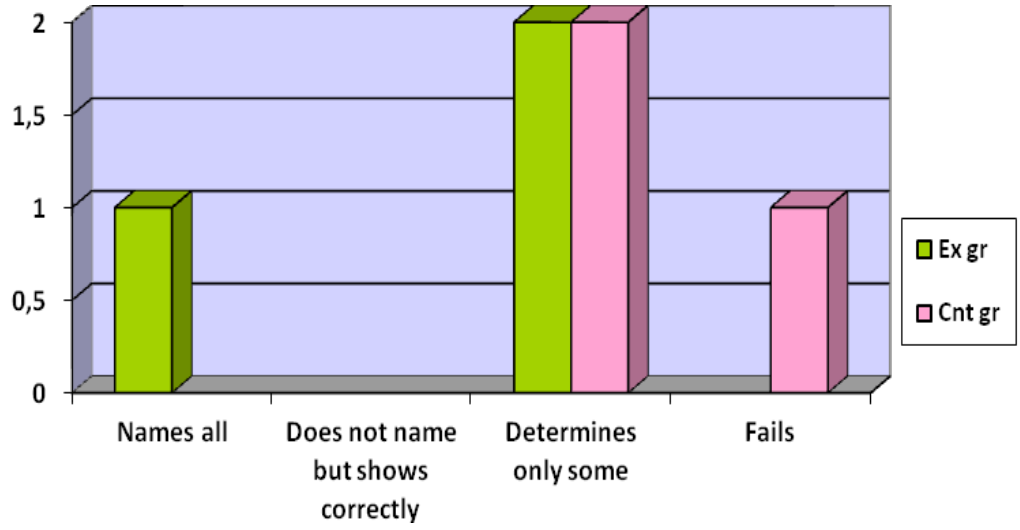
**Graph 3. Geometric shapes**




Source: the author's own work

Children from the experimental group determined only some geometric colors, from the control group 1 child determined only some geometric shapes, 2 children failed, they could not determine the correct geometric shape.

**Graph 4. Shapes and colors**




Source: the author's own work

After the end of the stimulation program, one child from the experimental group determined all geometric colors and 2 children determined only some, from the control group 2 children determined only some geometric shapes, 1 child failed, could not determine the correct geometric shape.

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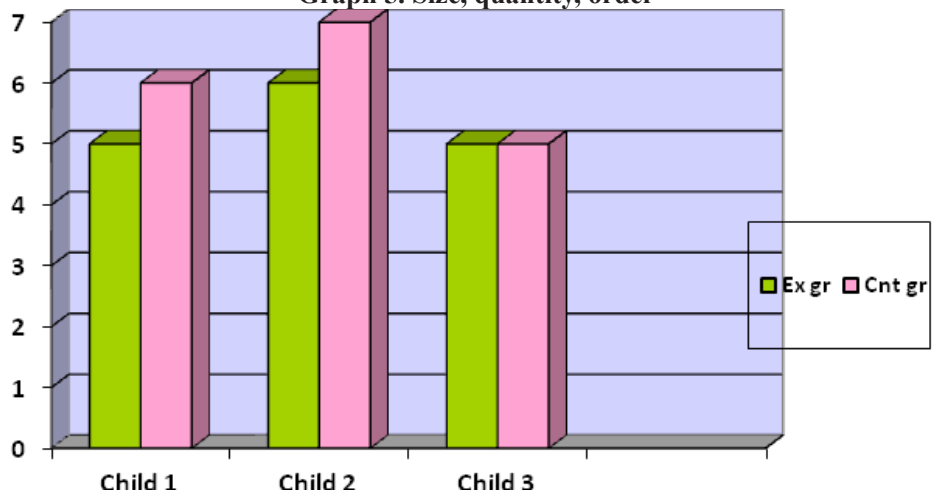
group 2 children determined only some geometric shapes, 1 child failed, could not determine the correct geometric shape.

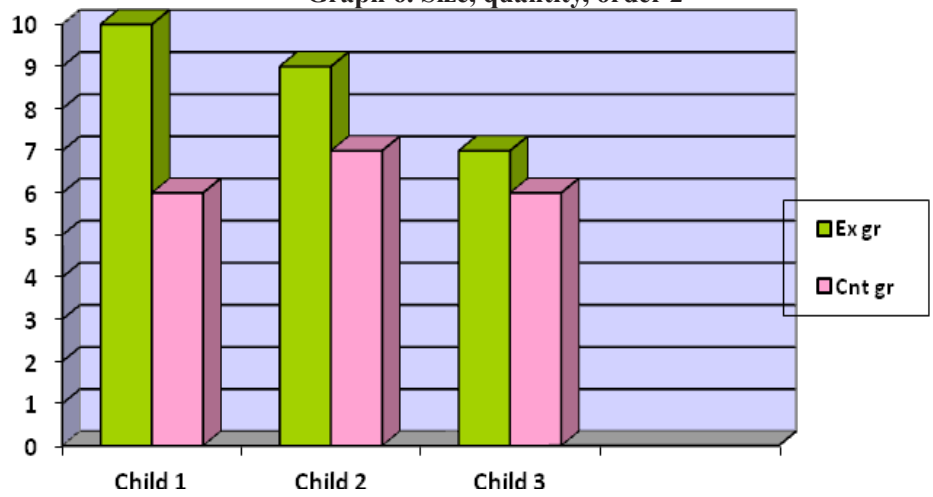
**Graph 5. Size, quantity, order**




Source: the author's own work

In the category Size, quantity, order, children could get 10 points for 10 questions. Children from the control group reached mean values, so in the interval of 5 - 7 points. In the experimental group, the values were similar, range 5 - 6 points.

**Graph 6. Size, quantity, order 2**




Source: the author's own work

In the category Size, quantity, order, children could get 10 points for 10 questions. Children from the control group reached the mean values, so in the interval of 6 - 7 points, only one child improved by one point. In the experimental group, the results based on the stimulation program were better for each child, the points obtained ranged from 7 to 10 points.

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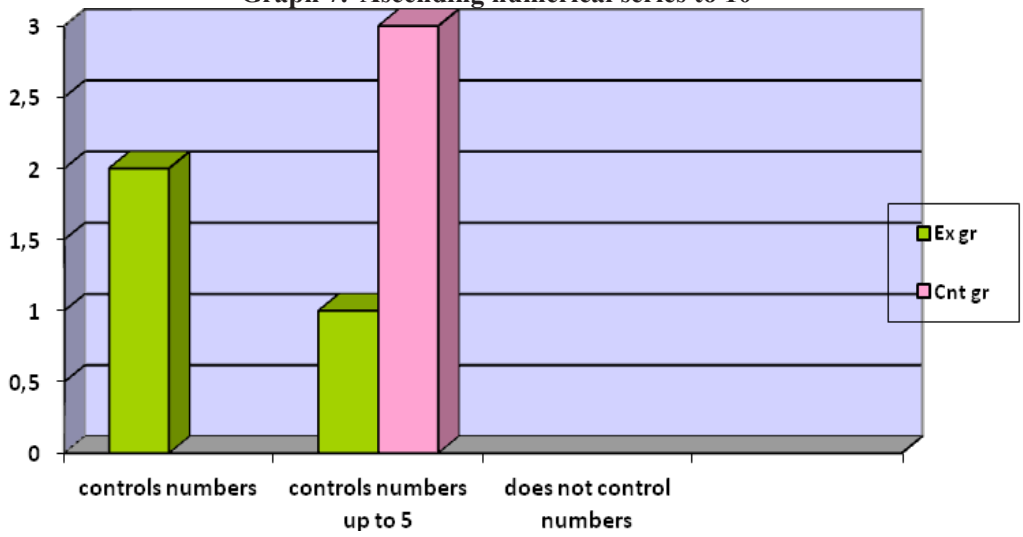
**Mathematical and numerical concepts**

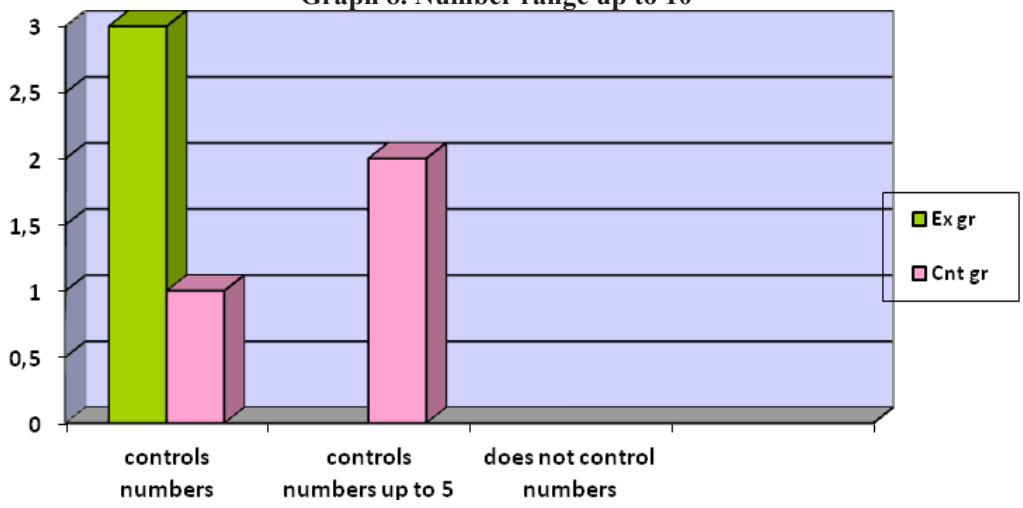
**Graph 7. Ascending numerical series to 10**




Source: the author's own work

Two children from the experimental group control the number range up to 10, one child controls the number range up to 5. All children from the control group control the number range up to 5.

**Graph 8. Number range up to 10**




Source: the author's own work

Children in the experimental group master the number range up to 10. One child from the control group controls the ascending number range up to 10, two children control the number range up to 5.

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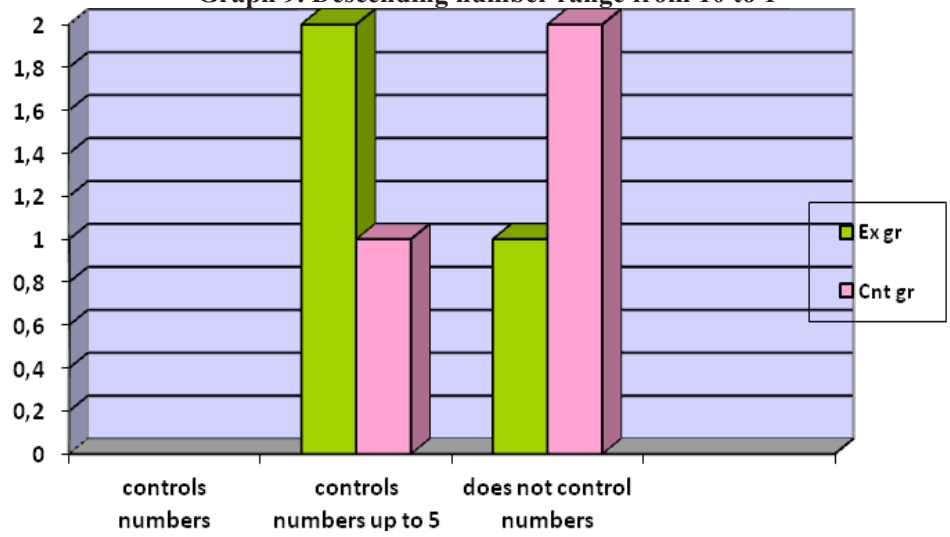
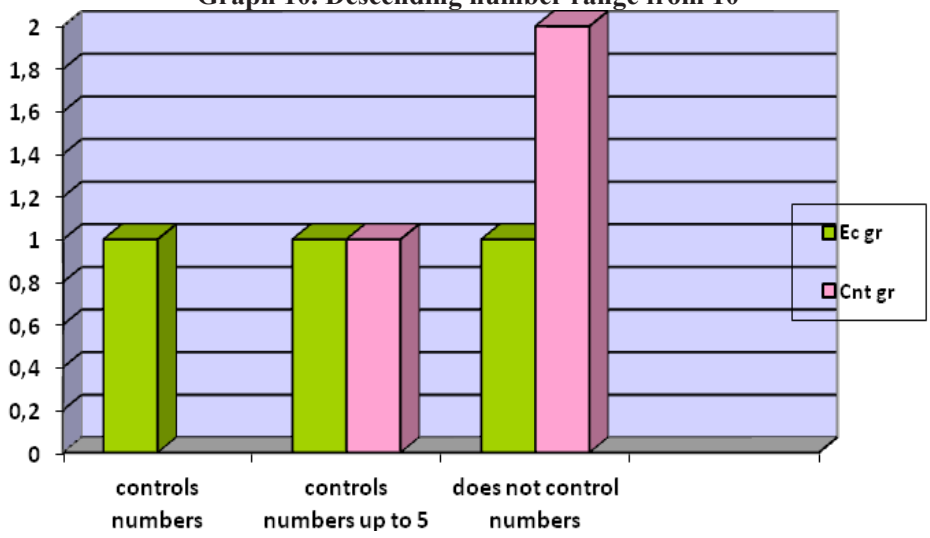
**Graph 9. Descending number range from 10 to 1**




Source: the author's own work

Two children from the experimental group control the descending number range from 5, one child does not control the descending number range. One child from the control group controls the descending number range from 5, two children do not control the descending number range.

**Graph 10. Descending number range from 10**




Source: the author's own work

One child from the experimental group controls the descending number range from 10, one child from 5 and one child does not control the descending number range. One child from the control group controls the descending number range from 5, two children do not control the descending number range.

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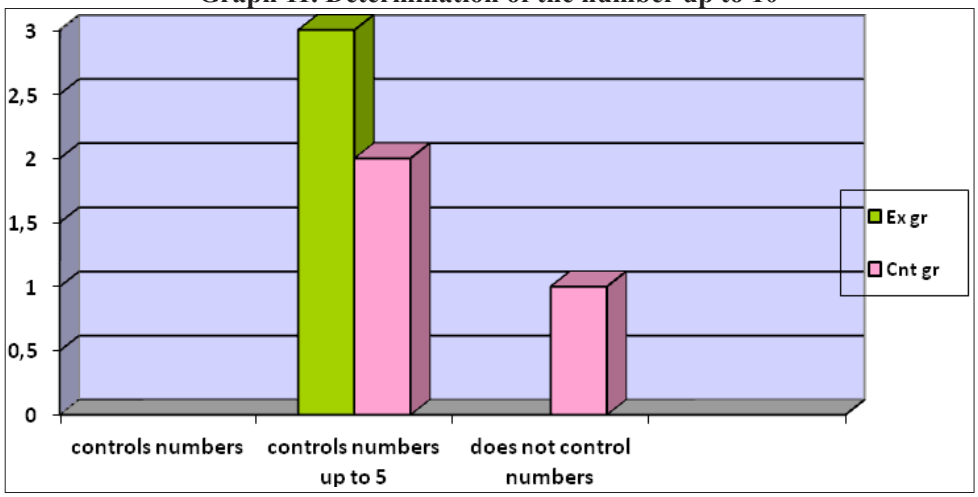
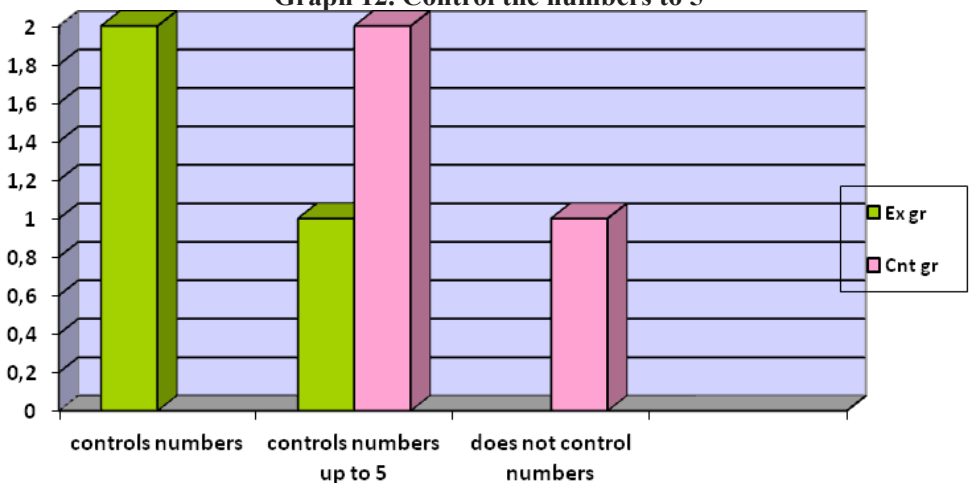
**Graph 11. Determination of the number up to 10**




Source: the author's own work

Children from the experimental group know how to determine the number up to 5. From the control group, one child does not know how to determine the number at all, two children know how to determine the number up to 5.

**Graph 12. Control the numbers to 5**




Source: the author's own work

Two children from the experimental group control to determine the number to 10 and one child controls to determine the number to 5. One child from the control group to determine the number does not know at all, two children master to determine the number to 5.

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## 7. Discussion (on the meaning of the results)

Based on the achieved results, the following conclusions can be drawn. Let's start by each category, the first is the Colors area. The children in the control group showed little improvement. While at the first diagnosis only one child was able to name all the colors and two failed, at the end of the school year one child showed a small improvement as he was able to identify only some of the colors. At the beginning, in the experimental group, all three children could determine only some colors. After completing the stimulation program and subsequent diagnosis, two children achieved a shift forward, one child named all the colors, one child only showed the colors but did not name them, and one child identified only some colors. In the second category of Geometric Shapes, one child in the control group identified only some geometric shapes, two children remained in the same place, in the experimental group one child also made progress in naming all geometric shapes, two children remained in the same position - they identified only some shapes. In the Size category, the number of order control group did not show a significant shift, improvement, children in the experimental group achieved an improvement of 2 to 5 points, respectively. 20 to 50%. The category Ascending number range up to 10 indicates an improvement in both groups, two children were able to count to 10, the others remained in their places. The descending number range from 10 to 1 in the control group did not improve, in the experimental group one child can count from 10 to 1. Determining the number to 10 had no problem after the end of the stimulation program two children who previously controlled only the number to 5. In the control group did not lead to any change.

Based on the achieved results, it can be stated that our hypothesis was confirmed, the so-called children from the experimental group that underwent the stimulation program achieved better results than children from the control group.

## 8. Summary

Therefore, based on our findings, we would recommend a screening examination of preschool children from socially disadvantaged backgrounds and, in case of any shortcomings, to work with the children through a screening-stimulation program. The result will be better school readiness of these children, development of communication skills, etc. It is also a way to prevent possible learning disabilities that could be a problem after starting primary school. However, we must not forget tolerance for all children, increase the status of the child in the kindergarten team, show positive patterns, which will support the motivation of these children. Each child is an individual with its own mistakes and causes. Through appropriate methods, we can eliminate these causes and thus help to better develop the personality of a child with a socially disadvantaged environment.

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# КОГНІТИВНІ ОСОБЛИВОСТІ ДІТЕЙ З СОЦІАЛЬНО ВРАЗЛИВИХ СЕРЕДОВИЩ

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Метою статті є аналіз когнітивних особливостей дітей дошкільного віку після впровадження методології стимулювання за В. Шилоновою, В. Клейном та П. Шинковою та порівняння рівня набутих знань у дітей дошкільного віку в експериментальній та контрольній групах. Орієнтиром оцінки когнітивного розвитку дітей дошкільного віку є середній рівень загальних інтелектуальних здібностей, інтерес до нових знань і роботи в школі, базові уявлення щодо системи цінностей та стандартів поведінки, саморегуляція, позитивне ставлення до себе та впевненість в собі. Якщо оточення дитини є соціально неблагополучним, дитині бракує підтримки, мотивації, стимулів для когнітивного розвитку, розвитку своїх почуттів та рис особистості. Базові потреби такої дитини не задоволені і наслідки такої психологічної чи культурної депривації проявляються відставанням у психічному, соціальному, емоційному аспектах. На основі отриманих висновків рекомендовано проводити обстеження дітей дошкільного віку, а у разі виявлення невідповідності очікуваним когнітивним особливостям використовувати методологію стимулювання. Результатом застосування останньої є вища готовність дітей до навчання у школі, а також запобігання можливим відхиленням у навчанні та поведінці, які можуть бути проблемою після вступу до початкової школи.

*Ключові слова:* скринінг, соціально вразливе середовище, соціологія дитинства.

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