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Defects in automatic processing of auditory channel brain information in children with developmental dyslexia

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Using event-related potential (ERP) technology to explore the characteristics of automatic processing of auditory brain information in children with developmental dyslexia and control groups in the state of non-attention. Selecting 18 children with developmental dyslexia and 18 children in the control group (male 21, female 15). The experiment presents a total of 300 sound stimuli, and auditory stimuli are divided into two kinds of 1000HZ and 1500HZ. The visual stimulus was 300 yellow and green car graphics. The participants were asked to recognize the color of the pictures and prepare for the keys. When testers see the green car, the left index finger presses the Z key, and when testers see the yellow car, the right index finger presses the M key. Presented on the headset do sound stimulus signal response. Recording 32 channel EEG, and analyzing the amplitude and latency of auditory mismatch negative waves (MMN) in different groups of subjects. The N1 amplitude of the developmental dyslexia group was significantly greater than that of the control group. At all electrode positions, the P3 amplitude of the control group was greater than the developmental dyslexia group. The right side of the auditory MMN amplitude of the control group is greater than the left side, and there is a right side advantage, while the left and right MMN amplitudes of the developmental dyslexia group are similar, and there is no right side advantage.The developmental dyslexia group spent more cognitive resources in the early pre-attentive processing stage, which led to the lack of attention resources for subsequent new stimuli. Developmental dyslexia children's auditory channels have defects in automatic processing of information.