



Pedagogical Contexts 2020, No. 1(14)
www.kontekstypedagogiczne.pl
ISSN 2300-6471
pp. 141-154
<https://doi.org/10.19265/kp.2020.1.14.248>



ORIGINAL PAPER

Received: 8.01.2020
Accepted: 24.02.2020



Łukasz Kowalczyk

<https://orcid.org/0000-0002-6898-4769>
The Maria Grzegorzewska University in Warsaw
lkowalczyk@aps.edu.pl

PARENTAL LEVEL OF ANXIETY OVER STUTTERING SYMPTOMS IN THEIR PRESCHOOL CHILDREN

POZIOM ZANIEPOKOJENIA RODZICÓW OBJAWAMI JĄKANIA U DZIECI W WIEKU PRZEDSZKOLNYM

Keywords:
stutter, speech
disfluency, multifac-
torial etiology, anxiety,
attitude, emotions

Summary: The multifactorial dynamic pathways theory of stuttering implies an individual combination of complementary factors that may be the cause of this speech disorder. These factors include physiological, linguistic, psychological and environmental ones. The last two are focused on the child's emotions which are associated with their speech ability and other people reactions to it. Research shows that parents cannot cause the stutter, but quite the opposite, they can be part of a solution to their child's problem. Because of the increased anxiety associated with speech disfluency, a stutter can affect interaction between the child and their parents. The paper presents the level of parental anxiety because of their preschool child's stuttering symptoms. The results are broken down by the children's age and presented in comparison with the type of speech disfluency.

Słowa kluczowe:
jąkanie, niepłynność
mówienia, etiologia
wieloczynnikowa,
niepokój, postawa,
emocje

Streszczenie: Wieloczynnikowa koncepcja jąkania zakłada indywidualną kombinację uzupełniających się czynników, które mogą stanowić przyczynę wystąpienia tego zaburzenia mowy u dziecka. Są to czynniki fizjologiczne, lingwistyczne, psychologiczne oraz środowiskowe. Dwa ostatnie skupiają się m.in. wokół emocji dziecka, które związane są z możliwościami produkowania przez nie wypowiedzi oraz występującymi w związku z tym reakcjami ze strony środowiska. Badania naukowe w sposób wyraźny pokazują, że rodzice nie są winni wystąpienia jąkania u dzieci. Wręcz przeciwnie – to oni stanowią główny, najskuteczniejszy czynnik wspomagający ustępowanie objawów. Coraz częściej bowiem zwraca się uwagę na to, że jąkanie się dziecka wpływa na interakcję między nim a rodzicem. Może to wynikać ze zwiększonego niepokoju wywołanego niepłynnością mowy, zarówno u dziecka, jak i jego rodziców. Przedstawione wyniki badań prezentują poziom niepokoju matek i ojców w związku z objawami jąkania u przedszkolaków, w podziale na wiek dzieci oraz w zestawieniu z oceną logopedyczną płynności mówienia.

Introduction

Stuttering is a speech disorder which is not culturally, ethnically, religiously or socially conditioned. A common feature of all people who stutter is the occurrence of certain symptoms which may include repetition of whole words or single syllables, prolongation or blocking of sounds, increased facial tension, allied reflexes, breathing disturbance and impaired speech speed. However, there is a fundamental individualization in terms of the frequency of the occurrence of the given symptoms, their intensity and type. Stuttering is a complex phenomenon, both in terms of its origins and its further course, because the factors affecting the stuturer's speech and comfort will also be individualized. Describing stuttering with reference to its visible symptoms alone does not depict its essence. Specialists, in fact, unanimously emphasize that it is multifactorial (Guitar, 2006; see also Conture, 2001; Riley & Riley, 1979; Rustin, Botterill & Kelman, 1996; Smith & Kelly, 1997; Wall & Myers, 1995, after: Kelman & Nicholas, 2013). The experience of practitioners in this field,

in relation to the complexity of stuttering, has created the concept of complementary factors: physiological, linguistic, psychological and environmental.

The factors that, in an individualized combination, can condition the onset of stuttering are presented in Table 1.

Table 1

Factors related to the development of stuttering in children

PHYSIOLOGICAL AND LINGUISTIC FACTORS	PSYCHOLOGICAL AND ENVIRONMENTAL FACTORS
<ul style="list-style-type: none"> – heredity (occurrence of stuttering in the family), – functional and structural differences in the brain of stutters, – reduced efficiency in the articulation apparatus motility, – longer response time in verbal and manual tasks, – difficulty stabilizing and controlling larynx movements, – gender (it is more likely that speech and language problems will occur in boys than in girls), – speech retardation, – above average language skills, disproportions in the development of language functions 	<ul style="list-style-type: none"> – communication environment: <ul style="list-style-type: none"> • Stuttering in a child can change the style of interaction with parents (as a result of their anxiety), – parents' anxiety: <ul style="list-style-type: none"> • Fear of interaction with a child with speaking disfluency, • Blaming oneself for child's stuttering, • Less coherent functioning in parental roles, • The influence of the environment's reaction to the problem on the child's awareness of, and attitude to, their own speech, – the child's temperament: <ul style="list-style-type: none"> • More active and less able to hold and shift attention, • More alert, it is more difficult to distract them, • More impulsive, • Less flexible, it is more difficult for them to adapt to changes, differences and new situations, • Less able to control emotions, • More anxious, introverted, sensitive, withdrawn, shy, insecure, fearful, less willing to take risks, – the child's awareness of their speech disfluency (even young children may be aware of their difficulties)

Source: own study based on Kelman & Nicholas, 2013, pp. 17–29.

According to Elaine Kelman and Alison Nicholas (2013), it is likely that the factors that predispose a child to stuttering (physiological and linguistic ones) are important in the early and advanced stages of the disorder. Together with the other two factors (psychological and environmental ones), they can affect the intensity and frequency of stuttering symptoms, as well as directly affect the stuttering person and their family. However, one should be aware that in each situation there will be an individual combination of these factors.

Parents of children who develop the first symptoms of stuttering quite often come across the recommendation not to pay attention to such difficulties. It can

be assumed that the purpose of such action is not to make the child aware that something bad is happening with their speech. However, as it turns out, even young children can be aware of their difficulties in maintaining fluency in speaking (Vanryckeghem, Brutten & Hernandez, 2005). It is not about the ability to name this state and verbally signal it, but about the emotions which in this situation may appear not only in the child, but also in the parents.

Scientific research clearly proves that there is no evidence that parents contribute to the stuttering of children to any extent (Kloth, Janssen, Kraaimaat & Brutten, 1995). However, more and more attention is paid to the fact that the individual combination of factors predisposing children to stuttering makes it difficult for them to maintain fluency in everyday child-adult interaction (Felsenfeld, 1997; Miles & Ratner, 2001). Stuttering in a child can change the style of such interaction (Kloth, Janssen, Kraaimaat & Brutten, 1998; Meyers & Freeman, 1985a; 1985b, after: Kelman & Nicholas, 2013), which may be due to increased anxiety caused by the symptoms of this speech disorder (Zenner, Ritterman, Bowen & Gronhord, 1978).

Although changes in the way parents communicate with their children are not the grounds for stuttering, they can affect its frequency (Guitar, Kopf-Schaefer, Donahue-Kilburg & Bond, 1992; Guitar & Marchinkoski, 2001; Newman & Smit, 1989; Winslow & Guitar, 1994, after: Kelman & Nicholas, 2013). It has been confirmed that parents experience greater anxiety in interacting with a stuttering child than with a fluent speaker (Zenner et al., 1978). Children may feel the concern of their parent who is experiencing some sort of discomfort. Parents often do not know how to respond to this problem. They can, therefore, unknowingly influence their child's awareness of the problem and their attitude towards their own speech. Parents' anxiety may change their manner in relations with their children (Biggart, Cook & Fry, 2006; Douglas, 2005, after: Kelman & Nicholas, 2013), and their functioning in parental roles may become incoherent due to strong emotions (Allen & Rapee, 2005).

Many children in the period of intensive growth exhibit developmental speech disfluency, which is defined as follows:

Developmental speech disfluency (DSD) is a disorder of free transition from one element of speech to another and disruption of its pace and rhythm as a result of desynchronization of the process of forming three levels of expression: content, language form, and phonic substance occurring during the period of intensive language development of a child. (Tarkowski, 1992, p. 24)

Most pre-school children are likely to deal with difficulties in speaking before starting school due to the developmental character of speech disfluency symptoms. However, some preschoolers may require therapeutic support because of persistent and/or worsening symptoms of stuttering. According to researchers of the subject, the vast majority of children who stutter chronically experience the first symptoms of this kind between the ages of 2 and 6 (Guitar, 2006; Yairi & Ambrose, 2005). Therefore, one should watch one's children carefully, so as to not overlook any symptoms of speech dysfunction.

Method

The subject of the study was to indicate the differences between the actual speech disfluency in children diagnosed by a speech therapist and the level of anxiety about the symptoms of stuttering experienced by their mothers and fathers. The research aimed to determine empirical premises that allow conclusions to be made about determinants enhancing the symptoms of stuttering in children.

The first goal of the research was to determine the level of anxiety about the symptoms of their child's stuttering experienced by mothers and fathers. The second was to link the parents' anxiety over the child's stuttering with his or her age. The third was to compare the parents' anxiety about the symptoms of stuttering with a speech therapist's assessment of their child's speech disfluency.

The following research questions were asked:

1. What is the average level of anxiety for parents surveyed with the symptoms of stuttering in their child?
 - a) What is the average level of anxiety in the examined mothers?
 - b) What is the average level of anxiety among the fathers surveyed?
2. What is the average level of anxiety for the parents (both mothers and fathers) with the symptoms of stuttering in 2-, 3-, 4- and 5-year-old children?
3. In the professional assessment of speech disfluency in the children of the examined parents, do the symptoms fall within the norm or do they indicate the pathology of this phenomenon?
4. What is the average level of anxiety of the parents (both mothers and fathers) with the symptoms of stuttering which, in professional assessment, fall either within or outside the norm?

In order to answer the above-mentioned questions, a tool called “DJ – diagnosing stuttering in preschool children,” developed by Katarzyna Węsierska and Barbara Jeziorczak, was used. The interview sheet used a 7-grade scale of anxiety about stuttering symptoms in children, in which “0” means no anxiety, and “7” indicates very strong anxiety. Each parent referred to the scale used. The second tool was Zdzisław Kurkowski’s “Syllabic test for assessing disfluency in speaking,” used to classify the symptoms as normative or pathological (in preschool children, disfluent speaking not exceeding 3% is considered the norm). Thus defined disfluency was the average of disfluent syllables spoken by a child in three forms of expression (each containing 100 syllables): dialogue, naming repetition and telling a picture story.

The research was conducted at the “TOP” Specialist Psychological and Pedagogical Counseling Center in Warsaw from June to November 2019. The study group consisted of 45 parents (mothers and fathers) and their preschool children, all living in Warsaw. The number of examined children within particular age groups is presented in Table 2.

Table 2
Group sizes by age

Age	Number	Percent
(4;0-4;11)	25	55.6
(5;0-5;11)	20	44.4
Total	45	100.0

Source: own research.

Own research results

During the analysis of the collected data, the level of anxiety in the parents related to the symptoms of stuttering in their children was averaged. The results are presented in Table 3.

Table 3
Level of parents' anxiety about the symptoms of stuttering in their child

	Mother's level of anxiety	Father's level of anxiety
N	45	45
Average	4.91	4.56
Median	5.00	5.00
Standard deviation	1.84	1.79
Minimum	1.00	1.00
Maximum	7.00	7.00

Source: own research.

In order to check the correlation between the level of anxiety about the signs of speech disfluency in the child experienced by the mother and the level of anxiety experienced by the father, the RHO-Spearman correlation coefficient was applied. The obtained result (RHO-Spearman = 0.83; $p < 0.001$) indicates a very high positive relationship between the variables. Therefore, in order to check the significance of the differences between the level of anxiety of the mother and the level of anxiety of the father (in the whole group), the Wilcoxon test was calculated ($z = 2.28$; $p < 0.05$). The results indicate that the examined mothers obtained a statistically significant higher average result than the examined fathers.

Another analysis concerned the level of the parents' anxiety depending on the age of their children. The level of anxiety of each parent of 4-year-old children was compared with that of the parents of 5-year-olds. Due to the fact that in this case these are independent variables, the Mann-Whitney U test was utilized.

Table 4
Mann-Whitney U test results

	Mother's level of anxiety	Father's level of anxiety
Mann-Whitney U test	229.00	238.00
p	0.625	0.780

Source: own research.

For both mothers and fathers, the differences turned out to be statistically insignificant.

The differences between parents were checked in relation to the level of anxiety about the symptoms of stuttering in their children, separately for the groups of 4- and 5-year-olds. The Wilcoxon test was used for the dependent variables. The results are presented in Tables 5–6.

Table 5

Level of anxiety about the symptoms of stuttering in the studied mothers and fathers of 4-year-old children

Age		Mother's level of anxiety	Father's level of anxiety
(4;0–4;11)	N	25	25
	Average	5.08	4.64
	Median	5.00	5.00
	Standard deviation	1.68	1.66
	Minimum	1.00	2.00
	Maximum	7.00	7.00

Source: own research.

The difference turned out to be statistically significant ($z = -1.977$; $p < 0.05$). In the group of parents of 4-year-old children, mothers showed a higher level of anxiety than fathers.

Table 6

Level of anxiety about symptoms of stuttering in the studied mothers and fathers of 5-year-old children

Age		Mother's level of anxiety	Father's level of anxiety
(5;0–5;11)	N	20	20
	Average	4.70	4.45
	Median	5.50	4.50
	Standard deviation	2.05	1.99
	Minimum	1.00	1.00
	Maximum	7.00	7.00

Source: own research.

In the case of the examined parents of 5-year-old children, the analysis of own research results did not detect statistically significant differences ($z = -1.221$; $p < 0.222$).

At the final stage of data analysis, the level of parents' anxiety about the symptoms of stuttering in their child was compared with the type of these symptoms (norm or pathology) in a speech therapist's assessment.

Table 7

The level of anxiety about the symptoms of stuttering in the child as experienced by parents and a speech therapist's assessment

Type of symptoms according to speech therapist	Mother's level of anxiety	Father's level of anxiety
NORM	N	10
	Average	3.60
	Median	4.00
	Standard deviation	1.78
	Minimum	1.00
	Maximum	6.00
PATHOLOGY	N	35
	Average	5.29
	Median	6.00
	Standard deviation	1.71
	Minimum	1.00
	Maximum	7.00

Source: own research.

In order to check whether the type of symptoms in the speech therapist's assessment diversifies the mother's and father's levels of anxiety about their child's stuttering symptoms, the Mann-Whitney U test was utilized. The differences turned out to be statistically significant for both parents. The mothers and fathers of children with normative signs of speaking disfluency achieved a lower average anxiety about their children's stuttering symptoms than the parents of children with pathological signs of speech disfluency. In the group in which children presented signs of disfluency of speech that fell within the norm, there were no statistically significant differences between mothers and fathers (Wilcoxon test, $z = -0.577$; $p < 0.564$). However, in the group of

children who, in the speech therapist's assessment, presented pathological signs of disfluency in speaking, mothers achieved a higher level of anxiety about the child's stuttering symptoms than fathers, this being a statistically significant difference ($z = -2.221$; $p < 0.05$).

Discussion

To sum up the collected research results, it is necessary to refer to the systemic approach to the family. Situations related to the child, i.e., their development, functioning, and possible difficulties and disorders, may affect the parents' attitudes towards their child and, more generally, the functioning of the whole family (Plopa, 2011). The appearance of stuttering symptoms in the child may require that the parents reorganize their family. The results of the presented research clearly show that mothers are more concerned with the symptoms of stuttering in their child than fathers. In addition, the level of this anxiety in the studied mothers of disfluent preschoolers is associated with the level of anxiety in the examined fathers. There was a positive relationship in this aspect. Therefore, taking into account the average results of the parents surveyed in this regard, it can be concluded that the mother's anxiety is not irrelevant to the father's level. The 7-degree scale of parents' anxiety about the symptoms of speech disfluency in their child adopted in the research assumes that "0" indicates a lack of anxiety, and "7" indicates very strong anxiety. Its average level in the examined parents was 4.73 (in mothers – 4.91, in fathers – 4.56). This anxiety may affect the style of parent-child interaction (Kloth et al., 1998; Meyers & Freeman, 1985a; 1985b, after: Kelman & Nicholas, 2013). Referring to the multifactoriality of stuttering, it can be assumed that the way children deal with speech difficulties will depend on the attitudes of their immediate surroundings, especially their parents.

The average level of anxiety about stuttering symptoms in the examined mothers (4.70) and fathers (4.45) of 5-year-old children did not show significant differences. It was also lower than that of parents of younger children. The mothers of 4-year-olds showed a higher level of anxiety than the fathers about their child's stuttering symptoms. For the mothers, it was 5.08 on average, and for the fathers – 4.64. The situation is similar when the level of parents' anxiety about the symptoms of stuttering is juxtaposed with the speech-language assessment of the type of speech disfluency symptoms presented by the child. Among the examined children, 10 obtained a result

within the norm, manifesting an ordinary disfluency of speaking typical for every preschool child. However, 35 children obtained a result indicating the pathology of the presented symptoms. Also in this case, the mothers showed a higher level of anxiety about the symptoms of stuttering in the child (mothers – 5.29, fathers – 4.86). This state of affairs may be related to the overall development of a young child (including the development of speech and social competence). The average level of anxiety about the symptoms of stuttering experienced by parents of children whose disfluency was normative was 3.60 among mothers and 3.50 among fathers. However, in order to be able to talk about any dependencies or tendencies in this area, it is necessary to conduct extensive research, and given that the formation of the family system is a process, there is a need to analyze parents' anxiety on a much larger group of respondents.

Conclusion

Undoubtedly, the symptoms of stuttering in a child worry parents. They often appear overnight and with great intensity. Regardless of the type and degree of these symptoms, surprised parents try to understand the state of affairs. They often look for information on stuttering on the Internet or consult a specialist about it. What is important in the case of stuttering symptoms is, among others, the age of the child. Namely, during the period of intensive development of a child's speech, parents count on the fact that the difficulties in maintaining fluency will be resolved spontaneously. Parents wait and anxiety lingers. Its influence on the attitudes taken by parents in contact with their child also shapes the attitudes of the child towards their own speaking. Therefore, parents' coherence in understanding the complex phenomenon of stuttering seems crucial. The presented studies do not indicate significant differences in the level of anxiety between the parents surveyed. However, in the case of children whose speech disorder was classified by a speech therapist as evidence of pathology, mothers showed a higher level of anxiety than fathers. Due to the systemic nature of the family, each parent should be involved in all activities aimed at eliminating the symptoms of speaking disfluency. Speech therapists specializing in working with people who stutter are able to find risk factors and determine the direction in which the difficulties with speech of a child can go, and thus choose appropriate strategies for therapeutic actions. The conducted research confirms that regardless of whether or not the

symptoms of disfluency in children (in terms of both quantity and quality) testify to the norm or pathology, parents feel anxious. That is why it is worth discussing and implementing preventive measures together with parents. They allow for a closer look at the interaction with the child and related communication aspects. With the support of a specialist, parents have a chance to understand the essence of the child's difficulties and can skillfully model the fluency of their speech, which does not seem to be irrelevant to the anxiety they feel.

As regards environmental factors affecting stuttering, these preventive measures should be implemented not only by parents, but also by teachers. The starting point in this situation must be an awareness of the activities that can be helpful for the child. Supporting speech fluency includes showing patience, avoiding time pressure in dealing with the child, giving them a sense that the form of their speech is not more important than its content and, above all, accepting it. It is important to maintain natural eye contact with the child, to avoid prompting them or finishing their sentences. Slower speech and pauses will also help. The teacher can likewise ensure that all children under their care listen to each other and know the rules of speaking in turn. A child with symptoms of stuttering should be strengthened by the group, supported in their self-esteem, and, above all – at home, kindergarten and school – their guardians should make sure that the child wants, can and likes to speak.

References

- Allen, J.L. & Rapee, R.M. (2005). Anxiety disorders. In: P. Graham (ed.), *Cognitive Behaviour Therapy for Children and Families*, vol. 1 (pp. 300–319). Cambridge: Cambridge University Press.
- Biggart, A., Cook, F.M. & Fry, J. (2006). The Role of Parents in Stuttering Treatment from a Cognitive Behavioural Perspective. In: J. Au-Yeung & M. Leahy (eds.), *Proceedings of the Fifth World Congress on Fluency Disorders*, Dublin, Ireland, 25–28th July 2006 (pp. 268–375). International Fluency Association.
- Conture, E. (2001). *Stuttering. Its Nature, Diagnosis and Treatment*. Boston, MA: Allyn and Bacon.
- Douglas, J. (2005). Behavioural Approaches to Eating and Sleeping Problems in Children. In: P. Graham (ed.), *Cognitive Behaviour Therapy for Children and Families* (pp. 187–206). Cambridge: Cambridge University Press.

- Felsenfeld, S. (1997). Epidemiology and Genetics of Stuttering. In: R. Curlee & G.M. Siegel (eds.), *Nature and Treatment of Stuttering. New Directions*, vol. 1 (pp. 3–22). Boston, MA: Allyn and Bacon.
- Guitar, B., Kopf-Schaefer, H.K., Donahue-Kilburg, G. & Bond, L. (1992). Parental Verbal Interactions and Speech Rate. A Case Study in Stuttering. *Journal of Speech and Hearing Research*, 35, 742–754.
- Guitar, B. & Marchinkoski, L. (2001). Influence of Mothers Slower Speech on their Children's Speech Rate. *Journal of Speech and Hearing Research*, 44, 853–861.
- Guitar, B. (2006). *Stuttering. An Integrated Approach to its Nature and Treatment*. Philadelphia, PA: Lippincott Williams and Wilkins.
- Kelman, E. & Nicholas, A. (2013). *Praktyczna interwencja w jękaniu wczesnodziecięcym* [Practical Intervention in Early Childhood Stuttering], transl. M. Kądzioła. Gdańsk: Harmonia Universalis.
- Kloth, S.A.M., Janssen, P., Kraaimaat, F.W. & Brutten, G.J. (1995). Communicative Behavior of Mothers of Stuttering and Nonstuttering High-Risk Children Prior to the Onset of Stuttering. *Journal of Fluency Disorders*, 20(4), 365–377.
- Kloth, S.A.M., Janssen, P., Kraaimaat, F. & Brutten, G.J. (1998). Child and Mother Variables in the Development of Stuttering among High-Risk Children. *Journal of Fluency Disorders*, 24, 253–256.
- Meyers, S.C. & Freeman, F.J. (1985a). Mother and Child Speech Rates as a Variable in Stuttering and Disfluency. *Journal of Speech and Hearing Research*, 28, 436–444.
- Meyers, S.C. & Freeman, F.J. (1985b). Interruptions as a Variable in Stuttering and Disfluency. *Journal of Speech and Hearing Research*, 28, 428–435.
- Miles, S. & Ratner, N.B. (2001). Parental Language Input to Children at Stuttering Onset. *Journal of Speech, Language and Hearing Research*, 44, 1116–1130.
- Newman, L.L. & Smit, A.B. (1989). Some Effects of Variations in Response Time Latency on Speech Rate, Interruptions, and Fluency in Children's Speech. *Journal of Speech and Hearing Research*, 32, 635–644.
- Plopa, M. (2011). *Psychologia rodziny: teoria i badania* [Family Psychology: Theory and Research]. Kraków: Oficyna Wydawnicza Impuls.
- Riley, G.D. & Riley, J. (1979). A Component Model for Diagnosing and Treating Children who Stutter. *Journal of Fluency Disorders*, 4, 279–293.
- Rustin, L., Botterill, W. & Kelman, E. (1996). *Assessment and Therapy for Young Fluent Children. Family Interaction*. London: Whurr Publishers.
- Smith, A. & Kelly, E. (1997). Stuttering. A Dynamic, Multifactorial Model. In: R. Curlee & G.M. Siegel (eds.), *Nature and Treatment of Stuttering. New Directions* (pp. 204–217). Boston, MA: Allyn and Bacon.
- Tarkowski, Z. (1992). *Jękanie wczesnodziecięce* [Early Childhood Stuttering]. Warszawa: Wydawnictwa Szkolne i Pedagogiczne.

- Vanryckeghem, M., Brutten, G.J. & Hernandez, L.M. (2005). A Comparative Investigation of the Speech-Associated Attitude of Preschool and Kindergarten Children who Do and Do Not Stutter. *Journal of Fluency Disorders*, 30, 307–318.
- Wall, M.J. & Myers, F. (1995). *Clinical Management of Childhood Stuttering*. Austin, TX: Pro-ed.
- Węsierska, K. & Jeziorczak, B. (2011). *Czy moje dziecko się jąka? Przewodnik dla rodziców małych dzieci, które mają problem z płynnym mówieniem [Is my Child Stuttering? A Guide for Parents of Young Children who Have Problems Speaking Fluently]*. Katowice: Centrum Logopedyczne.
- Winslow, M. & Guitar, B. (1994). The Effects of Structured Turn Taking on Disfluencies. A Case Study. *Language, Speech and Hearing Services in Schools*, 25, 251–257.
- Yairi, E. & Ambrose, N. (2005). *Early Childhood Stuttering. For Clinicians by Clinicians*. Austin, TX: Pro-ed.
- Zenner, A.A., Ritterman, S.I., Bowen, S. & Gronhord, K.D. (1978). Measurement and Comparison of Anxiety Levels of Parents of Stuttering, Articulatory Defective and Non-Stuttering Children. *Journal of Fluency Disorders*, 3, 273–283.