



Eye tracking evidence of spatial indexing in infants: Binding multimodal properties by location

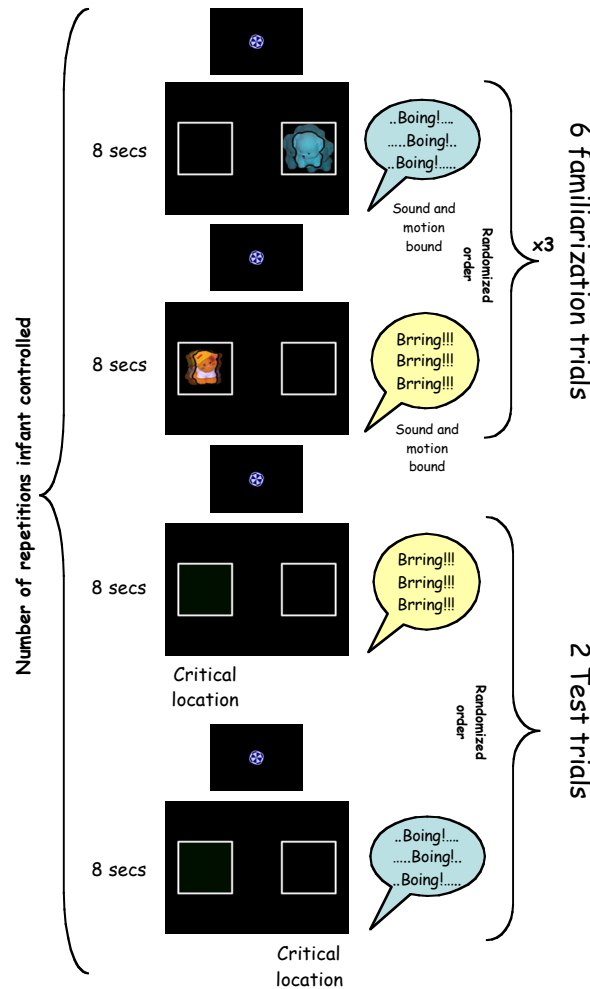
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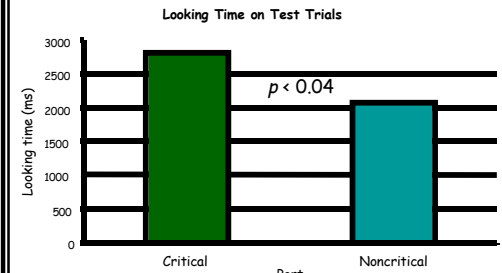
ABSTRACT

Converging evidence suggests that spatial indices are employed to track objects, link incompatible sensorimotor and cognitive codes, and organize working memory. Recent eye tracking work presented adults with auditory semantic facts that co-occurred with visual events in four locations (Richardson & Spivey, 2000). When answering a question about one of the facts, subjects made saccades to the (now empty) region of space associated with that fact. Although location was task-irrelevant, adults tagged auditory information with a spatial index. In the present study we asked whether spatial indexing is functional in infants. Six-month-olds were shown six trials with two moving objects in specific locations, one at a time, each with a unique sound. The infants then heard one of the two sounds with no object present, and their eye movements were recorded. The infants tended to make saccades back to the location previously associated with that sound ($p < .04$), providing evidence for early emergence of the spatial indexing mechanism.

DESIGN



RESULTS



As in previous studies, but without explicit training (McMurray & Aslin, 2000) infants appeared to use spatial indices in order to bind object properties, in a manner analogous to Richardson & Spivey (2000).

References

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