

Abstract

Title:

The possibilities of virtual reality as a training tool in sports games - on the example of a chosen sports game

Objectives:

The aim of this thesis is to find relations between variables consisting of selected hockey-specific skills and cognitive functions.

Methods:

Result evaluation was done via descriptive statistics (average result of research group, standard deviation) and correlational analysis (Pearson (common), canonical).

Results:

Research group was made of 197 probands (ice hockey players), whose ages were between thirteen and fifteen years. All probands performed eight tests in virtual reality, whereas first four of them focused on cognitive functions and the remaining four on hockey-specific skills. In case of hockey-specific skills, players accomplished following outcomes: release time (percentile) $x=92,54\pm 3,24$ spatial orientation (percentile) $x=70,07\pm 14,29$ looking for open lanes (percentile) $x=59,64\pm 9,73$ verbal communication (percentile) $x=54,03\pm 23,50$ correct decision (percentile) $x=58,87\pm 14,98$. In case of cognitive functions, players accomplished following outcomes: recognition time (percentile) $x=83,23\pm 4,28$ multiple objects tracking (percentile) $x=49,03\pm 14,59$ detail recognition (percentile) $x=91,11\pm 14,20$ time-movement anticipation (percentile) $x=61,19\pm 16,33$ peripheral vision (percentile) $x=85,11\pm 4,94$. The strongest correlated variables were *best solutions* with *correct decision* (0,87), and *precise pass 2* with *successful pass* (0,91). The strongest correlation of main variables was discovered to be between *correct decision* and *looking for open lanes* (0,60). Canonical correlations of hockey-specific skills with cognitive functions reached the values of 0,683 (main variables) and 0,940 (partial variables).

Keywords:

training, transfer of skills, nonspecific preparation