FACULTY OF MEDICINE AND HEALTH SCIENCES

FACULTY OF MEDICINE AND HEALTH SCIENCES, DEPARTMENT OF MOVEMENT AND SPORTS SCIENCES

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PERCEPTUAL-COGNITIVE AND COGNITIVE SKILLS IN YOUTH VOLLEYBALL PLAYERS

PERCEPTUAL-COGNITIVE SKILLS: CRUCIAL IN FAST BALL SPORTS

PATTERN RECALL: reading and recalling specific patterns of play

ANTICIPATION: prediction of future course of action

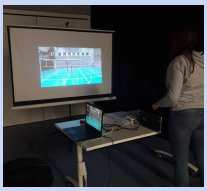
DECISION MAKING: selecting the optimal decision

EXPERT > NOVICE = CONFIRMED

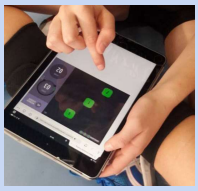
? Perceptual-cognitive skills in youth players

? Relationship with cognitive function in youth players

MULTI-DIMENSIONAL TEST BATTERY



Volleyball-specific perceptual-cognitive skills



Cognitive Function

N=171
Age 7 – 17

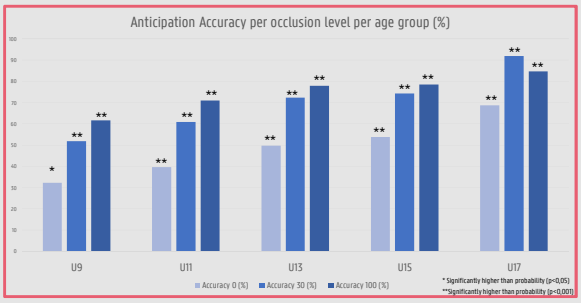
Volleyball-Specific Perceptual-Cognitive Skills:

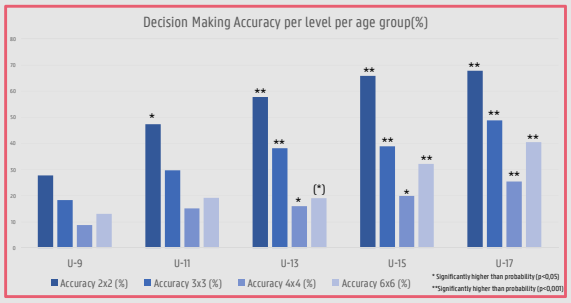
Occlusion-based video test for:
- Anticipation (ANT)
- Decision Making (DM)
- Pattern Recall (PR)

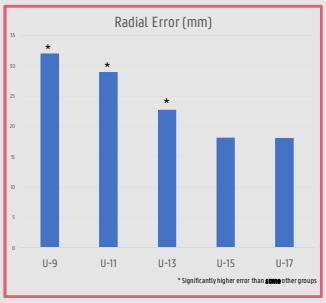
Cognitive Function:

Tests for core and higher order executive functions (CBS Test Battery)
(7 tests of which 4 were used for analysis)

SPORT-SPECIFIC PERCEPTUAL-COGNITIVE FUNCTION





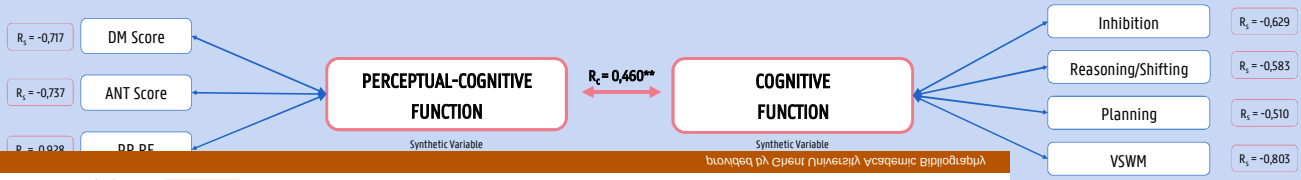


COGNITIVE FUNCTION

INHIBITION	WORKING MEMORY	SHIFTING	PLANNING	REASONING
U9 < older groups	U9 + U11 < older groups	U9 < older groups	Improvement with age, although not statistically significant	U9 < older groups

Scan for more information!

CANONICAL CORRELATION ANALYSIS



DISCUSSION

Clear indications for early development of perceptual-cognitive function and the relation with cognitive function

- Longitudinal research to gain insight in development + Comparison with a control group → work in progress
- Account for age in canonical correlation analysis ?

CONCLUSION

Sport-specific perceptual-cognitive function:

- Development starts early (9y/o)
- Related to higher order and core executive functions

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