ASSESSMENT OF COGNITIVE ABILITIES ON MOTOR SKILLS ACQUISITION SETTINGS

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  ASSESSMENT OF BIOMOTION PERCEPTION

- TK-4 (2014)
  ASSESSMENT OF THROWING-CATCHING SKILL ACQUISITION

- TK-3 (2011)
  PSYCHOMOTOR DOMAIN IN TENNIS

  ASSESSMENT OF SPEED DISCRIMINATION PERCEPTION, HUGE OF COLOR, PITCHES OF A TONE & CONSENTRATION

- TK-1 (1992)
IMPORTANCE OF COGNITIVE ABILITIES IN SPORTS

- Adequate initial information, which is received using sensory systems, serves as a basis for right decisions in the central nervous system (CNS).

- Performance and timing of the motor acts depends on the “orders” from the CNS.

- When initial information is incorrect, wrong decisions and inaccuracy follow:
  - in **technical** elements
  - carrying out **tactical** combinations
  - applying **physical abilities** when dosing them
IMPORTANCE OF THE PSYCHOMOTOR DOMAIN IN PERFORMANCE

CLASSICAL TRAINING OF COGNITIVE ABILITIES:
DEVELOPMENT OF COGNITIVE ABILITIES
ACCOMPANING WITH SKILLS ACQUIRING

SKILLS

COGNITIVE ABILITIES

SPECIAL TRAINING OF COGNITIVE ABILITIES:
DEVELOPMENT OF SPEED DISCRIMINATION,
CONCENTRATION, BIOMOTION PERCEPTION, etc.

1. development and
2. assessment of the ability to
discriminate between:
   • hues of colours,
   • speeds of motion,
   • pitches of tones, and
   • assessment of
   • concentration.

3. determining the nervous system
qualities of the 2nd rank which
are based on the pattern of
decision-making time and
accuracy.
TK-2: *WinPsycho 2000 test for Windows (English)*

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Future research:
Jerome Kagan (1965) “Reflective-impulsive theory” or aging adaptation?
ON PSYCHOMOTOR DOMAIN IN TENNIS

During one year before 2012 in Brisbane Kanepi used TK-3

Kanepi wins WTA title, 7 Jan. 2012 in Brisbane
Future developments:
• Wireless data transmission of acceleration and precision of throwing.
• Wireless transmission of EMG-data for determining of muscle activity.
• Cameras recording of 3-dimensional graphic model of throwing-catching skills.
• Metal-, carbon or nanotechnological pedestal instead of wood.
TK-5

ASSESSMENT OF BIOMOTION PERCEPTION

Perception of biological motion was evaluated using two different point-light stimuli developed from video images of a ballet dancer’s performance of a correct and incorrect turn in the fifth position.

The findings showed that performance on the point-light discrimination task could be differentiated on the basis of preferred cognitive style: individuals classified as field independent made significantly fewer visuospatial processing errors.
MORE ABOUT ASSESSMENT AND DEVELOPMENT OF COGNITIVE ABILITIES ON MOTOR SKILLS ACQUISITION SETTINGS


FUNCTIONAL SYSTEM
CONSIST OF KEYSTAGES WHICH UNITE ORGANS AND THE PROCESSES

KEY STAGES OF THE FUNCTIONAL SYSTEM THEORY (by P. K. Anokhin)