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PARENTS AND TEACHERS IN THE PROCESS OF FUNCTIONAL ASSESSMENT ON THE EXAMPLE OF ASSESSMENT OF ADAPTIVE SKILLS OF CHILDREN AND ADOLESCENTS WITH HEARING IMPAIRMENT*

Introduction: Functional assessment is an important factor for audiological and medical evaluation of children and adolescents with hearing impairment.
Research Aim: The purpose of the research is to present the new position of teachers and parents in the functional assessment process on the basis of the procedure and results of the study of adaptive behavior of 70 children and adolescents with prelingual hearing impairment.
Method: The research was done on the basis of observation of children and adolescents by their parents and teachers, using the ABAS-3 tool.
Results: Comparison of the results of the parents' and teachers' observations (especially statistically significant differences in these observations) indicates the need for multifaceted assessment of student functioning by different people, both parents and teachers.
Conclusions: The results provide important recommendations for analyzing the sources of differences in assessing the functioning of children and adolescents and for preparing parents and teachers to participate in the functional assessment process.

Keywords: functional assessment, adaptive behaviors, ABAS-3, parent, teacher

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INTRODUCTION

Functional assessment is a new model for identifying developmental and educational needs and opportunities. It is most often understood as a

> multidimensional process of recognizing and describing the state of a person's functioning in the environment, taking into account the description and identification of the sources of his current behavior (including resources and deficits) and the possibility of integral and balanced development of the person, both in terms of updating their developmental potential and the extent of modification of the environment in which they are functioning. (Knopik and Domagała-Zyśk, 2021, p. 55)

Functional assessment is a continuation of the principles of psychological and pedagogical assistance provided in kindergartens, schools and institutions under the Regulation of the Ministry of Education of August 9, 2017 (Rozporządzenie…, 2017). In this regulation (para. 20) it is stipulated that the task of teachers is, among other things, to recognize the individual developmental and educational needs and psycho-physical capabilities of students, to identify their strengths, predispositions, interests and talents, to recognize the causes of educational failures and difficulties in functioning and also to take measures to support learning and overall functioning of children and adolescents. The teacher's assessment of the functioning of students is supplemented, if necessary, by specialized examinations in psychological and pedagogical clinics, and the provision of support is based on cooperation with other institutions acting on behalf of children and adolescents, their parents and teachers.

In the process of functional assessment of children and adolescents with disabilities, not only is an analysis made of the extent of damage to body structures and functions (e.g. assessing the level of intelligence, the extent and type of hearing damage, the type and extent of musculoskeletal damage), but also – according to the model of the International Classification of Functioning, Disability and Health (ICF, 2001) – the extent of a person's ability to participate and be active in various areas of life, often referred to as adaptive skills (behaviors).

Adaptive behavior is, thus, understood as the way in which individuals realize their needs and cope with environmental challenges (Oakland and Harrison, 2008). These behaviors fall into the areas of cognitive (reading, writing and arithmetic, self-direction), social (interpersonal skills, problem-solving), and practical (taking care of oneself, including health-seeking behavior and professional competence). Adaptive behaviors are not innate traits (like intelligence quotient, for example), but learned ones, reflecting the effects of a person's learning to cope with everyday situations. The acquisition of adaptive behavior is a lifelong process – as the environment and its demands change – it requires a person to acquire new skills (e.g. making electronic payments, establishing relationships in virtual spaces).

The purpose of this text is to present the new role of teachers and parents in the process of functional assessment, as well as the results of a study of functional assessment in terms of adaptive behavior of a group of 70 children and adolescents with hearing impairment, made by the children's parents and their teachers. The analyses presented in this article are not so much concerned with the description of the students' functioning – such analyses have been presented in another text (Bieńkowska and Domagała-Zyśk, 2024, in review), but with the comparison of the assessment of children and adolescents made by parents and by educators. The discussion of the results also pointed to factors that may have conditioned the differences in the observations of parents and teachers. In the study of children and adolescents, the observation tool ABAS-3 – Adaptive Behavior Assessment System (Otrębski et al., 2019) was used. The research was approved by the Ethics Committee of the Institute of Pedagogy of KUL (KEIP KUL 2/21).

OBSERVATIONS OF PARENTS AND TEACHERS – KEY IN FUNCTIONAL ASSESSMENT

In the functional assessment model (Knopik and Domagała-Zyśk, 2021; Domagała-Zyśk et al., 2022), new mechanisms are introduced into the process of supporting children and adolescents described in the regulation on psychological and pedagogical support (Rozporządzenie…, 2017). They are the result of ever-expanding psychological and pedagogical knowledge about the functioning of children and adolescents. First and foremost, the role of teachers (preschool and early childhood education teachers, subject teachers) is being strengthened. They are perceived as key participants in this process whose observations of student functioning are crucial to understanding their difficulties – but also their resources and strengths. The previously cited regulation stipulates (Rozporządzenie…, 2017, para. 20, para. 2) that teachers conduct *pedagogical observation* in kindergarten and school during their ongoing work with students. It should be aimed at recognizing in students both their potential, interests and talents, as well as learning difficulties. In the process of functional assessment, it is proposed that a functional observation is implemented (Domagała-Zyśk, 2024). Its purpose is not only to establish facts (e.g. a student has difficulties in reading, a student is reluctant to undertake new tasks), but also the causes of this state of affairs and the consequences of behavior – both when actions are taken to modify it and when such actions are abandoned (the so-called ABC model – assessment of antecedents, behavior and consequences, Domagała-Zyśk et al., 2017).

Functional observation is the process of describing the child's behavior, as well as its possible conditions and consequences in each area, so not only within the cognitive functions, but also within the social, emotional, communicative, linguis-

tic, relational and other functions. It is an observation of the integral functioning of the student (cf. Kunowski, 1993). It is a process that takes place whereever the student is, and when certain situations characteristic of the student's daily functioning take place (while waiting for the class, during the lesson in the, during the break, in the locker room, during a school trip, a vacation trip, etc.). Although the call for teachers to conduct functional observation is new, it grows out of the well-established concept of the teacher – as the reflective practitioner (Orakcı, 2021; Ryan and Webster, 2019). A reflective teacher analyzes both the student's behavior and his or her own work, looking for new and more effective ways of didactic, educational or therapeutic work (see, e.g. Olechnowicz, 1997; 2020).

The role of parents in the process of assessing the needs and capacities of children and adolescents is well established in the currently functioning solutions for organizing psychological assistance. The parents cooperate with teachers, are present at meetings of teams developing the Multispecialist Assessment of the Level of Student Functioning (WOPFU), their consent and signature are also necessary for the implementation of the Individual Educational and Therapeutic Program (IPET). The principles of the functional assessment process confirm this role of parents (cf. Domagała-Zyśk et al., 2017), but also reinforce their presence. Functional assessment is often referred to as a 270-degree assessment in which the perspective of the specialist (90 degrees) is as important as that of teachers (another 90 degrees) and parents (another 90 degrees). Thus, the parent in this process is not the recipient of the results of the child's examination conducted by specialists, but an active participant in the observation and assessment process at each of its stages: reporting the need for a functional assessment, collecting data and then analyzing and interpreting them (Otrębski et al., 2022; Domagała-Zyśk et al., 2022). The tools used in this process are usually observation sheets (Oakland and Harrison, 2008; Domagała-Zyśk et al., 2022).

RESEARCH METHOD AND SAMPLE CHARACTERISTICS

The purpose of the research presented in this text was both to assess the functioning of children and adolescents with hearing impairment (Bieńkowska and Domagała-Zyśk, 2024, in review), but also to determine similarities and differences in the observations of adaptive behavior of children and adolescents made by their parents and teachers. The following research problems were posed: 1. Are the assessments of the functioning of children and adolescents made on the basis of observations by their parents and teachers similar – are there significant differences between them? 2. If there are differences, in what spheres are they statistically significant? 3. Are there differences between parents and teachers assessing a group of younger children and older children?

The study of children and adolescents used the direct-participant observation method, and the results of observations were collected using the ABAS-3 questionnaire. The study involved 85 children and adolescents with hearing impairment from all over Poland, who participated in 4 rehabilitation camps organized by the Association of Parents and Friends of Children with Hearing Impairment in Krosno during the vacations in 2021 and 2022. The Association annually organizes two-week holiday rehabilitation camps – more than 30 have been held since 2002. This form of rehabilitation is an effective complement to the therapy carried out at home and at the rehabilitation center (Bieńkowska and Zaborniak-Sobczak, 2015; Zwierzchowska and Bieńkowska, 2016). Whole families often participate in these camps, and the most common factors limiting participation are difficulties in providing care for other family members or cost. Rehabilitation camps are partially reimbursed from PFRON funds, NGO funds, funds accumulated on participants' individual subaccounts from 1% tax, or financed from parents' private funds. The two-week program meets the necessary standards (Kosmalowa, 2001). Children and adolescents participate daily in individual and group activities, where exercises are conducted to stimulate the development of auditory perception, speech and motor and coordination skills. In addition, participation in the camp requires both parents and therapists to be involved in the diagnosis and support process. They participate in both the evaluation of the child's skills, the exercises conducted and the planning of further therapy.

Parents of children and adolescents and their educators voluntarily agreed to participate in the research described in this text. Of the 85 questionnaires collected, a group of 70 children and adolescents was selected for analysis of the results. The participants met the adopted criteria: (a) congenital prelingual hearing loss detected at newborn screening, (b) degree of hearing impairment in both ears more than 40 dB, (c) children provided with a hearing aid before the age of 10 months and receiving therapy from the age of 1 year using the auditory-verbal education method, regularly attending specialized classes, d) no clear signs of delayed psychomotor development and/or ASD (if in doubt, parents provided additional test results ruling out autism spectrum disorders or intellectual disabilities), e) the first and primary language of communication of children and adolescents is Polish.

The average age of the study group of children and adolescents was 6.8 years. For the purpose of analysis, the group was further divided into two subgroups (according to the principles of using the ABAS-3 test): the younger group (35 participants aged 1.2–5.5 , with a mean age of children of 3.6) and the older group (35 participants aged 6.1–15.3 , with a mean age of 9.9). Data of the studied group of children and adolescents were collected on: age, gender, degree of hearing impairment, type of hearing aids worn, educational institution the children attend, educational and therapeutic support and the child's mode of communication. These are presented in Table 1.

Table 1.
Sociometric data of the study group – hearing impairment children and youth

Type of data	Younger group (n = 35)	Older group (n = 35)	Study group (n = 70)
Age			
mean	3.6	9.9	6.8
standard deviation	3.9	3.9	3.8
min. – max.	1.2–5.5	6.1–15.3	1.2–15.3
Sex			
man	15 (43%)	13 (37%)	25 (36%)
woman	20 (57%)	22 (63%)	45 (64%)
Domicile			
town	22 (63%)	19 (54%)	41 (58%)
country	13 (37%)	16 (46%)	29 (42%)
Severity of hearing loss			
mild (20–40 dB)	2 (6%)	2 (6%)	4 (6%)
moderate (41–60 dB)	3 (9%)	7 (20%)	10 (14%)
severe (61–80 dB)	8 (23%)	3 (9%)	11 (16%)
profound (>80 dB)	22 (62%)	23 (65%)	45 (64%)
Hearing support			
2 hearing aids (HA)	14 (39%)	11 (31%)	23 (32%)
1 cochlear implant (CI)	10 (30%)	6 (17%)	18 (26%)
1 HA and 1 CI	1 (3%)	3 (9%)	4 (6%)
2 cochlear implants	10 (30%)	15 (43%)	25 (36%)
Educational institution			
nursery	2 (6%)	0	2 (3%)
kindergarten	15 (43%)	6 (17%)	21 (30%)
primary school	2 (6%)	26 (74%)	28 (40%)
secondary school	0	3 (9%)	3 (4%)
none (child at home)	16 (45%)	-	16 (23%)
Support felt by parents from the child's teacher			
regularly	12 (34%)	19 (55%)	31 (44%)
occasionally	6 (17%)	11(31%)	17 (25%)
deficit	17 (49%)	5 (14%)	22 (31%)
Individual classes in an educational or therapeutic facility			
regularly	14 (40%)	22 (63%)	36 (51%)
occasionally	5 (15%)	8 (23%)	14 (20%)
deficit	16 (45%)	5 (14%)	20 (29%)

The basic method of communication in educational or therapeutic facility speech speech and gestures speech and others (e.g. writing)	22 (63%) 11 (31%) 2 (6%)	27 (77%) 2 (6%) 6 (17%)	49 (70%) 13 (19%) 8 (11%)
Using specialist support			
WWR (early development support)	30 (86%)	22 (63%)	52 (74%)
Decision on the need for special education others (including support from National Health Fund institutions, NGOs and private support)	9 (26%) 33 (94%)	35 (100%) 35 (100%)	44 (63%) 68 (97%)

Source: Authors' own study.

Parents declared that they communicate with all their children at home using speech – 92% specified that the child always speaks, and 8% that sometimes. In addition, parents expressed their opinion on the degree of effectiveness of their child's communication using speech – 42% described their child's speech as fully effective, 33% note problems sometimes, 25% note big problems in communication (this was especially visible for children in the younger group). No one declared that they use sign language or alternative means of communication at home. Participants in the study who attended mainstream educational and care facilities made up 74% of the group (n = 54). According to the parents of these children, communication in care or educational institutions was auditory-verbal. Half of the parents declared that the child receives regular developmental support due to hearing impairment, both in individual therapy classes and during peer group learning. About 25% felt that the child receives support, but it is irregular. In the younger group, some parents declared a lack of support from educators – but it should be noted that in this group, 16 of the youngest children remained at home under their mother's care and were not enrolled in any institution, and just two attended the nursery.

In addition, sociometric data were collected on the family of the child under study: the average age and education of the parents completing the questionnaires, being raised by one or two parents, having siblings, and the presence of hearing impairment in the family. It needs to be stressed that the research group consisted of experienced and well-informed parents. Their average age was 35. About 90% of them had at least a high school education and received support from the other parent in the parenting process. About 75% of the parents were raising more than one child. The family members of the children studied were mostly hearing people – only in 4 families did someone in the family (besides the child studied) have a hearing impairment (parent and/or sibling). The results are presented in Table 2.

Table 2.
Sociometric data on the families of the surveyed children with hearing impairment

Type of data	Younger group (n = 35)	Older group (n = 35)	Study group (n = 70)
Age			
mean	30	39	35
standard deviation	7.8	7.6	7.6
min. – max.	26–50	29–52	26–52
Parenthood			
both parent family	31 (89%)	32 (91%)	63 (90%)
single parent family	4 (11%)	3 (9%)	7 (10%)
Parent's level of education			
higer	13 (37%)	18 (51%)	31 (44%)
secondary	20 (57%)	14 (40%)	34 (49%)
vocational	2 (6%)	3 (9%)	5 (7%)
Siblings			
younger	17 (47%)	18 (51%)	35 (50%)
older	10 (30%)	9 (26%)	19 (27%)
only child	8 (23%)	8 (23%)	16 (23%)
Hearing loss in family			
parent	1 (3%)	1 (3%)	2 (3%)
siblings	2 (6%)	4 (11%)	6 (9%)

Source: Authors' own study.

The questionnaires were completed by 20 teachers who were employed by the Association as specialized staff at the rehabilitation camp. All of them had higher pedagogical education and were speech therapists with at least 5 years of experience working with children with hearing impairment. The therapists knew some of the children from their work at the inpatient center and/or the camps held in previous years. Each of them conducted daily individual and group activities at the camp with the evaluated child. They also had the opportunity to observe the child during excursions, other group activities and daily activities (spontaneous play on the playground, behavior at the cafeteria, etc.). Both parents and therapists were instructed about the ABAS-3 tool by the first author.

DESCRIPTION OF THE TOOL

ABAS-3 (Adaptive Behavior Assessment System) is a fully standardized tool that provides a comprehensive assessment of adaptive behaviors necessary for effective and independent functioning in the community. It provides a functional as-

sessment and allows for the development of a complete picture of functional and adaptive skills across the lifespan. Originally developed in the USA (Harrison and Oakland, 2002), the tool has been adapted to the Polish language (Otrębski et al., 2019), and norms have also been prepared for the Polish population of children and adolescents aged 0–20 years. So far, the tool has been used in Poland mainly for clinical purposes and in some research projects (Kirenko and Prokopiak, 2020). ABAS-3 covers ten domains of human functioning: Communication, Social Life, Functional Skills, Home Life, Health and Safety, Leisure Time, Self-Management, Self-Direction, Social Skills, Motor Skills and optionally – Work (for adolescents who have started working). ABAS-3 contains five assessment forms: two of them are for children up to age 5, and two for children and adolescents aged 5–21. There is a separate form for the younger and older groups for parents – and a separate one for teachers. The fifth form is for adult surveys and was not used in this study. It is possible to use the forms separately and obtain information from only one informant – a parent or teacher, but the authors of ABAS-3 recommend collecting data from multiple sources, as this allows assessment of how a child copes from different perspectives.

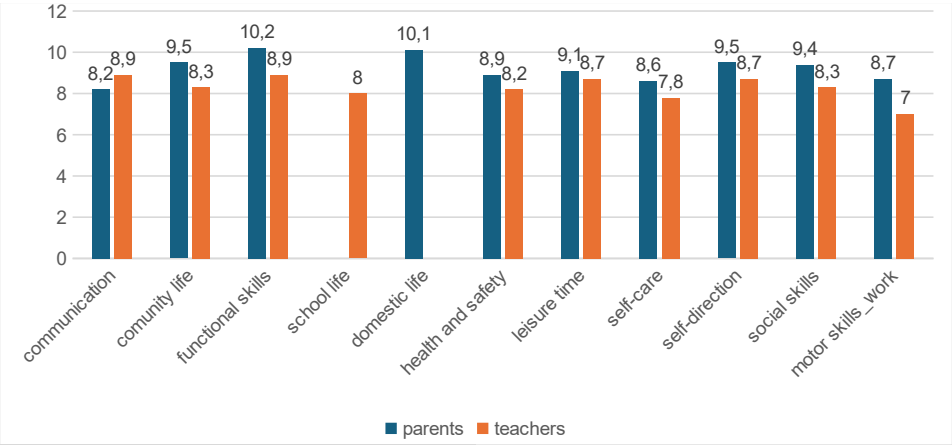
The individual items described in each of the 10 scales focus on practical, everyday activities necessary to meet environmental demands. Each of these can be assessed on a four-point response scale, which indicates whether a person is able to perform the activity – and how often he or she does it in circumstances where it is needed. The results allow calculation of the overall adaptation index (*ogólny wskaźnik adaptacji*, OWA). The results can be described as extremely low, low, below average, average, above average and high. ABAS-3 allows not only for assessment, but also for planning the learning and treatment environment and making appropriate clinical decisions. The uniqueness of the tool is that it allows to describe the child's strengths (not just weaknesses) and document and monitor their progress during the years of support. With the ability to provide a score in the form of a developmental profile, it is relatively easy to use ABAS-3 as an evaluation or monitoring tool for a child's progress.

RESULTS

The purpose of the analyses presented in this article was to analyze differences in the assessment of adaptive behavior of children and adolescents with hearing impairment by their parents and teachers. Detailed analysis indicates that parents rated their children's adaptive behavior highest in the areas of *Functional Skills* and *Home Life*, and lowest in the area of *Communication*. Teachers, on the other hand, rated students highest in the areas of *Communication* and Functional Skills, and lowest in the areas of *Self-care* and *Motor Skills*. Further analysis shows that par-

ents' and teachers' assessment results differed in both the overall score, the OWA, and the scores for each of the adaptive functions assessed. In all areas except for *Communication,* parents rated their children's functioning higher than their teachers. A comparison of mean scores (Student's *t*-test) showed statistically significant differences in all areas – with the exception of the *Motor area* ($p = 0.15–0.43$). The results are summarized in Figure 1.

Figure 1.
Comparison of ABAS-3 scores in each area based on parents and teachers assessment



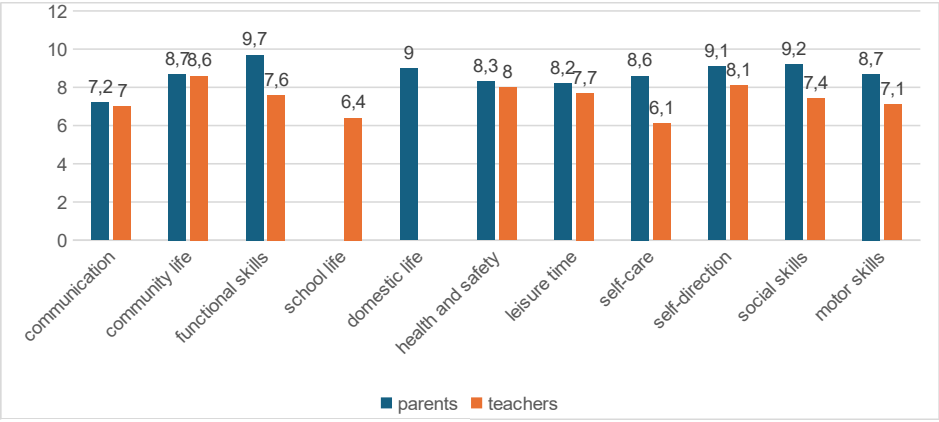
Source: Authors' own study.

Next, in order to determine whether there were differences between parents and teachers assessing a group of younger children and older children, scores in each area by age were analyzed. In the younger group, it was observed that parents rated their children's adaptive skills higher than teachers in all areas, with the greatest differences observed in the *Functional Skills* and *Self-Care* scales (Figure 2). The significance of the differences was measured using the Student's *t*-test. Most of the differences are statistically significant: *Communication* $p = 0.009$, *Living in the community* $p = 0.004$, *Health and safety* $p = 0.012$, *Leisure* $p = 0.02$, *Self-management* $p = 0.037$.

By comparing the results of the ABAS-3 assessment in each area conducted by parents and teachers in the older group, it can be seen that these assessments also differ. In the older group, parents rated their children better than teachers on six scales (out of eight that were used both by the teachers and the parents): *Living in the Community*, *Functional Skills*, *Health and Safety*, *Leisure*, *Self-Direction* and *Socialization*. Conversely to the younger group, children's adaptive skills in the areas of *Communication* and *Self-Management* were rated higher by teachers than by parents. The observed differences are statistically significant in some scales, as de-

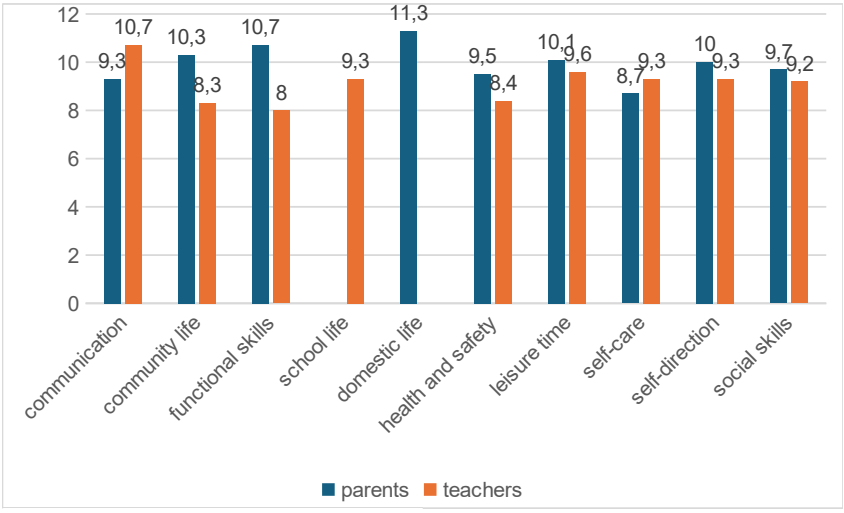
termined by a Student's *t*-test: *Communication* $p = 0.044$, *Health* $p = 0.039$, *Leisure* $p = 0.016$, *Self-care* $p = 0.021$, *Self-management* $p = 0.023$.

Figure 2.
Comparison of the results of the ABAS-3 assessment in each area conducted by parents and teachers in the younger group



Source: Authors' own study.

Figure 3.
Comparison of ABAS-3 assessment in each area conducted by parents and teachers in the older group



Source: Authors' own study.

DISCUSSION

The differences in parents' and teachers' assessments of children's and adolescents' adaptive behavior presented in the article indicate that the 270-degree perspective recommended in functional assessment and the inclusion of parents and teachers who know the child well in the process of collecting data is a needed strategy. The clinical analysis of the results obtained, their comparison and discussions, especially those concerning the differences in the observations of parents and teachers, can provide the most adequate knowledge of the student's behavior and, consequently, become the source of a tailored intervention plan for the child. Previous experience of only partially involving parents in the diagnostic process – most often as recipients of test results – deprives teams of teachers and therapists of valuable knowledge about the child's functioning.

The reliability of parental observations provided in the surveys analyzed can also be confirmed by the fact that workshops for parents are held at the camps to deepen their knowledge and practical skills in the area of supporting the development of a child with hearing impairment. About 50% of parents participated with their child in the camp for the second or subsequent time. In addition, parents who took part in the survey systematically participate with their child in inpatient therapy conducted at home. A significant group of mothers in the first period of their child's life did not work professionally and spent time with their child at home. This means that ABAS questionnaires were completed by parents who were active and involved in therapy, and who were well prepared to observe and analyze their child's development.

Functional assessment is the opposite of "office" or "desk" assessment performed only in the psychologist or counselor's office (Hollenweger and Lienhard, 2007). It is an assessment of an "ecological" nature, performed in those places where the child spends their time on daily basis. The assessment process itself – the collection of data – has additional value because it strongly involves adults close to the child in an observation process that requires spending time with the child. After all, filling out the questionnaire is most often not a one-time activity, but requires hours of observing the child and analyzing their behavior. This process alone is a source of much-needed attention for the child from an adult involved in the child's development.

The observed differences in the assessments made by parents and teachers require further analyses of an individual nature. For the group studied, these took place in the form of individual consultations with the first author of this text. Indeed, higher scores in a given area resulting from parental observation may indicate better knowledge of the child's competence by the parent than by the teacher, especially when it concerns the observation of the youngest children by mothers who are with them for many hours a day. At the same time, such results may be due to parents' difficulty in maintaining objectivity and their desire to present their

child's competence in a slightly better light. Teacher observations are more often considered to be more objectified and the result of professional knowledge of the developmental stages of children and adolescents and also the result of frequent contact with many children from different families. Teachers tend to more appropriately assess students' progress in the context of age-appropriate achievement. In this context, the result observed in the analyzed studies in the area of *Communication* is hard to explain. In this area parents rated their children's competence lower than their teachers, who were also speech and language therapists. It is likely that this has to do with parents' high expectations of their children's performance in this area, perhaps also related to comparing their children's performance with that of their hearing siblings. In the younger group, the parents' assessment of *Communication* was slightly higher than the teachers', which may have to do with reading the child's nonverbal messages, while in the older group this difference is significant ($p = 0.044$). Perhaps it is also related to previous concerns about the child's development and the parents' experience of therapy for a child with hearing impairment, in which the main focus is on overcoming limitations in the child's speech acquisition due to hearing impairment. The observations of teacher-therapists in such a context should be considered as taking into account children's progress in development and competence gains, with full awareness of the limitations experienced by children due to their hearing impairment. However, the higher level of competence attributed by teacher-therapists to children may also indicate that they are assessing children's competence not in relation to the general population, but to the population of children and adolescents with hearing impairment. It is therefore worthwhile to take steps to clarify the observation mechanisms used by teachers so that children's observation records are objectified as much as possible.

COMPARISON OF RESULTS TO ABAS-3 VALIDATION RESULTS

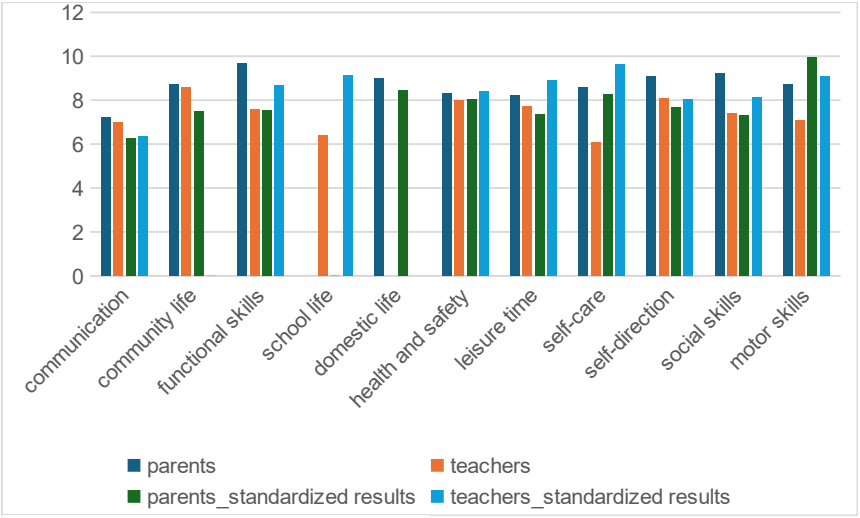
The results of our own research were compared to the results of validation studies conducted using ABAS-3 in a clinical group of deaf students (Otrębski et al., 2019, pp. 53–58). The validation study involved 70 deaf children. The research was conducted in a group of younger children (children aged 4.1–4.11) and older children 16.0–16.11). The manual does not include information on the type and degree of hearing impairment of the children studied, as well as other demographic, medical, environmental and educational data.

Analysis of the results for all adaptive functions in the validation studies (Otrębski et al., 2019) and the results of the studies reported in this article indicate differences in both children's achievement and differences in parents' and teachers' assessment of adaptive functions. In the younger group, parents participating in the validation study rated their children's competencies lower than parents partic-

ipating in the present study in each of the scales, with the exception of the *Motor skills* scale. The differences were statistically significant in six scales: *Communication* $p = 0.043$, *Community Life* $p = 0.048$, *Home Life* $p = 0.018$, *Health* $p = 0.011$, *Leisure* $p = 0.035$, *Self-care* $p = 0.012$.

Teachers' ratings also varied; teachers in the validation study rated the competencies of observed deaf children significantly higher than teachers in the current study in the spheres of *School Life*, *Self-care*, *and Motor skills.* It is interesting to note that in the validation studies, teachers rated children's competencies higher than parents in all scales – with the exception of the *Motility scale*. In some scales, the differences between the results of our own and validation studies are statistically significant: *Communication* $p = 0.031$, *Functional Skills* $p = 0.043$, *Health* $p = 0.016$, *Self-Direction* $p = 0.005$, *Socialization* $p = 0.30$.

Figure 4.
Comparison of the results of our own study and the ABAS-3 validation study (Otrębski et al., 2019) in each area of the parent-teacher led younger group

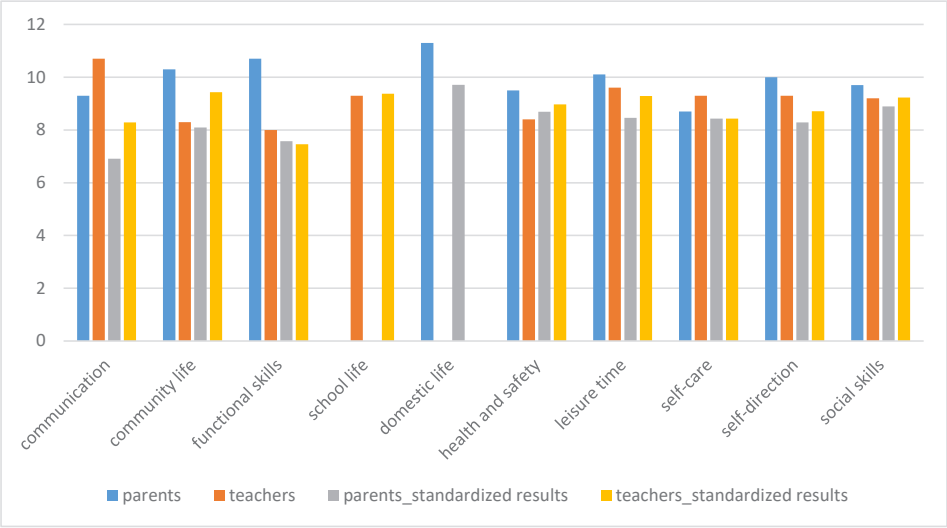


Source: Authors' own study.

Analyses of the results obtained in the studies of the group of older children also allow us to conclude that there are differences in evaluation, although these differences are smaller than in the group of younger children. Parents observing their children in the validation study rated their children's competencies lower than those of parents from the present study – in all scales analyzed. In several of them the differences are statistically significant: *Home life* $p = 0.047$, *Health* $p = 0.030$, *Self-care* $p = 0.010$, *Socialization* $p = 0.026$. On the other hand, the assessments made by teachers in both studies are similar – with the exception of the

Communication scale, in which the competencies of deaf children in terms of communication were rated significantly lower for the group participating in the validation study. Analysis of the results of the teachers' observations allows us to observe statistically significant differences in the following scales: *Living in the community* $p = 0.039$, *Functional skills* $p = 0.035$, *School life* $p = 0.001$, *Health* $p = 0.020$, *Leisure* $p = 0.010$, *Self-care* $p = 0.031$, *Self-management* $p = 0.019$, *Socialization* $p = 0.002$.

Figure 5.
Comparison of self-reported and ABAS-3 validation results in each area of the parent-teacher led older group



Source: Authors' own study.

The analyses presented above provide the basis for several important conclusions regarding the functional assessment procedures of children and adolescents with hearing impairment. The results of the children and adolescents studied in both samples generally showed their good adaptive competence – falling within the range of average and below-average scores, according to norms prepared for the general population. The results of individual children show great variation. Among the children studied, there were both those whose standardized scores were high and very high – but also children with low and very low scores. This indicates a large intra-group variation, and consequently, the need to use differentiated techniques and tools in the process of functional assessment to identify the needs and abilities of children and personalize support programs. It is reasonable to use tools in research that have standards prepared for the general population of children and adolescents. The observed differences in the results of deaf children

of 2019 and deaf and hard-of-hearing children of 2023 indicate that the results from the manual for the ABAS-3 tool (Otrębski et al., 2019) should be treated only according to the literal provision of the manual – as the results of a specific group of deaf children in ongoing research of a clinical nature – but cannot be considered the "norm" for the population of deaf children in general. Consistently, it would be inadvisable to create other "norms" for a group of deaf and hard of hearing children – in the functional assessment model (Knopik and Domagała-Zyśk, 2021). This is because the needs and abilities of different groups of children and adolescents are treated as a certain continuum.

In the process of functional assessment, it is also particularly important to strengthen the competence of parents and teachers to conduct full-fledged observation and functional assessment. After all, the observed discrepancies between parents' and teachers' assessments of the same children – and assessments made by different teachers in different groups of deaf children – may indicate both great variation in the behavior of the children under study, but may also result from variation in the observational competence of parents and teachers. Hence, an important postulate, both research and clinical, is to improve the observational competence of parents and teachers and their ability to record it in observation questionnaires.

LIMITATIONS OF THE STUDY AND THE PROSPECT OF FURTHER RESEARCH

The group of children and adolescents with hearing impairment is a population in which it is difficult to conduct research – hearing impairment can affect up to 13% of school-aged adolescent children (Kruszyńska et al., 2013). In addition, it is known that more than 90% of children of adolescents certified as hard of hearing and more than 50% as deaf attend mainstream schools (Domagała-Zyśk and Bieńkowska, 2022), making it difficult to contact them and their parents. Often there are one–two children with different types of hearing impairment detected at different ages in a given institution (Skarżynski et al., 2023), which makes it difficult to conduct research. For this reason, the research in a group of 70 children and adolescents with prelingual hearing impairment should be considered significant. This is because they gathered about 1% of the population of children and adolescents with this type of hearing impairment between the ages of 1 and 16 in Poland. However, further studies on the determinants of functional assessment should take care to include a larger group of participants. It would also be important that not only mothers, but also fathers of children participate in the study. The participating teacher-speech therapists provided comprehensive information about the children, but it would be worthwhile to include preschool and

early childhood education teachers, as well as subject teachers in the older grades of primary school in subsequent studies, as their observations can also make a significant contribution to learning about the students' functioning.

Teachers working with children in a variety of settings (including, for example, a subject teacher, a therapy teacher or a day care center teacher) need training and guidance in order to conduct competent functional observation (Domagała-Zyśk, 2024). This functional observation is not limited to merely ascertaining the occurrence of a given behavior, but also looking for its sources and ways to change it, if such behavior change is needed. Indeed, observation requires a number of general personal competencies (empathy, attentiveness, patience, inquisitiveness), but also specific competencies, such as the use of a given observation tool, a full understanding of the terms used in observation tools, the ability to distinguish between behaviors that are similar but perform different functions, etc.

CONCLUSIONS

Analyzed results of studies of adaptive behavior of children and adolescents with hearing impairment indicate their good functional competence. This is due to early detection of the hearing loss, access to assistive listening devices and effective auditory-verbal therapy undertaken (Percy-Smith et al., 2018; Zgoda et al., 2019). As a result, the perspective on the functioning of children with hearing impairment has changed. Today the focus is not only on communication and speech development, but from an early age, necessary care is given to many aspects of social functioning, which are crucial in adulthood (Dryżałowska, 2015). At the same time, the perspective of cooperation on the parent-teacher level is changing. The current generation of parents has access to a variety of sources of knowledge and exchanges comments with each other about the development of the child, the tools used for assessment, the quality of education and therapy provided, and the teachers and therapists themselves. Cooperation with active parents who are eager to expand their skills and feel responsible for the development and upbringing of their child builds a whole new platform for teachers, parents and specialists to cooperate and work out solutions that would foster the development of deaf and hard of hearing children and adolescents.

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RODZICE I NAUCZYCIELE W PROCESIE OCENY FUNKCJONALNEJ NA PRZYKŁADZIE OCENY UMIEJĘTNOŚCI ADAPTACYJNYCH DZIECI I MŁODZIEŻY Z USZKODZENIEM SŁUCHU

Wprowadzenie: Ocena funkcjonalna jest istotnym uzupełnieniem oceny audiologicznej i medycznej dzieci oraz młodzieży z uszkodzeniem słuchu.
Cele badań: Celem badań jest przedstawienie nowej pozycji nauczycieli i rodziców w procesie oceny funkcjonalnej na podstawie procedury i wyników badań zachowań adaptacyjnych 70 dzieci i młodzieży z prelingwalnym uszkodzeniem słuchu.
Metoda badań: Badania zostały wykonane na podstawie obserwacji dzieci i młodzieży prowadzonej przez ich rodziców i nauczycieli, z wykorzystaniem narzędzia ABAS-3.
Wyniki: Porównanie wyników obserwacji rodziców i nauczycieli (szczególnie istotnych statystycznie różnic w tych obserwacjach) wskazuje na konieczność wieloaspektowego oceniania funkcjonowania ucznia przez różne osoby, zarówno rodziców, jak i nauczycieli.
Wnioski: Wyniki są źródłem istotnych rekomendacji w zakresie analizy źródeł różnic w ocenie funkcjonowania dzieci i młodzieży oraz przygotowania rodziców i nauczycieli do udziału w procesie oceny funkcjonalnej.

Słowa kluczowe: ocena funkcjonalna, zachowania adaptacyjne, ABAS-3, rodzic, nauczyciel