Individuals with Mild Cognitive Impairment are impaired in a gambling task

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Abstract

Decision-making is commonly impaired in those with cognitive decline. I compared individuals with Mild Cognitive Impairment (MCI; n = 45) and cognitively healthy older adults (n = 45) in their ability to improve their decision-making in the Iowa Gambling Task over time. On each trial, participants chose from one of four decks of cards and received a net gain or loss. The four decks differed in their expected value (EV). They continued choosing among the decks for one hundred trials, trying to maximize their winnings. Results indicate that both groups learned to choose from the higher EV decks over time, but those with MCI learned more slowly. The data were fit to a reinforcement learning model that indicated those with MCI performed worse in part because of task strategy: those with MCI were less likely to perseverate on wins and updated their beliefs more slowly to losses.

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