

Pragmatic Language Skills in Storytelling of Five-Year- Old Children with Autism Spectrum Disorder and Five- Year-Old Children with Typical Development

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Abstract

Children with autism spectrum disorder have many similarities, but there are also significant differences between them. The disorder varies in frequency and intensity, and deviations in the development of verbal and non-verbal communication are common. The problems often particularly reflect the pragmatic level of language, i.e. the ability to use language appropriately and effectively in a social context. One of the indicators for the development of a child's pragmatic speech/language skills is storytelling. This article presents the study in which the storytelling characteristics of five-year-old children with autism spectrum disorder and the storytelling characteristics of five-year-old children with typical development were compared using the Little Glove Storytelling Test. The overall performance of children with autism spectrum disorder in the Little Glove Storytelling Test was statistically significantly lower than that of their peers with typical development. We found that at least some of the children with autism spectrum disorder are able to invent stories comparable to the stories of children with typical development, but they have lower scores on most indicators for story evaluation. For those children, it is necessary to provide support and help at both the grammatical and pragmatic levels of language.

Key words: *autism spectrum disorder; early childhood; Little Glove Storytelling Test; narrative ability.*

Introduction

One of the ways to assess the pragmatic level of language is to have children tell a story. Through storytelling, children learn about interpersonal and causal relationships, they learn to understand themselves, to form values and much more. Therefore, it is important that this area is the subject of research of various scientific disciplines. The information gained by telling a child's story enables us to plan the intervention in a more qualitative way and also reflects the adjustments, options and approaches to further promote child speech and language development in kindergarten and later in school (Marjanovič Umek & Fekonja, 2019).

In Slovenia, there are several researches on storytelling in children with typical development, while storytelling in children with autism spectrum disorder has not been researched yet. Autism spectrum disorder is a developmental disorder that begins in childhood and lasts throughout life, and it affects the functioning of the individual in all circumstances (Autism Spectrum Disorder, 2018). People with this disorder have many things in common, but at the same time there are great differences in the frequency and intensity of the disorder. Despite the diversity of the group, experts agree that the most frequent and greatest deviations are in the area of pragmatics (Kim et al., 2014). Since storytelling is one of the pragmatic skills, the question arises whether and in what way do stories of children with autism spectrum disorder differ from stories of children with typical development. The answer to this question would give insight into the areas where children with autism spectrum disorder need further stimulation, which could partly contribute to the diagnosis of the disorder and to a more effective planning of interventions.

Storytelling

A story is also one of the main forms of discourse and belongs to the pragmatic speaking skills that relate to understanding and contextually appropriate expression of the content. An important process that enables a high-quality narrative is therefore decontextualization, i.e. the child develops its own representations, conclusions, logical connections in a way in which the listener understands (Karmiloff & Karmiloff-Smith, 2001). Narrating is a complex task that requires well developed linguistic, social, and cognitive skills. It provides us with rich information about the language the child uses, which allows for a more quality planning of interventions whose purpose is to improve communicative skills, and, at the same time, it is an important predictor of the later development of literacy (Botting, 2002).

Storytelling enables the child to share his or her own thoughts with others, and therefore, in addition to providing insight into the development of the child's language and speech, it also provides information about the child's understanding of the complex personal and emotional experiences (Oppenheim & Waters, 1995). By telling a story, the child explains and reflects on various events, looks for causes of the events and thinks about possible future events (Wray et al., 2002). Since each story is personal

and specific to the narrator, different people connect the same events in their own way with different stories (Burton, 2001). A story is defined by two criteria, namely content (coherence) and form (cohesion). The criteria are inextricably linked, but they are usually treated separately in the analysis of the story (Marjanović Umek & Fekonja, 2019). Since both criteria are constantly linked in the telling of the story, the more coherent story is usually also more cohesive, but not necessary (Karmiloff & Karmiloff-Smith, 2001). Coherence stands for the content of the story, its logical structure in which the events, thoughts, feelings, and temporal-causal connections are clearly presented. The most important elements that contribute to the coherence of the story are the layout of the story (which refers to the time and place where the story takes place and the heroes in the story) and the course of the story (which refers to the sequence of events) (Karmiloff & Karmiloff-Smith, 2001).

A child's telling of the story is influenced by many factors, such as content, number and type of illustrations, possible beginning of the story, child's mood, child's exposure to reading children's literature, etc. The latter is related to the quality of the child's home environment, the socio-demographic characteristics of the family and the quality of the kindergarten (Marjanović Umek, Kranjc, & Fekonja Peklaj, 2006). Besides the environment, genetic factors also influence the child's language development and the development of storytelling. They influence the development of different areas of language development - the development of grammar, semantics, phonology and articulation (Stromswold, 2001).

Storytelling in children with typical development

Children start to learn to tell a story very early when their parents read to them and tell them different stories. Storytelling begins to develop with the emergence of two-word statements (Marjanović Umek et al., 2006). Infants' first stories consist mainly of a list and description of events in which they themselves were involved or which relate to their immediate environment. The first story is often interwoven with play and routine activities (Bruner, 1986). Soon they begin to tell a story through illustrations, but their ability to understand and read the illustrations develops over time. Children at first understand a sequence of illustrations only as a sequence of images, not as a sequence of related events, nor they identify the main event or the main character. The first story is usually not drawn up on the basis of thought images and therefore it is usually not well structured, it does not contain the objective, the problem of the final event (Fein, 1995). Important skills that children need to master for successful storytelling (Tager-Flusberg, 1995) are: at the structural level, they need to master the syntactic and morphological rules for marking causal and temporal relationships; at the pragmatic level, they have to learn to take into account the context in which they are telling the story; they have to learn the techniques of presenting the protagonists and the techniques of integrating the story in such a way that the listener understands the main events of the story; in addition to linguistic skills, social-cognitive knowledge

is important for storytelling because it allows the creation of a structured story with the problem, objectives and solutions and the interpretation of the intentions, motives, feelings and reactions of the protagonists.

The older the children, the more they will have developed the above-described skills, which are important for successful storytelling. Therefore, storytelling develops and improves with age. A child's storytelling skills grow in terms of both length and grammatical structures and content of the story (Marjanovič Umek, Fekonja Peklaj, & Podlesek, 2010) Thus, the stories in the third and fourth year get a conventional form, i.e. they do not consist of a simple list of elements, but they contain the problem, goal and solution. Child stories become more and more coherent and interrelated and form a complete whole (Marjanovič Umek et al., 2006). From the age of four, symbolism, relational metaphors and metalinguistic statements are incorporated into the story. They are constructed as a chain, i.e. the elements of the story move from one to the next (Applebee, 1978). Stories often contain emotional themes because the thoughts and feelings of the heroes are important for children (Marjanovič Umek et al., 2006). The stories are longer - they generally contain more words and more different words, which is indirectly reflected in the relatively fast development of children's vocabulary in early childhood. The acquisition of synonyms and hypernyms enables the child to describe the same set of people, animals and objects with a variety of words, to form longer and more complex sentences and a more complex description of what is going on in the story (Marjanovič Umek et al., 2010).

Storytelling in five-year-old children

The majority of five-year-old children tell stories with the conventional structure. They are aware of the goal of the story, which is a common thread in their storytelling (Marjanovič Umek & Fekonja, 2019). Children describe people's motives and feelings, and they usually develop the story around the main character (Fein, 1995). More and more often stories are told in the past tense (Aller, 1995), and the heroes are imitated with a change of voice (Scarlett & Wolf, 1979). Children are able to reflect on each element of the story and to evaluate the heroes' behaviour and actions. (Dombey, 2003). In the study in which they assessed the narrative based on a continuation of the original set of statements, they found that five-year-old children usually tell a story in which there is a simple temporal juxtaposition of events (Stein & Albro, 1997). The vast majority of children between the ages of five and six describe the images by identifying some of the relationships between objects in the image and transforming them into the language code. In the child's narrative, description of images and listing of observations dominate. Some children in this age group describe the pictures directly or indirectly, and they already rely on their own experiences. Children recognize the connections in the picture so they describe the pictures as an active event, but their descriptions do not follow a logical sequence (Miljak, 1984).

In a Slovenian study by Marjanovič Umek et al. (2010), which examined the development of storytelling in early childhood (for children between 3 and 6 years of age), the authors found that the stories of five-year-old children contained an average of 102 words, 40 of which were different words. Their stories consisted mostly of one-clause sentences, but the proportion of coordinate and subordinate complex sentences was much higher in comparison to younger children. The five-year-old children created significantly longer and more complex sentences. The average length of their sentences was 5.9 words. The stories contained a relatively small number of events, which is why the children rarely change their narrative perspective. The 5-year-olds, on average, described 4 events that followed in logical order, and there was less than one change in narrative perspective. Descriptions of the mental state of the heroes in the story were rarely included, but were significantly more important than those of the three-year-olds. Greater occurrence of describing mental states by the five-year-olds indicates that mind theory is gradually developing, as well as a social understanding and use of the metalanguage. The only criterion in which the child's age had no significant influence was the use of conjunctions (coordinated conjunctions that do not express connective coordination and subordinate conjunctions that express causal subordination). Children of all ages rarely included them in their stories. The results suggest that although five-year-old children already used various conjunctions, they are often not yet able to use them in the story because, in addition to the grammatical structure of the language, when telling a story, the child must understand and integrate the events into a coherent, logical whole (Marjanovič Umek et al., 2010).

Storytelling in children with autism spectrum disorder

Autism spectrum disorder is a developmental disorder that begins in childhood and lasts throughout life, with effects on the functioning of the individual in all circumstances. It encompasses all mental functions and manifests itself in a variety of forms that share deficits in social (verbal and non-verbal) communication and social interaction, as well as limited, repetitive patterns of behaviour, interests and activities (Autism Spectrum Disorder, 2018).

Deficits in language development have been widely studied as they are often considered a defining feature of autism. Previous findings have identified three common deficits in language development in children with ASD: early language delays (Howlin, 2003; Weismer et al., 2010), atypical language production (Eigsti et al., 2007; Roberts, 2014), and discourse/pragmatics difficulties (McCann et al., 2007). More specifically, while children of typical development produce their first words between 8 and 14 months of age, children with ASD generally do not produce their first words until around 38 months (Howlin, 2003). In addition, delays have been found in both receptive and expressive language, with receptive language being the most impaired (Weismer et al., 2003). Compared to children with typical development, children with ASD tend

to produce more idiosyncratic labels, nonsense terms, and phrases with atypical meanings (Eigsti et al., 2014; Lord & Paul, 1997). Similar to the use of echolalia, jargon serves a specific role in the language acquisition and development with ASD. Many use jargon as a means of maintaining conversation or expressing ideas, but its use may also indicate difficulty in looking up and updating information (Lord & Paul, 1997).

Furthermore, children diagnosed with ASD exhibit at least one of the following atypical suprasegmental features: inappropriate speech volume, at- or singsong-like intonation, hoarseness, hyper-nasality, inaccurate lexical stress, slowed phrasing, and typical rate of speech (Shriberg et al., 2001).

Several studies have suggested that the impairments in storytelling of individuals with ASD can be explained with reference to a specific difficulty in identifying the causal network of a narrative structure (King et al., 2014; Losh & Capps, 2003; 2014; Sah & Torng, 2015). Contrary to expectations, Diehl et al. (2006) as well as Sah and Torng (2015) noted that children with ASD and children with typical development were equally sensitive to the causal-chains events of a story.

Until now, research has covered a relatively small sample of people with autism spectrum disorders (e.g. Tager-Flusberg, 1995; Thurber & Tager-Flusberg, 1993). The majority of the research only covered people with high-functioning autism and/or Asperger's syndrome (e.g. Colle et al., 2008; Diehl et al., 2006; Losh & Capps 2003; Novogrodsky, 2013; Mäkinen et al., 2014; Rumpf et al., 2012; Siller et al., 2014; Suh et al., 2014; Young et al., 2005). The comparison groups were most often made up of people with typical development. Some of the studies included comparison groups with other disorders (specific speech disorders, Down syndrome, intellectual disabilities..., e.g. Norbury & Bishop 2003).

A variety of methodological techniques have been used for research in this field, some of which influenced the results. In most research, the narrative was created with the help of visual stimuli (e.g. picture books), but there are also other approaches (such as telling an imaginary story, telling a story based on true events, telling the autobiographical story, telling the story of the earliest event that the research participants remember). The puppet shows, a variety of interactive animations, single images and various image sequences, such as wordless picture books (Frog, Where are you?, Frog on its own, Tuesday) were used. In addition to the type of visual stimulus, the results of the investigations were also influenced by the presence or absence of verbal input. The results were different when the story was read aloud or presented in another way, which is understandable, because in this way the task also included the aspect of memory and the reconstruction of the story read or understood earlier (Stirling et al., 2014). So far, the main categories of analysis in relation to the narrative abilities of children with autism spectrum disorder have been (Stirling et al., 2014): (1) the length and complexity of the story; (2) the scope of the questions that contribute to

the creation of textual cohesion (e.g., use of reference cohesion and time stamps, a clear indication of causal relationships between the story's elements); (3) the scope of the questions related to the ability of the theory of mind and/or the ability to present the perspectives of the story events.

Tools for assessing narrative skills

Standardized tests for assessing storytelling in children of different ages are based on standard operating procedures of the testing and assessment process. They include standard test materials, precise criteria for storytelling assessment and analysis, a guide for scoring and interpretation, and norms that allow for the comparison of peer results (Marjanovič Umek & Fekonja, 2019). These standardized tests are, for example, Narrative-Assessment Protocol (Pence Justice & Gosse, 2007); Test-of-Narrative-Language (Gillam & Pearson, 2004); The Narrative Language Measures: Tools for Language Screening, Progress Monitoring, and Intervention Planning (Petersen & Spencer, 2012). In the Slovenian context, two separate oral tests are used, i.e. the Little Glove Storytelling Test, designed for children aged 3 to 6 years, and the Frog King storytelling test, designed for children aged 6 to 9 years (Marjanovič et al., 2012). The tests give us information about child's current level of storytelling, compared to his/her peers, and they also allow us to track the child's storytelling skills longitudinally by rating them in several sequences (Marjanovič Umek & Fekonja, 2019). The Little Glove Storytelling Test includes a wordless picture book with ten illustrations that tell the story of a grandfather who walked his dog and lost his glove. The tested child is asked to tell a story by looking at the illustrations. When telling the story, the examiner does not interrupt the child or ask him/her questions which might affect the story's development. The evaluators, who may be psychologists, pedagogues and speech therapists, literally take the child's story, write it down and later evaluate and analyse it according to the chosen criteria (Marjanovič Umek & Fekonja, 2019).

Research methodology

Research aim and questions

The aim of the study was to gain insight into the characteristics of storytelling in five-year-old children with autism spectrum disorder and to compare the results obtained with those of children with typical development.

Therefore, three research questions were asked:

RQ1: What are the differences between storytelling in five-year-old children with autism spectrum disorder and their peers with typical development regarding words in the story?

RQ2: What are the differences between the narratives of five-year-old children with autism spectrum disorder and their peers with typical development regarding the grammatical structure of the story?

RQ3: What are the differences between the narratives in five-year-old children with autism spectrum disorder and their peers with typical development regarding the thematic structure of the story?

Participants

The sample comprised 26 five-year-old children, 20 of which were children with typical development (TD group) (12 girls and 8 boys) and 6 children with autism spectrum disorder (ASD group) (2 girls and 4 boys) not associated with other disorders, e.g. mental retardation. The children attended a large number of kindergartens in Slovenia. Deficits in language development of children with ASD were as follows: addressing oneself by personal name or by the pronoun “you” or “he/she”; problems with prosody and intonation of speech; problems with spontaneous speech; limited vocabulary; difficulty understanding sentences and words with contradictory meanings. The sample of children with autism spectrum disorder is small for several reasons: late diagnosis of autism spectrum disorder in Slovenia, many children with autism spectrum disorder have other disorders that might influence the test results and are therefore not included in the study; difficulties in obtaining the consent of parents of children with autism spectrum disorder.

For the assessment of children’s storytelling, the Little Glove Storytelling Test (Marjanovič Umek et al., 2012) was used, as it is the Slovenian instrument intended for children aged 3 to 6 years, thus suitable for the population in question.

Instrument

For the assessment of the child’s narration the Little Glove Storytelling Test (Marjanovič Umek et al., 2012) was used, as it is the Slovenian instrument intended for children aged 3 to 6 years, thus suitable for the population in question. It contains a wordless picture book. The content and structure of the child’s story is assessed according to criteria established on the basis of results of several previous studies (e.g. Fekonja-Peklaj et al., 2010). The criteria concern the number of words in the story (the number of words and the number of different words), the grammatical structure of the story (average length of the sentences, number of coordinate sentences; number of subordinate sentences, etc.) and the thematic structure of the story (number of events - number of events identified and described in the story among 14 recognized events; these events were determined on the basis of analysing the stories told by seven adults while observing the illustration; the number of changes of perspective; number of words describing mental states) (Marjanovič Umek et al., 2012).

The test is a reliable, objective and valid instrument that has been standardized on a sample of Slovenian children. Reliability was measured using the method of internal consistency. A factor α for all age groups was at least 0.80; in most cases it approached the value of 0.90. The correlation between the total score and the criterion for correction

of imperfect reliability of the criterion was 0.77, which indicates good validity of this test (Marjanovič Umek et al., 2012).

Data collection and data process

The data collection took place between January 2019 and July 2019 in a number of kindergartens in Slovenia. We sent a request for help in finding a sample of children with autism spectrum disorder without any associated disorders to the e-mail addresses of most kindergartens in Slovenia. Consent forms for inclusion of children in the study were given to parents of children with autism spectrum disorder and parents of children with typical development by preschool teachers. After obtaining the parents' consent, the tests were carried out in consultation with the preschool teacher, the teacher, additional professional support or a child's psychologist in the kindergarten, i.e. during the time the child normally spends in kindergarten. The children were individually tested by the Little Glove Storytelling Test according to the test instructions. The examiner placed the picture book on the table in front of the child with illustrations of the Glove story and a plush toy, e.g. bear. He instructed the child to look at the illustrations and tell the story to the bear, who had never heard this story before. The child could start telling the story next to any of the illustrations, and he could also leaf through the illustrations from beginning to end before the story began. The child's examiner did not interrupt or ask additional questions during the narration. Children's stories were recorded with a dictaphone to facilitate further analysis, transcribed and analysed according to the assessment criteria.

The obtained data were processed quantitatively. The results of the Little Glove Storytelling Test were statistically processed with the software IBM SPSS Statistics. Data were described using medians (Mdn) and interquartile ranges (IQR), and non-parametric tests (Mann-Whitney U test and Pearson chi-square test) were employed. As effect size estimates, Cohen's *r* was used for Mann-Whitney U test and the phi coefficient for the chi-square test (Coolican, 2019).

Results

The results for each indicator for the assessment of the story and the child's overall achievement at the Little Glove Storytelling Test are presented below.

Words in the story

The testing area »words in the story« comprises two indicators: the number of all words in the story and the number of different words.

Number of words in the story

Table 1
Descriptive statistics and Mann-Whitney test comparing the groups with respect to the number of words in the story

	Mdn	IQR	U	P	r
TD	113.50	83.75 to 164.00	24.50	.014	.42
ASD	46.00	28.00 to 118.75			

The results in Table 1 show that children with TD¹ told longer stories (Mdn=113.50) than children with ASD² (Mdn=46.00). The Mann-Whitney test indicated that this difference was statistically significant, $U=24.50$, $p=.014$. The effect size was medium, $r = .42$.

Number of different words in the story

Table 2
Descriptive statistics and Mann-Whitney test comparing the groups with respect to the number of different words in the story

	Mdn	IQR	U	P	r
TD	45.50	33.50 to 55.50	29.00	.031	0.37
ASD	24.50	17.25 to 46.50			

The results in Table 2 show that the children with ASD statistically significantly use fewer different words in their stories (Mdn=24.50) than children with TD (Mdn=45.50, $U=29.00$, $p=.031$). The effect size was medium, $r=.37$. Since the indicators are co-dependent, this result is expected: a small number of words affects a small number of different words.

Grammatical structure of the story

Average length of the sentence

Table 3
Descriptive statistics and Mann-Whitney test comparing the groups with respect to length of sentences in the story

	Mdn	IQR	U	P	R
TD	8.90	7.47 to 10.14	22.50	.010	0.45
ASD	4.79	2.45 to 8.91			

We found that children with TD formed longer sentences (Mdn=8.90) than children with ASD (Mdn=4.79). The difference was statistically significant, $U=22.50$, $p=.010$. The effect size was medium, $r=.45$.

Number of coordinate sentences

Table 4
Descriptive statistics and Mann-Whitney test comparing the groups with regard to the number of coordinate sentences in the story

	Mdn	IQR	U	P	R
TD	2.00	2.00 to 4.75	27.00	.023	0.41
ASD	1.00	0.00 to 2.50			

¹ TD = typical development

² ASD = autism spectrum disorder

Children with TD used more coordinate sentences (Mdn=2.00) than children with ASD (Mdn=1.00). The difference is statistically significant, $U=27.00$, $p=.023$. The effect size was medium, $r=.41$.

Number of subordinate sentences

Table 5

Descriptive statistics and Mann-Whitney test comparing the groups in regards to the number of subordinate sentences in the story

	Mdn	IQR	U	P	R
TD	2.00	1.00 to 3.00	45.50	.194	0.18
ASD	1.00	0.75 to 1.75			

Children with TD used more subordinate sentences (Mdn=2.00) than children with ASD (Mdn=1.00), however, the difference is not statistically significant, $U=45.50$, $p=.194$. The effect size was small, $r=.18$.

Number of the simple sentences

Table 6

Descriptive statistics and Mann-Whitney test comparing the groups according the number of simple sentences in the story

	Mdn	IQR	U	P	R
TD	0.50	0.41 to 0.70	23.00	.012	0.44
ASD	0.79	0.58 to 0.92			

In both groups, simple sentences were mostly used. Nevertheless, the number of simple sentences in the stories of children with TD (Mdn=0.50) was statistically significantly lower than in the stories of children with ASD (Mdn=0.79), $U=23.00$, $p=.012$. The effect size was medium, $r=.44$.

Use of coordinate conjunctions

By using the chi-square test, we found no statistically significant difference in the use of coordinate conjunctions between the TD and ASD group $\chi^2(1, N=26) = 0.01$, $p=.676$. The effect size was small, $\phi=.02$.

Use of subordinate conjunctions

Similar to the use of coordinate conjunctions, which express a cause-and-effect relationship, a few children included subordinate conjunctions in their stories. But the difference between TD and ASD group was not statistically significant, $\chi^2(1, N=26) = 1.68$, $p=.218$. The effect size was small, $\phi=.25$.

Thematic structure of the story

The area »thematic structure of the story« comprises several indicators: the number of events, number of changes in perspective, and in the number of words used to describe mental states.

Number of events

Table 7
Descriptive statistics and Mann-Whitney test comparing the groups in the number of events in the story

	Mdn	IQR	U	P	R
TD	4.00	0.00 to 7.00	42.00	.148	0.22
ASD	0.00	0.00 to 5.25			

Children of both groups included a relatively small number of events in their stories. Out of 14 identified events, children with TD described more events (Mdn=4.00) than the children with ASD (Mdn=0.00). A Mann-Whitney test indicated that the difference was not statistically significant when comparing the two groups, $U=42.00$, $p=.148$. The effect size was small, $r=.22$.

Number of changes in perspectives

Table 8
Descriptive statistics and Mann-Whitney test comparing the groups in the number of changes of perspective

	Mdn	IQR	U	p	R
TD	0.00	0.00 to 1.00	44.50	.178	0.21
ASD	0.00	0.00 to 0.50			

Children with TD (Mdn=0.00) showed a greater number of changes of perspective than children with ASD (Mdn=0.00), but the medians are the same. The difference is therefore not statistically significant, $U=42.50$, $p=.178$. The effect size was small, $r=.21$.

Number of the words describing mental states

Table 9
Descriptive statistics and Mann-Whitney test comparing the groups in the number of words describing mental states

	Mdn	IQR	U	p	R
TD	1.00	0.00 to 2.00	37.00	.088	0.29
ASD	0.00	0.00 to 1.25			

Children with TD (Mdn = 1.00) included a larger number of words describing mental states in the narrative than children with ASD (Mdn = 0.00), but the difference is not statistically significant, $U=37.00$, $p=.088$. The effect size was small, $r=.29$.

Table 10
Words used for describing mental states in both groups of children

	perceptions	emotional states	wishes and desires	cognition
TD	see behold (not) notice smell	cheerful happy	want	know wonder find out
ASD	smell	cheerful		not know

Fourteen children with TD and two children with ASD included in their story words to describe mental states. Children with TD used words to describe perceptions (61.3%), emotional states (12.9%), desires and longings (12.9 %) and thinking (12.9 %), while children with ASD used words to describe perceptions, emotional states and thinking (33.3 %).

Discussion

Regarding the first research question (i.e. What are the differences between storytelling in five-year-old children with autism spectrum disorder and their peers with typical development in the area of words in the story?), the results were expected since most of the stories by children with ASD are shorter than those of children with TD. However, the data also show that children with ASD are able to write long stories with many words (one of the girls with ASD was able to tell a longer story with 193 words). Norbury et al. (2014), Rumpf et al. (2012), Siller et al. (2014) and Tager-Flusberg (1995) also found that stories by children with ASD are shorter than those of children with TD, but in a number of other studies, no statistically significant difference in the story's length was found (Banney et al., 2015; Norbury & Bishop, 2003; Novogrodsky, 2013; Suh et al., 2014). If the participants in the survey had been tested in advance and patterns had been found that matched in language skills, the results might have been different, but that is not necessarily so. In one of the studies (Siller et al., 2014) the participants were pre-tested with a variety of language tests, and the pattern that matched receptive and expressive language skills was found. Nevertheless, children with ASD told statistically significantly shorter stories than children with TD. Rumpf et al. (2012) attribute the difference in story length between the groups of children with TD and children with ASD and without attention deficit hyperactivity disorder (ADHD) to different conditions under which the tests were conducted. Children with ASD and without ADHD were tested in a more structured diagnostic-clinical environment, while children with TD were tested in a familiar school environment.

Children with ASD and children with speech disorders created similarly simple narratives that lacked semantic richness (Norbury et al., 2014). The majority of other studies found that there are no differences in the number of different words between the above groups (Banney et al., 2015; Mäkinen et al., 2014; Suh et al., 2014). Children in both groups included words of different word types in their stories, but children with ASD used adjectives (only 2 children with ASD), pronouns, and prepositions less frequently. Two of the children with ASD used imaginary words or neologisms, which is one of the characteristics of the language of children with ASD that distinguishes it from other children (e.g., Kim et al., 2014). The presence of idiosyncratic language (the language used in an unusual way, including neologisms) was investigated by Suh et al. (2014). They found that children with ASD used idiosyncratic language statistically significantly more often in their stories.

The second research question explored the differences between the narrative in five-year-old children with autism spectrum disorders and their peers with typical development in the grammatical structure of the story.

We found that children with TD formed longer sentences. Shorter sentences by children with ASD is a finding that was also confirmed by Maekinen et al. (2014) and Norbury et al. (2014). In most other studies the authors found that there were no differences in the length of sentences between children with ASD and children with TD (Diehl et al., 2006; Kauschke et al., 2015; Rumpf et al., 2012; Suh et al., 2014).

Children with TD used more coordinate and more subordinate sentences; both groups used mostly simple sentences. Nevertheless, the number of simple sentences in stories by children with TD (Mdn=0.50) was statistically significantly lower than in those by children with ASD (Mdn=0.79, $U=23.00$, $p=.012$). The effect size was medium, $r=.44$. Similar to the use of coordinate conjunctions, which express a cause-and-effect relationship, a few children included subordinate conjunctions in their stories. However, the difference between TD and ASD group was not statistically significant, $\chi^2(1, N=26) = 1.68$, $p=.218$. The effect size was small, $\phi=.25$.

The results on the grammatical structure of the stories are slightly inconsistent and do not allow any conclusions. In some areas, children with ASD showed significantly worse performance than children with TD (the average length of sentences, the number of coordinate sentences, the number of simple sentences), but not in other areas (the number of subordinate sentences, the use of coordinate and subordinate conjunctions). Therefore, with the exception of the average length of a sentence, which was not researched so far, the results for other areas of grammatical structure of the stories we studied (the number of coordinate and subordinate sentences, the number of simple sentences, the use of coordinate and subordinate conjunctions) are not directly comparable with the results of other studies. The indicators of grammatical structure of the stories (the number of coordinate and subordinate sentences, the use of coordinate and subordinate conjunctions, the number of simple sentences) are most often summarized under the common concept of syntactic complexity (i.e. the grammatical structure of the story). In terms of syntactic complexity, different categories are distinguished (Baixaulia et al., 2016): the complexity of sentences (use of coordinate and subordinate clauses, Norbury & Bishop 2003; Novogrodsky, 2013); "syntactic density" (number of sentences, Maekinen et al., 2014; Norbury et al., 2014; Banney et al., 2015); grammatical complexity (number of passive and subordinate clauses) (Rumpf et al., 2012); frequency of complex syntax (sentences with coordinate, subordinate and passive clauses) (Losh & Capps, 2003; Mills et al., 2013); number of subordinate clauses in a sentence (Diehl et al., 2006).

As far as syntax complexity is concerned, the results from various surveys are not unanimous. Some authors report that children with ASD have a significantly lower syntactic complexity in storytelling than children with TD (Banney et al., 2015; Norbury & Bishop, 2003; Norbury et al., 2014), but differences are not reported by other authors (Diehl et al., 2006; Losh & Capps, 2003; Rumpf et al., 2012; Young et al., 2005).

Children with ASD who participated in our research study told significantly shorter stories with a greater number of simple sentences and fewer subordinate sentences so it is not surprising that they also scored lower than their peers in the area of average sentence length. This indicator combines both the dimensions of productivity and syntactic complexity of the story (because the use of more complex syntax increases the length of the sentence) (Maekinen et al., 2014).

In the third research question, we tried to find out whether there are differences between storytelling in five-year-old children with autism spectrum disorder and their peers with typical development in the thematic structure of the story, i.e. number of events, number of changes in perspective and the number of words used to describe mental states.

Children of both groups included a relatively small number of events in their stories, which is consistent with the results of the study by Marjanovič Umek et al. (2010). In addition, several other authors came to similar conclusions. They found that there were no differences in the number of events included in the story between children with TD and children with ASD (Diehl et al., 2006; Norbury & Bishop, 2003; Norbury et al., 2014; Suh et al., 2014), while others found statistically significant differences (Losh & Caps, 2003; Maekinen et al., 2014). Losh and Caps (2003) point out that individuals with ASD included significantly fewer events in their stories, compared to their peers, but they established and retained the theme of the story, similarly to children with TD. One of the possible reasons for the inconsistency of results in this area is the diversity of methodological techniques used to evoke stories. For example, in the survey by Maekinen et al. (2014), participants formed a story without pre-demonstration, whereas in the study by Diehl et al. (2006), the participants heard the story in advance, which may have had an influence on the fact that participants with ASD were more successful, but this is not a rule.

Children with TD ($Mdn = 0.00$) showed a greater number of changes of perspective than children with ASD ($Mdn = 0.00$), but the medians are the same. The difference is therefore not statistically significant, $U = 42.50$, $p = .178$. The effect size was small, $r = .21$. The ability to change perspective appropriately (logically and grammatically correct) is one of the indicators that contribute to both coherence and cohesion of the story. The area that can be indirectly related to the change of perspective was investigated in different ways: the percentage of ambiguous use of 3rd person pronouns the percentage of ambiguous use of the pronouns for making references (Suh et al., 2006); referential adequacy (Maekinen et al., 2014); ambiguous references (Banney et al., 2015); ambiguous pronouns (Norbury & Bishop, 2003); the percentage of errors in the cohesive chain (Young et al., 2005). The authors have come to non-conforming results. Maekinen et al. (2014) found no significant differences between the two groups, but differences were found in a number of other studies (Norbury & Bishop, 2003; Norbury et al., 2013; Novogrodsky, 2013).

Children with ASD achieved significantly lower results in terms of words in a story (they formed stories with fewer words and less word diversity), which may have an impact on the use of terms for mental states (e.g., Norbury et al., 2014). The ability to speak about the cognitive and emotional experience of others depends on the vocabulary that enables one to speak. Children with ASD have problems with the pragmatic aspects of language, i.e. with the use of terms for mental states (Baron-Cohen et al., 1985).

In general, both groups used a small number of terms for mental states, and the difference between the groups was not statistically significant. This is consistent with the results of several other studies (e.g., Capps et al., 2000; Maekinen et al., 2014; Norbury et al., 2014; Suh et al., 2014). Rumpf et al. (2012) found that children with ASD less frequently used words indicating cognitive states (thoughts, desires and longings) compared to their peers, but did not differ in the use of words for emotional states. On the contrary, Siller et al. (2014) found that children with ASD less frequently used expressions indicating emotional states compared to their peers with TD, but there was no difference in the use of expressions indicating cognitive states. The reason why both groups use a small number of expressions for mental states might be the wordless picture book. For example, the picture book *Tuesday* (Wiesner, 1991), used in the study by Rumpf et al. (2012), shows many situations in which children use expressions for mental states, on the other hand the most frequently used picture book, *Frog, where are you?* (Mayer, 2003), which is also used by Norbury et al. (2014), does not show many events that promote the use of the terms for mental states (Maekinen et al., 2014).

Conclusion

The Little Glove Storytelling Test is a useful and appropriate tool for exploring narrative skills of children with TD. However, for a more detailed assessment of the pragmatic abilities of children with ASD, the test must be completed. It may be useful to add a more detailed assessment of the elements for establishing reference, to complete a test with questions on the content of the story, to determine whether children understand the essence of the story, and to evaluate additional, unusual comments that are not directly related to the story's content. The use of unimportant information affects the coherence of the story, impairs the child's ability to discourse and provides additional insight into the pragmatic aspect of language. In many studies (Maekinen et al., 2014; Diehl et al., 2006; Norbury et al., 2013), authors stated that children with ASD included significantly more frequent additional and unusual comments in the story that did not contribute to the content of the story.

The aim of the research was to gain insight into narrative skills of children with ASD in order to plan appropriate interventions. Based on the research results, which showed that children with ASD have more problems in the area of grammatical structure of the story and words in the story than in that of thematic structure, it would be useful to help them expand the vocabulary and syntactic structure. Children with ASD also

have lower scores in the area of story's thematic structure so it is necessary to offer them help and support at the pragmatic level of language.

The study represents initial research into narrative skills of children with ADS in the Slovenian context and provides good guidelines for future research.

References

- Aller, E. (1995). *Fortoelebogen*. Aller, E. (1995). *Fort elebogen*. *Fort mlingsomundervisnings metode [Storytelling book] [Storytelling book]*. Gad & Grafisk.
- Autism Spectrum Disorder. (2018). <https://www.cdc.gov/ncbddd/autism/data.html>
- Baixaulia, I., Colomerb, C., Roselló, B., & Miranda, A. (2016). Narratives of children with high functioning autism spectrum disorder: A meta-analysis. *Research in Developmental Disabilities*, 59, 234-254. <https://doi.org/10.1016/j.ridd.2016.09.007>
- Banney, R. M., Harper-Hill, K., & Arnott, W. L. (2014). The Autism Diagnostic Observation schedule and narrative assessment: Evidence for specific narrative impairments in autism spectrum disorders. *International Journal of Speech-Language Pathology*, 17(2), 159-171. <https://doi.org/10.3109/17549507.2014.977348>
- Baron-Cohen S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of mind"? *Cognition*, 21(1), 37-46. [https://doi.org/10.1016/0010-0277\(85\)90022-8](https://doi.org/10.1016/0010-0277(85)90022-8)
- Botting, N. (2002). Narrative as a tool for the assessment of linguistic and pragmatic impairments. *Child Language Teaching and Therapy*, 18(1), 1-21. <https://doi.org/10.1191/0265659002ct224oa>
- Bruner, J. (1986). *Actual minds, possible words*. Harvard University Press. <https://doi.org/10.4159/9780674029019>
- Burton, L. (2001). Children's mathematical narratives as learning stories. *European Early Childhood Education Research Journal*, 10(2), 5-18. <https://doi.org/10.1080/13502930285208921>
- Capps, L., Losh, M., & Thurber, C. (2000). "The frog ate the bug and made his mouth sad": Narrative competence in children with Autism. *Journal of Abnormal Child Psychology*, 28(2), 193-204. <https://doi.org/10.1023/A:1005126915631>
- Colle, L., Baron-Cohen, S., Wheelwright, S., & van der Lely, H. K. J. (2008). Narrative discourse in adults with high-functioning autism or Asperger syndrome. *Journal of Autism and Developmental Disorders*, 38(1), 28-40. <https://doi.org/10.1007/s10803-007-0357-5>
- Coolican, H. (2019). *Research Methods and Statistics in Psychology (7th ed.)*. Psychology Press. <https://doi.org/10.4324/9781315201009>
- Diehl, J., Bennetto, L., & Young, E. (2006). Story Recall and narrative coherence of high functioning children with autism spectrum disorders. *Journal of Abnormal Child Psychology*, 34(1), 87-102. <https://doi.org/10.1007/s10802-005-9003-x>
- Dombey, H. (2003). Interactions between teachers, children and texts in three primary classrooms in England. *Journal of Early Childhood Literacy*, 3(1), 37-58. <https://doi.org/10.1177/14687984030031002>

- Eigsti, I. M., Bennetto, L., & Dadlani M. B. (2007). Beyond pragmatics: Morphosyntactic development in autism. *Journal of Autism and Development Disorders*, 37(6), 1007-1023. <https://doi.org/10.1007/s10803-006-0239-2>
- Fein, G. G. (1995). Toys and stories. In A. Pellegrini (Ed.), *The future of play theory* (pp. 151-165). State University of New York Press.
- Fekonja-Peklaj, U., Marjanovič Umek, L., & Kranjc, S. (2010). Children's storytelling: The effect of preschool and family environment. *European Early Childhood Education Research Journal*, 18(1), 55-73. <https://doi.org/10.1080/13502930903520058>
- Gillam, R. A., & Pearson, N. A. (2004). *Test of Narrative Language*. Pro-Ed.
- Howlin, P. (2003). Outcome in high-functioning adults with autism with and without early language delays: Implications for the differentiation between autism and Asperger syndrome. *Journal of Autism and Development Disorders*, 33(1), 3-13. <https://doi.org/10.1023/A:1022270118899>
- Hutchins, T. L., & Prelock, P. (2010). *Technical manual for the theory of mind task battery*. University of Vermont.
- Karmiloff, K., & Karmiloff-Smith, A. (2001). *Pathways to language*. Harvard University Press.
- Kauschke, C., van der Beek, B., & Kamp-Becker, I. (2015). Narratives of girls and boys with autism spectrum disorders: Gender differences in narrative competence and internal state language. *Journal of Autism and Developmental Disorders*, 46(3), 840-852. <https://doi.org/10.1007/s10803-015-2620-5>
- Kim, S. H., Paul, R., Tager-Flusberg, H., & Lord C. (2014). Language and communication in autism. In F. Volkmar, R. Paul, S. J. Rogers, & K.A. Pelphrey (Eds.), *Handbook of Autism and Pervasive Developmental Disorders, Volume 1: Diagnosis, Development, and Brain Mechanisms, Section II: Development and Behavior* (pp. 230-262). John Wiley & Sons.
- King, D., Dockrell, J., & Stuart, M. (2014). Constructing fictional stories: A study of story narratives by children with autistic spectrum disorder. *Research in Developmental Disabilities*, 35(10), 2438-2449. <https://doi.org/10.1016/j.ridd.2014.06.015>
- Losh, M., & Capps, L. (2003). Narrative ability in high-functioning children with autism or Asperger's syndrome. *Journal of Autism and Developmental Disorders*, 33(3), 239-251. <https://doi.org/10.1023/A:1024446215446>
- Lord, C., & Paul R. (1997). Language and communication in autism. In D. J. Cohen, & F.R. Volkmar (Eds.), *Handbook of Autism and Pervasive Development Disorders* (pp. 195-225). John Wiley.
- Marjanovič Umek, L., Kranjc, S., & Fekonja Peklaj, U. (2006). *Otroški govor: razvoj in učenje* [Child speech: Development and learning]. Izolit.
- Marjanovič Umek, L., Fekonja Peklaj, U., & Podlessek, A. (2010). Razvoj pripovedovanja zgodbe v zgodnjem otroštvu [Development of storytelling in early childhood]. *Psihološka obzorja*, 4(19), 35-53.
- Marjanovič Umek, L., Fekonja Peklaj, U., Sočan, G., & Komidar, L. (2012). *Pripovedovanje zgodbe: Preizkus pripovedovanja zgodbe* [Telling a story: Test of telling a story]. Znanstvena založba Filozofske fakultete.

- Marjanovič Umek, L., & Fekonja, U. (2019). *Zgodbe otrok: Razvoj in spodbujanje pripovedovanja* [Children's stories: Developing and enhancing storytelling]. Znanstvena založba Filozofske fakultete.
- Mayer, M. (2003). *Frog, Where Are You?*. Penguin Putnam Inc.
- Mayer, M. (2003). *Frog on his own (A boy, a dog and a frog)*. Dial Books.
- Mayer, M. (2003). *Frog goes to dinner (A boy, a dog and a frog)*. Dial Books.
- Mäkinen, L., Loukusa, S., Leinonen, E., Moilanen, I., Ebeling, H., & Kunnari, S. (2014). Characteristics of narrative language in autism spectrum disorder: Evidence from the Finnish. *Research in Autism Spectrum Disorders*, 8(8), 987–996. <https://doi.org/10.1016/j.rasd.2014.05.001>
- McCann, J., Peppé, S., Gibbon, F. E., O'Hare, A., & Rutherford, M. (2007). Prosody and its relationship to language in school-aged children with high-functioning autism. *International Journal of Language & Communication Disorders*, 42(6), 682-702. <https://doi.org/10.1080/13682820601170102>
- Miljak, A. (1984). *Uloga komunikacije u razvoju govora djece predškolske dobi*. Školske novine.
- Mills M. T., Watkins R. V., & Washington J. A. (2013). Structural and dialectal characteristics of the fictional and personal narratives of school-age African American children. *Language, Speech, and Hearing Services in Schools*, 44(2), 211-223. [https://doi.org/10.1044/0161-1461\(2012/12-0021\)](https://doi.org/10.1044/0161-1461(2012/12-0021))
- Norbury, C. F., & Bishop, D. V. M. (2003). Narrative skills of children with communication impairments. *International Journal of Language & Communication Disorders*, 38(3), 287-313. <https://doi.org/10.1080/136820310000108133>
- Norbury, C. F., Gemmell, T., & Paul, R. (2014). Pragmatics abilities in narrative production: A cross- disorder comparison. *Journal of Child Language*, 41(3), 485-510. <https://doi.org/10.1017/S030500091300007X>
- Novogrodsky, R. (2013). Subject pronoun use by children with autism spectrum disorders (ASD). *Clinical Linguistics & Phonetics*, 27(2), 85-93. <https://doi.org/10.3109/02699206.2012.742567>
- Oppenheim, D., & Waters, H. S. (1995). Narrative processes and attachment representations: issues of development and assessment. *Monographs of the Society for Research in Child Development*, 60(2-3), 195-214. <https://doi.org/10.2307/1166179>
- Pence, K., Justice, L. M., & Gosse, C. (2007). *Narrative Assessment Protocol*. Preschool Language & Literacy Lab, The Ohio State University.
- Petersen, D. B., & Spencer, T. D. (2012). The Narrative Language Measures: Tools for Language Screening, Progress Monitoring, and Intervention Planning. *Perspective on Language Learning and Education*, 19(4), 119-129. <https://doi.org/10.1044/lle19.4.119>
- Roberts, J. M. (2014). Echolalia and language development in children with ASD. *Commun Autism*, 11, 55-74. <https://doi.org/10.1075/tilar.11.04rob>
- Rumpf, A.L., Kamp-Becker, I., Becker, K., & Kauschke, C. (2012). Narrative competence and internal state language of children with Asperger Syndrome and ADHD. *Research in Developmental Disabilities*, 33(5), 1395–1407. <https://doi.org/10.1016/j.ridd.2012.03.007>

- Sah, W. H., & Torng, P. C. (2015). Narrative coherence of Mandarin-speaking children with high-functioning autism spectrum disorder: An investigation into causal relations. *First Language*, 35(3), 189-212. <https://doi.org/10.1177/0142723715584227>
- Scarlett, G. W., & Wolf, D. (1979). When it's only make-believe: The construction of a boundary between fantasy and reality in storytelling. *New Directions for Child and Adolescent Development*, 6, 29-40. <https://doi.org/10.1002/cd.23219790605>
- Shriberg, L. D., Paul, R., McSweeney, J. L., Klin, A., Cohen, D. J., & Volkmar, F. R. (2001). Speech and prosody characteristics of adolescents and adults with high-functioning autism and Asperger syndrome. *Journal of Speech, Language, and Hearing Research*, 44(5), 1097-1115. [https://doi.org/10.1044/1092-4388\(2001/087\)](https://doi.org/10.1044/1092-4388(2001/087))
- Siller, M., Swanson, M. R., Serlin, G., & Teachworth, A. G. (2014). Internal state language in the storybook narratives of children with and without autism spectrum disorder: Investigating relations to theory of mind abilities. *Research in Autism Spectrum Disorders*, 8(5), 589-596. <https://doi.org/10.1016/j.rasd.2014.02.002>
- Stein, N. L., & Albro, E. R. (1997). Building complexity and coherence: Children's use of goal-structured knowledge in telling stories. In M. G. W. Bamberg (Ed.), *Narrative development: Six approaches* (pp. 5-44). Lawrence Erlbaum Associates Publishers.
- Stirling, L., Douglas, S., Leekam, S., & Carey, L. (2014). The use of narrative in studying communication in Autism Spectrum Disorders: A review of methodologies and findings. In J. Arciuli, & J. Brock (Eds.), *Communication in Autism* (pp. 171-215). John Benjamins. <https://doi.org/10.1075/tilar.11.09sti>
- Stromswold, K. (2001). The heritability of language: A review and meta-analysis of twin, adoption, and linkage studies. *Language*, 77(4), 647-723. <https://doi.org/10.1353/lan.2001.0247>
- Suh, J., Eigsti, I.M., Naigles, L., Barton, M., Kelley, E., & Fein, D. (2014). Narrative performance of optimal outcome children and adolescents with a history of an autism spectrum disorder (ASD). *Journal of Autism and Developmental Disorders*, 44(7), 1681-1694. <https://doi.org/10.1007/s10803-014-2042-9>
- Tager-Flusberg, H. (1995). "Once upon a ribbit": Stories narrated by autistic children. *British Journal of Developmental Psychology*, 13(1), 45-59. <https://doi.org/10.1111/j.2044-835X.1995.tb00663.x>
- Thurber, C., & Tager-Flusberg, H. (1993). Pauses in the narratives produced by autistic, mentally retarded, and normal children as an index of cognitive demand. *Journal of Autism and Developmental Disorders*, 23(2), 309-322.
- Weismer, S. E., Lord, C., (2010). Early language patterns of toddlers on the autism spectrum compared to toddlers with developmental delay. *Journal of Autism and Developmental Disorders*, 40(10), 1259-1273. <https://doi.org/10.1007/s10803-010-0983-1>
- Wiesner, D. (1991). *Tuesday*. Clarion Books.
- Wray, D., Medwell, J., Poulson, L., & Fox, R. (2002). *Teaching literacy effectively in the primary school*. RoutledgeFalmer.
- Young, E. C., Diehl, J. J., Morris, D., Hyman, S. L., & Bennetto, L. (2005). The use of two language tests to identify pragmatic language problems in children with autism spectrum disorders. *Language Speech and Hearing Services in Schools*, 36(1), 62. [https://doi.org/10.1044/0161-1461\(2005/006\)](https://doi.org/10.1044/0161-1461(2005/006))

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Pragmatične jezične vještine pripovijedanja kod petogodišnjaka s poremećajem iz autističnoga spektra i petogodišnjaka urednoga razvoja

Sažetak

Djeca s poremećajem iz autističnoga spektra imaju mnogo sličnosti, no među njima postoje i značajne razlike. Poremećaji iz autističnoga spektra razlikuju se u učestalosti i intenzitetu, a odstupanja u razvoju verbalne i neverbalne komunikaciju također su uobičajena. Problemi se često odražavaju na pragmatičnu razinu jezika, odnosno sposobnost odgovarajućega i učinkovitoga korištenja jezika u društvenom kontekstu. Jedan od pokazatelja razvoja pragmatičnih govornih/jezičnih vještina kod djece jest pričanje priča. U ovom radu predstavlja se istraživanje u kojemu se uspoređuju karakteristike pričanja priča kod petogodišnjaka s poremećajem iz autističnoga spektra i karakteristike pričanja priča petogodišnjaka urednoga razvoja koristeći test pripovijedanja Mala rukavica. Opća produktivnost djece s poremećajem iz autističnoga spektra na testu pripovijedanja Mala rukavica statistički je značajno niža nego kod njihovih vršnjaka urednoga razvoja. Ipak, saznali smo da su neka djeca s poremećajem iz autističnoga spektra sposobna izmisliti priče usporedive s pričama djece urednoga razvoja, međutim oni imaju niže rezultate kod većine pokazatelja kojima se priča vrednuje. Za tu je djecu potrebno osigurati podršku i pomoć na gramatičkoj i pragmatičkoj razini jezika.

Ključne riječi: *poremećaj iz autističnoga spektra; rano djetinjstvo; sposobnost pričanja priča; test pripovijedanja Mala rukavica.*

Uvod

Jedan od načina za procjenu pragmatičke razine jezika jest da djeca ispričaju priču. Pripovijedanjem djeca uče o međuljudskim i uzročnim odnosima, uče razumjeti same sebe, razvijaju i oblikuju vrijednosti i još mnogo toga. Stoga je vrlo važno da

ovo područje postane predmet istraživanja u različitim znanstvenim disciplinama. Informacija dobivena od djeteta kroz pripovijedanje omogućuje planirati intervenciju na kvalitetniji način te utječe na prilagođavanje, mogućnosti i pristupe kojima se može unaprijediti razvoj govora i jezika djece predškolske dobi i kasnije u školi (Marjanović Umek i Fekonja, 2019).

U Sloveniji postoji nekoliko istraživanja vezanih uz pripovijedanje djece urednoga razvoja, dok pripovijedanje djece s poremećajem iz autističnoga spektra do sada nije istraživano. Poremećaj iz autističnoga spektra razvojni je poremećaj koji započinje u djetinjstvu i traje tijekom života te utječe na funkcioniranje osobe u svim okolnostima (Autism Spectrum Disorder, 2018). Osobe s ovim poremećajem imaju mnogo toga zajedničkoga, ali istovremeno, među njima postoje razlike u učestalosti i jačini (intenzitetu) poremećaja. Unatoč raznolikosti poremećaja unutar skupine, stručnjaci se slažu da su najučestalija i najveća odstupanja upravo u području pragmatike (Kim, Paul, Tager-Flusberg i Lord, 2014). S obzirom na to da je pripovijedanje pragmatična vještina, pitanje koje se pojavljuje jest na koji se način razlikuju priče djece s poremećajem iz autističnoga spektra od priča djece urednoga razvoja. Odgovor na ovo pitanje razotkrio bi područja u kojima djeca s poremećajem iz autističnoga spektra trebaju dodatni poticaj koji bi donekle doprinio postavljanju dijagnoze poremećaja te učinkovitijem planiranju intervencija.

Pripovijedanje

Priča je jedna od mnogih oblika govora (diskursa) i pripada pragmatičkim govornim vještinama koje se povezuju s razumijevanjem i kontekstualno odgovarajućim izražavanjem sadržaja. Važan proces koji omogućuje visokokvalitetno pripovijedanje jest dekontestualizacija, odnosno dijete razvija vlastite prikaze, zaključke, logične veze na način na koji ih slušatelj može razumjeti (Karmiloff i Karmiloff-Smith, 2001). Pripovijedanje je složeni zadatak koji nalaže visokorazvijene lingvističke, društvene i kognitivne vještine. Ono nam pruža puno informacija o jeziku koje dijete koristi, a to nam omogućuje daljnje kvalitetno planiranje intervencija sa svrhom poboljšanja komunikacijskih vještina, a u isto vrijeme važan je prediktor daljnjega razvoja pismenosti (Botting, 2002).

Pripovijedanje omogućuje djetetu dijeljenje vlastitih promišljanja s drugima te, uz dobivanje informacija o razvoju djetetova jezika i govora, također daje informaciju o djetetovom razumijevanju složenih osobnih i emocionalnih doživljaja (Oppenheim i Waters, 1995). Pripovijedanjem dijete objašnjava i promišlja različite događaje, traži uzroke i razmišlja o mogućim budućim događajima (Wray, Medwell, Pulson i Fox, 2002). S obzirom na to da je pripovjedaču svaka priča osobna i posebna, različiti ljudi mogu povezati neke događaje na svoj način i imati različite priče (Burton, 2001). Priča je definirana uz pomoć dva kriterija, a oni su, prije svega, sadržaj (usklađenost) i struktura (povezanost). Spomenuti kriteriji neraskidivo su povezani, ali se često u analiziranju priče promatraju odvojeno (Marjanović Umek i Fekonja, 2019). S obzirom na to da su

oba kriterija u pripovijedanju stalno povezana, usklađenija priča je uglavnom, ali ne i nužno, koherentnija (Karmiloff i Karmiloff-Smith, 2001). Koherentnost se odnosi na sadržaj priče, logičku strukturu u kojoj su događaji, razmišljanja, osjećaji i vremensko-uzročne veze jasno prikazani. Dijelovi koji najviše doprinose koherentnosti priče su format priče (odnosi se na vrijeme i mjesto radnje te na junake u priči) i tijek priče (odnosi se na slijed događaja) (Karmiloff i Karmiloff-Smith, 2001).

Na djetetovo pripovijedanje utječu čimbenici poput broja i vrsta ilustracija, mogući početak priče, djetetovo raspoloženje, djetetova izloženost dječjoj književnosti itd. Potonje se odnosi na kvalitetu djetetova kućnoga okruženja, društveno-demografske karakteristike obitelji i kvalitetu vrtića (Marjanović Umek, Kranjc i Fekonja Peklaj, 2006). Osim okruženja, genetski čimbenici također utječu na djetetov jezični razvoj – razvoj gramatike, semantike, fonologije i artikulacije (Stromswold, 2001).

Pripovijedanje kod djece urednoga razvoja

Djeca počinju učiti pripovijedati vrlo rano kada im roditelji čitaju ili pričaju različite priče. Pripovijedanje započinje pojavom rečenica s dvije riječi (Marjanović Umek i sur., 2006). Djetetove prve priče sastoje se uglavnom od popisa i opisa događaja u koje je dijete bilo uključeno ili koje se odnose na njegovu neposrednu okolinu. Prva priča često je prožeta igrom i rutinskim aktivnostima (Bruner, 1986). Uskoro nakon toga djeca počnu pričati priče pomoću ilustracije, no njihova sposobnost razumijevanja i čitanja ilustracija razvija se s vremenom. Djeca prvotno razumiju slijed ilustracija kao slijed slika, a ne kao slijed povezanih događaja. Također ne prepoznaju glavni događaj ili glavni lik. Prva priča uglavnom ne proizlazi iz misaonih slika i stoga obično nije dobro strukturirana, ne sadrži cilj, problem ni konačni događaj (Fein, 1995). Važne vještine koje djeca moraju usvojiti za uspješno pripovijedanje (Tager-Flusberg, 1995) su: na strukturnoj razini – potreba za usvajanjem sintaktičkih i morfoloških pravila za označavanje uzročnih i vremenskih odnosa; na pragmatičnoj razini – moraju naučiti uzimati u obzir kontekst u kojem pričaju priče, moraju naučiti tehnike prikazivanja protagonista i tehnike integriranja priče tako da slušatelji razumiju glavne događaje u priči. Uz jezične vještine, potrebne su i društveno-kognitivno znanje jer omogućuje stvaranje strukturirane priče s problemom, ciljem, rješenjima i interpretacijom namjera, motiva, osjećaja i reakcija protagonista.

Što su djeca starija, to će imati razvijenije navedene vještine koje su važne za uspješno pripovijedanje. Dakle, pripovijedanje se razvija i unaprjeđuje s godinama. Djetetove vještine pripovijedanja razvijaju se u odnosu na duljinu pripovijedanja, gramatičke strukture te sadržaj priče (Marjanović Umek, Fekonja Peklaj i Podlesek, 2010). Prema tome, priče u trećoj i četvrtoj godini dobivaju uobičajenu strukturu, točnije, ne sastoje se više od jednostavnih popisa dijelova, nego u priči uočavamo problem, cilj i rješenje. Djetetove priče postaju sve koherentnije i povezanije te čine cjelinu (Marjanović Umek i sur., 2006). Od četvrte godine, u priču se ugrađuje simbolika, odnosne metafore i metalingvističke tvrdnje. Priče se sastavljaju u obliku lanca, tj. dijelovi priče nastavljaju

se iz jednoga u drugi dio (Applebee, 1978). Priče često sadrže emotivne teme jer su misli i osjećaji junaka djeci važni (Marjanović Umek i sur., 2006). Priče su duže – obično više riječi i više različitih riječi što se neizravno očituje u relativno brzom razvoju vokabulara djece u ranom djetinjstvu. Usvajanje sinonima i nadređenica omogućuje djeci opisivanje istih skupina ljudi, životinja i stvari s raznolikim riječima te složenijim rečenicama i sve složenijim opisima onoga što se u priči događa (Marjanović Umek i sur., 2010).

Pripovijedanje kod petogodišnje djece

Većina petogodišnjaka može ispričati koherentne priče uobičajene strukture. Oni su svjesni cilja u priči što je zajednička nit vodilja u njihovu pripovijedanju (Marjanović Umek i Fekonja, 2019). Djeca opisuju motive i osjećaje ljudi i obično razviju priču oko glavnoga lika (Fein, 1995). Sve češće se pripovijeda u prošlom vremenu (Aller, 1995), a junaci u priči oponašaju se promjenom glasa (Scarlett i Wolf, 1979). Djeca se mogu osvrnuti na svaki dio priče te procijeniti ponašanje i postupanja junaka u priči (Dombey, 2003). U istraživanju u kojemu se pripovijedanje procjenjivalo na osnovi kontinuiteta izvornih tvrdnji, petogodišnja djeca uglavnom su mogla ispričati priču u kojoj postoji jednostavno vremensko nizanje događaja (Stein i Albro, 1997). Većina djece u dobi od pet i šest godina opisuje slike kroz utvrđivanje nekih odnosa između stvari na slici i pretvaranju istih u nekakav jezični kôd. U dječjim pričama dominira opisivanje slika i nizanje opažanja. Neka djeca u ovoj dobnoj skupini slike opisuju izravno ili neizravno i već se oslanjaju na vlastita iskustva. Djeca prepoznaju veze u slikama i opisuju slike kao aktivne događaje iako njihovi opisi ne prate logični slijed (Miljak, 1984).

U istraživanju u Sloveniji koje su proveli Marjanović Umek i sur. (2010), a u kojem se proučavalo razvoj pripovijedanja u ranom djetinjstvu (kod djece u dobi od 3 do 6 godina), autori su otkrili da priče petogodišnjaka sadrže u prosjeku 102 riječi od kojih je 40 različitih riječi. Njihove se priče uglavnom sastoje od jednostavnih rečenica, ali je omjer nezavisnih i zavisnosloženih rečenica puno veći u usporedbi s mlađom djecom. Petogodišnjaci stvaraju značajno duže i složenije rečenice. Prosječna dužina njihovih rečenica je 5,9 riječi. Priče sadrže relativno mali broj događaja što je razlog zbog kojeg djeca rijetko mijenjaju svoju perspektivu pričanja. U prosjeku su petogodišnjaci opisali četiri događaja u logičnom slijedu, a do promjene perspektive došlo je manje od jednom. Opisi stanja uma junaka iz priča rijetko su uključeni, ali su značajno važniji nego kod opisa trogodišnjaka. Povećana pojavnost opisa stanja uma u pričama petogodišnjaka ukazuje na to da se nakon četvrte godine postupno razvija teorija uma kao i razumijevanje društva i korištenje metajezika. Jedini kriterij u kojem djetetova dob nije imala značajnu ulogu je korištenje veznika (veznici koji ne izražavaju povezanost nezavisnih rečenica i zavisnih veznika koji izražavaju uzročnu zavisnost). Djeca svih dobi rijetko ih koriste u svojim pričama. Rezultati sugeriraju da, iako petogodišnjaci rijetko koriste različite veznike, uglavnom ih ne mogu koristiti u

pričama jer, uz gramatičku strukturu jezika, dok pripovijedaju, djeca moraju razumjeti i integrirati događaje u povezanu, logičnu cjelinu (Marjanović Umek i sur., 2010).

Pripovijedanje kod djece s poremećajem iz autističnoga spektra

Poremećaj iz autističnoga spektra razvojni je poremećaj koji započinje u djetinjstvu i traje tijekom života. Poremećaj ima učinke na djelovanje pojedinca u svim okolnostima. Zahvaća sve mentalne funkcije i manifestira se u različitim oblicima kojima je zajednički deficit u društvenoj (verbalnoj i neverbalnoj) komunikaciji i društvenoj interakciji kao i ograničen, ponavljajući obrazac ponašanja, interesa i aktivnosti (Autism Spectrum Disorder, 2018).

Nedostatci u jezičnom razvoju široko su proučavani jer se smatraju odrednicom poremećaja. Prijašnja istraživanja identificirala su tri zajednička nedostatka u jezičnom razvoju djece s poremećajem iz autističnoga spektra (ASD): ranojezično kašnjenje (Howlin, 2003; Weismer, Lord, i Esler, 2010), atipična jezična produkcija (Eigsti, Bennetto, i Dadlani, 2007; Roberts, 2014), govorne/pragmatične poteškoće (McCann, Peppé, Gibbon, O'Hare, i Rutherford, 2007). Konkretnije, dok djeca urednoga razvoja izgovaraju svoje prve riječi u dobi između osmoga i četrnaestoga mjeseca, djeca s ASD-om obično ne izgovaraju svoje prve riječi do dobi od 38 mjeseci (Howlin, 2003). Nadalje, kašnjenja su uočena kod receptivnoga i produktivnoga jezika, gdje je receptivni jezik prilično oslabljen (Weismer i sur., 2003). U usporedbi s djecom urednoga razvoja, djeca s ASD-om sklona su proizvoditi neobične oznake, besmislene pojmove i fraze atipičnih značenja (Eigsti i sur., 2014; Lord i Paul, 1997). Slično kao i kod korištenja eholalija, žargon ima ulogu u usvajanju i razvoju jezika kod djece s ASD-om. Mnogi koriste žargon kao način na koji mogu razgovarati ili iskazivati ideja, ali korištenje žargona također može ukazivati na poteškoću u traženju i ažuriranju informacije (Lord i Paul, 1997).

Nadalje, djeca s dijagnozom ASD-a, pokazuju barem jedan od sljedećih atipičnih suprasegmentalnih osobina: neprikladna glasnoća govora, pjevna intonacija, promuklost, hipernazalnost, netočan leksički naglasak, usporeno fraziranje i tipična brzina govora (Shriberg, Paul, McSweeny, Klin, Cohen i Volkmar, 2001).

Prema rezultatima nekih istraživanja smatra se da se nedostatci u pripovijedanju osoba s ASD-om mogu objasniti u odnosu na specifičnu poteškoću u identificiranju uzročne povezanosti narativne strukture (Losh i Capps, 2003; King, Dockrell, i Stuart, 2014; Sah i Torng, 2015). Suprotno od očekivanja, Diehl, Bennetto, i Young (2006) kao i Sah i Torng (2015) uočili su da su djeca s ASD-om i djeca urednoga razvoja jednako osjetljiva na uzročne događaje u pričama.

Dosadašnja su istraživanja uključivala prilično mali uzorak osoba s poremećajem iz autističnoga spektra (npr. Thurber i Tager-Flusberg 1993; Tager-Flusberg 1995). Većina istraživanja uključivala je samo osobe s visokofunkcionalnim autizmom i/ili Aspergerovim sindromom (vidi Losh i Capps 2003; Young, Diehl, Morris, Hyman, i Bennetto 2005; Diehl i sur., 2006; Colle, Baron-Cohen, Wheelwright, i van der Lely 2008; Novogrodsky 2013; Mäkinen, Loukusa, Leinonen, Moilanen, Ebeling, i Kunnari

2014; Siller, Swanson, Serlin i Teachworth 2014; Suh, Eigsti, Naigles, Barton, Kelley, i Fein 2014; Rumpf, Kamp-Becker, Becker, i Kauschke 2012). Usporedne skupine uglavnom su bile skupine osoba urednoga razvoja. Neka istraživanja uključivala su usporedne skupine s drugim poremećajima (specifični govorni poremećaji, Downov sindrom, intelektualni poremećaji itd. (npr. Norbury i Bishop 2003.).

Različite metodologije korištene su u istraživanjima u ovom području od kojih su neke tehnike imale utjecaja na rezultate. Kod većine istraživanja, pripovijedanje nastaje pomoću vizualnoga poticaja (npr. slikovnice), ali postoje i drugi pristupi poput pričanja izmišljene priče, pripovijedanje na osnovi istinitih događaja, pričanje autobiografske priče, prepričavanja najranijega događaja kojega se ispitanici u istraživanju mogu sjetiti. Također su korištene lutkarske predstave, različite interaktivne animacije, jedna slika ili slijed različitih slika poput slikovnice bez riječi (*Frog, Where are you?; Frog on its own, Tuesday*). Uz vizualne poticaje, na rezultate istraživanja također je utjecala i prisutnost ili odsutnost verbalnoga poticaja. Rezultati su različiti ako se priča čita naglas ili ako je prikazana na neki drugi način, što je i razumljivo jer u tom slučaju zadatak sadrži i aspekt pamćenja i rekonstrukcije priče koja je ranije pročitana ili shvaćena (Stirling, Douglas, Leekam i Carey, 2014). Glavne kategorije analize s obzirom na pripovjedačke mogućnosti djece s poremećajem iz autističnoga spektra do sada su bile (Stirling i sur., 2014): (1) dužina i složenost priče, (2) opseg pitanja koja doprinose stvaranju kohezije u tekstu (npr., korištenje referentne kohezije i vremenskih oznaka, jasan indikator uzročne povezanosti među elementima priče) i (3) opseg pitanja povezanih s vještinom teorije uma i/ili vještinom predočavanja perspektiva iz događaja u priči.

Alati za procjenu pripovjedačkih vještina

Standardizirani testovi za procjenu pripovjedačkih vještina kod djece različite dobi zasnivaju se na standardnim procedurama testiranja i procjene. Uključuju uobičajene ispitne materijale, određene kriterije za procjenu i analizu pripovijedanja, priručnik za bodovanje i interpretaciju, norme koje omogućuju usporedbu rezultata djece vršnjaka (Marjanović Umek i Fekonja, 2019). Neki od standardiziranih testova su na primjer Narrative-Assessment Protocol (hrv. Protokol procjene pripovjedi) (Pence Justice i Gosse, 2007); Test-of-Narrative-Language (hrv. Test pripovjednoga jezika) (Gillam i Pearson, 2004); The Narrative Language Measures: Tools for Language Screening, Progress Monitoring, and Intervention Planning (hrv. Mjerenje pripovjednoga jezika: alati za provjeru jezika, praćenja napretka i planiranja intervencije) (Petersen i Spencer, 2012). U Sloveniji se koriste dva zasebna govorna testa, točnije test pripovijedanja *Mala rukavica* (eng. The Little Glove Storytelling Test), za djecu od 3 do 6 godina, i test pripovijedanja *Kralj žabac* (eng. Frog King storytelling test), za djecu od 6 do 9 godina (Marjanović Umek, Fekonja Peklaj, Sočan i Komidar, 2012). Testovi nam daju informaciju o djetetovoj trenutačnoj razini vještine pripovijedanja u odnosu na svoje vršnjake te nam omogućuju longitudinalno praćenje djetetovih vještina pripovijedanja procjenom u nekoliko sljedova (Marjanović Umek i Fekonja, 2019). Test pripovijedanja *Mala rukavica* je slikovnica bez riječi s deset ilustracija koje govore o djetu koji je šetao

svojega psa i izgubio rukavicu. Od djeteta se traži da ispriča priču gledajući ilustracije. Dok pripovijeda, ispitivač ne prekida dijete niti postavlja pitanja jer to može utjecati na stupanj razvoja priče. Ocjenjivači, koji mogu biti psiholozi, pedagogi, logopedi, doslovno ispisuju djetetovu priču i kasnije ju ocjenjuju i analiziraju prema odabranim kriterijima (Marjanovič Umek i Fekonja, 2019).

Metodologija istraživanja

Cilj istraživanja i pitanja

Cilj istraživanja bio je steći uvid u karakteristike pripovijedanja petogodišnje djece s poremećajem u autističnom spektru i usporediti dobivene rezultate s rezultatima djece urednoga razvoja.

Iz cilja su nastala tri istraživačka pitanja:

IP1: Koje su razlike u pripovijedanju između djece s poremećajem iz autističnoga spektra i njihovih vršnjaka urednoga razvoja u području riječi u priči?

IP2: Koje su razlike između pripovijedi petogodišnjaka s poremećajem iz autističnoga spektra i njihovih vršnjaka urednoga razvoja u gramatičkoj strukturi priče?

IP3: Koje su razlike između pripovijedi petogodišnjaka s poremećajem iz autističnoga spektra i njihovih vršnjaka urednoga razvoja u tematskoj strukturi priče?

Ispitanici

Uzorak se sastojao od 26 djece u dobi od pet godina od kojih je 20 djece bilo urednoga razvoja (TD grupa) (12 djevojčica i 8 dječaka) i 6 djece s poremećajem iz autističnoga spektra (ASD grupa) (2 djevojčice i 4 dječaka), a koji nisu povezani s drugim poremećajima, npr. mentalna retardacija. Djeca, ispitanici, dolaze iz različitih vrtića u Sloveniji. Nedostaci u jezičnom razvoju djece s poremećajem iz autističnoga spektra su sljedeći: obraćaju se sebi svojim osobnim imenom ili zamjenicom „ti“ ili „on/ona“; problemi s prozodijom i intonacijom u govoru; problemi sa spontanom govorom; ograničeni vokabular; poteškoće u razumijevanju rečenica i riječi suprotnih značenja. Uzorak djece s poremećajem iz autističnoga spektra mali je iz nekoliko razloga: kasna dijagnoza poremećaja iz autističnoga spektra u Sloveniji; mnoga djeca s poremećajem iz autističnoga spektra imaju druge poremećaje koji mogu utjecati na rezultate testa i iz toga razloga nisu uključeni u istraživanje; poteškoće u dobivanju suglasnosti roditelja djece s poremećajem iz autističnoga spektra.

Za procjenu vještine pripovijedanja korišten je test pripovijedanja *Mala rukavica* (Marjanovič Umek i sur., 2012) s obzirom na to da je taj slovenski instrument namijenjen djeci u dobi od 3 do 6 godina te je primjeren za populaciju ispitanika u ovome istraživanju.

Instrument

Za procjenu vještine pripovijedanja kod djece korišten je instrument test pripovijedanja *Mala rukavica* (Marjanovič Umek i sur., 2012) jer je taj slovenski instrument namijenjen djeci u dobi od 3 do 6 godina i stoga je primjeren za ispitanike u ovom istraživanju.

Test čini slikovnica bez teksta. Sadržaj i struktura dječje priče procjenjuje se na osnovi kriterija koji su pak određeni na osnovi rezultata prijašnjih istraživanja (vidi Fekonja-Pekljaj, Marjanović Umek i Kranjc, 2010). Kriteriji se odnose na broj riječi u priči (broj riječi i broj različitih riječi), gramatičku strukturu priče (prosječna duljina rečenica, broj nezavisnih rečenica, broj zavisnih rečenica itd.), te tematsku strukturu priče (broj događaja – broj identificiranih i opisanih događaja od 14 događaja iz priče; događaji se određuju na osnovi analiza priče koje je ispričalo sedam odraslih osoba dok su promatrali ilustracije; broj promjena perspektive; broj riječi kojima se opisuju stanja uma) (Marjanović Umek i sur., 2012).

Test je pouzdan, objektivan i valjan instrument koji je standardiziran na uzorku djece u Sloveniji. Pouzdanost je mjerena metodom unutarnje konzistentnosti. Faktor α za sve dobne skupine bio je najmanje 0,80; u većini slučajeva približio se vrijednosti 0,90. Korelacija između ukupnoga rezultata i kriterija korekcije za nesavršenu pouzdanost kriterija bila je 0,77, što ukazuje na dobru valjanost ovoga testa (Marjanović Umek i sur., 2012).

Prikupljanje i obrada podataka

Prikupljanje podataka trajalo je od siječnja 2019. do srpnja 2019. u nekoliko vrtića u Sloveniji. Vrtićima u Sloveniji smo putem e-pošte poslali zahtjev za pomoć u nalaženju uzorka djece s poremećajem iz autističnoga spektra bez povezanih poremećaja. Odgojitelji su roditeljima djece s poremećajem iz autističnoga spektra kao i roditeljima djece urednoga razvoja uručili obrasce suglasnosti za uključivanjem djece u istraživanje. Nakon dobivanja suglasnosti, u suradnji s odgojiteljima, učiteljima i stručnim timom koji pomaže djeci, ili dječjim psihologom u vrtiću, provedeno je testiranje u vrijeme kada su djeca bila u vrtiću. Djeca su testirana individualno koristeći test pripovijedanja *Mala rukavica* prema uputama koje dolaze uz test. Ispitivač je na stol pred dijete stavio slikovnicu s ilustracijama *Mala rukavica* i plišanu igračku, npr. medvjedića. Ispitivač je djetetu dao upute da pogleda ilustracije te da medvjediću, koji ju nikada prije nije čuo, ispriča ovu priču. Dijete je moglo započeti s pripovijedanjem kod bilo koje ilustracije te je moglo listati slikovnicu od početka do kraja prije početka propovijedanja. Ispitivač nije prekidao ili postavljao dodatna pitanja tijekom pripovijedanja. Priče koje su djeca ispričala snimljene su pomoću diktafona, kako bi se olakšala njihova analiza, transkribirane i analizirane prema kriterijima procjene.

Prikupljeni podaci obrađeni su kvantitativno. Rezultati testa pripovijedanja *Mala rukavica* statistički su obrađeni koristeći program IBM SPSS Statistics. Podatci su opisani koristeći medijan (Mdn) interkvartilni raspon (IQR) i neparametrijskim testovima (Mann-Whitney U test i Pearson chi-kvadrat test). U procjeni veličine učinka korišten je Cohenov r te Mann-Whitney U test i phi koeficijent za chi-kvadrat test (Coolican, 2019).

Rezultati

U ovom dijelu prikazani su rezultati za svaki od pokazatelja procjene priče i djetetovo ukupno postignuće na testu pripovijedanja *Mala rukavica*.

Riječi u priči

Ovo područje „riječi u priči“ sastoji se od dva pokazatelja: broj svih riječi u priči i broj različitih riječi.

Broj riječi u priči

Tablica 1.

Rezultati iz Tablice 1 pokazuju da su djeca urednoga razvoja TD¹ pripovijedala duže priče (Mdn = 113,50) od djece s poremećajem iz autističnoga spektra ASD² (Mdn = 46,00). Mann-Whitney test pokazao je da je razlika statistički značajna, $U = 24,50$, $p = ,014$. Veličina učinka je srednja, $r = ,42$.

Broj različitih riječi u priči

Tablica 2.

Rezultati u Tablici 2 pokazuju da djeca s poremećajem iz autističnoga spektra statistički značajno manje koriste različite riječi u svojim pričama (Mdn = 24,50) nego djeca urednoga razvoja (Mdn = 45,50), $U = 29,00$, $p = ,031$. Veličina učinka je srednja $r = ,37$. S obzirom na to da su pokazatelji međuovisni, ovaj je rezultat očekivan: mali broj riječi ima utjecaj na mali broj različitih riječi.

Gramatička struktura priče

Prosječna duljina rečenice

Tablica 3.

Pokazalo se da djeca urednoga razvoja (TD) formiraju duže rečenice (Mdn = 8,90) nego djeca s poremećajem iz autističnoga spektra (ASD) (Mdn = 4,79). Razlika je statistički značajna, $U = 22,50$, $p = ,010$. Veličina učinka je srednja, $r = ,45$.

Broj nezavisnih rečenica

Tablica 4.

Djeca urednoga razvoja (TD) koriste više nezavisnih rečenica (Mdn = 2,00) nego djeca s poremećajem iz autističnoga spektra (ASD) (Mdn = 1,00). Razlika je statistički značajna, $U = 27,00$, $p = ,023$. Veličina učinka je srednja, $r = ,41$.

Broj zavisnih rečenica

Tablica 5.

Djeca urednoga razvoja koriste više zavisnih rečenica (Mdn = 2,00) nego djeca s poremećajem iz autističnoga spektra ASD (Mdn = 1,00). Međutim, razlika nije statistički značajna, $U = 45,50$, $p = ,194$. Veličina učinka je mala, $r = ,18$.

¹ TD = typical development

² ASD = autism spectrum disorder

Broj jednostavnih rečenica.

Table 6.

U obje skupine uglavnom su korištene jednostavne rečenice. Ipak, broj jednostavnih rečenica kod djece urednoga razvoja (TD) (Mdn = 0,50) bio je statistički značajno manji nego kod djece s poremećajem iz autističnoga spektra ASD (Mdn = 0,79), $U = 23,00$, $p = ,012$. Veličina učinka je srednja, $r = ,44$.

Korištenje veznika u nezavisnim rečenicama

Primjenom *chi*-kvadrat testa saznali smo da ne postoji statistički značajna razlika u korištenju veznika u nezavisnim rečenicama između skupine djece s urednim razvojem i skupine s poremećajem iz autističnoga spektra, $\chi^2 (1, N = 26) = 0,01$, $p = ,676$. Veličina učinka je mala, $\phi = ,02$.

Korištenje zavisnih veznika.

Slično kao i kod korištenja veznika u nezavisnim rečenicama kojima se izražava uzročno-posljedična veza, nekoliko djece uključilo je i zavisne veznike u svoje priče. Razlika među skupinom djece urednoga razvoja i skupinom djece s poremećajem iz autističnoga spektra, međutim, nije statistički, $\chi^2 (1, N = 26) = 1,68$, $p = ,218$. Veličina učinka je mala, $\phi = ,25$.

Tematska struktura priče

Područje „tematska struktura priče“ sadrži nekoliko pokazatelja: broj događaja, broj promjena perspektive i broj riječi korištenih za opis stanja uma.

Broj događaja

Tablica 7.

Djeca iz obje skupine u svoje su priče uključila relativno mali broj događaja. Od ukupno 14 identificiranih događaja, djeca urednoga razvoja (TD) opisala su više događaja (Mdn = 4,00) nego djeca s poremećajem iz autističnoga spektra ASD (Mdn = 0,00). Mann-Whitney test pokazao je da razlika u usporedbi dviju skupina nije statistički značajna, $U = 42,00$, $p = ,148$. Veličina učinka je mala, $r = ,22$.

Broj promjena perspektive

Tablica 8.

Djeca urednoga razvoja TD (Mdn = 0,00) imala su veći broj promjena perspektive nego djeca s poremećajem iz autističnoga spektra ASD (Mdn = 0,00), no medijani su bili isti. Iz toga slijedi da razlika nije statistički značajna, $U = 42,50$, $p = ,78$. Veličina učinka je mala, $r = ,21$.

Broj riječi kojima se opisuju stanja

Tablica 9.

Djeca urednoga razvoja TD (Mdn = 1,00) uključila su veći broj riječi koje opisuju stanja uma u svojim pričama nego djeca s poremećajem iz autističnoga spektra ASD (Mdn = 0,00), ali razlika nije statistički značajna, $U = 37,00$, $p = ,088$. Veličina učinka je mala, $r = ,29$.

Tablica 10.

Četrnaestero djece urednoga razvoja (TD) i dvoje djece s poremećajem iz autističnoga spektra ASD u svoje su priče uključili riječi koje opisuju stanja uma. Djeca urednoga razvoja koristila su riječi za opise percepcije (61,3 %), emocionalnih stanja (12,9 %), želja i žudnji (12,9 %) razmišljanja (12,9 %), dok su djeca s poremećajem iz autističnoga spektra koristila riječi za opis percepcija, emocionalnih stanja i razmišljanja (33,3 %).

Rasprava

Vezano uz prvo istraživačko pitanje (Koje su razlike u pripovijedanju petogodišnje djece s poremećajem iz autističnoga spektra i njihovih vršnjaka urednoga razvoja u području riječi u priči?) rezultati su očekivani jer je većina priča djece s poremećajem iz autističnoga spektra kraća od priča djece urednoga razvoja. Međutim, podatci također pokazuju da su djeca s poremećajem iz autističnoga spektra sposobna ispričati dugu priču s mnogo riječi (jedna djevojčica s poremećajem iz autističnoga spektra ispričala je dužu priču od 193 riječi). Tager-Flusberg (1995), Rumpf i sur. (2012), Siller i sur. (2014) te Norbury, Gemmell i Paul (2014) također su utvrdili da su priče djece s poremećajem iz autističnoga spektra kraće od priča djece urednoga razvoja, ali u mnogim drugim istraživanjima nije bilo statistički značajne razlike u duljini priča (Norbury i Bishop, 2003; Novogrodsky, 2013; Suh i sur., 2014; Banney, Harper-Hill, i Arnott, 2015). Da su ispitanici u istraživanju bili testirani unaprijed i da su pronađeni uzorci koji odgovaraju jezičnim vještinama, možda bi rezultati bili drukčiji, ali ne nužno. U jednom od istraživanja (Siller i sur., 2014) ispitanici su imali predtestiranje te je pronađen uzorak koji je odgovarao receptivnim i produktivnim jezičnim vještinama. Neovisno o tome, djeca s poremećajem iz autističnoga spektra ispričavala su statistički značajno kraće priče nego djeca urednoga razvoja. Rumpf i sur. (2012) pripisuju razliku u duljini priče između grupe djece urednoga razvoja i grupe djece s poremećajem iz autističnoga spektra te bez poremećaja hiperaktivnosti i deficita pažnje (ADHD) različitim uvjetima u kojima su testovi provedeni. Djeca s poremećajem iz autističnoga spektra s ADHD-om testirana su u strukturiranom dijagnostičko-kliničkom okruženju, dok su djeca urednoga razvoja testirana u njima poznatom školskom okruženju.

Djeca s poremećajem iz autističnoga spektra i djeca s poremećajima u govoru proizvela su slične jednostavne priče kojima je nedostajalo semantičko bogatstvo (Norbury i sur., 2014). U većini ostalih istraživanja razlike u broju različitih riječi među spomenutim grupama nisu otkrivene (Mäkinen i sur., 2014; Banney i sur., 2015; Suh i sur., 2014). Djeca iz obje skupine uvrstila su u svoje priče različite vrste

riječi, ali djeca s poremećajem iz autističnoga spektra pridjeve (samo dvoje djece s poremećajem iz autističnoga spektra), zamjenice i prijedloge manje često. Dvoje djece s poremećajem iz autističnoga spektra koristilo je izmišljene riječi ili neologizme što je jezična karakteristika djece s poremećajem iz autističnoga spektra koja ih razlikuje od ostale djece (vidi Kim i sur., 2014). Prisutnost osebnoga jezika (jezik koji se koristi na neobičan način, uključujući neologizme) proučavali su Suh i sur. (2014). Pronašli su da djeca s poremećajem iz autističnoga spektra koriste oseban jezik u svojim pričama statistički značajno.

Drugo istraživačko pitanje istražilo je razlike između pripovijedi petogodišnje djece s poremećajem iz autističnoga spektra i njihovih vršnjaka urednoga razvoja s obzirom na gramatičku strukturu priče.

Pokazalo se da djeca urednoga razvoja stvaraju duže rečenice. Kraće rečenice kod djece s poremećajem iz autističnoga spektra potvrdili su Maekinen i sur. (2014) te Norbury i sur. (2014). U većini ostalih istraživanja autori nisu otkrili razlike u dužini rečenice između djece s poremećajem iz autističnoga spektra i djece urednoga razvoja (Kauschke, van der Beek, i Kamp-Becker, 2015; Rumpf i sur., 2012; Suh i sur., 2014; Diehl i sur., 2006).

Djeca urednoga razvoja koristila su više nezavisnih i više zavisnih rečenica; obje skupine uglavnom su koristile jednostavne rečenice. Međutim, broj jednostavnih rečenica kod djece urednoga razvoja TD ($Mdn = 0,0$) bio je statistički značajno manji nego u pričama djece s poremećajem iz autističnoga spektra ASD ($Mdn = 0,79$), $U = 23,00$, $p = ,012$. Veličina učinka je srednja, $r = ,44$. Slično kao i s upotrebom nezavisnih veznika koji iskazuju uzročno-posljedični odnos, nekolicina djece uvrstila je u svoje priče zavisne veznike. Ipak, razlika između skupine djece urednoga razvoja i skupine djece s poremećajem iz autističnoga spektra nije bila statistički značajna, $\chi^2 (1, N = 26) = 1,68$, $p = ,218$. Veličina učinka bila je mala, $\phi = ,25$.

Rezultati koji se odnose na gramatičku strukturu priča pomalo su nedosljedni te ne omogućuju donošenje zaključaka. U nekim su područjima djeca s poremećajem iz autističnoga spektra imala značajno lošiju izvedbu od djece urednoga razvoja (prosječna dužina rečenica, broj nezavisnih rečenica, broj jednostavnih rečenica), ali ne i u drugim područjima (broj zavisnih rečenica, korištenje nezavisnih i zavisnih veznika). Stoga, uz iznimku prosječne dužine rečenice koja nije proučavana ni u jednom istraživanju, rezultati za ostala područja gramatičkih struktura koje smo proučavali (broj nezavisnih i zavisnih rečenica, broj jednostavnih rečenica, korištenje zavisnih i nezavisnih veznika) nisu izravno usporedivi s rezultatima ostalih istraživanja. Pokazatelji gramatičke strukture priče (broj nezavisnih i zavisnih rečenica, upotreba nezavisnih i zavisnih veznika, broj jednostavnih rečenica) često su sažeti pod zajedničkim pojmom sintaktička složenost (odnosno, gramatička struktura priče). S obzirom na sintaktičku složenost, možemo razaznati različite kategorije (Baixaulia, Colomerb, Roselló i Miranda, 2016): složenost rečenica (korištenje nezavisnih i zavisnih rečenica, Norbury i Bishop 2003; Novogrodsky, 2013); „sintaktička gustoća“ (broj rečenica, Maekinen

i sur., 2014; Norbury i sur., 2014; Banney i sur., 2015); gramatička složenost (broj pasivnih i zavisnih rečenica) (Rumpf i sur., 2012); učestalost složene sintakse (rečenice s nezavisnim, zavisnim i pasivnim rečenicama) (Losh i Capps, 2003; Mills, Watkins, i Washington, 2013); broj zavisnih rečenica u rečenici (Diehl i sur., 2006).

S obzirom na sintaktičku složenost, rezultati različitih istraživanja nisu usuglašeni. Neki autori opisuju da djeca poremećajem iz autističnoga spektra imaju značajno nižu sintaktičku složenost u pripovijedanju nego djeca urednoga razvoja (Norbury i Bishop, 2003; Norbury i sur., 2014; Banney i sur., 2015), no drugi autori o tim razlikama nisu izvijestili (Young i sur., 2005; Diehl i sur., 2006; Losh i Capps, 2003; Rumpf i sur., 2012).

Djeca s poremećajem iz autističnoga spektra koja su sudjelovala su u našem istraživanju ispričala su značajno kraće priče s većim brojem jednostavnih rečenica i manjim brojem zavisnih rečenica. Stoga, ne iznenađuje da su ostvarili niže rezultate od svojih vršnjaka u području dužine rečenice. Ovaj pokazatelj spaja dimenziju produktivnosti i dimenziju sintaktičke složenosti priče (jer korištenje složene sintakse povećava dužinu rečenice) (Maekinen i sur., 2014).

U trećem istraživačkom pitanju pokušali smo saznati postoji li razlika u pripovijedanju među petogodišnjacima s poremećajem iz autističnoga spektra i njihovih vršnjaka urednoga razvoja u području tematske strukture priče. Točnije, broja događaja, broja promjene perspektive i broja riječi korištenih za opis stanja uma.

Djeca iz obje skupine koristila su relativno mali broj događaja u svojim pričama, što je u skladu s rezultatima istraživanja koje su proveli Marjanović Umek i sur. (2010). Nekolicina drugih autora također je imala slične zaključke. Saznali su da ne postoje razlike između broja događaja uvrštenih u priče djece urednoga razvoja i djece s poremećajem iz autističnoga spektra (Diehl i sur., 2006; Norbury i Bishop, 2003; Norbury i sur., 2014; Suh i sur., 2014), dok su drugi otkrili statistički značajne razlike (Maekinen i sur., 2014; Losh i Capps, 2003). Losh i Capps (2003) ističu da osobe s poremećajem iz autističnoga spektra koriste značajno manje događaja u svojim pričama u odnosu na svoje vršnjake, ali su uspostavili i zadržali temu priče slično kao i djeca urednoga razvoja. Jedno od mogućih razloga za nedosljednost rezultata u ovom području je korištenje različitih metodologija za evociranje priča. Primjerice, u istraživanju koje su proveli Maekinen i sur. (2014) ispitanici su stvarali priče bez prethodne demonstracije, dok su u istraživanju koje su proveli Diehl i sur. (2006) ispitanici prethodno čuli priču što je moglo imati utjecaj na činjenicu da su ispitanici s poremećajem iz autističnoga spektra bili uspješniji, ali to nije nužno pravilo.

Djeca urednoga razvoja TD ($Mdn = 0,00$) pokazala su veći broj promjena perspektive od djece s poremećajem iz autističnoga spektra ASD ($Mdn = 0,00$), ali su medijani isti. Razlika je zbog toga statistički neznčajna, $U = 42,50$, $p = ,178$. Veličina učinka bila je mala, $r = ,21$. Sposobnost primjerene promjene perspektive (logično i gramatički točno) jedan je od pokazatelja koji doprinosi koherentnosti i koheziji priče. Područje koje neizravno može biti povezano s promjenom perspektive istraživano je na različite načine: postotak nejasno korištenih odnosnih zamjenica (Suh i sur., 2006); odnosna

prikladnost (Maekinen i sur., 2014); nejasni odnosi (Banney i sur., 2015); nejasne zamjenice (Norbury i Bishop, 2003); postotak pogrešaka veznom lancu (Young i sur., 2005). Autori su došli do neusklađenih rezultata. Maekinen i sur. (2014) nisu ustanovili značajne razlike između dviju skupina, ali su razlike uočene u drugim istraživanjima (Norbury i Bishop, 2003; Norbury i sur., 2013; Novogrodsky, 2013).

Djeca s poremećajem iz autističnoga spektra imala su značajno niže rezultate s obzirom na broj riječi u priči (njihove priče imaju manje riječi i manje raznolikosti riječi), što možda ima utjecaj i na korištenje pojmova za stanja uma (vidi Norbury i sur., 2014). Sposobnost pričanja o kognitivnim i emocionalnim doživljajima drugih ovisi o vokabularu koji omogućuje takav govor. Djeca s poremećajem iz autističnoga spektra imaju problema s pragmatičnim aspektima jezika poput korištenja pojmova za stanja uma (Baron-Cohen, Leslie, i Frith, 1985).

Općenito, obje su skupine koristile mali broj pojmova za stanja uma i razlika među skupinama nije bila statistički značajna. Ovaj nalaz u skladu je s rezultatima nekoliko provedenih istraživanja (npr. Maekinen i sur., 2014; Norbury i sur., 2014; Capps, Losh, i Thurber, 2000; Suh i sur., 2014). Rumpf i sur. (2012) utvrdili su da djeca s poremećajem iz autističnoga spektra manje često koriste riječi koje upućuju na stanja uma (promišljanja, želje i žudnje) u odnosu na svoje vršnjake, ali se ne razlikuju u korištenju riječi za emocionalna stanja. Suprotno tome, Siller i sur. (2014) utvrdili su da djeca s poremećajem iz autističnoga spektra manje često koriste riječi koje označavaju emocionalna stanja u usporedbi sa svojim vršnjacima urednoga razvoja, ali i da ne postoji razlika u korištenju izraza za kognitivna stanja. Razlog zbog kojeg obje skupine koriste mali broj izraza za stanja uma moguće je pripisati slikovnici bez teksta. Primjerice, slikovnica *Utorak* (eng. Tuesday) (Wiesner, 1991) koja je korištena u istraživanju Rumpf i sur. (2012) pokazuje mnoge ilustracije za koje djeca koriste izraze za stanja uma, dok s druge strane najčešće korištena slikovnica *Žabac, gdje si?* (eng. Frog, where are you?) (Mayer, 2003), koju su u istraživanju koristili Norbury i sur. (2014), ne prikazuje mnoge događaje koji bi potaknuli na korištenje izraza za stanja uma (Maekinen i sur., 2014).

Zaključak

Test pripovijedanja *Mala rukavica* koristan je i ispravan alat za istraživanje vještina pripovijedanja djece urednoga razvoja. Međutim, za detaljniju procjenu pragmatičnih vještina djece s poremećajem iz autističnoga spektra, test bi morao biti upotpunjen. Bilo bi korisno dodati detaljniju procjenu elemenata za procjenu utvrđivanja odnosa, dodavanje pitanja vezanih uz sadržaj priče kako bi se odredilo razumiju li djeca bit priče te vrednovati dodatne, neobične komentare koji nisu izravno povezani sa sadržajem priče. Dodavanje nebitnih informacija utječe na koherentnost priče, oslabljuje djetetovu sposobnost razgovora i daje dodatni uvid u pragmatički aspekt jezika. U mnogim je istraživanjima (Maekinen i sur., 2014; Diehl i sur., 2006; Norbury i sur., 2013) navedeno

da su djeca s poremećajem iz autističnoga spektra značajno više uključivala dodatne i neobične komentare u svoje priče koji nisu doprinijeli sadržaju priče.

Cilj ovoga istraživanja bio je steći uvid u vještine pripovijedanja djece s poremećajem iz autističnoga spektra da bi se mogle planirati odgovarajuće intervencije. Na osnovi rezultata istraživanja koji su pokazali da djeca s poremećajem iz autističnoga spektra imaju više problema u području gramatičke strukture priče i riječi u priči nego u tematskoj strukturi, bilo bi korisno pomoći im u proširivanju vokabulara i sintaktičkih struktura. Djeca s poremećajem iz autističnoga spektra također imaju niže rezultate u području tematske strukture priče, pa je potrebno ponuditi im pomoć i podršku na pragmatičnoj jezičnoj razini.

Ovo istraživanje predstavlja inicijalno istraživanje pripovjedačkih vještina djece s poremećajem iz autističnoga spektra na prostorima Slovenije te nudi dobre smjernice za daljnja istraživanja.