

PECULIARITIES OF SOCIAL COMPETENCE IN CHILDREN WITH DIFFERENT AUTISTIC LEVELS

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ABSTRACT

The results of research of the social competence forming process in children with autistic disorders are presented in this work. It has been determined that the social competence range in children is dependent on the autism level. The factors of social adaptation in the children with different autism levels have been analyzed.

Key words: autism spectrum disorder, children, social competence, autism level.

INTRODUCTION

The problem of the socialization of disabled children, particularly the children with autism spectrum disorder, is connected with the fact that the majority of such children in Ukraine are excluded from the educational system and stay in big boarding schools or are kept their homes. Both special and professional education of these children is particularly connected with their social competence forming. However, the process of inclusion of such children into educational schools and preschool institutions is in its first stages. Thus, there is only one state preschool group and experimental school in L'viv (and in the whole of Ukraine) where autistic children can study. That is why we should adapt the foreign experience in social competence forming for autistic children.

SOCIAL INTERVENTIONS FOR CHILDREN WITH AUTISTIC DISORDERS

The analysis of foreign scientific literature has shown the great interest in the social skills forming in children within the autistic disorders range. In particular, there is the overview of more than 80 scientific publications where the results of conducted social interventions in groups of different aged children and with different functionality level is suggested in our research (Table 1).

In general, the social interventions can be characterized by some parameters – such as: the interference method, the duration (periodicity), and the source group characterization. According to the interference method, the social interventions can be divided into 5 categories: 1) technological (technical tools usage: laptop, video surveillance, tape recorder, and TV); 2) interference with the parents participation.

3) interference with the specialist participation; 4) interference with same-age children participation; 5) combined or multifunctional interferences. The general characteristic of the implemented social interferences is given in the table 1. The detail list of Table 1 references is situated in Annex/

Table 1. The characteristic of social interventions aimed at social skills forming in children with autism spectrum disorder (*The figures correspond to method of intervention described in the above text)

Age group	№	A kind of research			The functionality level			The intervention method*				
		Clinical	Group	One-time	low	medium	high	1	2	3	4	5
General numbers	82	3	12	67	26	33	23	10	4	36	16	16
Preschool age children	35	2	2	31	19	22	9	2	4	21	5	9
School age children	47	1	10	36	7	11	14	8	0	15	9	7

Source - Author

The striking characteristic of the implemented social interventions is the group choice peculiarity according to the functionality level: in the table 1 we can notice that the interventions in higher functionality level children are increased. The high percentage of one-time interventions aimed at forming of the separate parameter can be included in the negative social intervention methods. It says about the system of lack of method aimed at the social competence forming in children with autistic disorders range, and the absence of source programs in social competence forming in children generally. The next shortcoming of analyzed investigations is the fact that there is only one intervention aimed at the social competence forming while the rest of interventions are directed into social skills forming.

SOCIAL COMPETENCE APPROACH

Today it is very important for the special education to develop a competent approach to people with autism development, choose the key competence and research the ways of realization of the mentioned approach in practice.

Nowadays the research of social competence has an interdisciplinary character (Bakhteyeva, 2001). According to Svitlana Bakhteyeva, the social competence consists of such components:

- "to know" – knowledge is needed for social activity realization; values that control the skills and habits usage;
- "to be able to" – the methods of a person's skills and habits realization to constitute themselves both in the internal experience and the external social activity;

- “to achieve” – the accordance with the social demands of the person’s activity and behavior; the person’s ability to perform their functions, to follow their rights and duties at the appropriate age, social and cultural levels (Kalinina, 2004).

Thus, the social competence can be identified as the integrative personal formation that includes cognitive, active, moral and valuable components. It is very interesting to observe how these components are being changed in children with autistic spectrum disorders. At domestic practice autism is a phenomenon referred to by many representatives of science, education and social institutions (Shulzhenko, 2009; Skrypnik, 2008; Lebedinska, & Nikolska, 1991; Nikolska, Bayenskaya, & Libling, 2007).

However, the level of understanding and perception of the problem of autistic personality by society, in general, and the branches of multistage educational system is quite low. The phenomenon of social competence is being widely researched in the foreign scientific literature (Mayes, 2007; Ingram, 2007; Bellini, 2008 etc.). Nevertheless, it should be admitted that the foreign scientists have essentially another approach to the social competence sphere definition. According to Janis Jacobs, the social competences include only the relationships in the group: speaking skills, emotion understanding, working with conflict, friendship skills (Meder, 2000). In this work we rely on domestic experience that is based on studying the personality theory study and its application in research into social interactions between people.

That is why the aim of this work is the precondition analysis for the social competence forming in the children with autism spectrum disorder. Special attention is paid to the social competence comparison in the children with different autistic levels.

EXPERIMENTAL METHODS

The research was done with school age children in the first Ukraine experimental school where the children with autism are officially taken for studying. 50 children with officially diagnosed “autistic disorders range” were taken for this research.

The undermentioned methods were used in the research :

1. Binet-Simon scale for intelligence level determination.
2. Method of neuropsychological research according to Alexander Luria for psychophysical development level determination.
3. Childhood Autism Rating Scale (CARS) for autism level determination.
4. Assessment of social competence (ASC) for children and young adults with developmental disabilities.

Among the applied methods the usage of A.R. Luria’s neuropsychological research should be explained. We have done the research in our work by means of the undermentioned method parts: orientation, adequacy, criticality, proof test, test on the reciprocal coordination, test on the conditional choice reaction, test on the dynamic praxis, test on the objective and acoustic gnosis, test on identification of spatial oriented simple figures and test on emotion identification. It was expected that this research would give us the possibility to identify the cognitive development peculiarities in the children with autism which, in its turn, would induce improvements in correctional and rehabilitative program design.

The given results are processed by the statistical methods. Accordingly, the comparative, factorial and correlative analyses have been conducted for the results interpretation and obtaining the objective conclusion.

EXPERIMENTAL RESULTS

The division of researched children according to the autism level was the first stage of this research. We researched the autism level in accordance with CARS (Childhood Autism Rating Scale) method. We obtained such results in the process of research: 53% of researched children show the low autism level, 42% -medium and 5% - high level.

These indicators are regular for the children that study in the experimental school. In these days a small number of children with high autistic level study at this school. It witnesses that even at a school with the national experimental status for autistic children, the studying process can not involve children with high autistic level. That is why the day centre for children with high autistic level has been opened in L'viv on the level of "Vydkryte sertse" public organization. It can be attended by children after the 1-2 class in school and children that prepare before entering the school.

On the basis of the conducted factorial analysis indicators, gained in accordance with Binet-Simon's, A.R.Luria's and CARS' methods, five factors have been formulated, they can be described in such psychological meaning:

- 1) personal component;
- 2) activity component;
- 3) cognitive component;
- 4) emotional component;
- 5) age.

The complex of these components determines the forming level of some children's competences. If each factor is considered then four social competence spheres of children with autism can be separated and dynamics of their change with age can be observed. Considering the availability of substantial social competence dependence on the physical disorder degree in children, it is reasonable to set the competence differences in the children with different autistic level. We have used the results of the correlational analysis for setting of these differences in our work.

Such connections have been set on the basis of the conducted correlational analysis:

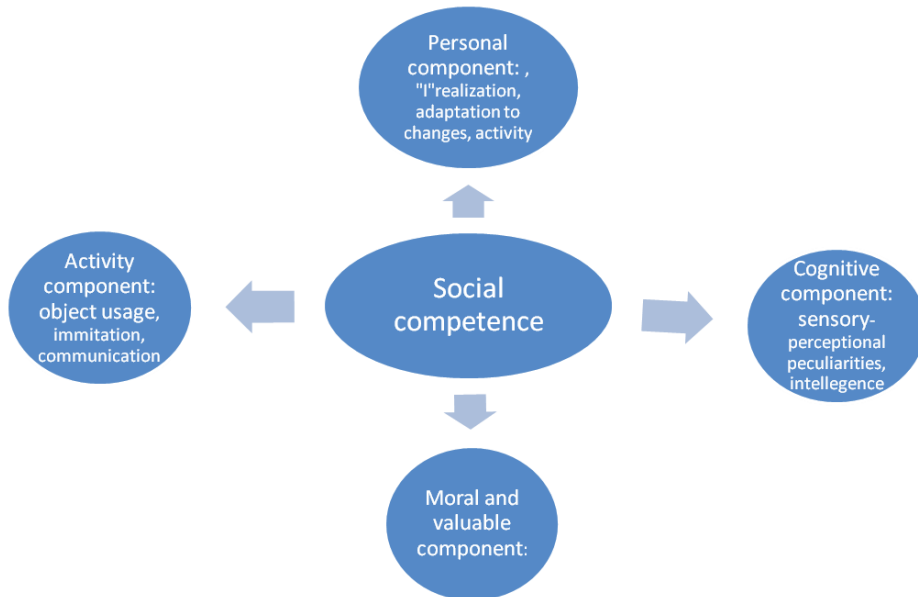
- 1) returned correlational connections between the autistic level and the activity component parameters – "name the objects", "count 4 coins" ($r=-0,6$); and also direct correlational connection between the autistic level and the priceless object usage ($r=-0,87$). Thus, the children with the lower autistic level have more possibilities and get more involved in different activities.
- 2) direct correlational connection between the autistic level and the anxiety ($r=0,8$). Thus, the children with high autistic level are characterized by high anxiety level. They cannot sit quietly and are discomforted. Accordingly, the decrease of the autistic level leads to the general balance improvement and more adequate emotional reaction.

- 3) direct correlational connection between the autistic level and the imitation ($r=0,72$). Thus, the children with high autistic levels are characterized by imitation without understanding of their moves content. The decrease of the autistic level leads to better understanding of their behavior motives and sensibility of their actions.
- 4) direct correlational connection between the autistic level and overcoming the obstacle ($r=0,84$). Thus, the children with high autistic level perceive the environment as a threat and in order to avoid this threat they try to overcome the obstacles. In most cases, they are hyperactive. The decrease of the autistic level in the result of the correlational classes and the age influences positively on children that leads to increase of their equability and physical activity decrease.

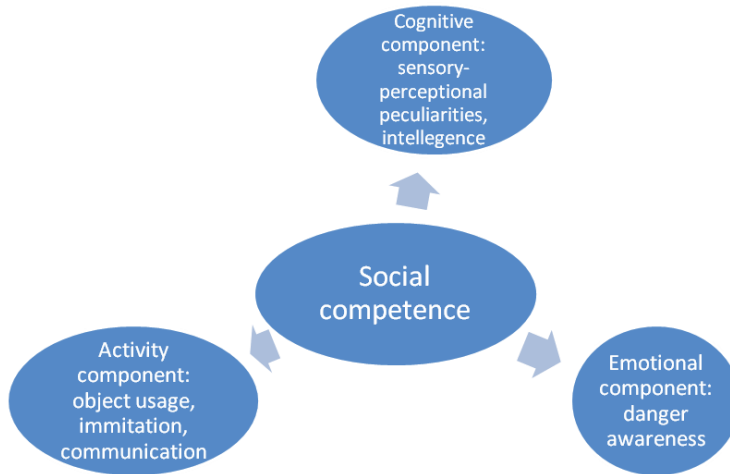
Thus, on the basis of the correlational analysis the increase of social competences level with the autistic level decrease in children in the intellectual, emotional and activity spheres has been determined. The correlational analysis results do not detect the relationships between the autistic level and the personal development components. We think that it is connected with the fact that about the personal component we can talk only for high functional children within the autism range. Children with low and medium levels do not consider their "I" in the result of substantial disorder in the integrative functions of the brain that is why it is difficult for them to talk about the formed personal component.

As a result, we can propose two schemes which generalize the social competences in the children with different autistic level (scheme 1 and 2).

Scheme 1. Social competence structure for high functional people with autistic disorders range.



Scheme 2. Social competence structure for people with high and medium autistic level.



Source: Author

Using the given schemes we have carried out social interventions for the preschool group and the same age autistic children. The preschool group consists of 6 3-5 year-old children. We have used the intervention to these children with the elements of ABA therapy. The school class contains 11 8-12 year-old children. And here we have used the intervention based on ABA and TEACCH therapy elements. The interventions have lasted for 52 weeks 2-3 times a week with duration 45 minutes. The preliminary and end evaluations of progress in children's social competence forming have been done with usage of an ASC questionnaire (Assessment of social competence for children and young adults with developmental disabilities by Meyer, Reichle, McQuarter, & Cole, 1985),

ASC contains 252 separate questions organized in 11 functions: initiation, self-control, rule following, positive corroboration securing, negative reciprocal connection securing, answer to signals, help acceptance, help offering, ability to make a choice, ability to cope with negativism and interaction stopping. We have tried to adapt this methodology and classified 11 functions in accordance with four components of social competence (scheme 1). These results are presented in table 3.

DISCUSSION

It is necessary to admit the gradual approach to social competence forming in children. The process of social competence forming in the children with autistic disorder range includes 3 stages: social adaptation, socialization, and social competence forming itself. Taking into account the symptomatology of this disease, it is very important for the children with autism to realize the first stage - to revert to society. Later we will discuss factors that should be taken into account on the first stage of social competence forming:

1. Peculiarities of the perceptual sphere of children with autism
2. Peculiarities of the interaction with people.

Regarding the perceptual sphere, it is very important to take into consideration the availability of abrupt polarization in children with autism between such perceptual characteristics:

Table 2. Perceptual characteristics of children with autism spectrum disorder

Taste, smell, and touch	Aural reaction
Considerable development of such spheres, mainly, indicated at low functional activity of people with autism	Development of this sphere correlates greatly with gnosis indicators, the child with autistic range intellectual development

Source: Author

The results of the first table 2 column can be explained by the compensatory mechanism activity. If a child has such spheres as verbal and non-verbal communication greatly impaired, the human organism tries to compensate for these disorders by means of other resources (taste, smell, and touch). That is why hypersensitivity and over vulnerability in the mentioned spheres are observed in the children with high autistic level, the same as in animals.

The results of the second table 2 column are very important for the correlational and rehabilitative programs application. They indicate the high influence of perceived information through the ear on its understanding and comprehension. That is why it is very important for the children's intellectual sphere development to make them enter the "listening" state. It is easier to do with the high functional children, however, it is very difficult to do it with the children with high autistic level.

Over anxiety and the constant physical activity are two factors that distract these children from concentrating. The difference between these groups is noticed also on the physiological level – the alpha-rhythm on the brain encephalogram is almost absent in the children with high autistic level. The alpha-rhythm is a vibration of the low frequency with the periodicity of 6-7 times per second. It is likely that the availability of such frequencies in the healthy children and in the high functional children with disorders of other nosologies harmonizes the psychological processes and removes the anxiety state. The alpha-rhythm in healthy people is in a state of increased anxiety and trance, however, it is well divided in a state of tranquility and dream.

One of the methods of people calming is psychotherapy treatment where the practice of rhythmic repetitions, facile language and slow music has been used. It is obvious that the same practice should be used for the hyperactive children calming. The practice of work with the hyperactive children with autism in Lviv "Open Heart" centre has shown that systematic participation in prayers, constant poem repetition and singing simple songs have a striking influence on such children. As the result of long-term practice those children have become more tranquil, open to "listening", and, respectively, to a sense of understanding things.

The fact of the direct correlational connection establishment between the "aural reaction" and the social competence personal component parameters, such as: "to determine their sex" ($r=0,82$) and "to name their surname" ($r=0,82$), has been very

important for the correctional work. It means that the listening skill leads to individual establishment of person with autism, fosters their "I" realization, self-awareness and self-control elements forming.

One more very important perceptual sphere is the visual reaction. It is necessary to remember that the disorders of this sphere are observed in people with autism. However, in accordance with the correlational analysis data there is the direct correlational connection between the visual reaction and the understanding and intelligence ($r=0,6$) detected that justifies the importance of correction programs planning aimed at the visual reaction supporting for the cognitive competence forming in the children with autism.

That is why the development of perceptual sphere in children with autism induces their self-integration that leads to self-awareness and child's development as personality.

However, the consideration of the children social interaction peculiarities in the group is very important for the development of the social competence. On the high functioning level it is reasonable to talk about the acceptance of some rules, social behavior standards, conducting and understanding values system by child. On the low child's functioning level social interaction with other children comes to communication and emotional reaction revealing. Therefore, it is necessary for their social adaptation to work on the communication improvement, the emotion reaction revealing, and precaution of aggressive behavior to children and teachers.

The immediate task of social adaptation of the children with high autistic level is the correctional programs complex aimed at the sensory integration and connected environment perception. The effectiveness of these programs application is in the auto stimulation and aggression level decrease. At this stage such the child can be involved in the group classes and his/her socialization can be implemented.

The third stage, namely the social competence forming in the children with autistic disorders range, is implemented in the group, where the child "notices" the other children, is able to "listen", "see" and enter the communication process. It is understandable that such relationships will have some emotional coloring that later can lead to the friendship elements appearance or to conflict.

As a result of the social interventions implementation in accordance with described stages in the preschool age group and the pupils with autism spectrum disorder, we have gain some changes in their social competences (see table 3)

In accordance with table 3 results we can make the preliminary findings:

the applied social methods have been quite effective: almost all social competence parameters are substantially improved after the formulated experiment.

The social competence in the children with autistic disorder range depends on the autistic level: the higher autistic level, the less social competence is formulated in children.

The moral, valuable and personal components of the social competence are weakly developed in the children with high autistic level. Moreover, the insignificant changes in these spheres have been detected after the formulated experiment end. Thus, the development of these spheres for such children demands more efforts and the further research.

Table 3. The social competences dynamics in children with autism spectrum disorder

Autism level	Preschool age				School age								
	High		Medium		Low		High		Medium		Low		
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	
Social competences													
Cognitive sphere													
Answer to situational signals	35	46	44	53	70	75	30	38	42	51	65	72	
Indicate the advantages	15	17	18	21	29	35	10	13	16	19	25	31	
Activity sphere													
Interaction initiation	14	17	26	30	32	37	10	15	22	28	30	36	
Help acceptance	70	73	56	59	50	52	70	77	56	62	50	55	
Activity stoppage, interaction refusal	15	21	25	30	45	75	9	12	15	21	35	55	
Personal sphere													
Self-regulation	1	8	5	12	25	35	0	3	2	7	21	30	
Acceptance	60	65	72	74	52	54	70	75	81	88	55	58	
Skills to control the negativism (stress)	3	6	8	12	25	36	0	5	7	13	20	28	
Moral and valuable sphere													
Rules following	0	3	7	17	28	41	0	2	5	15	25	35	
Positive reciprocal reaction	0	0	3	5	22	33	0	0	1	10	20	31	
Help to others	0	0	0	5	10	12	0	0	0	2	7	10	

Source: Author

It is very important to admit the acceptance that indicators decrease in the children with high functional level of preschool and school ages. We think that it is connected with the ability to the adaptation and the manipulation for such children and reminds us of the behavior of the healthy children.

CONCLUSION

On the basis of the conducted research the analysis of preconditions to the social competence in the children with autism spectrum disorder has been put into practice. It has been found that the social competences range in children depends greatly on the autistic level. Thus, in the children with low autistic level four social competences components have been singled out: cognitive, activity, moral-valuable and personal. In the children with high and medium autistic levels the formulated social competences components are significantly reduced and include cognitive, activity and emotional components. The process of the social competences forming in the children with autistic disorders includes three stages: social adaptation, socialization and social competences forming the self. It has been shown that in the social adaptation stage in the children with high autistic level is very necessary to work with communication, emotional reactions and aggressive behavior precaution regarding children and their teachers. The correctional programs at this stage should be aimed at the integration of children's sensorial sensations.

The used social interventions for preschool and school age autistic children with ABA and TEACCH elements therapies usage has been found to be very effective: almost all the social competences parameters significantly improved after intervention. However the applied method has certain limitation. The obtained results have shown that moral, valuable and personal components of the social competence are weakly developed in the children with high autistic level. There are no significant changes of these spheres after the social interventions. Thus, the development of these spheres for the difficult children demands more efforts and the further researches.

ANNEX

The table 1 analysis shows that according to the interference method the most spread interventions are with the specialist participant interference (theraputists, psychologists and teachers) (i.e. Boyd, Conroy, Mancil, Nakao, & Alter, 2007; Carter, 2001; Crozier, & Tincani, 2007; DeQuinzio, Townsend, Sturmey, & Poulson, 2007; Gena, 2006; Hancock, & Kaiser, 2002; Ingersoll, Dvortcsak, Whalen, & Sikora, 2005; Ingersoll and Schreibman, 2006, Kasari, Freeman, & Paparella, 2006; Kern, Wolery, & Aldridge, 2007; Kohler, Anthony, Steighner, & Hoyson, 2001; Kroeger, Schultz, & Newsome, 2007; MacDuff, Ledo, McClannahan, & Krantz, 2007; Smith, Goddard, & Fluck, 2004, Whalen, & Schreibman, 2003 for preschool age children and Bock, 2007, Fisher, & Happe, 2005; Koegel, Werner, Vismara, & Koegel, 2005; Lee, McComas, & Jawor, 2002; LeGoff, 2004; LeGoff, & Sherman, 2006; Lopata, Thomeer, Volker, Nida, & Lee, 2008; Owens, Granader, Humphrey, & Baron-Cohen, 2008; Sarokoff,

Taylor, & Poulson, 2001 for school age children). However, it has been suggested in the most analyzed works that the interventions with same age children participants give the best results (Chan, Lang, Rispoli, O'Reilly, Sigafos, & Cole, 2010; Garfinkle, & Schwartz, 2002; Kohler, Greteman, Raschke, & Highnam, 2007; Nelson, McDonnell, Johnston, Crompton, & Nelson, 2007; Petursdottir, McComas, McMaster, & Horner, 2007; Zercher, Hunt, Schuler, & Webster, 2001; Betz, Higbee, & Reagon, 2008; Ganz, & Flores, 2008; Jones, Carr, & Feeley, 2006; Jung, Sainato, & Davis, 2008; Kern, & Aldridge, 2006; Sawyer, Luiselli, Ricciardi, & Gower, 2005 for preschool age children and Cotugno, 2009; Delano, & Snell, 2006; DeRosier, Swiek, Davis, McMullen, & Mattheews, 2011; Ganz; Kaylor, Bourgeois, & Hadden, 2008; Koenig, White, Pachler, Lau, Lewis, Klin, & Scahill, 2010; Kuhn, Bodkin, Devlin, & Doggett, 2008; Lee, Odom, & Loftin, 2007; Owen-DeSchryver, Carr, Cale, & Blakeley-Smith, 2008; Thiemann, & Goldstein, 2001; Laugeson Frankel, Gantman, Dillon, & Mogil, 2012; Liber, Frea, & Symon, 2008; Locke; Rotheram-Fuller, & Kasari 2012; Loftin, Odom, & Lantz, 2008; Morrison, Kamps, Garcia, & Parker, 2001; McMahan, Vismara, & Solomon 2012; Scheeren, Koot, & Begeer 2012; Thiemann, & Goldstein, 2004 for school age children). It is obvious that the number is not very large owing to the forming group guarantee complexity. The interventions with technical tools usage are more effective at school age. That is why the numbers in preschool age children (Bellini, Akullian, & Hopf, 2007; Simpson, Langone, & Ayres, 2004) is less than in school age children (Buggey, 2005; Charlop-Christy, & Daneshvar, 2003; LeBlanc, Coates, Daneshvar, Charlop-Christy, & Morris, 2003; Nikopoulos, & Keenan, 2004; Nikopoulos, & Keenan, 2007; Scattone, 2008; Delano, 2007; Sherer, Pierce, Pardes, Kisacky, Ingersoll, & Schreibman, 2001). According to the table, the interventions from the parents' side are limited and practiced only for preschool age children (Aldred, Green, & Adams, 2004; Ingersoll, & Gergans, 2007; Schertz, & Odom, 2007; Vismara, & Lyons, 2007). Obviously, it is connected with the low paternal motion activity and the relatively low parental professional competence. Moreover, the intervention with the combined method usage is not very frequent (Apple, Billingsley, & Schwartz, 2005; Gena, Couloura, & Kymissis, 2005; Maione, & Mirenda, 2006 for preschool children and Sansosti and Powell-Smith, 2008; Shabani, Katz, Wilder, Bauchamp, Taylor, & Fischer, 2002 for school age children).

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