

Memory for Performed Actions

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Are some events easier to remember? Does age have an effect on creating familiarity for performed actions?

Introduction

- Research has demonstrated that self performed actions are better remembered than actions that are observed or imagined, both in young and older adults (Earles & Kersten, 2000).
- A basic idea behind this hypothesis is that self performance will increase the familiarity of an action, and therefore the likelihood that the participant will successfully bind the action with the actor.
- Empirical evidence suggests, however, that older adults have a poorer discrimination of old items from novel conjunctions of familiar actors and actions due to a difficulty in the binding of features. Thus, a strong feeling of familiarity may cause older adults to attribute actions to the incorrect source (Kersten, Earles, Curtayne, & Lane, 2008).
- This experiment was designed to test the hypothesis that older adults are more likely to falsely recognize a familiar actor performing an action that they had in fact performed themselves.



Method

Participants

52 undergraduate students aged 19-22
39 community dwelling older adults aged 60+

	Younger	Older
Age	20.17 (6.00)	74.31 (8.34)
Years of Education	12.60 (1.30)	15.90 (2.70)
Health Rating	4.26 (0.79)	5.10 (6.46)

Stimuli

One hundred undergraduate students were filmed performing 100 different simple actions, each involving manipulating a common object while seated at a desk; a total of 300 clips were filmed.

Procedure

- Participants viewed clips of 40 different actors performing 40 different actions, and they performed 20 actions themselves.
- After one week, participants returned and answered two questions about the video clips.

Did you perform this action in the first part of the experiment?
("Yes" or "No")

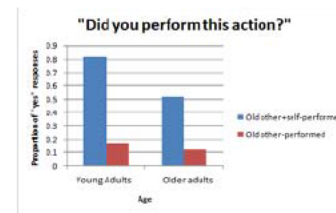
Did you see this person perform this action in the first part of the experiment?
("Yes" or "No")

How confident are you in your decision?
("Just guessing," "pretty sure," or "absolutely sure")

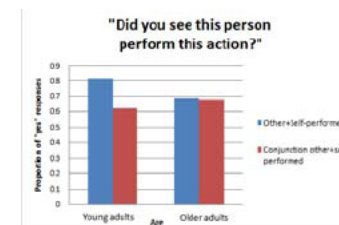
- Participants then completed a demographics questionnaire and vocabulary test.

Results

- The proportion of "yes" responses was compared for old other self performed items and old other performed items when asked "Did you perform this action?"



- The proportion of "yes" responses to self performed old items was highest for both young and older adults.
 - Older adults were less likely to respond "yes" to old other self performed items.
- The proportion of "yes" responses were compared for self performed other items and self performed conjunction other items when asked "Did you this person perform this action?"



- There was a significant interaction between age and conjunction errors.
- Younger adults were less likely to falsely respond "yes" to conjunction other self performed items

Discussion

- Self performance had a significant effect on the proportion of correct "yes" responses. False memories were much lower for actions that the participants performed. This finding is consistent with that of Earles (1996) who found that when compared to memory for non performed items, enactment improved recall of brief motor actions.
- An age related decline is evident in the external source monitoring ability of adults (Kersten et al., 2008). Older adults may, therefore, exhibit differences in binding ability compared to younger adults leading them to be incapable of distinguishing between self performed other and self performed conjunction other items.
- It is hypothesized that as an action becomes more familiar, thus increasing your memory for it, the more likely you will make a "yes" response. However, a global feeling of familiarity may induce older adults to falsely believe they performed an action when it was in fact a different actor.

References

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- Kersten, A.W., Earles, J.L., Curtayne, E.S., & Lane, J.C. (2008). Adult age differences in binding actors and actions in memory for events. *Memory and Cognition*, 36, 119-131.