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Comparative Analysis of the Author's Indices of Maturity of Sound Perception and Proportionality of Ear Growth in Children of Different Age Groups

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Annotation: The analysis of the author's indices of sound perception maturity and proportionality of ear growth in children of different age groups is relevant for understanding changes in auditory perception and ear morphology at various stages of development. These data allow us to identify patterns and deviations, which contributes to the early detection of potential problems and timely intervention. The development of individualized approaches based on these indices can improve the methods of diagnosis and correction of auditory disorders. In general, such studies contribute to more effective medical care and support for the normal development of children.

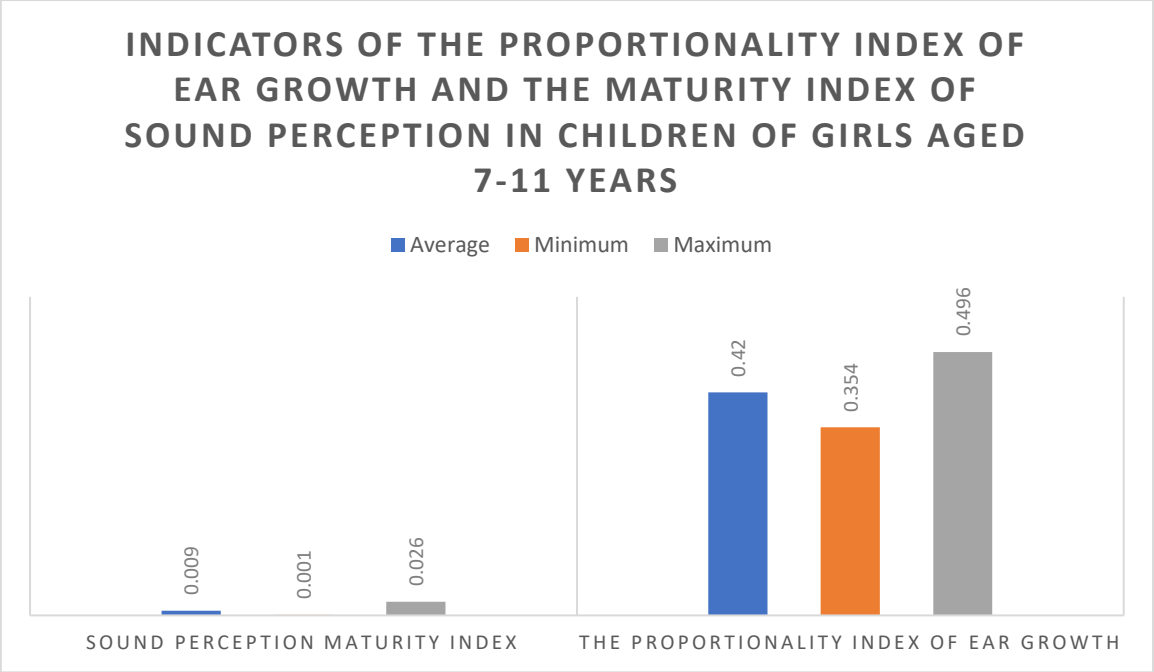
Keywords: index, children, auricle, anthropometry, proportionality.

The aim of the study is to compare the author's indices of sound perception maturity and proportionality of ear growth in children of different age groups in order to identify patterns in the change of these indicators at different stages of development.

Materials and methods: To conduct a comparative analysis of the author's indices of sound perception maturity and proportionality of ear growth in children of different age groups, 244 schoolchildren aged 7 to 16 years living in the city of Fergana were studied. The main methods included measuring the anthropometric parameters of the ears and assessing the maturity of sound perception. The anthropometric data included measuring the size of the auricles and their proportionality in relation to overall height. The maturity of sound perception was assessed using specially developed tests and techniques appropriate to the age characteristics of the participants. The results were processed using statistical methods to identify differences and patterns between age groups.

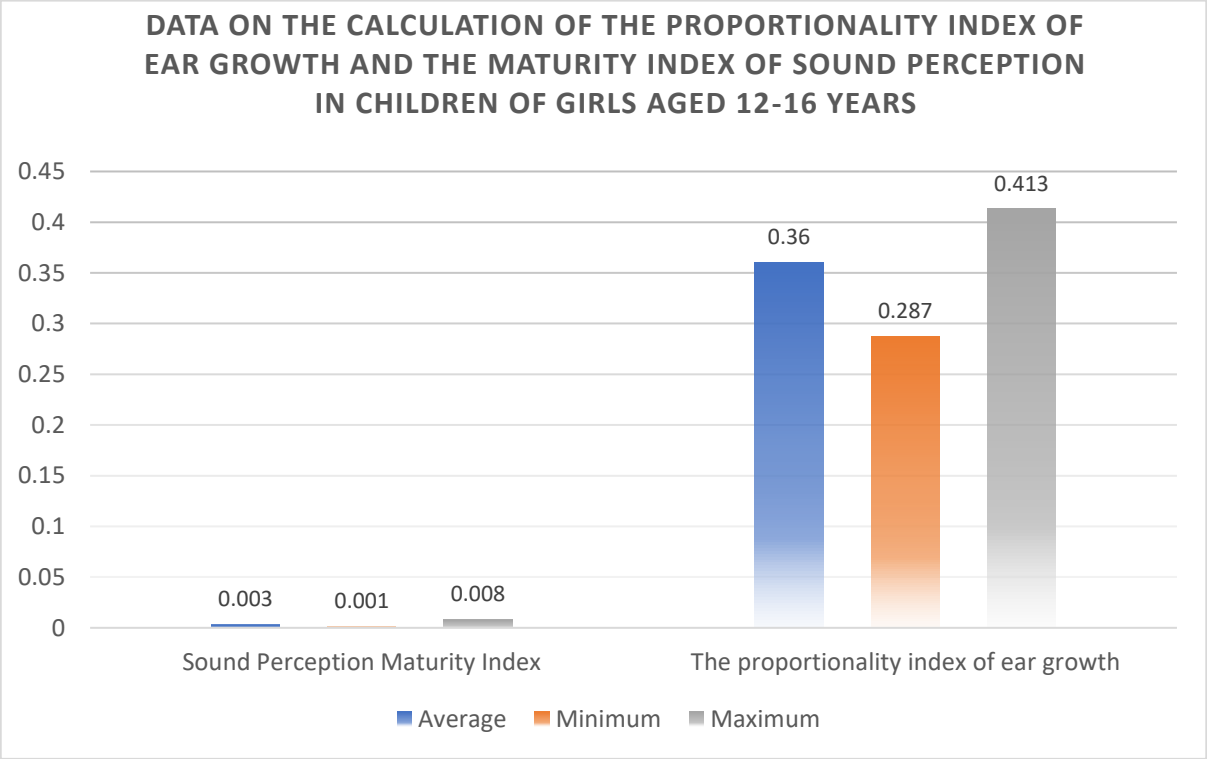
Results of the study: In the course of a comparative analysis of the author's indices of maturity of sound perception and proportionality of ear growth in children of different age groups, the following results were obtained:

Chart 1.



According to the diagram, the average maturity index of sound perception in girls aged 7-11 years is 0.009, with a minimum value of 0.001 and a maximum of 0.026. While the average index of proportionality of ear growth is 0.420, with a minimum value of 0.354 and a maximum of 0.496.

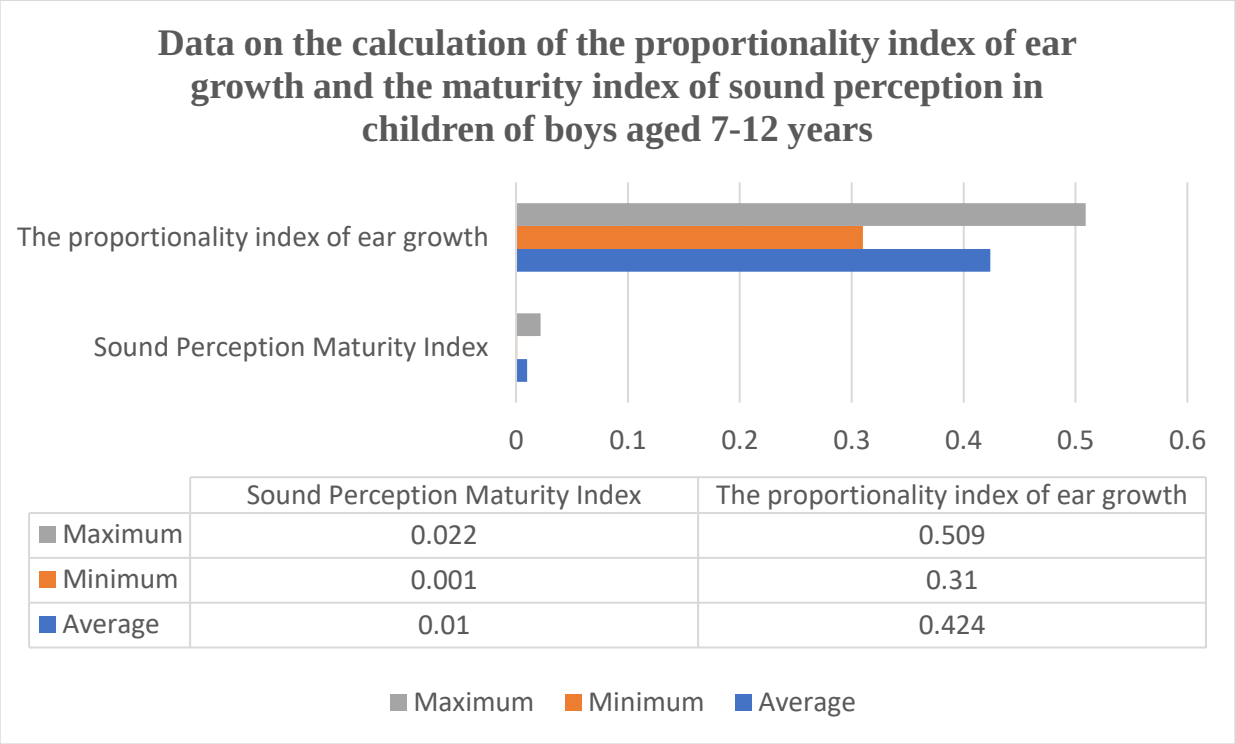
Chart 2.



According to the diagram, girls aged 12-16 have an average sound perception maturity index of 0.003, ranging from 0.001 to 0.008. While the average ear growth proportionality index is 0.360, with a range from 0.287 to 0.413.

Comparison with girls aged 7-11 shows that the sound perception maturity index in older girls is 66.67% lower. Also, the proportionality index of ear growth in girls aged 12-16 is 14.29% lower compared to younger girls.

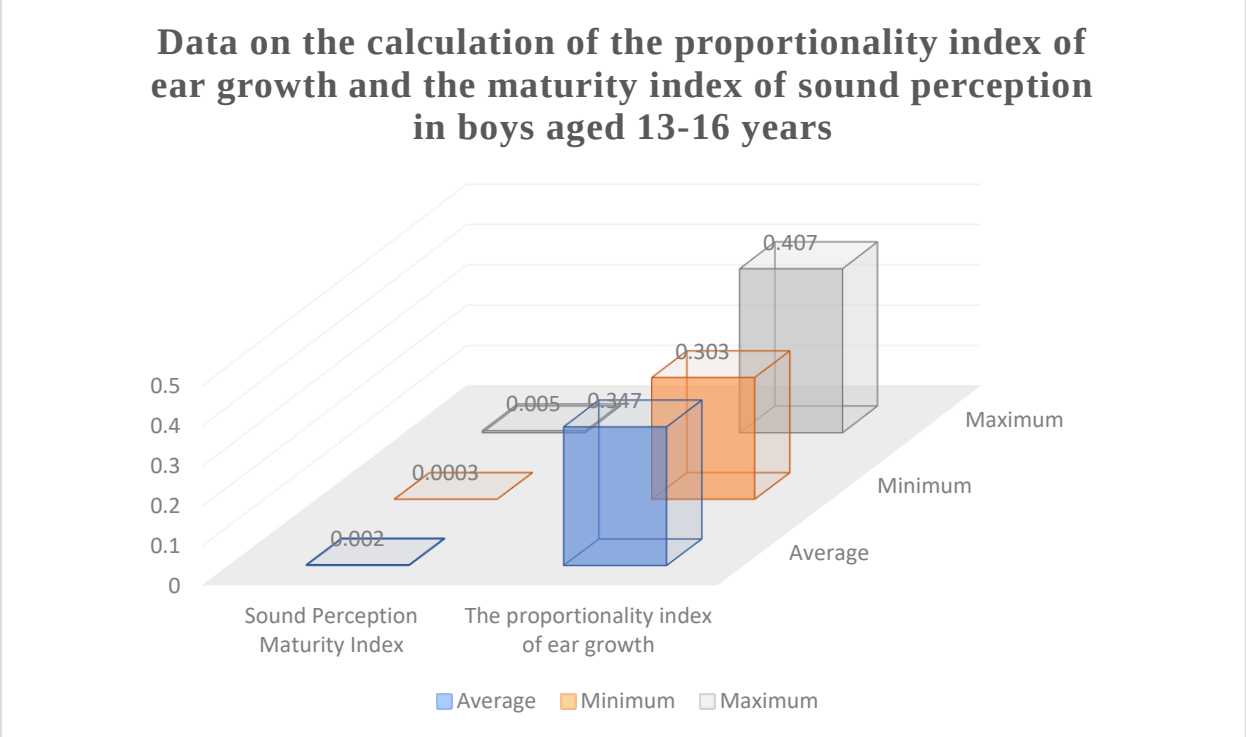
Chart 3.



	Sound Perception Maturity Index	The proportionality index of ear growth
Maximum	0.022	0.509
Minimum	0.001	0.31
Average	0.01	0.424

The diagram shows that in boys aged 7-12 years, the average maturity index of sound perception is 0.010, with a minimum value of 0.001 and a maximum of 0.022. The average index of proportionality of ear growth for this group is 0.424, with a minimum of 0.310 and a maximum of 0.509.

Chart 4.



The diagram shows that boys aged 13-16 have an average sound perception maturity index of 0.002, with a range from 0.0003 to 0.005. The average index of proportionality of ear growth for this group is 0.347, with a range from 0.303 to 0.407.

Comparison with boys aged 7-12 years shows that the maturity index of sound perception in older boys is 80% lower. Also, the proportionality index of ear growth in boys aged 13-16 is 18.16% less than in boys aged 7-12.

Considering that a lower sound perception maturity index indicates a less developed sound perception in younger children compared to older ones, it can be concluded that sound perception is less developed in younger children. With respect to the proportionality index of ear growth, there is a tendency for the size of the ears to decrease in relation to overall height as one grows older, which may mean that other parts of the body grow faster or that the rate of ear growth varies compared to the overall growth of the body.

Conclusion: research shows that the maturity index of sound perception in children decreases with age, with a noticeable decrease in older age groups compared with younger ones, which indicates that hearing in the studied groups of children gets better with age. There is also a tendency to decrease the proportionality of ear growth relative to overall height, indicating slower growth of the ears compared to other parts of the body. These changes emphasize the importance of taking into account age-related characteristics in the assessment and correction of auditory functions and ear morphology in children.

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