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Decision-Making in Older Adults: Sometimes Older is Wiser

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Abstract: We examined the performance of younger and older adults in a dynamic decision making task that required exploring long-term increasing options that had worse short term gains, but that eventually yielded higher rewards. Results indicate that older adults are more willing to sample the long-term increasing option earlier in the task than the Younger adults. We employed a model-based approach that modified a simple reinforcement learning model to allow for biases to 'stay' or 'switch' following a response (e.g. Otto et al., in press). Using this approach we were able to characterize exploration of alternative options or exploitation of the best option as 'targeted' or 'untargeted' responding. We found that Older adults were best fit by the targeted exploration model. This suggests that while Younger adults tend to repeatedly select short-term advantageous options, Older adults engage in greater exploration of the decision space, and this leads to better performance.