

Objects in previous events look farther away than objects in current ones

Introduction

People spontaneously segment their perceptual experiences into discrete events.^{1,2} Segmentation may serve, in part, as an attentional orienting mechanism, shifting attention away from old goals in pursuit of new ones. In spatial memory, navigators segment routes by landmarks or turns, and more segments relate to memory for longer spatial distance. In moment-to-moment processing, people segment and update their event representations when they experience shifts in space (e.g., walking through a doorway). In this experiment, we investigated whether event updating also distorts distance perception, perhaps by making previous events appear farther away than current ones.

Hypothesis

We hypothesize that experiencing a spatial shift during navigation (i.e., walking through a doorway) will make the old event look farther away than when no shift was encountered.

Method

- Participants (n = 33) walked a route that weaved in and out of rooms, with stopping points marked by cones.
- When they reached a cone, they turned around and estimated how far away the previous cone looked in feet.

Critical Manipulation



Shift: Participant walks through doorway to get to the next cone.

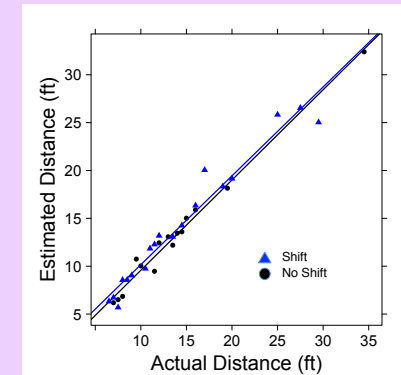


No Shift: Participant walks within the same room to get to the next cone.

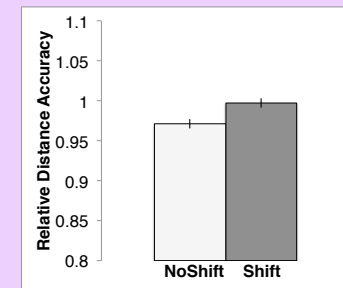
- 22 Shift trials and 24 No Shift trials
 - Cone distances ranged from 6.5 ft to 34.5 ft
 - Average distance was equal across conditions (NoShift: 13.79 ft; Shift: 13.80 ft)
- Digit monitoring task: Encoded 5 digits when encountering a cone and reported them before making their distance estimate.

Results

Estimates increased with increasing cone distance



Relative distance estimates were significantly longer for shift than no shift conditions



Note: Error bars represent 95% within subject CI

Relative Distance Accuracy = Estimate / actual distance

Summary and Conclusions

- Distance estimates were longer for shift than no shift conditions.
- Older events may appear farther away once attention is shifted to processing new events.

References

¹ Kurby, C.A., & Zacks, J.M. (2008). Segmentation in the perception and memory of events. *Trends in Cognitive Sciences*, 12, 72-79.

² Zacks, J.M., Speer, N.K., Swallow, K.M., Braver, T. S., & Reynolds, J. R. (2007). Event perception: A mind/brain perspective. *Psychological Bulletin*, 133, 273-293.

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