

Relationship Between Starting Speed (10 Meter Run) And Total Ridge Count

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Abstract

In the framework of the scientific grant PZ-201709299 “Improving the methods for selecting promising athletes for genetic markers based on dermatoglyphics”, the relationship between the total ridge count and speed abilities was studied. The study involved 60 youth athletes (40 boys and 20 girls) aged 14-17 years. A regular relationship was revealed between the starting speed ability (10 meter run) and the total ridge count.

Keywords: dermatoglyphics, total ridge count, running, speed ability.

Multilateral research is underway in Uzbekistan under the grant PZ-201709299 "Improvement of methods for selecting promising athletes on genetic markers based on dermatoglyphics" for 2018-2020.

Based on the objectives of the study, one of its tasks is to study the relationship between speed ability and dermatoglyphic features of pupils in secondary schools specializing in sports.

Speed abilities were evaluated by the results of running 10, 30 and 50 m from a high start. Running time was recorded using an electronic stopwatch and photosensors (running 10 meters - throughout the entire distance). Note that the travel time of a 10-meter distance serves as a criterion for evaluating the starting speed, and 30- and 50-meter distance as a distance [1].

A total of 60 pupils-sportsmen (40 males and 20 females) from the Republican Specialized Children's and Youth Sports Schools participated in the study. Athletes aged 14-17 years. Dermatoglyphics were recorded using an Epson

scanner. The total ridge count of both athletes' hands was studied. The calculation was carried out in a one-way, that is, in double loops and spiral patterns, where there are two deltas, we counted one side of the delta, where the largest number of ridges was counted.

The following 4 groups were formed on the basis of the time of 60 pupils running 10 meters.

Group 1: Sportsmen who ran from 1.35 minutes to 1.6 minutes

Group 2: Sportsmen who ran from 1.65 minutes to 1.85 minutes

Group 3: Sportsmen who ran from 1.9 minutes to 2.1 minutes

Group 4: Sportsmen who ran from 2.2 minutes to 2.9 minutes

The total average ridge count of participants in these 4 groups was calculated. A certain regularity was observed in their change in 4 groups, where the running speed decreased by 10 m (Table 1).

Table 1. Running indicators for 10 meters and total ridge count.

Groups	Number of participants	General Mean of total ridge count of groups
1	18	134,93
2	13	140,61
3	15	167,13
4	14	180,28

A comparative analysis showed that as the ability to run a distance of 10 meters decreases (i.e., from group 4 to group 1), the total ridge count of fingers increases.

According to the "Heredity regularity of psychological traits" [2], if such a change trend in numbers will be repeated in other studies, it can be said that the starting speed has hereditary basis.

But such a tendency was not revealed in the 30 and 50 meter run, which estimates the remote speed ability. This means that only the starting speed ability is associated with the total ridge count.

For further in-depth study, it is necessary to analyze the relationship between the total ridge count and the starting speed ability separately for each sex, having a sufficient number of respondents. To do this, the respondent can be chosen from regular schools too, because pupils in regular schools can also show different speed abilities while running 10 meters.

Literature

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