

ZMATH 2012d.00166

Xiao, Chengli; Mou, Weimin; McNamara, Timothy P.

Use of self-to-object and object-to-object spatial relations in locomotion.

J. Exp. Psychol.: Learn. Mem. Cogn. 35, No. 5, 1137-1147 (2009).

Summary: In 8 experiments, the authors examined the use of representations of self-to-object or object-to-object spatial relations during locomotion. Participants learned geometrically regular or irregular layouts of objects while standing at the edge or in the middle and then pointed to objects while blindfolded in three conditions: before turning (baseline), after rotating 240 degrees (updating), and after disorientation (disorientation). The internal consistency of pointing in the disorientation condition was equivalent to that in the updating condition when participants learned the regular layout. The internal consistency of pointing was disrupted by disorientation when participants learned the irregular layout. However, when participants who learned the regular layout were instructed to use self-to-object spatial relations, the effect of disorientation on pointing consistency appeared. When participants who learned the irregular layout at the periphery of the layout were instructed to use object-to-object spatial relations, the effect of disorientation disappeared. These results suggest that people represent both self-to-object and object-to-object spatial relations and primarily use object-to-object spatial representation in a regular layout and self-to-object spatial representation in an irregular layout.

Classification: C30 C80

Keywords: cognitive science; cognitive psychology; spatial memory; research; configuration errors; spatial representation; spatial knowledge

doi:10.1037/a0016273