

ABSTRACT

Title: Comparison of the development of Czech and world performances in the long jump

Objectives: The aim of this bachelor's thesis is to compare the data of the top twenty long jump results from the calendar years 2010–2023 of Czech and international athletes in the categories of men, women, u20 of men and women, u18 of men and women, as well as in the categories of u16 men and women for Czech performances. The second goal is to observe the development of performances in the individual categories.

Methods: For each year, I worked with the top twenty performances in the given categories. For better clarity and easier comparison of results, I determined that the performances would be divided into groups which are: the best performance, the average of the top three, five, ten, fifteen, and twenty performances. I calculated the averages using the arithmetic mean. I also included the medians and standard deviations of the individual groups. For the actual comparison of performances across different years, I primarily worked with a sample of the broader top performers in each category, specifically the average of the top twenty performances of the given year.

Results: The performances of the best Czech male and female long jumpers did not reach the same levels as those of the world's top long jumpers. In most cases, they were not even competitive with the broader world elite, which means, the average of the top twenty jumps in the given category and year. The only three performances that meet these criteria are the best u18 male jumper of 2023 with a jump of 781 cm, which placed him in the world top five, and two best u20 female jumpers, one from 2018 with a performance of 648 cm, reaching the top ten level, and the other from 2020 with a jump of 645 cm, placing her among the top twenty of that year.

The measured data also showed that the best world performances remain at similar levels across all categories studied. On average, the top twenty male performances ranged from 821-838 cm, u20 males from 777-798 cm, u18 males from 746-767 cm, women from 687-698 cm, u20 females from 638-654 cm, and u18 females from 620-629 cm. For Czech performances, there is a slight increase in performance in most categories, at least in recent years. Only women have shown a declining trend in recent years.

The results of this study also indicate that in all categories, there is an increase in performance compared to the lower age category. The only category that does not follow this trend is the

Czech u20 women (average of the top twenty ranging from 551-579 cm), whose performances are roughly the same as those of the u18 women (average of the top twenty ranging from 555-576 cm).

Conclusion: In all categories, there is an increasing trend in long jump performances compared to the previous age category. The only category that deviates from this pattern is Czech u20 women, who have roughly the same performances as Czech u18 women.

Czech male and female long jumpers do not achieve the same performances as the best long jumpers in the world. In fact, except for a few exceptions, their performances do not even reach the level of the top twenty performances in their respective categories and years.

Keywords: Athletics, long jump, performance, performance development, performance comparison