Speaker Information

Spatial Cogniton Performance in Primary School Children
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To successfully navigate it is necessary to store crucial locations in memory. We present two studies that have investigated this ability in primary school children aged 8-11. One fMRI study investigated the neural correlates as a result of a 5 day training in a virtual environment. Before and after training children completed a virtual object learning task in the MRI scanner. When global landmarks were used to guide navigation, activity in the hippocampus decreased with training, and when local landmarks were used, activity in the caudate nucleus decreased with training whereas activity in the hippocampus increased. A further behavioural study investigated sex differences and the role of gaming experience in a similar but more naturalistic virtual reality object location task. Overall, girls and boys performed equally accurate, although there was an increase in accuracy with age for boys. Boys navigated faster than girls, and this difference increased with age. More gaming experience in boys versus girls did not explain any result observed. Our results indicate that primary school children flexibly start using the geometric configuration of landmarks to guide navigation. Second, we demonstrate that sex differences in spatial skills, favouring boys are already present in primary school children.