

SPECIFIC FEATURES OF INTERPERSONAL COMMUNICATION IN DEAF CHILDREN

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Abstract: Under certain conditions, associated with the presence of early and significant hearing loss, there are some peculiarities observed in children's interpersonal communication. Their knowledge can serve as a guide for overcoming difficulties and maximizing successful communication. The present study is dedicated to identifying the peculiarities of communicative behavior and the type of interpersonal relationships between children with hearing impairments integrated into mainstream schools. The experiment involved 40 children, divided into two groups: control group (hearing children) and experimental group (deaf children). The Diagnostic toolkit contains 3 methodologies: the Raven progressive matrices for determining the level of nonverbal intelligence; a test for evaluation of communicative and initiating abilities, the T. Leary's psycho-diagnostic methodology for establishing interpersonal relationships in the subjects studied. The results of the first test revealed that the intellectual profile of 7-9-year-old students was significantly different from that of their hearing peers. The second test also found differences between the hearing and the deaf, but these were not statistically significant. The Leary test clearly showed that in the process of interpersonal communication, deaf children tend to be authoritarian, selfish, aggressive and suspicious of relationships. At the same time, their hearing peers seek to form an altruistic type of personal relationships.

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Introduction

The full, harmonious interpersonal communication is the most important natural condition for the social prosperity of the person, the dominant factor in the development of the person as the subject of his or her own life, the specific space in which self-knowledge, self-actualization and self-improvement, as well as knowledge and understanding of other people is realized.

Under certain conditions associated with early and significant hearing loss, the communicative process between the partners occurs with certain difficulties and specific characteristics. Studies of the communicative behavior of deaf children provide evidence of a high incidence of cases where interpersonal interaction acquires the character of difficult communication, accompanied by the presence of specific qualitative characteristics of the individual. The question of their identification and, on this basis, the creation of preconditions for free communicative interactions between the deaf child and the others, beginning from the early stages of ontogeny, is emerging as one of the vectors of scientific research. This report of a study presents data from a test conducted to assess the peculiarities of the communicative behavior of deaf children in terms of their initiatory abilities and skills for establishing business and interpersonal relations with peers and adults. The types of interpersonal relationships identified by the T. Leary's methodology are also described. In addition, data from the applied Raven progressive matrices are included, establishing the influence of deafness on the level of nonverbal intelligence.

Literature Review

The communication activity of deaf children is nuanced by a number of features that are related to age and the social situation of development – the communicative interaction with peers and communication with adults, taking place against the background of an increased desire for autonomy, on the one hand, and the need for emotional support, on the other hand.

Active research shows that the particularities of the communication of the deaf people are formed as a result of the difficulties in the communication sphere. Marschark (1993) defines difficult communication as communication that is updated when solving complex communication tasks, accompanied by communicative failures varying in degree and strength, and requiring the child to activate all the communication capacity for their overcoming.

Other authors support the view that when communication is difficult there is a broken interaction between people which impedes the successful realization of the communication tasks and is accompanied by subjective experiences of the participants in the process, lack of understanding between the communication partners, negative changes in the interpersonal relations and updating of destructive models of interplay (Nurmsoo and Bloom, 2008; Liebal, Behne, Carpenter, & Tomasello, 2009). A

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major attribute of unsuccessful communication is the presence of communication barriers in one or all participants in the communication.

Based on the structural components of communicative ability, Crocker and Edwards (2004) distinguish the communication difficulties of the deaf into 4 groups:

- Basic communication difficulties. These may include patterns related to the personal qualities of the child that determine the communication process: manifestation of empathy, initiation of contact, problems caused by the child's self-centeredness, lack of positive attitude towards the communicative partner, inadequate self-esteem, increased emotional and personal dependence on partner communication.
- Difficulties related to the content aspect of communication: lack of communicative knowledge and experience, difficulties in anticipation, planning and self-control in communication, as well as in the restructuring of the communication program.
- Instrumental communication difficulties involving verbal, prosodic and extralinguistic elements.
- Communication difficulties in reflection, involving self-analysis, self-observation, change. The issue of reflection has been dealt with in detail by Neminska (2018), Teneva (2018), Shivacheva-Pineda (2019), Zhelyazkova (2018) and representatives from other scientific fields.

Researchers attach great importance to the specifics of cognitive development as a determining factor of the communicative features of deaf children (Harris & Chasin, 2009; Rimmel & Peters, 2009). In order to overcome obstacles, the subject of communication is guided by the processes of conceptualization and intellectual control, which are also cognitive functions.

The problem with the communicative features of children with hearing impairment is obvious for special pedagogy and special psychology. Its conditionality is dictated by the growing number of children with sensory impairment (deafness) who exhibit delayed development of the emotional-volitional and cognitive realms, a reduced need for communication, low levels of speech development, of social perception, as well as an impaired interpretation of verbal behavior and non-verbal behavior of the communication partner and an impaired reflection of the communication act. Failures in the communicative expression of deaf children affects the process of their social adaptation, causing secondary negative personality traits and behaviors (Jeanes et al., 2000; Nunes et al., 2001). In this context, a number of questions arises from teachers working with these children in the context of school and extracurricular activities.

In recent years, the relative share of children with special needs due to hearing impairment has increased in mainstream schools. Their education is organized in the context of joint training with their hearing peers. The reference children's supporting teams are an important factor for building initiativeness, self-confidence and self-identity. Each student group occasionally encounters situations that provoke communication difficulties. Modern children are permanent participants in many communicative situations which, depending on their subjective perception, acquire the status of "elementary" or "complicated". And if an ordinary situation does not provoke internal tension, then the complex communicative situation in which the requirements for the person exceed their real capabilities presents the child with a serious challenge to mobilize a considerable volume of psychic resources for successful communication.

The factual material presented in the course of the study of the literary sources on the topic substantiates the need for an experimental study whose main purpose was to identify the peculiarities of communicative behavior and the type of interpersonal relationships in children with hearing impairments integrated in mainstream schools. The aims of the study were achieved through the following:

- Analysis of the literature on the communicative and interpersonal peculiarities determined by the presence of a hearing impairment;
- Development of an appropriate methodology corresponding to the purpose of the study;
- Comparison of the results of the children in the experimental and control group;
- Analysis and interpretation of the empirical data from the study and formulation of the conclusions.

The object of the study is the interpersonal communication of deaf children in view of the peculiarities of the communicative behavior and the type of interpersonal relationships that are formed in these children, integrated into the general education structures.

Data and Methodology

To investigate the peculiarities of interpersonal communication of deaf children a battery of tests was developed and administered to 40 children selected from four general education schools in the city of Stara Zagora. The age range of the children varied from 7 to 9 years. The participants were differentiated into 2 groups: experimental and control.

The experimental group consisted of 20 deaf children, of whom 10 were boys (50%) and 10 were girls (50%). All adolescents had medical records certifying the presence and extent of the hearing impairment. Specifically, those selected for this group met the criterion: an average hearing loss for pure tones for the speech frequencies is 500 to 2000 dB or greater (ANSI, 1996 Standards). There were no additional handicapping conditions, such as lack of visual acuity, emotional disturbance, generalized motor disability of the cerebral palsy type. Five of the children used BSL (Bulgarian Sign language).

The control group consisted of children without hearing impairment – 20 in number, who were also 50% of both sexes. The children were chosen from the same schools as the deaf respondents. They had successfully mastered the program in the comprehensive school.

In terms of the criteria: age, specificity of training and upbringing, as well as their overall health, the indicators in the two groups were approximately the same.

Prior to the administration of the test battery the school records were examined to select a potential pool of subjects. Identifying information and data concerning socioeconomic status, the degree of deafness, etiology and age of onset were noted along with details concerning emotional adjustment, problems of visual acuity and presence of other accompanying disorders. The hearing level of each subject was determined through the use of formal pure tone audiometric techniques. When indicated, both ear and bone conduction audiograms were obtained.

A diagnostic toolkit was included in the research project, which included the following:

- Raven progressive matrices. The methodology serves to determine the peculiarities of mental activity and the level of formation of logical thinking.
- A test for evaluation of communicative and initiatory abilities, which was used to perform the diagnostic testing of skills for establishing business and interpersonal relations with peers and adults, a striving for widening the sphere of contacts, participation in social and group events, skills for influencing the communication partners, an internal impetus for expressing some sort of initiative.
- T. Leary's psycho-diagnostic methodology for identifying interpersonal relationships. The methodological tool ensured the establishment of the dominant type of interpersonal relations in the self-assessment and evaluation of the children from the formed groups.

The specificity of the study implied the use of mathematical methods such as the Mann-Whitney U-test and the correlation analysis of Pierson.

The applied diagnostic battery of tools allowed, on the one hand, the specification of the level of communication ability in the examined deaf individuals through various interpersonal situations: adults and peers, and on the other hand – executing complex diagnostics of each child – his or her knowledge of themselves, knowledge of the communicative space and awareness of their own behavior in it.

The presented diagnostic models have high reliability and validity, which determined the choice of the described test kit.

Results

In the course of the study, it was found that the intellectual profile of the 7-9 year old students was significantly different from that of their hearing peers. Indicators of nonverbal intelligence in children in the control group were higher than those reported in the experimental group. Using the Mann-Whitney criterion, it was possible to establish a statistically significant difference between the two groups, even at a credential probability of 0.01 (U criterion at $p \leq 0.01$ equals 557; U empirically = 0.04).

The empirical data from the test for assessing the communicative and initiatory abilities of the children in the experimental and control groups reported for some expressed trends (Table 1).

Indicators	I group (experimental)		II group (control)		U emp.
	M	R1	M	R2	
Communication Skills	0.58	1630	0.57	1610	790
Initiating Skills	0.58	1553.5	0.61	1686.5	733.5
Note. M – Average values, R – Sum of ranges, U emp. – empirical value of U Mann-Whitney, U critical value = 557 in an alpha at 0.01					

Source: Authors

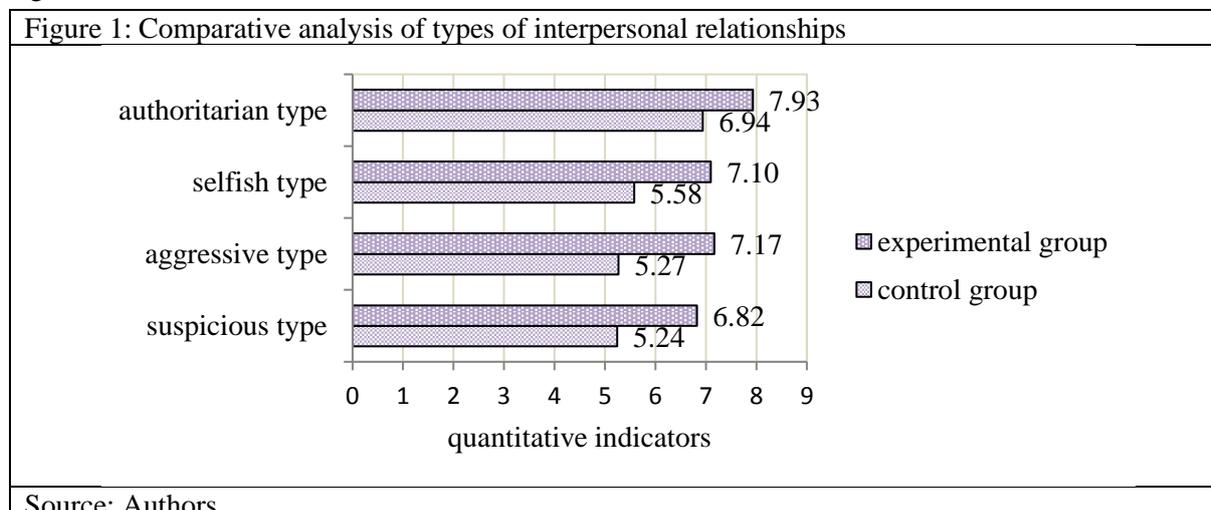
Children with hearing impairments had surprisingly higher mean values in terms of their communication skills than those who can hear. The result could be explained by the fact that deaf adolescents are likely to have a less pronounced critical appraisal of their communicative potential than participants in the control group. At the same time, no significant differences were found (U emp. = 790, U critical value = 557), which means that the children in the two groups evaluated their communication skills approximately equally, mainly at the average level. The picture was similar when assessing the initiatory skills of children with different auditory status. Listeners demonstrated higher mean values than the deaf, which was evidence of their higher self-esteem in organizing different activities. However, the Mann-Whitney test did not highlight a statistically significant difference (U emp. = 733.5, U critical value = 557). Obviously, children in both groups evaluated their organizing skills in the same way, mostly at a low level.

The results of the identification of interpersonal relationships established by the T. Leary's methodology allowed the identification of some typical patterns. A total of 8 types of relationships were presented, which are presented in Figures 1 and Figure 2.

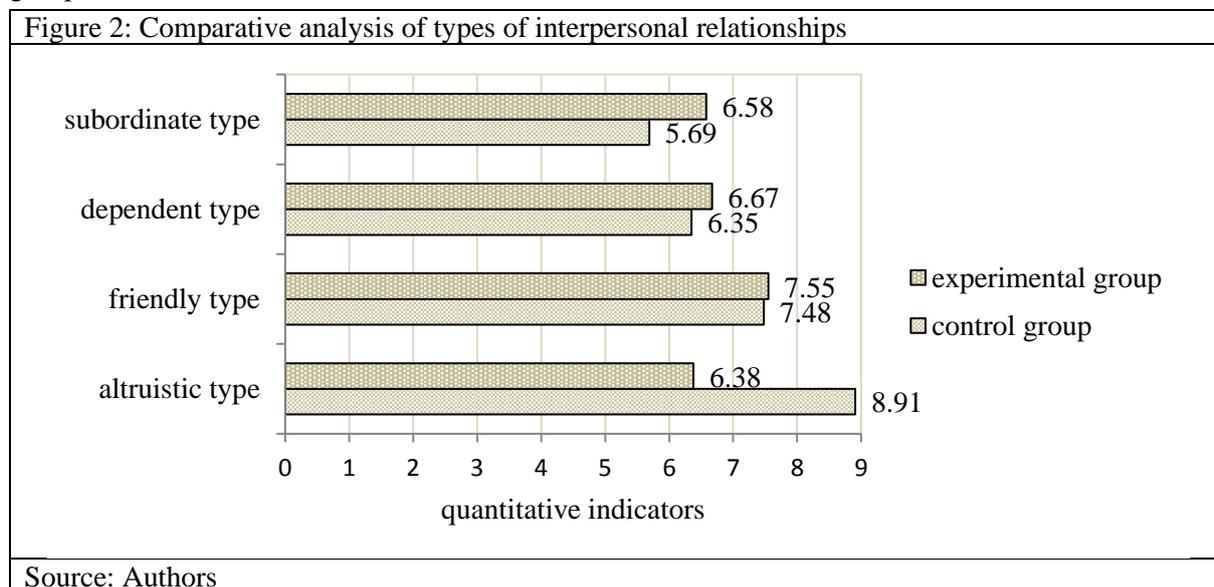
The comparative analysis between the groups showed that the authoritarian style of interpersonal relations, characterized by dominant, power and despotic manifestations, was more intensive in the experimental group, whose average value was 7.93 versus 6.94 for the control group. It should be emphasized that quantitative indicators up to the 8.00 limit were considered to be a low level of authoritarianism.

The selfish type of interpersonal relationships was also more pronounced in the experimental group (7.10) than in the control group (5.58). As a result of the applied Mann-Whitney criterion, the empirical value of the U-criterion was found to be less than the tabular one (U emp. = 539, U = 547, at $p \leq 0.01$). Therefore, the difference between groups for this parameter was statistically significant.

Like the previous two types of relationships, the aggressive model was more characteristic of the subjects studied in the experimental group - 7.17. The control group had an average of 5.27. The values of the Mann-Whitney criterion (U emp. = 529, U = 547, at $p \leq 0.01$) confirmed another statistically significant difference.



The obtained data on the suspicious type of relationships (experimental group – 6.82, control group – 5.24) showed the fact that it is more pronounced in children with hearing impairment compared to hearing children. The experimental value of the U-criterion was smaller than the table value ($U_{emp.} = 527, U = 547$, at $p \leq 0.01$), which determined the statistical significance of the difference between the groups.



The subordinate type of interpersonal relationships was predominantly characteristic of deaf children (6.58 in the experimental group and 5.69 in the control group), but no significant difference was found by the Mann-Whitney criterion ($U_{emp.} = 688, U = 547$). The result led to the conclusion that children from both groups show little tendency to establishing a subordinate type of relationships.

The mean values obtained in the two study groups (6.67 versus 6.35) reflected a stronger expression of the dependent type of interpersonal relationships in the first group. The lack of a statistically significant difference ($U_{emp.} = 716, U = 547$) illustrated the insignificant willingness of deaf and hearing children to establish a dependent pattern of behavior in their relationships with others.

The situation in identifying the friendly type of relationship was no different. There was no statistically significant difference between the mean values in the two groups (7.55 and 7.48), which was confirmed by the values of the U-criterion ($U_{emp.} = 657, U = 547$). Empirical evidence showed that the level of general intelligence does not determine the attitudes and behaviors of children in both groups in terms of the perceived relationship type.

When analyzing the results outlining the specificity of the altruistic type of interpersonal relationships, a statistically significant difference was observed between the mean values of the two groups (6.38 in the first group and 8.91 in the second group). The experimental value of the U-criterion was less than the table value ($U_{emp.} = 523, U = 547$, at $p \leq 0.01$). The interpretation of the results goes in the direction of specifying some personality traits that are formed as secondary and inherent to deaf children. This means a lesser responsibility to the people around them, which is compounded by the lack of delicacy and kindness in the interactions.

Discussion

In the presented research the specific features of interpersonal communication in deaf children were studied. There were examined the peculiarities of mental activity and the level of formation of logical thinking, the communicative and initiatory abilities, and the types of relationships. In terms of nonverbal intelligence, the results of the deaf children unequivocally showed a lower level of development compared to their hearing peers. The analysis of the empirical facts took into account the heterogeneity of the group of children with hearing impairments. The results of the performed psychometric studies of the general intelligence in the deaf were contradictory on the whole, but most authors agree that there is no prerequisite for the full unfolding of their intellectual potential (Krivitski et al., 2004). A different picture emerged in the study of communication and initiatory skills. A tendency was revealed of overlap of the communicative profiles in deaf and hearing children. Obviously, Sign language, used by 25% of

respondents, proved to be an important factor normalizing interpersonal relations and providing meaningful and reciprocal interactions (Klaudia, 2013). In addition, early diagnosis of hearing loss, the more efficient interventions, with high quality hearing aids and the use of cochlear implants, may be also associated with comparable communication outcomes.

Another aspect of the study was the types of relationships in the groups. The group of the deaf children was dominated by such types of relationships as the authoritarian and friendly ones. Because the values showed a low level of authoritarianism, it can be assumed that in this case, the studied participants were self-confident, persistent and consistent children, but not despotic and power dictators. However, the observed difference between the two groups was statistically significant, which led to the conclusion that children with hearing status deafness, compared to hearing ones, have a greater predisposition to forming an authoritarian type of relationships. At the same time, the deaf children convincingly are willing to cooperate and seek compromises. The results of this study were supported by other research data, according to which they strive for harmony with their communication partners, comply with them and are ready to follow the conventions and traditions of the reference group (Bat-Chava et al., 2005). The suspicious type were also inherent in deaf respondents. In comparison to the hearing controls, the impaired participants manifested a greater critical attitude towards all social phenomena, events and people around them. As the main reason the researchers have pointed out language delays (Rieffe, 2012). In contrast, the types that were least expressed were subordinate and dependent, which was proved by the comparable results in the two groups. To ensure their own safety without trying to assess the situation, these children (deaf and hearing) impose their own rules, which helps them structure reality. They do not take into account and comply with the needs and wishes of communicative partners, do not compromise, do not explain their decisions (Stinson & Liu, 1999). In this particular study, the hearing group was predominantly represented by the altruistic and friendly type of relationship, while aggression and selfish were inherent characteristic of the deaf children. The authors have shared the view that unlike their hearing peers, they have sometimes difficulty in showing compassion, sympathy and empathy (Nunes et al., 2001). The characteristics of deaf children: persistence, consistence, vigor, endurance and irritability contributed much more to establishing an aggressive style of interpersonal relationships than could be observed in hearing children. Besides, the deaf children showed a steady tendency towards selfish reactions. In certain cases they are prone to rivalry, they are focused on their interests, they are self-centered (Nunes et al., 2001). The formation of positive attitudes towards people and natural objects should be a priority in their education and upbringing.

Conclusion

The present study aimed to identify some communicative and interpersonal characteristics determined by the sensory impairment. Empirically, it was proved that in the process of their interpersonal communication, deaf children tend to be authoritarian, selfish, aggressive and suspicious. At the same time, their hearing peers seek to form an altruistic type of personal relationships. The unfavorable and worrying results in the experimental group inspire the need for the active participation of specialists in the development of empathetic attitudes in children with hearing impairments and the establishment of such types of interpersonal relationships as collaboration, benevolence, altruism. The results of the study also allowed the identification of major trends in the two groups of participants (hearing and deaf), which may be useful for professionals and teachers implementing the joint training of these children. First of all, students who have no communicative difficulties are aware of their dignity and consider themselves friendly, sociable and independent. Secondly, the presence of communication difficulties due to personality traits are not recognized by the children or considered insignificant. They regard the authoritarian style of interpersonal relations as the norm, they take pride in the notion of themselves as people who have focused their efforts on independence, rivalry and "leadership". Thirdly, adolescents from both groups who have communication difficulties due to certain personality traits and are prone to subordination (dependent type of communication skills) are aware of these problems and experience some discomfort caused by the fact that they cannot or do not want (fear, are ashamed) to defend their positions. Overcoming the communication difficulties caused by hearing impairment is an important prerequisite for the optimal organization of the educational process in the respective school. In this sense, the contribution of the specific study is related to the identification of important features in interpersonal communication that will assist educators in their practical activities aimed at integrating deaf children in their social environment.

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