МАТЕРИАЛЫ КОНФЕРЕНЦИИ
И ШКОЛЫ

PERCEPTUAL FEATURES OF SPEECH IN CHILDREN
WITH ATYPICAL DEVELOPMENT

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The presented study is the part of the research of the speech of children with atypical development/developmental disorders (Lyakso et al., 2013–2020). The aim of the study is to determine the peculiarities of adult recognition of child's gender, age and psychoneurological state when listening to their speech.

Speech and behavior of 355 children aged 4–16 years were recorded. Children have diagnoses: autism spectrum disorders, Down syndrome, mixed specific developmental disorders, intellectual disabilities, mild neurological disorders, cerebral palsy and typically developing children were recorded as control group. The diagnosis of children was clarified by a specialist child psychiatrist. Audio, video files, and metadata – information about the child, family, recording conditions, equipment, data from psychophysiological tests and questionnaires, are included in the database "AD_CHILD.RU".

The participants in the perceptual experiments were adults ($n = 461$) – auditors: specialists in speech acoustics; child psychiatrists; postgraduate students in the field of child psychiatry; students of the medical pediatric university – native Russian speakers and foreigners; students of university with IT specialization. The auditors listened to test sequences that included samples of child speech.

It is revealed that adults are able to recognize correctly the psychoneurological state, severity of disorders, gender and age of children via their speech. The paper discusses the relationship between recognition accuracy and the child's current diagnosis, severity of child's disorder, physiological characteristics of the child, conditions of child's life – family/orphanage, professional experience and the language of the auditor, the organization of the test sequences and the complexity of the tasks for the auditor. The analysis of acoustic features of child speech is carried out taking into account the characteristics of speech tract structures functions specific for each disease. These acoustic features are used for automatic speech recognition.