

ABSTRACT

- Title:** A study of the relationship of individual phases of the 110 m hurdles with overall performance
- Objectives:** The main goal of this diploma thesis was to use correlation analysis to determine which phases of the 110 m hurdles have the closest relationship (most highly correlated) with overall performance at different performance levels. Another goal was to determine how the time courses of their performances differ.
- Methods:** Considering the objectives of this thesis, a quantitative research method was chosen, namely a correlation survey. Kinematic analysis using the computer program Kinovea was used to analyze the filmed material. To determine the correlation between the different phases of the 110 m hurdles (1st acceleration phase, 2nd acceleration phase, maximum speed phase, speed endurance phase and 3rd acceleration phase) with the overall performances in each category, we chose correlation analysis using an analytical tool (correlation matrix) in Microsoft Excel.
- Results:** In all three performance levels, the overall performance was most correlated with the performance in the maximum speed phase, during which the Czech hurdlers' time courses differed the most from the world's hurdling elite, as in this phase was the largest decline in performance. When examining correlations, we found that the only truly statistically significant relationship ($0.8 \leq |r_{yx}| < 0.9$) occurred only in the groups of Czech and world elite hurdlers in the AK II, MX and RV phases. The other phases fall into medium, moderate and low levels of dependence, so in these phases the correlation is statistically insignificant from our point of view.
- Keywords:** Technique, 110 m hurdles, hurdles, performance, rhythmic units, correlation analysis, phases of the 110 m hurdles