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CHARACTERISTIC ASPECTS OF PROGNOSTIC COMPETENCE IN YOUNGER SCHOOL CHILDREN WITH DEVELOPMENTAL DELAY

D. A. Artemyev*, A. I. Akhmetzyanova, T. V. Artemyeva

Kazan Federal University

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ABSTRACT

The relevance of studying the features of prognostic competence in junior schoolchildren with visual, hearing, speech and locomotor disorders is determined by the need to identify the problems of socialization that arise in this category of children. Due to the lack of life experience resulting from impaired visual, hearing and motor analyzers, junior schoolchildren have difficulties in forecasting events in significant areas: attitude to learning, communicating with peers, communicating with adults, in the sphere of virtual communication, attitude to illness, family relationships imposing restrictions on successful socialization.

The aim of the research was to study the specific aspects of prognostic competence in younger schoolchildrenwith deficiency development. The study involved 184 schoolchildrenaged 8 to 10 years: schoolchildrenwithout developmental disorders (85 children); schoolchildren withmusculoskeletal system disorders (20 children); schoolchildrenwith hearing impairment (27 children); schoolchildrenwith visual impairment (16 children); schoolchildrenwith speech disorders (36 children). To study the prognostic competence of schoolchildren, the authoring diagnostic tools "The ability to forecast in situations of potential or real violation of social norms" was used.

Author Correspondence, e-mail: artetanya@yandex.ru

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Deficiency of prognostic competence of younger schoolchildren with developmental disorders is determined by a low level of the regulatory function and has a direct impact on the formation of a socially active person, able to make their own considerate decisions and make forecasts in the sphere of learning, family and virtual interaction. The study results can be

useful in developing the prognostic competence of junior schoolchildren with developmental delay.

Key words: prognostic competence, junior schoolchildren; musculoskeletal system disorders; hearing impairment, visual impairment, speech disorders.

INTRODUCTION

Forecasting is actively studied in the Russian and foreign psychology. Anticipation was studied in early ontogeny [1], in senior schoolchildren [2], in adolescence [3], in students [4]. The contribution of Soviet / Russian science to the development of the phenomenon of anticipation was studied by Nadin [5], a theoretical analysis of anticipation studies was done in the studies of Ahmetzyanova [6, 7]. The regulation of normative behavior by Regus [8] cannot be carried out without constructing a model of the future. Brisson&Sorin [9] believe that forecasting is a key issue in the field of developmental psychology, as it can be assessed at the behavioral level during interaction in both the social and physical environment. Sheeran *et al* [10] identified the risk elements, such as assessment risk, perception, advanced and anticipated emotions associated with changing intentions and behavior of people. Lagattuta & Sayfan [11] studied the way children forecasted the character's thoughts about the likelihood of the future events, the type and intensity of emotions. Schuwerk*et al* [12] studied the cognitive mechanisms underlying the forecasts of children with autism spectrum disorders, noting that children of this category have a lack of ability to forecast actions, which leads to a violation of social interaction. Debrabant *et al* [13] revealed that the prognostic abilities of motor time increase at the age of 5 to 12 years and correlate with motor skills. Forecasting with an incomplete set of factors was studied by Gusev&Okunev [14]. The consequences of early processing on the cognitive symptoms of social anxiety are reflected in the study by Mills*et al* [15].The ability to anticipate one's own actions, as well as their consequences, is one of the important abilities of a person in his socialization [16]. Skuse*et al*[17] note that the socio-communicative deficiency of forecasting is of importancein terms of children behavior adaption in school.

The basis of socialization of a person is laid in the younger school age, with the beginning of schooling [18]. Inthe process of learning,a child accumulates and systematizes the obtained knowledge, reasons and forms an internal plan of actions [19,20]. Due to the forming position of a schoolchild, in which the basic school skills and interpersonal relations develop, the younger school age becomes sensitive for the process of socialization [16].It is as a result of these changes that the requirements for the ability of a younger schoolchild to foresee the

consequences of his actions increase [18, 23]. In her studies,Akhmetzyanova [6] revealed that due to anticipation (forecasting), the junior schoolchild is able to control the learning activity; mental processes acquire qualitative changes associated with the function of consciousness, the act of communication is accompanied by forecasting one's own actions and the actions of others. In his work, Karpovreflects the dependence of socialization processes on the level of development of prognostic abilities. The ability to forecast is considered as one of the priority qualities of the personality, without which successful socialization is impossible in modern conditions [21, 22].

Purpose of the Study

The purpose of this study is to identify the characteristic features of the prognostic competence of younger schoolchildren with impaired functions of the musculoskeletal system, hearing, vision and speech impairment.

RESEARCH METHODS

Research base

The study was conducted in the following educational organizations of Kazan:

"Secondary school № 85";Kazan boarding schoolsfor children with health limitations№ 4, 172, 7, school named after E.G. Lastochkina.

Participants

The sample of our study was: younger schoolchildren without developmental disorders - 85 children;with the musculoskeletal system disorders - 20 children; with hearing impairment - 27 children; with visual impairment - 16 children; with speech disorders - 36 children.

Materials

In order to identify the specific character of prognostic competence in younger schoolchildren with developmental disorders, the methodology "Ability to predict forecast in situations of potential or real violation of the social norm" [24] was used.

RESULTS

Statistically significant differences between samples of schoolchildren were detected using the Student's test ($p < .001$) and are presented in Tables 1,2,3,4.

Younger schoolchildren with musculoskeletal disorders

Table1. Prognostic competence of junior schoolchildren with musculoskeletal system disorders

Indicators of prognostic competence (PC)		*Schoolchildren without developmental disorders (n=85)*		*Schoolchildren with musculoskeletal system disorders (n=20)*		
		M	SD	M	SD	t(105)
	Scales					
Prognostic competence		68.28	12.78	47.26	12.96	5.66
Functions of prognostic competence	Regulatory	30.50	5.07	23.37	4.87	4.94
	Cognitive	15.91	4.66	10.21	4.13	4.42
	Speech-communicative	21.86	6.89	14.17	6.76	3.89
Spheres of prognostic competence	Attitudetolearning	11.23	2.55	7.40	3.15	4.73
	Virtual communication	11.20	3.91	8.00	3.37	2.98
	Attitudetohealth	10.90	4.23	8.00	3.66	2.49
	Family relations	12.40	2.69	7.95	3.77	4.86
Criteria of prognostic competence	Fixation on mature // infantile forecasting strategies	8.37	1.69	4.91	2.8	6.46
	Optimistic// pessimisticattitude	4.93	2.25	2.71	1.96	3.59
	Breadth // narrowness of the social context of forecasting;	0.82	1.12	1.50	1.35	-1.95
	Maximum // minimum verbalization of the forecast	8.55	2.46	3.96	2.87	6.04
Educationalactivity		31.58	7.99	22.30	6.93	4.23
Extracurricularactivities		36.70	6.05	25.41	7.65	5.80

Younger school children with hearing impairment

Table 2. Prognostic competence of junior schoolchildren with hearing impairment

Indicators of prognostic competence (PC)		*Schoolchildren without developmental disorders (n=85)*		*Schoolchildren with hearing impairment (n=27)*		
		M	SD	M	SD	t(112)
	Scales					
Prognostic competence		70.55	13.55	52.94	16.79	4.74
Functions of prognostic competence	Cognitive	17.00	4.56	10.53	4.53	5.69
	Speech-communicative	23.00	6.96	14.46	8.53	4.49
Spheres of prognostic competence	Attitudetolearning	11.45	3.03	7.05	4.02	5.09
	Virtual communication	12.00	3.58	9.33	3.84	2.90
	Familyrelations	12.71	2.52	10.16	3.00	3.75
Criteria of prognostic competence	Breadth // narrowness	0.62	.92	1.51	1.76	-2.70
	Rational / irrational	8.91	1.74	6.98	2.34	3.86
	Maximum // minimum verbalization	8.62	2.54	4.20	3.66	5.83
	Presence / absence of participants statements in the forecast	.02	.15	1.35	1.67	-4.99
Educationalactivity		33.27	8.49	24.85	8.80	3.92
Extracurricularactivities		37.32	6.82	28.42	9.59	4.43

Younger schoolchildren with visual impairments

Table 3. Prognostic competence of junior schoolchildren with visual impairments

Indicators of prognostic competence (PC)	*Schoolchildren without developmental disorders (n=85)*		*Schoolchildren with visual impairment (n=16)*		
	M	SD	M	SD	t (101)
Regulatoryfunction in the sphere – attitude to learning	5.16	1.25	3.87	1.5	3.19

Younger schoolchildren with speech disorders

Table 4. Prognostic competence of younger schoolchildren with speech disorders

Indicators of prognostic competence (PC)		*Schoolchildren without developmental disorders (n=85)*		*Schoolchildren with speech disorders (n=36)*		
		M	SD	M	SD	t(121)
	Scales					
Functions of prognostic competence	Regulatory	30.59	4.84	25.25	7.02	3.88
Criteria of prognostic competence	Prosocial// antisocialbehavior	10.71	1.42	9.62	2.47	2.39
	Optimistic// pessimisticattitude	4.69	2.17	3.09	1.85	3.44
	Constructing active // passive position	6.85	1.63	4.91	1.95	4.71

DISCUSSION

The study found that schoolchildren with musculoskeletal system disorders have more difficulties in controlling consciously their own activities. We can note fixation on antisocial behavior, difficulties in forecasting socially approved behavior. In the situation of significant relationships, schoolchildren with musculoskeletal system disorders show a less active position compared to their peers. In the sphere of learning,children with musculoskeletal systemdisorders do not have sufficiently formedsocial position, the social "self".In the indicators of the sphere of virtual communication, children of two categories also show the differences. Differences are revealed in the sphere of family relationships. The ability to forecast in important spheres of relationships in schoolchildren with musculoskeletal disorders is not well developed: the fixation on the forecastis infantile and pessimistic, and the verbalization of the forecast is much worse,compared to their peers without developmental disorders [23].

Schoolchildren with hearing impairment find it difficult to identify the situational cause and effect relationships; they rarely use explicated speech, limiting themselves to short sentences. Schoolchildren with hearing impairment experience difficulties in constructing the forecast both in situations related to learning activity and in extra-curricular situations; gaming activity prevails. Hard-of-hearing schoolchildrenhave difficulties in distinguishing meaningful relationships; they rarely apply the components of the experience in constructing the forecast. Similar results were obtained in the study by Akhmetzyanova [4].

Younger schoolchildren with visual impairments do not differ from their peers in anticipation of events in the spheres of communication in educational activities, in communication with peers, in communication with adults, in virtual communication, in the attitude to illness, and also in the attitude to the family. Theyonly find it difficult to regulate their behavior in educational activities, which is also confirmed by the studies of *Skuse* et al. [17].

In children of primary school age with speech impairment, the ability to forecast future events in the areas of relations specified by the methodology and to control the ongoing events from the emotionally motivational side is lower than that of their peers. Schoolchildren with speech impairment tend to be more inclined to the unfavorable outcome of events, which may be due to the personal experience of children. [16]. There is a difference in the indicator of the optimistic attitude to the construction of the expected image of the future. We can assume that schoolchildren with speech disorders experience discomfort caused by a defect, they are more easily influenced by leaders who are heavyweight to them.The results obtained are consistent with the study of Denisova O.A. [23], Ulanova [24]. They emphasize that children with health limitationshave difficulties in forecasting the consequences of their actions and behavior of

others; they try to avoid pressure of rules, regulations and requirements [26].

CONCLUSION

In younger schoolchildren with musculoskeletal disorders and hearing impairment, prognostic competence indicator is lower than that of their peers without developmental disorders. Almost all the groups of younger schoolchildren (except for schoolchildren with hearing impairments) regulatory function of prognostic competence is formed weaker than in schoolchildren without developmental disorders.Cognitive and speech-communicative spheres of prognostic competence are lower only in children with musculoskeletal disorders and hearing impairments.Almost all schoolchildren with developmentaldisorders (except for children with speech disorders) are less well in performing forecast in the sphere of learning. Schoolchildren with musculoskeletal system disorders and hearing impairment are worse in forecasting the outcome of the situation in the family and in the virtual interaction.Younger schoolchildren with musculoskeletal disorders and speech disorders are more pessimistic in their forecasts; their answers are poorly verbalized. However,the forecasts of schoolchildren with locomotor pathology and hearing impairment include a wider social context.

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DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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