Body Shape Detection of Mongolian Students Based on Artificial Intelligence Environment Control Intervention Study

Shi-wen LIN1, Yan-long HAO2, Yi JIANG3,* and Wen-ting HAO3

1Hainan Institute of Science and Technology, China
2University of Sanya, China
3Hainan Normal University, China
*Corresponding author

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Abstract. Body shape research is an interdisciplinary comprehensive subject. Five colleges and universities of Xinjiang Bortala Mongolian Autonomous Prefecture, Bayinger Mongolian Autonomous Prefecture and Urumqi were selected as the body shape test observation points. The artificial intelligence detection of body shape indicators was carried out for Mongolian college students of the 17th, 18th, 19th and 20th years of age. From this, 368 effective card tests for 17-20 year old Mongolian young students were obtained. Through the sorting and statistical analysis, the conclusions and suggestions for the control intervention of the Mongolian students' body shape were obtained.

Research Purposes

Known as the "child of the grassland", the Mongolian people have lived a nomadic life of "migrating by water and grass" for thousands of years. Most grasslands in China have left the footprints of Mongolian herders. The Mongolian people have a very long history of living in Xinjiang and have a great influence on the social, cultural and economic development of Xinjiang. The research group focused on the artificial intelligence survey, statistical analysis and comparative study on the data of the body shape of Mongolian young students, and found out the age characteristics, national characteristics, advantages and gaps of the development of Mongolian students' body shape. Strengthen and control the specific conclusions and recommendations of the Mongolian school sports work. It provides a reference for improving the health care work and physical education work of Mongolian schools; provides a basis for the selection of Mongolian athletes; and provides a quantitative basis for the education authorities to conduct sports management and decision-making in minority schools.

Research Object Content and Method

Research Objects

400 Mongolian young students aged 17-20 years old from five colleges and universities in Xinjiang Bortala Mongolian Autonomous Prefecture, Bayinger Mongolian Autonomous Prefecture and Urumqi City were tested. Get 368 valid cards from it. It is divided into three age groups: 17 years old, 18 years old, and 19-20 years old.

Research Content

Morphological Indicators. mainly six indicators such as height, weight, chest circumference, systolic blood pressure, diastolic blood pressure and vital capacity.
Morphological and Functional Derivation Indicators. mainly three indicators: weight/height×1000, chest circumference/height×100, lung capacity/weight.

Research Methods

Obtain test data according to the test requirements specified in the “Chinese Student Physical Health Test System”.

Calculate the average value (\(\bar{X}\)), standard deviation (S) and morphological index of each age group according to statistical methods, mainly to analyze the current state of body shape of Mongolian young students by artificial intelligence statistics, and to Mongolian Students' physical characteristics are subject to physical intervention and control.

Comparative Analysis of Artificial Intelligence of Body Shape Indicators of Mongolian and Han Youth Students

Proportion of Four Forms of Functional Indicators

From the comparison of the four body shape function indicators of Mongolian and Han students, we can see the two body shape characteristics of Mongolian young students.

Among the four indicators of 17-year-old male and female students, except for women's chest circumference, which was significantly larger than that of Han 17-year-old girls (P<0.01), there were no significant differences in other height, weight, chest circumference and vital capacity indexes (P>0.05).

Compared with male and female students of Han and Mongolian (18-22 years old), the male students except the chest circumference index were significantly higher than the Han nationality (P<0.01), and the other three indicators were not significantly different (P>0.05). The two indicators of female bust and vital capacity were significantly higher than those of Han students (P<0.01). There were no significant differences in height and weight (P>0.05).

Comparison of Three Morphological Function-derived Indicators

The morphologically derived index can indicate the relative comparison of the body structure. From the test data, it can be seen that the Mongolian youth students have the following characteristics:

Weight/height \(\times\) 1000 index and chest circumference/height \(\times\) 1000 index respectively reflect the body's structural fullness and circumference. These two indicators, the Mongolian 18-20 year old boys are significantly higher than the Han 18-22 year old boys, indicating that the Mongolian youth students' body shape structure is greater than the Han youth students' degree of enrichment (P <0.01).

The weight/height \(\times\) 1000 index of young girls was not significantly different (P<0.05), but the chest circumference/height\(\times\)100 index, Mongolian girls were significantly higher than Han girls (P<0.01), indicating the body shape of Mongolian girls. The indicator is large.

Vital Capacity/Body Mass Index is a respiratory function index that reflects the amount of vital capacity allocated per kilogram of body weight. The greater the lung capacity/body mass index, the higher the level of oxygen inhalation. There was no significant difference between the Mongolian young boys and the Han boys (P>0.05), while the Mongolian and Han young girls had significant differences (P<0.01). Mongolian girls had higher levels of ventilatory function than Han girls.

Discussion

The research group mainly discussed the status quo of the fourteen physical indicators of the body shape, function and quality of the 17-year-old, 18-year-old and 19-20-year-old college students in Xinjiang.
The Developmental Changes of Body Shape and Function
The height, weight and chest circumference of the young Mongolian men and women in Xinjiang ranged from 17 to 20 years old and gradually increased with age. Among them, girls grew slowly from 17 to 18 years old, and the growth rate was relatively large after 18-19 years old. The boys are growing at a constant rate. The increase in vital capacity index was basically the same as that of the three morphological indicators; the systolic blood pressure and diastolic blood pressure indicators were all within the normal range.

Characteristics of Body Shape
Xinjiang Mongolian young male and female students are considered to be compared with the artificial intelligence of the height, weight, chest circumference, vital capacity, body weight/height × 1000, chest circumference/height × 100, and vital capacity/weight of Han students of the same age. The morphological function has the following characteristics: (1) The physical form of the Mongolian young male students is larger than the Han students of the same age. (2) The body circumference index of female students is also greater than that of the Han nationality. At the same time, the lung capacity/body mass index of Mongolian girls was significantly higher than that of Han students (P<0.01).

Artificial Intelligence Intervention and Control
From the above comparative analysis, it can be seen that the physical fitness and morphological indicators of most Mongolian students are close to those of Han students, indicating that the Mongolian school sports work has improved, but there is still a big difference compared with the developed regions in China. Governments at all levels should attach great importance to and strengthen the sports work of Mongolian schools, closely combine the reform of physical education and health curriculum, conduct scientific physical education and exercise, and further enhance the physical fitness of Mongolian young students.

Mongolian young male students have a greater body fullness, but the upper limb strength is insufficient. It should focus on the upper limb strength in the future physical education and physical exercise, especially the upper limb explosive force exercise, so that the body's strength, speed, speed Endurance is compatible with the current state of body shape and function.

Mongolian young female students, although strong limbs, but the corresponding body circumference index is larger, and the flexibility index is decreasing year by year, so in the future physical education and physical exercise intervention, Mongolia should be strengthened Youth young girls flexible training and waist and abdomen strength exercises.

Mongolian students have better strength and endurance qualities than Han students, but the flexibility and sensitivity are relatively poor. Therefore, the flexible and sensitive quality training of Mongolian young students should be strengthened. In particular, the comprehensive physical training of Mongolian students should be strengthened to enable the Mongolian students to develop their bodies in an all-round way.

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