

Comparison of Visio-spatial Intelligence Between Amateur Rugby and Netball Players Using a Hand-Eye Coordination Specific Visual Test Battery

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Abstract : Aim: The research aims to investigate the differences in visio-spatial skills (VSS) between athletes and non-athletes, as well as variations across sports, presenting conflicting findings. Therefore, the objective of this study was to determine if there exist significant differences in visio-spatial intelligence skills between rugby players and netball players, and whether such disparities are present when comparing both groups to non-athletes. Methods: Participants underwent an optometric assessment, followed by an evaluation of VSS using six established tests: the Hart Near Far Rock, saccadic eye movement, evasion, accumulator, flash memory, and ball wall toss tests. Results: The results revealed that rugby players significantly outperformed netball players in speed of recognition, peripheral awareness, and hand-eye coordination ($p=.000$). Moreover, both rugby players and netball players performed significantly better than non-athletes in five of the six tests ($p=.000$), with the exception being the visual memory test ($p=.809$). Conclusion: This discrepancy in performance suggests that certain VSS are superior in athletes compared to non-athletes, highlighting potential implications for theories of vision, test selection, and the development of sport-specific VSS testing batteries. Furthermore, the use of a hand-eye coordination-specific VSS test battery effectively differentiated between different sports. However, this pattern was not consistent across all VSS tests, indicating that further research should explore the training methods employed by both sports, as these factors may contribute to the observed differences.

Keywords : visio-spatial intelligence (VSI), rugby vision, netball vision, visual skills, sport vision.

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