INTRODUCTION

The increase in the number of children with autism spectrum disorders (ASD) has been a global trend in recent decades. According to the World Health Organization, one child out of 100 has ASD [1]. In Ukraine, there are no accurate statistics on the number of children with this type of disorder, but over the past five years, the Ministry of Health annually records an increase in the number of newly diagnosed cases of autism by 25-30% [2]. According to the latest available data, in 2017, the number of children with autism was more than 7 thousand people. However, according to experts, this figure is about 10 times higher [3].

The results of the conducted studies [4; 5] indicate that disorders of neuropsychiatric development that occur in autism lead to violations of social skills. Their deficiency affects various areas of development and functioning of children with ASD, in particular, emotional and cognitive development [6; 8], social interaction [9]. In particular, the results of a study of the ability to social cognition in pre-schoolers with ASD and Prader-Willi syndrome showed that the development of social playing skills and understanding of receptive language correlate with the severity of autism [7]. Another study [6], which examined the links between anxiety, cognitive functioning, integrity of information perception, and social skills in children with autism, showed that difficulties in mastering the latter were most often demonstrated by children with high levels of anxiety, excessive concentration on details, and poorly developed cognitive functions. Bellini, Gardner and Markoff note that since autism manifests itself differently in each child, there are also differences in the spectrum and level of proficiency of the child in certain social skills. Common to most children with ASD, according to their conclusions,
are difficulties in initiating a conversation, responding to appeals, and maintaining mutual social contacts – social skills that are key characteristics of a person’s social behaviour [8].

Among foreign researchers, there are different approaches to identifying certain types of social skills. Usually, they are guided by the importance of social skills for mastering other, more complex ones, or achieving a specific social task – for example, including the child in social interactions [8], improving friendships [9], emotion regulation [10], etc. At the same time, the task of classification of social skills is not the main one, but is solved in the context of implementing other tasks, such as the impact of violations of certain social skills on the functioning of children [6; 7], the development and testing of tools for measuring them [11; 12], determining the effectiveness of interventions aimed at their development [8-9; 13].

At the same time in the Ukrainian scientific community, there are practically no studies that would use the concept of “social skills”, reveal their types and range of possible difficulties related to them in children with autism. This situation is conditioned by the fact that such concepts as “socialisation”, “social abilities”, and “social competence” are more familiar and widespread. Notably, they are close, but not identical to the concept of “social skills”. Social abilities are an important prerequisite and lower level of development of social skills and are considered as their elements. In turn, social skills are components of social competence as the ability to effectively interact with others in a particular social situation [14]. Mastering them occurs in the process of socialisation of the individual and is a necessary condition for its harmonious functioning in the social environment.

Considering the importance of social skills as the main symptom of the disorder and the scope of correctional and developmental work with children with ASD, the purpose of the study is to review the main approaches to determining the types of social skills and their disorders. The purpose of the study is to identify criteria for distinguishing social skills and categories of difficulties associated with their development by children with autism.

**MATERIALS AND METHODS**

To achieve this goal, a desk study was conducted, which included collecting information from the scientometric databases Scopus, Web of Science, PubMed, ResearchGate, and Google Scholar. The keywords: “social skills”, “social skills in children with autism spectrum disorders”, “typology of social skills”, “categories of social skills”, “types of social skills”, and “social skills disorders in children with autism”. Further processing of the content of selected scientific publications was carried out using general scientific methods of data analysis, generalisation, and comparison. The analysis method was used to investigate the essence of social skills, the consequences of their disorders for the functioning of children, criteria for determining the types of social skills and difficulties in their assimilation by children with autism. The comparison method was used to identify common and different approaches to determining social skills by different researchers and at different time stages. The generalisation method allowed systematising and structuring approaches to determining the types of social skills in children with ASD and formulating the conclusions of the study.

The study was conducted in several stages. First, a critical review of the studies by Ukrainian and foreign researchers was carried out, the purpose of which was to clarify general approaches to understanding social skills, the use of this concept in scientific discourse, and the level of research on issues related to their typology in children with ASD. At the next stage, the research focused on an in-depth analysis of scientific papers focused on the development of criteria for identifying types of social skills and difficulties in their acquisition by children with autism. The final stage of the study consisted in summarising its results and formulating conclusions.

**RESULTS AND DISCUSSION**

*Autism, social skills and their disorders: an overview of concepts*

According to the definition by the American Association of Psychiatrists, ASD is a general disorder belonging to a group of psychological development disorders conditioned by the peculiarities of the structure and functioning of the central nervous system [15]. Such disorders occur between the ages of 18 and 38 months [11]. However, there were cases when they first occurred at a later age – from 38 to 120 months [16].

According to the International Classification of Diseases of the 10th revision (ICD-10), ASD includes several different forms of disorders, in particular, Kanner’s syndrome, atypical autism, Rett syndrome, childhood disintegrative disorder, and Asperger’s syndrome [17]. Differences relate to the time, nature, and degree of manifestation of symptoms or the dynamics of their development, which is reflected in the concept of “spectrum”. Common to all disorders on this spectrum is a lack of social skills. It is defined as persistent impairments in communication, social interaction, and social cognition that manifest themselves in different contexts and include difficulties in (1) establishing social emotional interaction (e.g., inability to conduct dialogue), (2) understanding and using nonverbal communication during social interactions (e.g., inability to maintain eye contact), and (3) understanding, establishing, and maintaining relationships (e.g., inability to make friends) [15].

Impaired social skills are also found in the symptoms of many other disorders, including social communication disorders, mental retardation, attention deficit hyperactivity disorder, and social anxiety disorder [18].

The first studies devoted to the analysis of the content of the concept of “social skills” and the development of approaches to correcting their violations, date back to the 1970s. At that time, social skills were defined as the ability of a person to establish relationships and interact with other people [19]; to act in accordance with the social situation, adhering to the norms of behaviour accepted in society [20]; to demonstrate behaviour that allows interacting with others without causing negative feedback [21].
Subsequent definitions of social skills considered them as the ability to competently perform social tasks [22] and pointed out their conditionality by the cultural norms of society [23]. Current studies prove the influence of emotion regulation and neuropsychological abilities, such as attention, memory, thinking, etc., on a person's social skills [18]. Researchers [4; 7; 24] also pay attention to their connection with other important mental processes and states, such as speech, thinking, attention, and mental health. Although there is currently no single definition of social skills [25-26], there is a consensus in the scientific community that social skills are socially acceptable learned behaviours that allow a person to effectively perform various social tasks [18]. Such manifestations of behaviour or skills are determined by the values and norms of a particular culture and increase the likelihood of positive perception of a person by others [5]. From this definition, it is evident that social skills are crucial for the development of positive personal relationships with family, friends, peers, and adults, effective functioning in various contexts – in school, community, and workplace. Underdeveloped social skills lead to learning difficulties, interpersonal relationships and behaviour, mental health disorders, and social adaptation in general.

**Types of social skills in autism: an overview of the main approaches**

The results of the analysis of research papers on the topic showed that earlier studies [27-28] differentiate social skills by (1) the level of their internal complexity and (2) the sequence of application. The first typology [27] contains such groups of social skills as: basic, which include the ability to observe, establish eye contact, appropriate use of nonverbal means of communication; interaction skills that provide the ability to initiate and maintain a conversation, fill pauses, follow one's turn; affective skills that provide the ability to recognize and understand emotions; and cognitive skills that are important for understanding social situations, making adequate decisions, self-regulation and self-control over own behaviour. According to the second typology [28], there are three groups of social skills: coding skills necessary for understanding the social situation, tasks of activity and ways to achieve them; decision-making skills, due to which the choice of the task option is made; decision-making skills that provide the opportunity to implement the chosen action option, track its implementation, and regulate own emotions.

The most up-to-date typology of social skills [29] is based on the target areas of their application and includes communication skills, emotion regulation skills, cognitive skills, and problem-solving skills.

Communication skills play a key role in interpersonal interactions and social relationships. Communication includes both verbal and nonverbal components that facilitate mutual understanding between interlocutors. Verbal communication involves the use of language, while nonverbal communication involves voice qualities such as tempo, tone or intonation patterns, eye contact, gestures, body language or posture, proxemics, and facial expression [29]. Social communication skills ensure the use of verbal and nonverbal communication in accordance with social norms and considering the situation of interaction and the personality of the interlocutor. Specific skills associated with language use include the use of utterances to greet, say goodbye, make requests, collect and provide information, resolve conflicts, use nonverbal means to convey emotions, engage in social interaction, and convey hidden or indirect messages. As a rule, children with ASD have difficulties with basic communication skills, such as greeting, initiating and maintaining conversations, sharing information, following their turn in the conversation, understanding the combination of both verbal and nonverbal messages, and evaluating the social context of communication [15]. Training in cognitive skills is a key area of correctional and developmental work for many developmental disorders, including autism. The goals of the work may be to develop the ability to understand addressed and expressive speech, initiate communication, answer greetings or questions from peers, etc. [29].

Dysregulation of emotions can negatively affect the assimilation and/or application of social skills, hindering their adjustment or quality [30; 31]. The developed skills of regulating emotions ensure the ability of a person to influence the type, strength, time, and verbalisation of their own emotional experience both unconsciously and purposefully [32]. For example, a person can control their own emotional response by changing their attitude to a situation, avoiding certain situations or people that cause negative emotions, focusing on positive aspects, suppressing an emotional experience, or changing the behavioural expression of an emotion. It is difficult for children with ASD to recognise emotions through nonverbal manifestations – facial expressions, tone and timbre of voice, body language, etc., to respond to them, demonstrate and manage their own emotions [10]. Elements of learning how to regulate emotions, including using robots, virtual and augmented reality, are often present in activities to develop social skills in this category of children [13].

Cognitive social skills are related to the knowledge, thoughts, and reasoning on which social interactions are based. For example, knowing and understanding the rules of the game and norms of behaviour helps the child to follow them, understand what actions may be required in a particular social situation. Another important cognitive skill is the ability to process social information. It includes encoding social signals, interpreting them, defining the goals of social interaction, formulating a response, making an appropriate decision, and implementing it in behaviour [33]. Additional cognitive skills that affect social functioning include the ability to imagine other people's feelings, thoughts, and desires, and determine their intentions, which allows anticipating and explaining the actions of others. The processing of social cognitive information is also influenced by basic neuropsychological abilities, including features of the course of mental processes of perception, attention, memory, thinking, etc. [24]. Disorders of the nervous system development characterised by a lack...
of basic cognitive functions can disrupt the effective acquisition and use of social skills. Thus, children with ASD may have a general lack of cognitive skills, which manifests itself in difficulties in performing certain types of cognitive activities, such as processing information in changed conditions or focusing on the holistic perception of information rather than on elements and details, using previously learned information in new conditions, organising and planning actions, etc. Another type of social cognitive skills deficiency is a lack of socially significant emotional information. It manifests itself in a lack of understanding of the social context, mental actions, inability to play games that require the use of imagination, difficulties with understanding mental states that do not have direct external manifestations, such as intentions, desires, and emotions. A significant factor in the difficulty of learning cognitive skills is sensory deficits, which manifest themselves in hyper or hyposensitivity to certain stimuli, excessive selective attention, and impaired switching of attention between different sensory signals or matching data from different sensory modalities [34].

Social problem-solving skills refer to the ability to adapt and respond to different social situations. In addition to the ability to understand the problem as a whole, relevant skills include the ability to identify solutions to it, make decisions, implement them in own behaviour, and determine their effectiveness [29]. Violations of programming and control functions observed in ASD lead to difficulties in integrating and considering the entire set of features of the situation, violations of selective attention to the perception of essential aspects of the environment, and violations of inductive logic [35]. As a result, children with ASD have difficulty perceiving, processing, and integrating information, linking past experiences to present and future actions. It is difficult for them to cope with tasks related to solving problem situations. Learning and developing social problem-solving skills increases children's ability to participate in social interactions that require prompt assessment and selection of adequate responses to new unfamiliar situations, or those that involve certain risks.

Obviously, despite the different criteria for grouping social skills, their content is common, as is the possibility of impairment in children with autism in all of the defined skill types. Studies that do not offer a systematic approach to determining the types of social skills justify the importance of individual skills for the effective functioning of children with ASD in general and the performance of specific social tasks in particular. Thus, Mendelsohn, Gates, and Lerner [9] consider social skills in the context of establishing and maintaining friendships – an area in which children with autism usually have significant problems. The skills needed for friendship are divided into two types – those related to social cognition and social motivation. The former include the ability to recognise emotions, understand and reflect the cognitive and emotional experiences of others, decode and use social cues, and make decisions. The second category includes the ability to demonstrate social interest and enjoy social interactions [9].

Bellini, Gardner, and Markoff viewed the social skill of initiating interaction as key to mastering others and building more complex and lasting social contacts. Taking as a basis the peculiarities of the manifestation of this social skill in children with ASD, they are divided into two categories: those who, due to increased anxiety, fear, and apathy, rarely enter into interactions; and those who often initiate interactions, but in excess, at the wrong time or in an inappropriate way [8].

Understanding all the difficulties that may arise with mastering social skills in children with ASD is provided by their typology, proposed by Gresham and Elliott [21]. The researchers identify four categories of difficulties associated with the underdevelopment of social skills: lack of skills, lack of their use, lack of self-control, and lack of implementation of self-control. A skill deficit occurs when a child lacks the skills necessary for effective social interaction. A skill use deficit is when a child has the ability to apply a certain behaviour, but does not do so at an appropriate level due to a lack of motivation or lack of opportunity. Thus, if a child demonstrates behaviour that is acceptable in a certain situation, such as at home, and unacceptable in another, such as at school, they probably have a lack of skill use. A lack of self-control skills is manifested when a child has not mastered a social skill due to an inability to regulate their own emotions, such as anxiety. Finally, a lack of self-control is also associated with emotions, but in this case, they do not affect the development of the skill, but its application [18]. In fact, the last two types of difficulties are related to the skills of regulating emotions.

Despite the existence of different approaches to the typology of social skills, the analysis of their content and the nature of difficulties that children may have with their development indicates the complex and complex nature of this construct. It is also logical to conclude about the relationship and interdependence of different groups of social skills: the lack of skills in one area affects the rest. For example, the lack of communication skills can be caused by the underdevelopment of cognitive and/or emotion regulation skills and lead to impaired problem-solving skills.

**CONCLUSIONS**

Impaired social skills are one of the key symptoms observed in many disorders of psychophysical development, including ASD. They negatively affect children's interactions with loved ones, friends, and peers, reducing the effectiveness of functioning in school, society as a whole, and their level of social and mental well-being. Different groups of social skills are distinguished based on criteria of their internal complexity, priority, and scope of application. Children with ASD can have difficulties with both individual social skills and with all of them at the same time, which indicates their complex and interconnected nature. The nature of difficulties can also vary, ranging from the full sensitivity of the skill to the inadequate level of its use due to the lack of motivation, and inability to control emotions when mastering or applying the skill. Understanding the essence of
social skills, their types, and possible difficulties in learning and applying them is important for planning, implementing, and evaluating social skills development interventions in children with ASD.

Social skills development and correction activities should begin with identifying which skills are impaired and what the nature of such disorders is. The interdependence and connectedness of different groups of social skills require systematic and targeted activities for their development. Determining the sequence of such work should be based on the importance of social skills to ensure the effective functioning of the child in the environment where such a child is located. Prospects for further study relate to the analysis of tools for assessing social skills in children with ASD, the content and effectiveness of interventions to develop various types of social skills in children with autism.

REFERENCES


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**Типологія соціальних навичок та їх порушення у дітей з розладами спектра аутизму**

Анотація. Зростання чисельності дітей з розладами спектру аутизму зумовлює потребу в здійсненні корекційно-розвиткової роботи із цією категорією дітей, зокрема й з розвитку соціальних навичок. Мета статті полягає в огляді основних підходів до визначення типів соціальних навичок та їх порушення у дітей з аутизмом, а її завдання – у виокремленні критеріїв для розрізняння типів соціальних навичок та категорій труднощів, пов’язаних з їхнім опануванням дітьми з аутизмом. Для досягнення мети проведено кабінетне дослідження з використанням загальнонаукових методів аналізу, узагальнення та порівняння даних. Проаналізовано вплив порушень соціальних навичок на функціонування дітей з розладами спектру аутизму у соціумі, їх соціальне та психічне благополуччя. Представлено різні підходи до виділення типів соціальних навичок залежно від критеріїв типологізації, таких як внутрішня складність навички, черговість та сфера її застосування. Охарактеризовано причини виникнення труднощів у засвоєнні соціальних навичок дітьми з аутизмом. Розкрито характер і зміст труднощів, які можуть виникати при їх набутті, та вплив несформованості або недостатнього рівня володіння однією групою навичок на інші. Вказано на необхідність здійснення комплексного та продуманого підходу до розвитку соціальних навичок. Практичне значення дослідження полягає в тому, що його результати можуть бути використані під час планування, реалізації та оцінювання ефективності втручань у розвиток соціальних навичок у дітей з аутизмом

Ключові слова: аутизм, соціальні навички в дітей з аутизмом, типи соціальних навичок, труднощі в набутті соціальних навичок, корекційно-розвиткова робота