Visual perception in preschool children with different levels of language disorders

Cherenkova L.V., Sokolova L.V.

Saint Petersburg State University, Saint Petersburg, Russia

chluvic@mail.ru

The specificity of participation of parvo- and magnocellular visual processing pathways in image formation in preschool children with atypical development and different levels of language disorders has been studied.

In comparison with typically developing children, children with autism spectrum disorder (ASD) and children with mental retardation (MR) and I -II degree of global language disorder (GLD) had significantly higher thresholds of contrast detection during sequential change.

While studying the thresholds of visual objects global motion, it was found that assessment of global direction of moving objects is significantly lower in MR and ASD children with I -II degree of GLD, as compared with III -IV degree of GLD.

In the study of global motion thresholds based on the stationary object orientation, significant differences were found only in ASD children with I degree of GLD.

In the study of children’s ability to identify the form of a visual stimulus when changing its color, size and location, it was found that in MR and low ASD children with II degree of GLD, the time to recognize a figure significantly increased only with the increase in the number of possible locations of the target object among the demonstrated figures. Children with high ASD (I degree of GLD) demonstrated an absence of an ability for invariant detection of the object shape relative to the change in object properties.

These data may indicate a correlation between severity of visual processing deficit with the level of the child’s overall language development.

Keywords: visual perception, atypical development, levels of language disorders.