

# Early children and preschool-aged children with special educational needs - research analysis

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SVEUČILIŠTE U ZAGREBU  
UČITELJSKI FAKULTET  
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Sara Šebalj

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EDUCATIONAL NEEDS – RESEARCH ANALYSIS**

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Mentorica:

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Petrinja, rujan 2023

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## SAŽETAK

Djeca rane i predškolske dobi s posebnim odgojno-obrazovnim potrebama dio su sustava ranoga i predškolskoga odgoja i obrazovanja. Međunarodnim i nacionalnim zakonskim odredbama definirana su jednaka prava sve djece. Od odgajatelja u ustanovama ranoga i predškolskoga odgoja i obrazovanja očekuje se da primjenjuju navedene zakonske odredbe i potiču jednakost i ravnopravnost. Također je važno da se odgajatelji educiraju i upoznaju relevantne spoznaje neophodne za njihov rad s djecom. Stoga okosnicu ovoga rada čini analiza istraživanja koja su provedena s djecom s posebnim odgojno-obrazovnim potrebama, roditeljima i odgajateljima. Istraživanja obrađuju teme deficita pažnje, autizma, darovitosti, Down sindroma, problema vida i sluha, problema u ponašanju, inkluziju, mucanje i kronične bolesti.

**KLJUČNE RIJEČI:** djeca s posebnim odgojno-obrazovnim potrebama, rani i predškolski odgoj i obrazovanje, odgajatelj.

## SUMMARY

Early childhood and preschool-aged children with special educational needs are part of the early childhood and preschool education system. International and national legal provisions define equal rights of all children. Kindergarten teachers working in early childhood and preschool education institutions are expected to implement these provisions and promote equality for all. They are also expected to continually expand their knowledge and be informed about all the findings relevant for their profession. Therefore, the focus of this thesis is on research with children with special educational needs, their parents and kindergarten teachers. The analyzed studies include ADHD, autism spectrum disorder, giftedness, Down syndrome, visual and hearing impairment, behavioral problems, inclusion, stuttering and chronic conditions.

**KEYWORDS:** children with special educational needs, early childhood and preschool education, kindergarten teacher.

## 1. INTRODUCTION

The term “special educational needs” refers to “children who have learning difficulties or disorders that make it more difficult for them to study or get an education than most children of the same age” (Thompson, 2016, p. 16 as cited in Strugar, 2016). According to another definition, special educational needs refer to the specific educational requirements of children who face challenges owing to physical disabilities or learning difficulties (Nidirect, 2021). The four primary categories include communication and interaction, cognition and learning, behavior, emotional and social development, and sensory and/or physical requirements.

The education system in the Republic of Croatia provides equal opportunities for all children, learners, and young people, regardless of their developmental disabilities, national minority status, giftedness, or disadvantaged positions. This includes access to education at all levels as well as opportunities for further education through adult education and lifelong learning programs (MZO, 2015). Modern interpretations of pedagogical theory and practice are created within a modern legislative framework. Therefore, the legislative framework should enable communication with the system whose basic operation it regulates (Bučević i Tokić Somolanji, 2021).

This final thesis is based on the analysis of research studies focusing on preschool-aged children with special educational needs. The special needs which are presented in this thesis include ADHD, autism spectrum disorder, giftedness, Down syndrome, visual and hearing impairment, behavioral problems, inclusion, stuttering and chronic conditions.

## 2. SPECIAL EDUCATIONAL NEEDS – LEGAL PROVISIONS

The most important document in the history of human rights is the Universal Declaration of Human Rights (United Nations General Assembly, 1948). Following the publication and implementation of this document, fundamental human rights have been globally protected for the first time. The General Assembly, as the only representative body of the United Nations, proclaimed the Universal Declaration of Human Rights in Paris on 10 December 1948 as an indicator of success shared by every nation and people (United Nations General Assembly, 1948). The document consists of 30 articles which deal with basic human rights and the first of these states, “All human beings are born free and equal in dignity and rights” (UN General Assembly art. 1). The implementation of the Declaration by all nations provides significant moral weight to the fundamental idea that all people should be treated fairly and with respect regardless of their nationality, religion, sex, location of residence, national or ethnic origin, color, language, or any other status. This implies that children with special educational needs should also be treated fairly, with respect and should be provided with equal opportunities in accordance with their possibilities.

Another important international document, approved by the General Assembly of the United Nations on 20 November 1989, is the Convention on the Rights of the Child, which recognizes the rights of children everywhere. This document is important because it is the first legal text to consider children as subjects with rights, rather than just as individuals who require additional safeguards. According to the Convention on the Rights of the Child (1989), each child has the right to play, eat, receive medical treatment, and receive education as well as the chance to fulfil his or her fullest potential.

An international document establishing the rights of children with special educational needs, which is also very important, is the United Nations Convention on the Rights of Persons with Disabilities (CRPD), which became available for signing on 13 December 2006 and on 3 May 2008 it became operative (Ballesteros et al., 2013). Although general human rights instruments apply to people with disabilities, the adoption of this document has established obligations to States Parties and acknowledged the unique difficulties of individuals.

In addition to the abovementioned documents, a number of additional documents and organizations have contributed to raising awareness about children with special educational needs and disabilities on a global level. One such organization is the European Agency for Special Needs and Inclusive Education, an independent organization which functions as a platform for the collaboration for the ministries of education in 31 member countries. The aim

is to support the development of inclusive education systems ensuring every child's rights “to inclusive and equitable education opportunities” (European Agency for Special Needs and Inclusive Education, 2023). The processes that contribute to their main aim are practice, research, and combining the perspectives of policy, as well as providing evidence-based information and guidance on implementing inclusive education. In 2015, Croatia has also become a member of the agency (European Agency for Special Needs and Inclusive Education, 2023).

### *2.1. RELEVANT DOCUMENTS AND ORGANISATIONS IN THE REPUBLIC OF CROATIA*

In the Republic of Croatia, early childhood education and care (ECEC) is optional and is provided in kindergartens for children from six months of age until they start primary school (Eurydice, 2023). At this level, education and care of children is provided “through programs of care, education, health care, nutrition and social welfare” (Eurydice, 2023) by public kindergartens, private kindergartens (owned by individuals, religious organizations, or non-governmental organizations) and institutions with shorter programs.

One of the key documents regulating ECEC in Croatia is the National Curriculum for Early Childhood and Preschool Education (MZO, 2015). To improve children's intellectual, social, moral, spiritual, and motor skills development, the National Curriculum for Early Childhood and Preschool Education encourages the planning and implementation of educational programs (MZO, 2015). These programs are based on values, specific knowledge, identity, humanism and tolerance, responsibility, autonomy and creativity. The quality of preschool institutions corresponds to the idea of education as referred to in the National Curriculum (MZO, 2015), i.e., a highly qualified kindergarten curriculum is cohesive, progressive, and focused on the collaborative creation of knowledge (Slunjski, 2015). A high-quality kindergarten curriculum requires the establishment of suitable organizational conditions based on the current understanding of the child, which includes the understanding of the child as a complete being, as a researcher and active creator of knowledge, as a social subject with specific requirements, rights, and culture, and as an active member of society, along with a creative being with particular creative and expressive potential (Slunjski, 2015). Croatian National Pedagogical Standard for Preschool Education (Narodne novine, 2008) defines children with special educational needs as: children with disabilities (a child with a specific degree and type of disability who is included in a regular and/or special educational group in a



preschool or special educational institution) or gifted children (a child with an above average capability in one or more areas who is included in early childhood education and care program).

Children with disabilities, as defined by the Croatian National Pedagogical Standard for Preschool Education (Narodne novine, 2008) are: children with visual impairment, children with hearing impairment, children with speech-voice communication disorders, children with personality changes due to organic factors or psychosis, children with behavioral disorders, children with motor impairments, children with reduced intellectual abilities, children with autism, children with multiple disabilities, and children with health problems and neurological impairments (diabetes, asthma, heart disease, allergies, epilepsy, etc.).

Furthermore, the National Pedagogical Standard (Narodne novine, 2008) recognizes more and less serious difficulties. The following are considered to be minor difficulties for children: poor vision, hearing loss, difficulty in verbal communication, changes in the personality of the child due to organic factors or psychosis, behavioral and neurotic disorders (aggressiveness, hypermobility, eating disorders, enuresis, encopresis, respiratory affective crises), motor impairment (partial mobility without the help of another person), and children with reduced intellectual abilities.

The most severe difficulties identified in children are considered to be blindness, deafness, complete absence of verbal communication, motor impairment (ability to move with the mandatory assistance of another person or an electromotive aid), children with significantly reduced intellectual abilities, autism, multiple difficulties (Eurydice, 2023).

It is important to emphasize that every child's difficulty level is unique and may range in extent. Additionally, a child may experience several issues simultaneously.

Batur and Glavaš (2021) conducted a comparative analysis of legislation regulation referring to the education of children with special educational needs. In addition to the already mentioned documents, their analysis included a number of documents covering all three levels of the education system (pre-primary, primary and secondary). The documents that will be listed here are only the ones pertaining to the pre-primary stage: Preschool Education Act (1997; 2007; 2013; 2019); Ordinance on special conditions and criteria for the realization of preschool education programmes (1997); Ordinance on forms and content of pedagogical documentation and records on children in kindergarten (2001); Collective agreements for employees in several preschool institutions in Croatia; Ordinance on the Content and Duration of Preschool Programmes (2014) (Batur & Glavaš, 2021). The research has revealed that the basic legislative provisions which would effectively regulate the work performed with children with special educational needs in the early childhood education and care system is lacking. The authors have

made it clear that laws, regulations and standards that exist in the early childhood education and care system are quite broad. The legislation is very general and minimal changes have been made in Croatian early childhood and education system. Croatian legislation is regulated for a subgroup of children with disabilities, but that excludes gifted children.

### 3. RESEARCH ANALYSIS

The main part of this thesis focuses on the analysis of published studies of several special educational needs observed among ECEC children. The topics which will be discussed are attention deficit/hyperactivity disorder, autism spectrum disorder, Down syndrome, giftedness, visual and hearing impairment, behavioral disorder, inclusion, stuttering and chronic conditions.

#### *3.1. ATTENTION DEFICIT/HYPERACTIVITY DISORDER (ADHD)*

Attention deficit/hyperactivity disorder is one of the most common disorders in childhood, and it can continue through adolescence and adulthood (Kudek Mirošević & Opić, 2010). The treatment of ADHD dates to 1937 when it was first identified as a pediatric psychiatric disorder (Biederman et al., 2004). Today it is one of the most common disorders in childhood and can continue through youth and maturity. When a parent or a teacher recognizes the disorder, the following step is to consult a professional who can diagnose and treat ADHD (Williams et al., 1992).

Features of attention deficit/hyperactivity disorder are grouped into three categories according to Kudek Mirošević and Opić (2020). The first category, the inattentive type, has features such as poor concentration, task impersistence, disorganization and forgetfulness. The second category, the hyperactive-impulsive type, has features such as impulsivity, overactivity and noisiness. The third category that may be present in the previously mentioned types of ADHD has features such as sleep problems, defiance, insatiability, inflexibility, clumsiness, learning difficulties, social clumsiness, poor incentive motivation and memory, low self-esteem and performance inconsistency.

Consequently, given the difficulties associated with the early diagnosis of this developmental difficulty, it is clear that kindergarten teachers are those who often face the professional challenge of educating this group of children (Kudek Mirošević & Opić, 2010).

### *3.1.1. KINDERGARTEN TEACHERS' ASSESSMENT OF THE POSSIBILITIES OF THE INCLUSION OF CHILDREN WITH ADHD SYNDROME INTO REGULAR KINDERGARTENS, LOBOREC AND BOUILLET*

In this section, the research described by Loborec and Bouillet (2012) in the article *Istraživanje procjena odgojitelja o mogućnosti inkluzije djece s ADHD-om u redovni program dječjih vrtića (Kindergarten teachers' assessment of the possibilities of the inclusion of children with ADHD syndrome into regular kindergartens)* will be presented.

The research was conducted in seven public kindergartens in the city of Zagreb, the Republic of Croatia. The research participants were 122 kindergarten teachers who completed a questionnaire with 31 items assessed on a three-point Likert scale.

The aim of this research was to analyze the way in which kindergarten teachers assess the possibilities of including children with ADHD in the regular preschool program. The analysis of the sample has shown that the number of kindergarten teachers who reported having experience working with children diagnosed with ADHD was 62, and the number of those without such experience was 60. Most of the respondents agreed on the necessity of cooperation between a child diagnosed with attention deficit/hyperactivity disorder, the parent, kindergarten teacher and special educators. The results also indicated that preschool teachers are aware of how complex the education of children with ADHD is, but they do support their complete inclusion into the regular program, regardless of whether they had previous experience in working with these children or not. However, the results have also shown that more than 80% of preschool teachers say they do not know how to help children with ADHD. Another point that raises concerns is that two thirds of preschool teachers in this study reported that they cannot apply individual approach with a child who is believed to have ADHD unless they have the official diagnosis. This is a problem because, as Loborec and Bouillet (2012) claim, most children with ADHD are not diagnosed until they start primary school. Most of the disagreements between the two groups of preschool teachers (teachers with and without the experience of working with children with ADHD) was recorded for the statement that children diagnosed with attention deficit/hyperactivity disorder should be placed in special kindergarten.

The researchers' conclusion is that the participating teachers assessed their own competence in working with children diagnosed with ADHD as very low. Simultaneously, they reported a high level of the specifics related to the difficulties which require a close cooperation of all educators and rehabilitators in the education process and the adaptation of the teaching

methodology and didactic approach in order to facilitate the socialization and inclusion of these children (Loborec & Bouillet, 2012).

### *3.2. AUTISM SPECTRUM DISORDER*

“Autism spectrum disorder (ASD) is a developmental disability caused by differences in the brain”, and the causes, other than genetic, are still unknown (Centers for Disease Control and Prevention, 2022). The beginning of symptoms of ASD can be identified within the first year of child's life, but in some it may not appear until the second year or later. Some children diagnosed with ASD gain new skills and meet developmental milestones until around 18 to 24 months of age, and then they stop gaining new skills or lose the skills they once had (Centers for Disease Control and Prevention, 2022). There are no specific features, like the person's facial expression or physical appearance that sets them apart from other people. Some of the defining symptoms of ASD are deficits in interaction and communication, learning and behaving (Joseph et al., 2014). In addition, since this disability is defined as a spectrum, some individuals diagnosed with autism may function with little or no help, while others may require significant help from others (Centers for Disease Control and Prevention, 2022).

The following are some social communication and social interaction characteristics related to ASD:

- “Avoids or does not keep eye contact
- Does not respond to name by 9 months of age
- Does not show facial expressions like happy, sad, angry, and surprised by 9 months of age
- Does not play simple interactive games like pat-a-cake by 12 months of age
- Uses few or no gestures by 12 months of age (for example, does not wave goodbye)
- Does not share interests with others by 15 months of age (for example, shows you an object that they like)
- Does not point to show you something interesting by 18 months of age
- Does not notice when others are hurt or upset by 24 months of age
- Does not notice other children and join them in play by 36 months of age
- Does not pretend to be something else, like a teacher or superhero, during play by 48 months of age
- Does not sing, dance, or act for you by 60 months of age”. (Centers for Disease Control and Prevention, 2022).

In addition to these, individuals with ASD may also show restricted or repetitive behaviors and interests such as:

- “Lines up toys or other objects and gets upset when order is changed
- Repeats words or phrases over and over (called echolalia)
- Plays with toys the same way every time
- Is focused on parts of objects (for example, wheels)
- Gets upset by minor changes
- Has obsessive interests
- Must follow certain routines
- Flaps hands, rocks body, or spins self in circles
- Has unusual reactions to the way things sound, smell, taste, look, or feel”  
(Centers for Disease Control and Prevention, 2022).

When it comes to the treatment of individuals with ASD, it is hard to provide specific instructions that would be helpful to all, because, as mentioned earlier, ASD is a spectrum. However, based on their analysis of a number of studies, Rogers and Vismara (2008) propose the following: 1) implementing the principles and practices of positive behavior support, 2) helping children develop functional communication skills, 3) engaging children in meaningful, age-appropriate learning activities, 4) effective early intervention, 5) peer interaction, 6) providing opportunities for the generalization of new skills, 7) including parents and family members.

### *3.2.1. THE INVOLVEMENT OF AUTISTIC CHILDREN IN EARLY CHILDHOOD EDUCATION, SYRJÄMÄKI ET AL.*

In this section, the research described by Syrjämäki et al. (2023) in the article *The involvement of autistic children in early childhood education* will be presented.

The data presented in this paper were gathered within the Finnish research and development project *Progressive Feedback*, which was conducted in the period between 2017 and 2020. The aim of the research conducted by Syrjämäki et al. (2023) was to explore the involvement of children diagnosed with autism spectrum disorder in early childhood and education care.

Two main questions the authors attempted to answer were: “To what extent is children's involvement related to their emotions and social orientations?” and “How is children's involvement related to their targets of attention and different early childhood and education care activities?” (Syrjämäki et al., 2023, p. 4).

The number of children involved in the *Progressive Feedback* project was 3958. Children with special education needs were also involved. In total, there were 7 children with a diagnosis of autism, of which five were male. Children's ages varied from 59 to 85 months. The analysis done by Syrjämäki et al. (2023) was based on 141 random observations of autistic children, on average 20 observations for each child.

The observations were carefully planned and systematically executed, and they were conducted during all activities in which children participated (e.g., meals, play, care, outdoors, learning sessions) focusing on “ECEC activities, children’s activities, children’s main object of attention, involvement, emotions and social orientations” (Syrjämäki et al., 2023, p. 6).

The key findings of the research are that children diagnosed with autism “demonstrated the deepest involvement when participating and collaborating”, and as involvement is related to positive emotions, “the most intensive involvement was observed during adult-supported play” (Syrjämäki et al., 2023, p. 9). This means that children need the support from their kindergarten teacher in the form of scaffolding. Scaffolding has been defined as “a system or framework of support provided by an instructor to help a student reach the next level of learning” (Merriam-Webster, n.d.). In addition, the results have indicated the importance of peer relations for autistic children’s learning and their well-being, i.e., it was found that children’s involvement in activities was at the highest level when they were oriented towards one or several typically developing children at a time.

Therefore, it may be proposed that autistic children need to be provided with opportunities to participate in activities with their peers and play supported by their teachers.

### 3.3. GIFTEDNESS

One of the definitions of a gifted child is that he or she is the one who demonstrates “an advanced ability or potential in one or more specific areas when compared to others of the same age, experience or environment” (Davidson Institute, 2023). Some characteristics of gifted children are excellent memory, highly developed curiosity and a sense of awareness, emotional intensity, and advanced thinking in comparison with their peers (Davidson Institute, 2023).

### 3.3.1. BACK TO THE DRAWING BOARD AGAIN: POTENTIAL INDICATORS OF GIFTEDNESS IN HUMAN FIGURE DRAWINGS OF CHILDREN AGED 4 TO 6 YEARS, MATHIJSSSEN ET AL.

In this chapter, the research article *Back to the Drawing Board Again: Potential Indicators of Giftedness in Human Figure Drawings of Children Aged 4 to 6 Years* written by Mathijssen et al. (2023) will be presented.

This research took place in three different elementary schools in the south of the Netherlands, and the research participants were 152 children aged between 4 and 6 years.

Kindergarten teachers were instructed to place clean sheets of paper and gray pencils in front of the children. The only instruction that the teachers gave to children was to draw a full human figure using only a gray pencil. Children had 15 minutes to complete the task. The parents were contacted by the researchers again two years later for a follow-up. The researchers wanted to know if children have, in the meantime, received any services or activities not normally provided by the school, i.e., they needed this information to categorize the children into two groups – the typically developing and the potentially gifted.

In the analysis of children's drawings, 53 items were classified as exceptional and some of these are a necklace, a thumb, more than one human figure, and (additional) animals (Mathijssen et al., 2023). Based on the frequencies of drawn items per age group, exceptional and nonexceptional items were defined. The results show that in the drawings of 5- and 6-year-olds, there is a higher number of nonexceptional items than in the drawings made by 4-year-olds (Figure 1). Moreover, 4-year-olds appear to have drawn more items labeled as exceptional than 6-year-olds.

It was also found that three items drawn by potentially gifted children in the present study were also drawn by gifted children in a previous study. However, the authors warn that due to methodological restrictions in this research, these may not yet be considered as indicators of giftedness. Additionally, some exceptional items in the present study were drawn only by typically developing children.

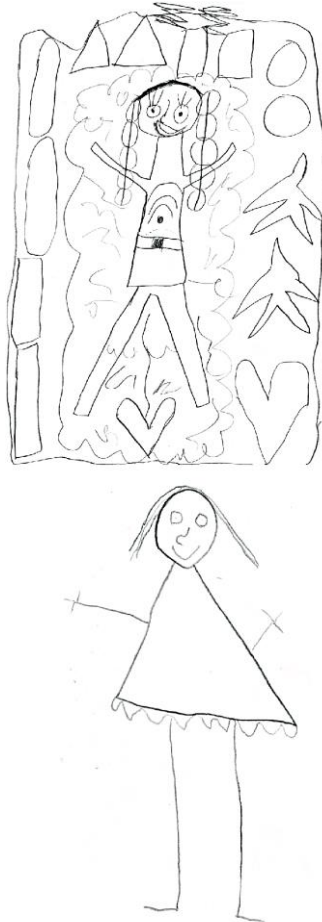
The results suggest that this new method of examining human figure drawings on an item level can help identify giftedness in children at a very young age.



**Figure 1**

*Top: drawing of a potentially gifted girl aged 4 years and 10 months, which has an exceptional item*

*Bottom: Drawing of a typically developing girl aged 6 years and 2 months, which has a nonexceptional item (Mathijssen et al., 2023)*



The authors concluded that despite the occasional difficulty in determining what exactly the youngest children who participated in the study have drawn, on the basis of the results, it may be proposed that exceptionality in the drawings made by gifted children might be most visible in human figure drawings of children at the age of 4. Nevertheless, the authors propose that more research be conducted before any generalizations may be made.

### 3.4. DOWN SYNDROME

Chromosomes are considered to be small packages of genes in the body, and they have an important role in determining children's body form and functions during pregnancy and after birth. Down syndrome is a condition caused by an extra chromosome, i.e., children with Down syndrome have an extra copy of chromosome 21, which is in medical terms known as Trisomy 21 (Centers for Disease Control and Prevention, 2022). This extra copy changes how the baby's body and brain develop, which can cause both mental and physical challenges for the baby. Some of the physical features specific for children diagnosed with Down syndrome are a flattened face, almond-shaped eyes, short neck, small ears, poor muscle tone, shorter in height, small hands and feet (Centers for Disease Control and Prevention, 2022). Newborns with Down syndrome are usually calm, rarely cry and suffer from muscle hypotonia.

Play is a natural tool for learning and development, and independent play is one of the most important skills that a child can acquire in kindergarten (Golubić, 2015). Children with Down syndrome will need assistance and communication with other children to learn how to engage in play, and how to get what they want through imitation (Golubić, 2015). Inclusion in the regular kindergarten program allows children with Down syndrome to become members of the community and helps them achieve a better everyday life.

#### 3.4.1. INTERESTS OF CHILDREN WITH DOWN SYNDROME, KAMBER

The aim of the research described in the final thesis *Interesi djece s Downovim sindromom (Interests of Children with Down Syndrome)* by Kamber (2017) was to determine the content, breadth and intensity of interests present in preschool children diagnosed with Down syndrome. The first aim was to determine the interests of children with Down syndrome and compare them with the interests of typically developing children. The second aim was to determine differences in interest between male and female children with Down syndrome in a regular preschool program.

Research participants were 33 parents of children with diagnosed Down syndrome, who completed the questionnaire. The purpose of the questionnaire was to gain insight into the content, intensity and range of interest areas of preschool children. The first part consisted of questions related to general socio-demographic and medical history data about the parents and

children. The second part of the questionnaire consisted of a total of 15 questions of open and closed type, and for some of the questions the participants were asked to record their answers on a five-point Likert scale.

Kamber (2017) concluded that in different activities, play and contact with objects of interest, the child's motivation and attention increases and a favorable environment is created that enables the development of social, motor and cognitive skills. It was observed that preschool children with Down Syndrome have similar interests as typically developing children. The research has confirmed that with respect to children's interests, there are gender differences among preschool-aged children with Down syndrome. Male children prefer playing with cars, planes, trains, block sets and balls while female children prefer playing with stuffed animals, dolls, and props for pretend play (kitchen and doctor play sets). During the research, some additional conclusions were made. For example, it was observed that children with Down syndrome watch much less contents in a foreign language compared to typically developing children. On the other hand, children with Down syndrome spend more time in outdoor play.

Kamber (2017) concluded that the strengths of these children need to be exploited and using interesting content, children with Down syndrome need to be provided with a context that will contribute to the development of their abilities and facilitate their successful and independent functioning in everyday contexts.

### *3.5. VISUAL IMPAIRMENT*

The primary sense in our bodies, vision, is essential in every aspect and stage of life. Without vision, it is difficult to study, walk, read, engage in activities at school, and work (WHO, 2023). When the visual system and its perception functions are impacted by an eye problem, vision impairment occurs. Visual impairment in a young child makes a big difference in the child's entire development because a child learns his or her surroundings by observing it and interacting with it. Each stimulus we receive from the environment may affect our learning process (Šupe, 2009). A child with impaired sight has reduced visual perception. Therefore, his or her learning modality is completely different. In other words, they learn mainly by touching concrete objects that they have to take in their hands or feel, or they must rely more on other senses such as hearing, smell or taste, which requires more effort and time.

### 3.5.1. DIDACTIC AND TEACHING METHODOLOGY ASPECTS OF THE INCLUSION OF BLIND CHILDREN INTO A REGULAR ECEC PROGRAM, ZUBIĆ

The survey by Zubić (2015), presented in the in the master's thesis *Didaktičko-metodički aspekti inkluzije slijepo djece u redoviti odgojno-obrazovni program (Didactic and teaching methodology aspects of the inclusion of blind children into a regular ECEC program)*, describes the life of a six-year-old girl attending preschool. The girl's sight is severely damaged, so she belongs to the category of completely blind children. The girl is described as an interesting and cheerful child. According to her kindergarten teacher, the girl likes and knows a lot of songs. During everyday activities in preschool, the girl relies heavily on sounds and recognizes the them well.

The first aim of the research was an analysis of kindergarten teachers' assumptions and opinions about the inclusion process in kindergartens. The survey questionnaire was successfully completed by 37 kindergarten teachers. Survey findings showed that kindergarten teachers support inclusion, although they emphasize the importance of professional support and assistant's work in the daily educational process in terms of inclusion. Kindergarten teachers also believe that other children need to be prepared to accept children with difficulties, and they also believe that their competencies for working in inclusive groups are not strong enough.

The second aim refers to the description of the project *Gledati znači srcem vidjeti (Looking is seeing with the heart)* that was implemented for the purpose of developing tolerance and mutual acceptance of preschool children.

The third aim refers to the presentation of a case study describing the inclusion of a blind girl in a Croatian preschool program in Zabok. This inclusion had three phases. The first phase included the preparation of kindergarten teachers and other employees of the kindergarten with additional education. For the second phase, it was necessary to prepare parents and children for the arrival of a blind girl, which was done during parent-teacher meetings and workshops. The third phase was successfully fulfilled by activities in making children's self-image stronger. An example of how the girl was accepted is a story told by one child's mother. she explained the actions of her daughter who was in the same preschool program as the blind girl: "Occasionally I find her playing or in the bathroom trying to perform activities with her eyes closed, using her sense of touch, so I concluded that she was trying to see what it is like for the blind girl, i.e., to experience things from her perspective. She said: "That's how L. does it!" (Zubić, 2015).

In conclusion, the author states that the surveyed teachers believe that the implementation of the project has contributed to creating a stronger bond between the children and their parents, and that the project has enriched everyone's lives.

### *3.6. HEARING IMPAIRMENT*

Hearing impairment is one of the most common natural impairments. It can be defined as the impossibility or reduced possibility of receiving, conducting and registration of auditory stimuli due to congenital or acquired damage, underdevelopment or reduced functionality of the auditory organ, auditory nerve or auditory centers in the brain (Dulčić et al., 2014). If a person's hearing is impaired, which is defined as having hearing thresholds of 20 dB or above in both ears, they are said to have hearing loss. It may affect one or both ears and range in severity from mild to moderate to severe to profound (WHO, 2023).

#### *3.6.1. REVIEW OF SPEECH THERAPY DIAGNOSES IN PRESCHOOL CHILDREN INVOLVED IN REHABILITATION IN THE SUVAG POLYCLINIC, PAVIČIĆ DOKOZA ET AL.*

The research by Pavičić Dokoza et al. (2022) presented in *Prikaz logopedskih dijagnoza kod djece predškolske dobi uključene u rehabilitaciju u Poliklinici SUVAG (Review of speech therapy diagnoses in preschool children involved in rehabilitation at SUVAG Polyclinic)* observed hearing impairment in preschool children who were attending rehabilitation at SUVAG in Zagreb. Polyclinic SUVAG is a health institution that deals with specialist and advisory health care for people with speech communication problems (SUVAG, 2022).

The aim of the research was to observe trends related to social (pragmatic) communication disorder, children's speech apraxia and hearing impairment in preschool age children included in the Medical Rehabilitation of Preschool Children at the Polyclinic SUVAG in Zagreb (Pavičić Dokoza et al., 2022). Data were collected on the basis of the Annual Report on the Work of the Rehabilitation Polyclinic for the years 2015 and 2021. In this research, children are included in the rehabilitation activities of listening and speaking using the verbotonal method including movement and musical stimuli. The analysis showed that in the year 2015 social communication disorder was not noticed, and there was only one case of

speech apraxia. On the other hand, in 2021, 46 children were diagnosed with social communication disorder and there were 50 children with speech apraxia (Pavičić Dokoza et al., 2022).

In conclusion, children's speech apraxia is a novel diagnostic entity in speech therapy, and it caused a rise in diagnoses, mostly in the field of speech disorders. The authors emphasize the importance of precise diagnosis as the base of well-structured rehabilitation (Pavičić Dokoza et al., 2022).

### *3.7. BEHAVIORAL DISORDERS*

There are many challenges when attempting to describe risky behavior because it is such a complicated concept. In scientific literature we may find several different interpretations of the term as well as a large number of synonyms. One of the definitions of the term risky behavior states that it is “any consciously, or non-consciously controlled behavior with a perceived uncertainty about its outcome, and/or about its possible benefits, or costs for the physical, economic or psycho-social well-being of oneself or others” (Trimpop, 1994, p. 9). However, working with young children is the opportunity to act now to prevent these dangerous behaviors from turning into more severe problems.

It is important to note that the risky behaviors of preschool children differ from the risky behaviors of primary and secondary school children in terms of their manifestations, frequency, as well as the context in which they occur. Behavioral problems may include a large spectrum such as short attention span, low social competence, low self-esteem and problems communicating with other family members and friends (Pourhossein et al., 2015).

The main characteristics of behavioral disorders are defiance, intrusiveness and aggressiveness (Đuranović & Opić, 2013).

#### *3.7.1. PREVALANCE OF BEHAVIORAL DISORDERS AMONG PRESCHOOL CHILDREN, POURHOSSEIN ET AL.*

The research by Pourhossein et al. (2015) presented in the article *Prevalance of behavioral disorders among preschool children* was based on a study of preschool children in

Tehran. The study included preschool children aged 1.5-7 years. The sample size included 1977 children, of whom 957 were boys and 1020 were girls. The research instrument was the Child Behavior Checklist (CBCL), which was completed by children's mothers and which covered two broadband scales (externalizing problems and internalizing problems) and 8 narrowband syndrome scales including: emotionally reactive, somatic complaints, anxiety/depression, withdrawal, sleep problems, attention problems, aggressive behaviors, and other problems (Pourhossein et al., 2015). The results showed that the most common disorder in boys was attention disorder. On the other hand, the most common disorder among girls was emotional reactivity. It was also observed that girls had more problems than boys in most behavioral problem subscales. Based on the study, the authors propose that prevalence rate of behavioral disorders in preschool children is rather high.

In conclusion, the researchers highlight the importance of communication between kindergarten teachers, parents and children in order to raise awareness of mental health.

### *3.8. INCLUSION*

Inclusion is “placing a child with special educational needs in the same environment with his or her typically developing peers so that they could play and socialize together” (Kobešćak, 2000, p. 23). Personality and characteristics of an individual child are important in the process of inclusion. According to Kobešćak (2009), in inclusion it is important to realize that a child with a difficulty is not worth less than others and should not be maltreated for it, i.e., every individual should be accepted for who they are.

One of the requirements of the inclusion process is developing positive attitudes of the kindergarten staff toward including children with disabilities and their inclusion into regular education programs (Lakoš & Glancer, 2005). Kindergarten teachers should be encouraged and enabled to join multidisciplinary teams to define children's needs and explain the adjustments for children with difficulties. Local governments need to be forced to arrange their advisory services and supply peripatetic teachers to identify the areas with the greatest requirements and offer the required help.

### *3.8.1. TEACHERS' BELIEFS ABOUT THE VALUES OF INCLUSIVE EDUCATION, SKOČIĆ MIHIĆ ET AL.*

According to the paper *Učiteljska uvjerenja o vrijednostima inkluzivnog obrazovanja (Teachers' beliefs about the values of inclusive education)*, written by Skočić Mihić et al. (2011), the increase in the number of inclusive programs and improvements in practice is motivated by positive opinions that are often held toward including children with special educational needs (SEN) into regular education programs. In order for this to be possible, the methodological and structural components of high-quality education must be met and one of the key components is teachers' beliefs and attitudes towards inclusive education (Skočić Mihić et al., 2011).

The researchers collected data from 274 primary school teachers in two regions in Croatia, using the Teachers' Opinions about the Inclusion of Children with Moderate to Severe Special Needs in General Education Settings questionnaire (Linn & Coelho da Silva, 2014; as cited in Skočić Mihić et al., 2011). The results have shown that teachers believe that inclusive education contributes both to the development of children without and those with special educational needs and that it helps children with SEN to prosper both academically and at the socio-emotional level.

Although the participants in this research were primary school teachers, the applicability of this research onto the preschool population results from the conclusion proposed by the authors that successful inclusion is not possible without educated and competent teachers who have positive attitudes and beliefs, and who are willing to tackle and promote inclusion of all children.

### *3.9. STUTTERING*

Stuttering is “a speech fluency disorder characterized by repetitions, prolongations, hesitations, pauses and/or blocks of phonemes, syllables and words” and it can be developmental or acquired (Martinović & Leko Krhen, 2019, p. 14). Someone who stutters is perfectly aware of what they want to say but struggles to speak in a regular manner (National Institute of Deafness and Other Communication Disorders, 2017).

Early childhood is a time of speech and language development, and developmental stuttering may occur during this period (Martinović & Leko Krhen, 2019). According to some



researchers and medical professionals, children's speech and language skills are not aligned with verbal demands, which is when developmental stuttering takes place. Although there is currently no cure for stuttering, there are a variety of treatments available. The nature of the treatment will differ, based upon a person's age, communication goals, and other factors. If a child stutters, it is important to work with a speech-language pathologist to determine the best treatment options.

### *3.9.1. STUTTERING AND THE PHONEMIC AWARENESS IN CHILDREN, SARDELIĆ ET AL.*

Phonological awareness includes metalinguistic knowledge about phonetic structure of the language, i.e., the ability of observation, manipulating and thinking about phonemes (Sardelić et al., 2007). In this section, the article by Sardelić et al. (2007) *Fonološka svjesnost u djece koja mucaju (Stuttering and the phonemic awareness in children)* will be presented. The aim of the research described in this article was to determine a possible connection between stuttering and phonological awareness. In this research, participants were 42 children in the age group between 5,5 and 7 years, of whom 21 children were stutterers, and 21 were children who spoke without a stutter.

Children were tested individually, and each child was presented with four tasks. The first task was distinguishing the initial sound in a word. The second task was extracting the last sound in a word. The third task was voice sequence analysis. The fourth, and final task was voice sequence synthesis. The results showed that children who did not stutter had better results on phoneme analysis task. On the initial and final phoneme identification task and synthesis there were no significant differences between the children who do not stutter and those who do.

The results of the research establish that stuttering severity is not related to language abilities. In other words, if a child stutters it does not necessarily mean that they will have problems with language acquisition. The researchers emphasize the importance of further research in the field of stuttering if any generalizations are to be proposed.

### 3.10. CHRONIC CONDITION

Conditions that persist for a year or longer, require continuous medical care, restrict everyday activities, or both, are referred to as chronic diseases. The primary causes of death and disability are chronic illnesses like diabetes, cancer, and heart conditions (National Center for Chronic Disease Prevention and Health Promotion, n.d.).

#### 3.10.1. PRESCHOOL TEACHER WORKING WITH CHILDREN WITH CHRONIC CONDITIONS, PROVIĆ ET AL.

In this section, the article *Odgajatelj u radu s djecom s kroničnim bolestima (Preschool teacher working with children with chronic conditions)* written by Prović et al. (2015) will be presented. The authors described the cases of two children with chronic diseases – an eleven-month-old boy with epilepsy and a five-year-old girl with epidermolysis bullosa.

In the first case, the mother noticed that every time after sleeping the child suddenly stretched out his arms, turned his eyes upwards, and stared for 2-3 seconds. In the beginning, it happened only during the day, most intensely after waking up, often when the child was in a state of excitement. He was sleepy after the attack. The attacks became more and more frequent, in the form of blinking eyes, smacking, stretching out the arms, with flexion of the head forward and spasm of the neck and abdominal muscles, as well as tearing of the left eye (Prović et al., 2015). After spending some time in hospital, the condition was controlled, and the child was regularly attending neuro-motor and sensory-motor therapies.

In the second case, the little girl was born with epidermolysis bullosa. Three months after birth the child was diagnosed with simplex epidermolysis, but the child's intellectual development was normal. Wounds on the child's legs were making movements difficult, and it had a significant impact on her socio-emotional development. Parents were taking care of the child, especially of the wounds.

Prović et al. (2015) have described the most relevant factors related to each child's medical condition, emphasizing how important it is for the teacher to be educated and to know how to handle specific conditions.

In conclusion, kindergarten teachers are very important because they prepare and plan to incorporate chronically ill children into educational work based on relevant information, and

usually develop individual work plans based on the personal needs and developmental characteristics of chronically ill children. Moreover, they need to prepare and adapt the environment, activities and materials so that children may participate in activities with other children. Finally, they need to prepare other children and their parents in order to make the inclusion as painless as possible, i.e., as behavioral models they need to promote social interactions with children through a variety of interventions.

## 4. CONCLUSION

In this final thesis the analysis of research involving children with special educational needs has been presented. Below are summaries of the main points presented in each of the analyzed texts.

Research by Loborec and Bouillet (2012) tackled the issues of attention deficit/hyperactivity disorder from the perspective of preschool teachers. Researchers emphasized that preschool teachers who participated in the study reported they needed more competence to work with children with attention deficit/hyperactivity disorder in kindergartens. They also stressed the importance of close cooperation and dedication of all those involved in the education process in order to enable the inclusion of these children.

Syrjämäki et al. (2023) conducted research including children diagnosed with autism spectrum disorder. Children diagnosed with autism spectrum showed positive emotions when involved in interaction with peers and play supported by their teachers. Therefore, researchers highlight the importance of interaction between children diagnosed with autism spectrum and children with normal development as well as teachers.

Research article by Mathijssen et al. (2023) proposes using analysis of children's drawings to identify potentially gifted children. Researchers used exceptional details as indicators of potential giftedness in children. Their conclusion is that exceptional details in the drawings made by gifted children might be most visible in the drawings of four-year-old children. However, due to some inconsistencies in the obtained results, the authors suggest further research.

Research described in the article by Kamber (2017) talks about children with Down syndrome and their interests. The research results confirmed gender differences among preschool-aged children with Down syndrome – boys played with stereotypically male toys while girls mostly played with stereotypically female toys. Kamber (2017) also concluded that children with Down syndrome need a context that will enable them to function independently in everyday situations.

The research described by Zubić (2015) focused on the case of a blind preschool girl. In addition to describing her inclusion and preschool teachers attitudes, the author mentioned the project *Looking is seeing with the heart* and the survey that was conducted with parents whose children were enrolled in the same group as the blind girl. The results confirmed kindergarten teachers' support for the inclusion, but they also indicated the importance of professional support and their education which the teachers felt was not adequate. The author also

emphasized the importance of preparing other children and their parents for the inclusion process.

Pavičić Dokoza et al. (2022) described research into hearing disorders based on the data collected in SUVAG polyclinic in 2015 and 2021. The results raise a concern, as they show an increase in the number of children involved in rehabilitation.

The research by Pourhossein et al. (2015) focused on behavioral disorders in children 1.5-7 years old in Tehran. They found that the most frequent disorder in boys was attention disorder while among girls it was emotional reactivity. Their conclusion, based on the obtained results, was that behavioral disorders in preschool children were fairly high. Therefore, the researchers highlight the importance of mental health and communication in early childhood education institutions as well as at home.

The paper written by Skočić Mihić et al. (2011) talks about inclusion. The conclusion that may be drawn from this paper is that in order for inclusion to be possible, we need teachers who are educated and who feel competent and who have positive attitudes and beliefs about inclusion.

The article by Sardelić et al. (2007) researched stuttering in children aged 5.5 and 7 years old. The results confirmed that stuttering was not related to problems in language abilities. That is, the results showed that a child who stutters need not have problems with language acquisition. However, the researchers emphasize the importance of further research in the field.

The article by Prović et al. (2015) covered two cases of children with chronic condition, which are described to stress the importance of researching this field in order to help children with chronic condition. The authors described all the steps that need to be taken so that these children can be included in regular programs.

The studies described in this thesis may help teachers expand their knowledge and further develop their competences related to specific subtopics dealing with children with special educational needs. Therefore, it may be proposed that for the professional development of any preschool teacher, research competences may greatly contribute to ensuring and developing the quality of their educational work. Moreover, kindergarten teachers are meant to improve their work on a daily basis, so even if they themselves do not conduct research, it will be greatly beneficial if they read studies that will contribute to their professional development.

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## **Izjava o izvornosti završnog rada**

Izjavljujem da je moj završni rad izvorni rezultat mojeg rada te da se u izradi istoga nisam koristila drugim izvorima osim onih koji su u njemu navedeni.