

Abstract

Title: Trends in performance development in combined events.

Objectives: The aim of this work was to investigate trends of the performance development in combined events during 2005–2014 based on results of top level competitions and interindividual variability of the point structure of individual combined events athletes.

Methods: In this work we used the method of comparison and analysis of the performance development in combined events.

Results: The trend of the performance in combined events did not change. Combined events are dominated by athletes with excellent sprint-jumping performances without significant weaknesses in throwing disciplines. The evenness of women opponents is more evident than among men. Slight progression in men's decathlon occurred in the years 2012–2014 because of the high scores of Ashton Eaton's winning performances. Carolina Klüft dominated women heptathlon in the years 2005–2007, but the average score among heptathletes did not increase. In indoor pentathlon, the development was slightly progressive until 2012. Average scores of pentathletes were similar to the winning performances showing high evenness of opponents.

Point structures of five selected male and female athletes (of top performance level) in the observed time period show understandable differences from the average of the best finalists and show strong sides of individual athletes. The best performances in combined events were delivered by athletes with outstanding performances in sprint and jump disciplines.

Individual disciplines sorted according to the highest point contribution to total score: i) decathlon: 110 m hurdles, long jump, 100 m; ii) indoor heptathlon: 60 m hurdles, long jump, pole vault; iii) women heptathlon and pentathlon: 100 m hurdles (60 m hurdles), high jump, long jump. High efficiency of the best combined event performance and constant progress of the performance is stated from the individual performance developments of Czech combined events athletes Adam Sebastian Helcelet and Eliška Klučinová. In comparison with the world leading athletes, the best Czech combined events athletes lag behind in sprint disciplines.

Keywords: Athletics, combined events, performance, development