**Memory reinstatement in posteromedial cortex and event comprehension in healthy aging**

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A core function of memory is to guide behaviors by providing information about past experiences that are relevant to the present situation. When encountering new events, comprehension might use memories of similar past experiences to inform predictions about what is going to happen next. Aging could potentially impair the encoding of previous experiences, the retrieval of relevant instances, or their use in guiding predictions about the new situation. This may be particularly significant when faced with situations that are similar to previous ones but with some changed features—for example, a new dosage schedule for a longstanding prescription. Using fMRI pattern analysis, we investigated these mechanisms in healthy young and older adults. In the scanner, participants first saw a movie depicting a series of everyday events, as if following a day in the life of the actor. Later, they watched another movie of the day’s events where some scenes proceeded exactly as before, while others began in the same way and then ended with a slightly different activity. Crucially, before watching the last part of each scene, the movie stopped, and participants were instructed to predict its ending based on the previous movie. Three days later, participants were asked to retrieve the activity details. In both age groups, stronger memory reinstatement in the posteromedial cortex during the prediction task was associated with better memory for the changed ending features. This finding suggests that the posteromedial cortex contributes to the comprehension of change during everyday events by supporting memory-based predictions.

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