

Figure 1. Views of mazes. (a) Ambiguous maze as seen from the northwest from above normal eye level to highlight outside landscape (allocentric features) and square box marking position of platform (egocentric feature). The platform is invisible during test trials. (b) Place maze as seen from southeast at normal eye level. Although the platform position is marked in the figure, it was invisible during testing.

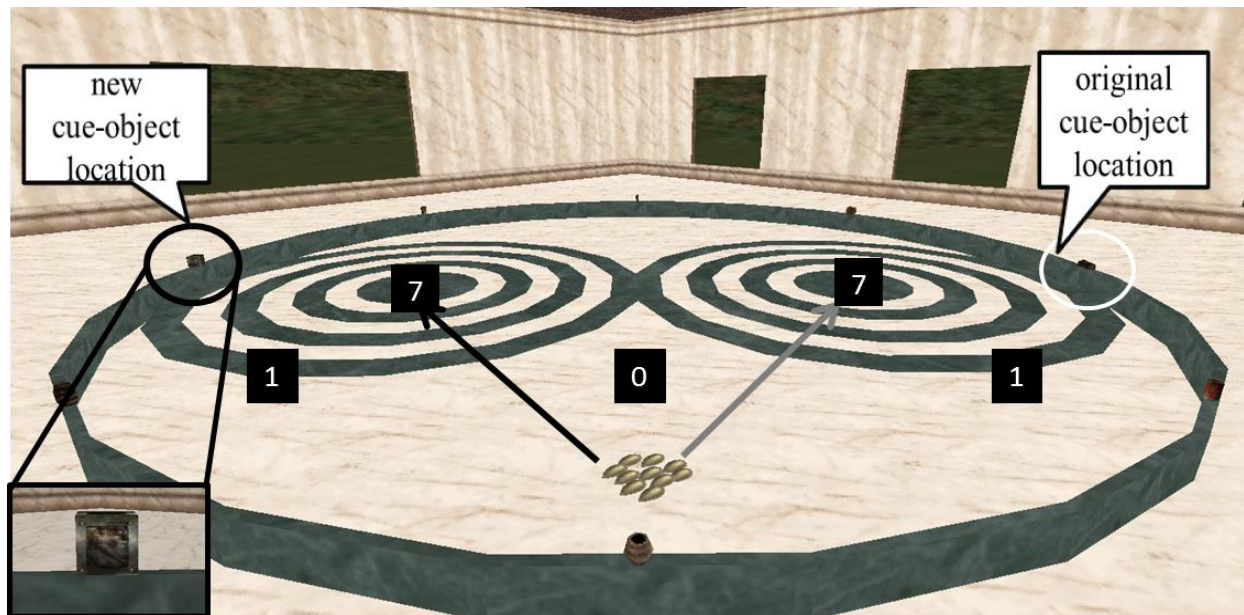


Figure 2. The dDTS trial. Participants collected marker seeds visible from a southwest start position and indicated strategy selection. Participants either indicated an egocentric strategy (black arrow) by marking the location of the platform relative to the predictive proximal cue (steel box, inset), which had been moved 180° away from its original location, or an allocentric strategy by marking the location of the platform relative to distal landscape features visible through the windows (grey arrow). Accuracy of seed dropping was measured using 7-point bull's-eyes. Note that the bull's-eyes were not visible to the participants during testing. Picture is taken from an elevated position outside of the testing arena.

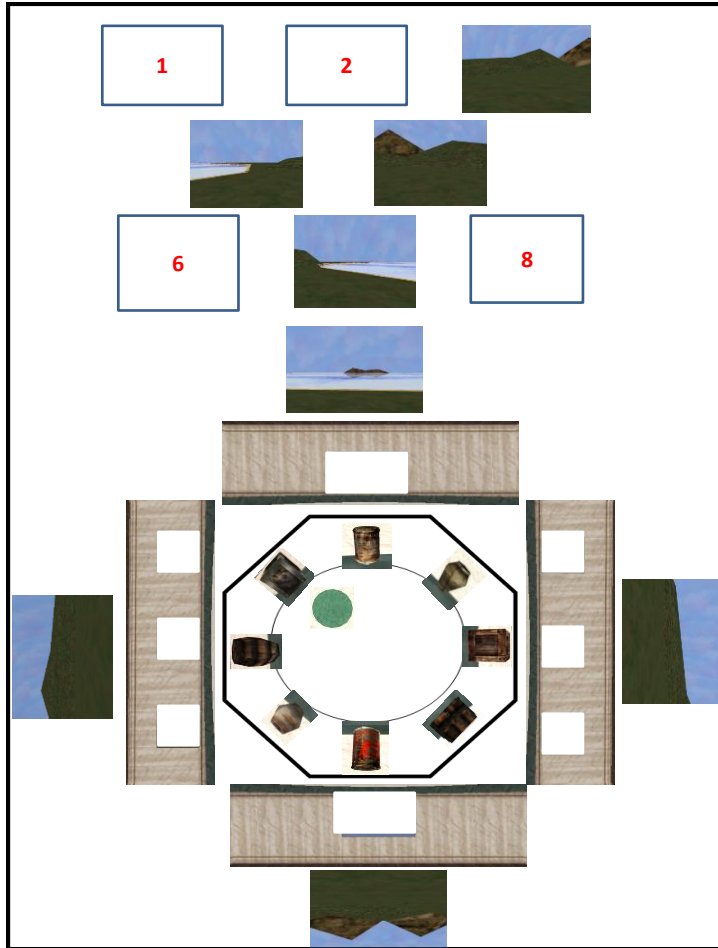


Figure 3. The Ambiguous maze Room Reconstruction task. Participants reconstructed the Ambiguous maze by selecting the most representative laminated images from an available set of 8 images (representing views at 45°), and placing them, one at a time, on a Bristol board template. Participants then positioned the 4 walls, laid the floor with objects oriented to the walls or outside landscape, and lastly placed the platform on the floor. This example depicts a perfect score (9). For scoring details, see Methods.

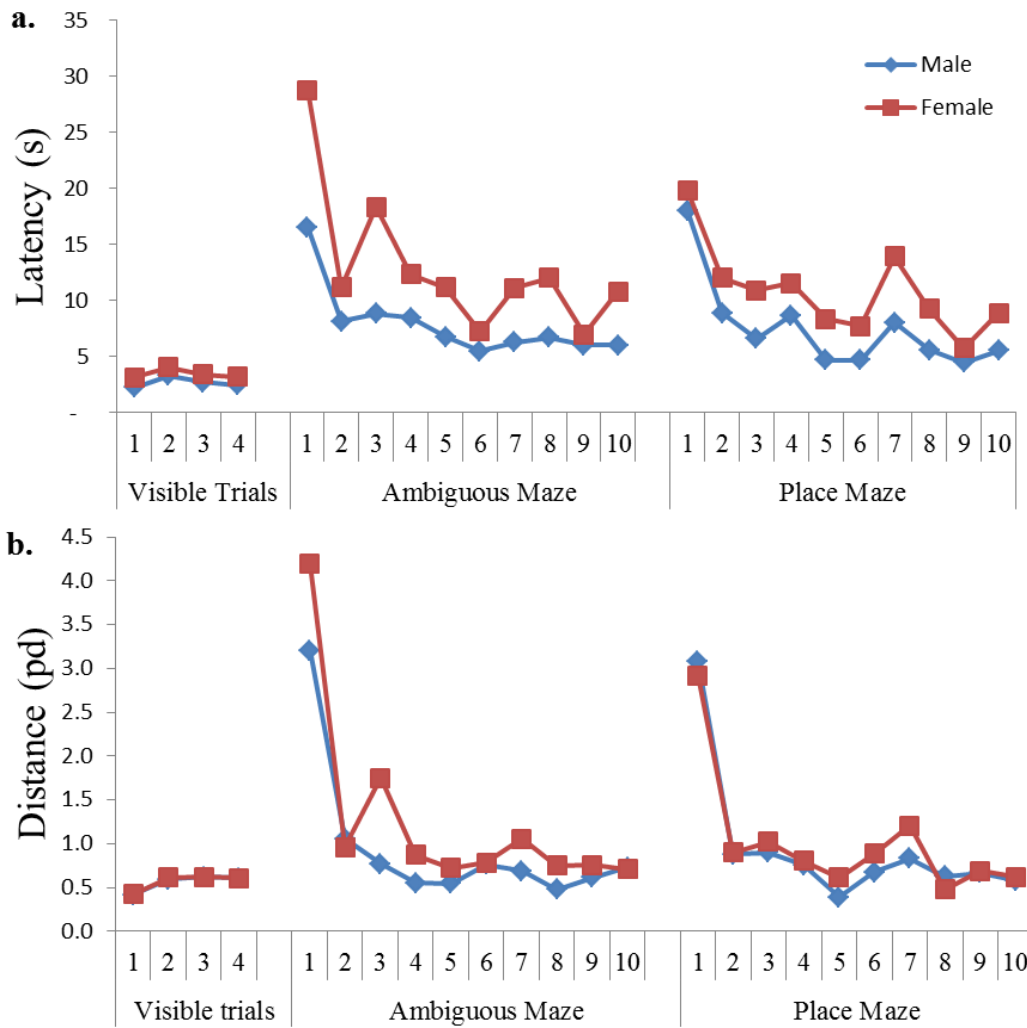


Figure 4. Male and female mean performance on (a) latency (s) and (b) distance (pd) over trials.

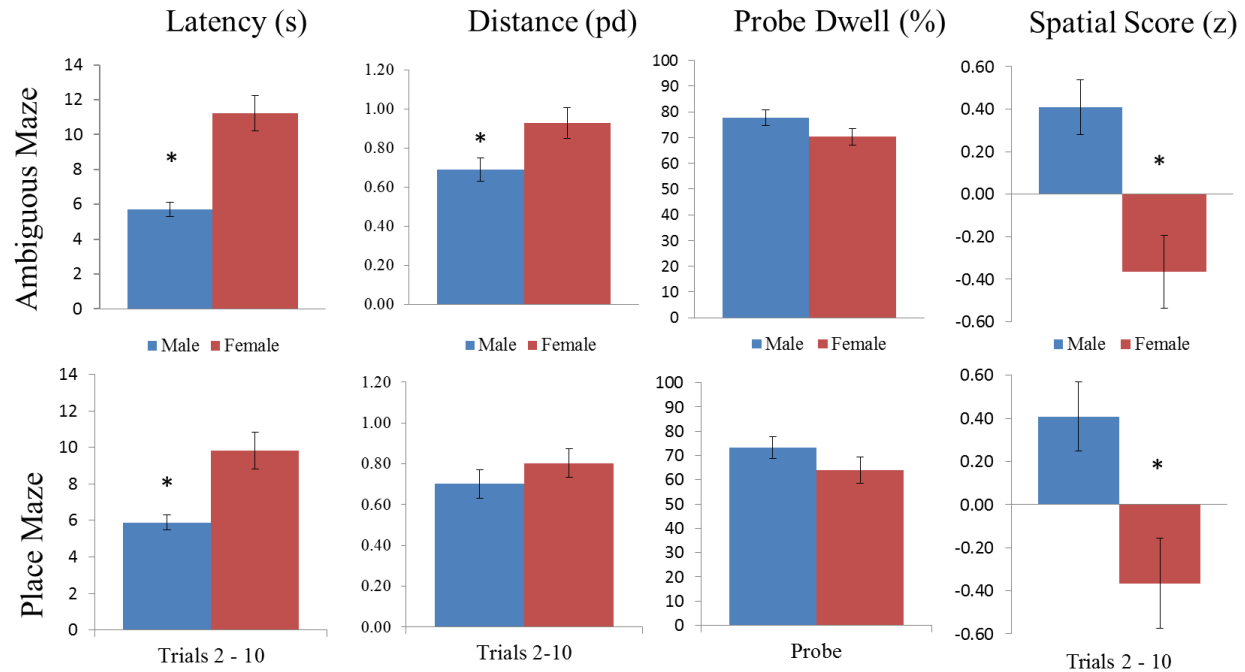


Figure 5. Mean differences of performance results for males and females in the Ambiguous and Place mazes: Latency (s) and distance (pd) to reach the invisible platform are averages of trials 2 – 10; probe dwell time (%) shows the amount of time participants spent in the correct quadrant during probe trials; spatial score (z) is a summary variable that incorporates all three standard measures (see text for detailed description). * $p < .05$. Error bars represent the standard error of the mean. Note: Ambiguous maze distance and Place maze latency and spatial score are rendered non-significant after video game experience is factored out.

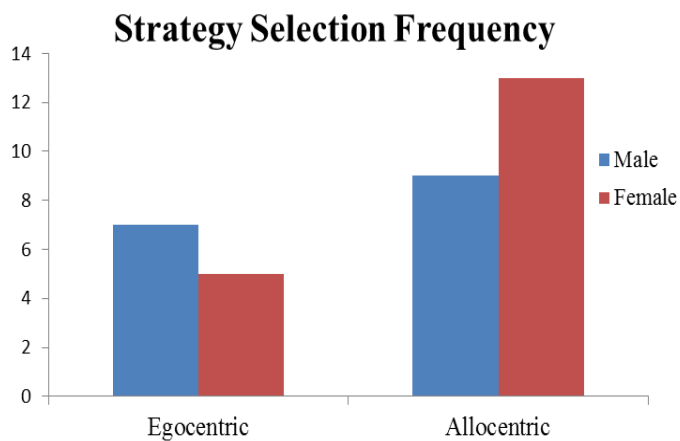


Figure 6. Egocentric and allocentric strategy selection frequencies for males and females based on the dDTS trial.

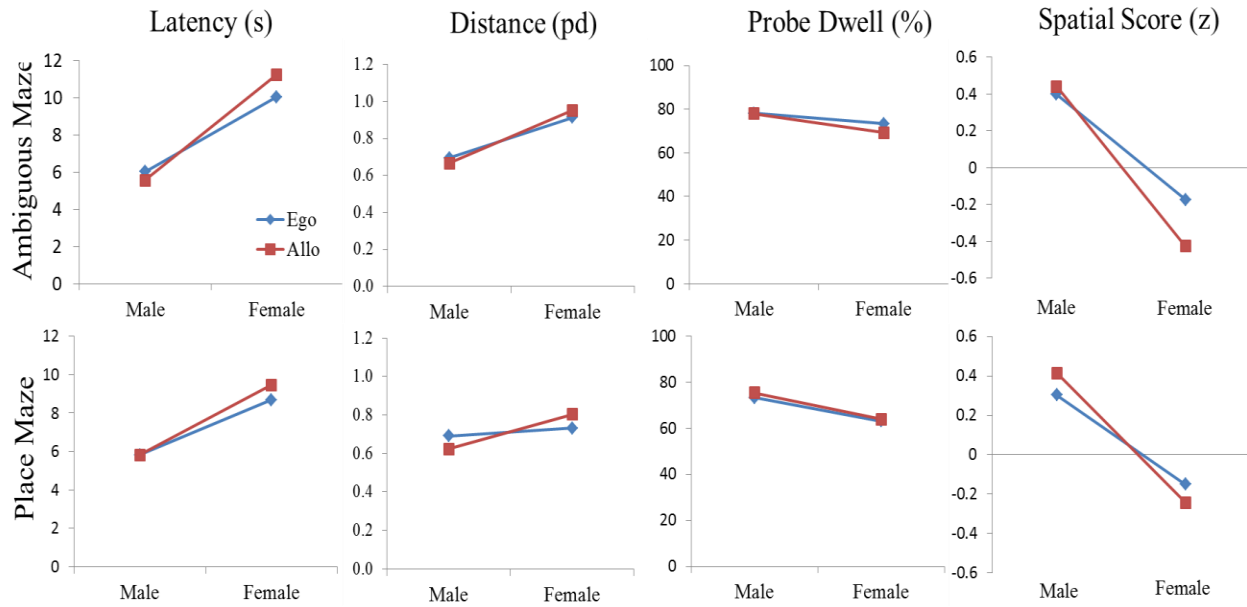


Figure 7. The minimal effect of strategy on gender performance in the Ambiguous and Place mazes: Latency (s) and distance (pd) to reach the invisible platform on trials 2 – 10; dwell time (%), the amount of time participants spent in the correct quadrant during probe trials; spatial score (z), a summary variable that incorporates all three standard measures (see text for detailed description). No error bars are shown because no gender differences were significant.

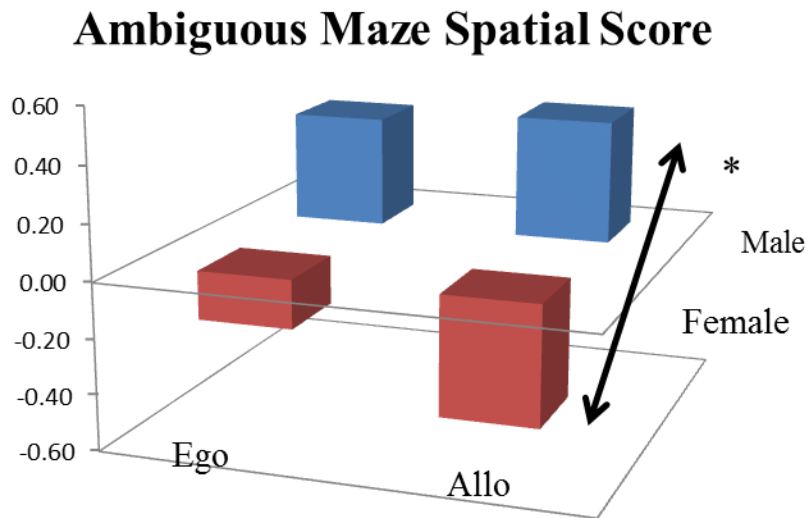


Figure 8. Mean strategy by gender group spatial scores on the Ambiguous maze for trials 2 – 10. Star represents significant difference. * $p < .05$.