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Research on Norm Construction and Evaluating Levels of 20-m Running in Preschool Children

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Objective The study tested young children's 20-m running in Chengdu, analyzed of the characteristics of change in age and gender, to construct the norm and evaluation system of the 20-m running of young children and provide the basis for assessing children's sports ability and physical fitness. The results can be used as one of the children's physical fitness evaluation content.

Methods The stratified random sampling method was used to select kindergarten children in from 25 kindergartens in a district of Chengdu, and totally, 3089 children of 3-6 years old were tested. The best scores by two trials were used as the 20-m running performance.

Results With the growth of the age, young children's 20 m running is gradually increased. There are significant differences in the mean values of boys and girls aged 3, 4, 5 and 6 ($F = 228.696$, $F = 366.477$, $P < 0.01$). Compared with boys and girls of the same age group, boys are superior to girls, and there is no significant difference between boys and girls aged 6 ($F = 0.879$, $P > 0.05$). The differences in other groups were statistically significant ($F=0.138$, $F=0.204$, $F=0.133$, $P < 0.01$). The percentile 10, 25, 50, 75, 90 values of the 20 m running of young children were recorded, respectively, and according to the statistical percentile method to divide the evaluation grade standards, the test results of the 10th, 25th, 75th and 90th percentage site test results were selected to develop the five-level rating system of children's 20 m running.

Conclusions With the growth of the age, young children's 20 m running is gradually increased, and there are significant differences between groups. It is suggested that the flexibility of nervous processes, the coordination of the body, the flexibility of joints and muscles, and the strength and endurance of muscles are gradually enhanced in children. Constructed the norm and five-grade evaluation system of preschool children's 20 m running, and provided the basis for formulating the grade standard of preschool children's physique evaluation in the future.