MARKERS OF CHILD COMMUNICATION SIGNALS: BEHAVIORAL ASPECT INTRODUCTION

Rapid developments in modern society and the use of digital technologies in communication with children of toddler years demand scientific examination and the search for new ways of assessing parent-child interaction. Abroad, we observe a current surge in research activities focusing on studying the interaction by video recordings and observation scales. The NCAST (Nursing Child Assessment Satellite Training) evaluation of parent-child interaction studies the ability to produce clear and clean signals to adults (Thomas J.C., Letourneau N., Campbell T.S., Tomfohr-Madsen L., Giesbrecht G.F, 2017). The MACI (Manchester Assessment of Caregiver-Infant) scale notes child behavior by three variables: a child’s attentiveness to a parent, the child’s positive affect, and the child’s vivacity (Green J., Pickles A., Pasco G., Bedford R., Wan M.W., Elsabbagh M., Slonims V. et al., 2017). In Russia, the approach developed at the School of Ontogenesis of Communication by Maya I. Lisina (Lisina, 1986, 2009; Smirnova, Galiguzova, Ermolova, Meshcheryakova, 2002) ranks among the most advanced and sophisticated methods of standardized observation of adult-child interaction. To evaluate child’s communication signals during spontaneous playing with an adult, we designed observation markers for coding behavior when watching video recordings.

AIM
Researching toddler communication signals during spontaneous playing to build a system of evaluation metrics and define the dynamics of the intensity of the signal to the significant adult.

METHODS
Toddler communication signals were assessed using the Evaluation of Child-Parent Interaction (ECPI) technique (Galasyuk, Shinina, 2017, 2018). The research spanned over 55 families with toddlers and included ethical conventions with parents.
15 minutes session for each subjects: A parent is playing with a child
For each session 20 markers for the child behavior was evaluated

Picture 1. The essential components of the communication signals of the child
Building up a graphic scheme of the markers

As the result, the programme builds up a graphic scheme
To improve the analysis, checking the data is performed by the team of young researchers (clinical psychologists-observers)

The data from the analysis of video recordings were processed with Observer XT-14 software. Age features enable us to define two main lines of toddler behavior aimed at communication with adults and at substantive activity.

Picture 2. The essential components of the communication signals of the child

Toddler behavior was coded in two ways. First, for Object Communication Signals, five pairs of markers (positive and negative for each) for the evaluation of a toddler’s independent investigative activity towards an object were suggested. Second, Adult Communication Signals were examined using five pairs of markers for the evaluation of a child’s signals aimed at interaction with an adult. The research shows the effect of responsiveness of the significant adult on a child’s being independent and initiative, and on the intensity of the crisis of three years.

DATA PROCCESSING
15 minutes session for each subjects: A parent is playing with a child.
For each session 10 pairs of markers for the child behavior was evaluated
Divided in 1000 time points: so 20 time series with 1000 measures were presented for analysis. All session include 4 periods: 250 time points in each.
% of points when marker’s signal was appeared was calculated for each period
for each marker is presented in the Table 1.

Table 1. Average percent of signal’s existence for each marker for each time period

Markers	Positive markers				Negative markers			
	1	2	3	4	1	2	3	4
O 1. Attention focus towards the object	0,536*	0,616	0,567	0,257	0,108	0,093	0,108	0,053
O 2. Initiative towards the object	0,161	0,194	0,183	0,088	0,010	0,005	0,009	0,012
O 3. Object activity	0,356	0,394	0,371	0,196	0,031	0,037	0,035	0,013
O 4. Communication means (verbalization)	0,042	0,046	0,045	0,026	0,000	0,000	0,001	0,000
O 5. Emotional reactions (nonverbal behavior)	0,031	0,034	0,025	0,014	0,000	0,000	0,001	0,001
A 1. Attention focus towards the adult	0,054	0,045	0,048	0,037	0,088	0,063	0,056	0,036
A 2. Initiative towards the adult	0,020	0,015	0,017	0,009	0,002	0,002	0,000	0,000
A 3. Sensitivity to the adult’s influence	0,264	0,273	0,257	0,137	0,067	0,066	0,064	0,027
A 4. Communication means	0,127	0,117	0,137	0,073	0,012	0,019	0,016	0,009
A 5. Emotional reactions	0,078	0,059	0,082	0,050	0,010	0,020	0,017	0,010

*The numbers which are significantly higher than the same from the different period are bold

DISCUSSION
Communication signals of the child described by the following characteristics:
- time of appearance of the signal;

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- the main contains of the need to interact with the adult;
  - the internal motives stimulating child’s interaction signals and responses at this stage;
  - the main communication means providing communication of the child with the adult and the object.
- The main categories of the **MOTIVES OF THE COMMUNICATION SIGNALS OF THE CHILD**:
- **The self-sufficient initiatives** of the children are connected with the need of the child to do everything him/herself, to demonstrate the initiative in his/her own actions. The child tests his/her abilities, the “child’s self-esteem” (Vygotsky) emerges, the main stimulus to the self-development and aspiration to learn something new;
  - **The research (cognitive) initiatives** of the children: the interaction with the adult occurs because of fulfilling the need in research activity and studying the object;
  - **The personality initiatives** of the children are connected with the child’s need of recognition and support of the adult as only in the communication with the adult the children can get the appraisal of their personality and realize the aspiration to interact with other persons.

CONCLUSION
1) The complex of the initiative and sensitivity towards the adult allows showing flexibility in the communication, to interlace skilfully the initiatives and responses.
2) The meaning of the communication environment. The space of the child’s realization (N.E. Veraksa) stimulates the zeal of the child and allows showing his/her individuality;
3) Spontaneous game can be described as the territory of actual development of the child presenting opportunities to study the child’s needs.

LITERATURE
1. Galasyuk I.N., Shinina T.V. (2019) Family psychology: the method of «Evaluation of child-parent interaction» Evaluation of child-parent interaction (ECPI-2. 0): pract. manual / ed. I.N. Galasyuk, T.V. Shinina. M.: Yurayt Publishing House, 2019. 223 p.
2. Galasyuk I.N., Shinina T.V., Irgashev N.R., Morozova I.G., Pasechnik O.N. (2018) Open professional examination of the methods of child-parent interaction: vectors of development of psychological tools // Actual problems of psychological knowledge. 2018, No. 3 (48). Pp. 5-23.