The association of riders’ physical fitness with riding performance

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Aim

• To investigate the association of the physical fitness of the rider (PF) with the riding performance (RP).

Objectives

• Poor RP can be caused by medical issues of the horse, inadequate equipment or deficiencies in the training.(a)
• The most neglected factor in current research is the rider itself.(b)

Methods

• Participants: 115 Swiss riders
• PF: Balance, endurance, flexibility, reaction time, speed, strength, and symmetry were assessed
• RP: Based on a video recorded riding test individual RP was rated by two national riding judges (RJ).
• Statistics: A linear model for RP that included the domains of PF and potential confounders was fitted to the data.

Results

• The best possible and least complex model is shown in the equation 1.
• Association of PF with RP:
  • Positive: Endurance, strength, and symmetry
  • Negative: Flexibility
  • No association: Balance, speed, reaction time
  • Explained variance of PF in RP: 19.1%
  • Significant effects of the fitted model and its coefficient (p < 0.05; exception: symmetry)

Equation 1: Fitted model

\[
RP_i = 219.68 + 0.518 \times \text{endurance}_i - 0.613 \times \text{flexibility}_i + 0.433 \times \text{strength}_i - 0.369 \times \text{symmetry}_i
\]

Summary box

• Endurance, flexibility, strength, and symmetry are associated with RP.
• Balance, reaction time, and speed are not associated with RP.
• Further predictors of RP would have been sought outside the rider.

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References