Hierarchical planning during navigation

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Introduction

Hierarchical representations alleviate the complexity of planning. Using fMRI, we looked for the neural correlates of line changes within a navigation task virtual environment

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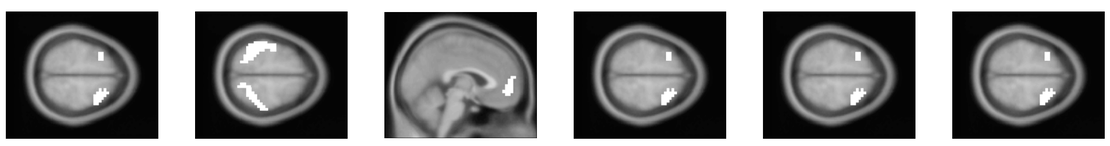
Regions of interest

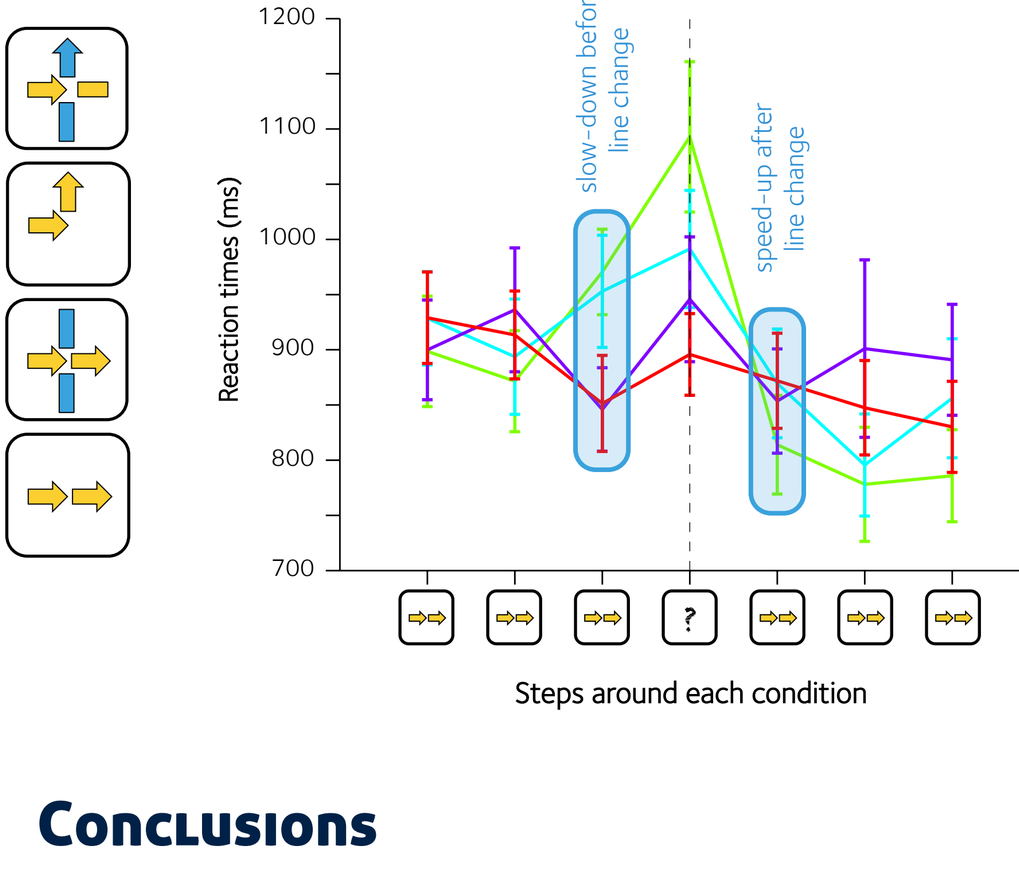


dlPFC IPL vmPFC dlPFC dlPFC dlPFC

Neural Correlates

Connectivity (PPI)

Task design



Reaction time

Conclusions

Signatures of hierarchical representations :

1) Behavioural cost in RTs around a line change
2) BOLD signal in different regions reflect exchange stations, response switch and line change.
3) Medial regions monitor performance (distance to goal, etc..) in a hierarchical fashion.
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