



Age-related Changes of Verbal Abilities: A Longitudinal Study of Hong Kong Older Adults

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BACKGROUND

- Normal aging is reported to show accelerating declines in memory and reasoning. However, vocabulary knowledge was reported to be increasing until about 60s (Salthouse, 2019)
- Verbal Fluency and Picture Naming are the two common tasks to measure verbal production
- Longitudinal studies often reported findings from WEIRD (*Western, Educated, Industrialized, Rich and Democratic*) population, which might be problematic to generalize to the older adults in Hong Kong

METHODS

Participants

Visit	1 st	2 nd	3 rd
N	30	30	30
Age	66.11 (4.52)	68.25 (4.54)	70.69 (4.54)
MoCA	27.50 (1.93)	27.97 (1.87)	27.23 (1.74)

- Cognitively normal older adults completed a cognitive battery every two years
- Data-collection is on-going

Tasks

Verbal Fluency

- Name as many Animal / Fruit as possible in one minute

Picture Naming

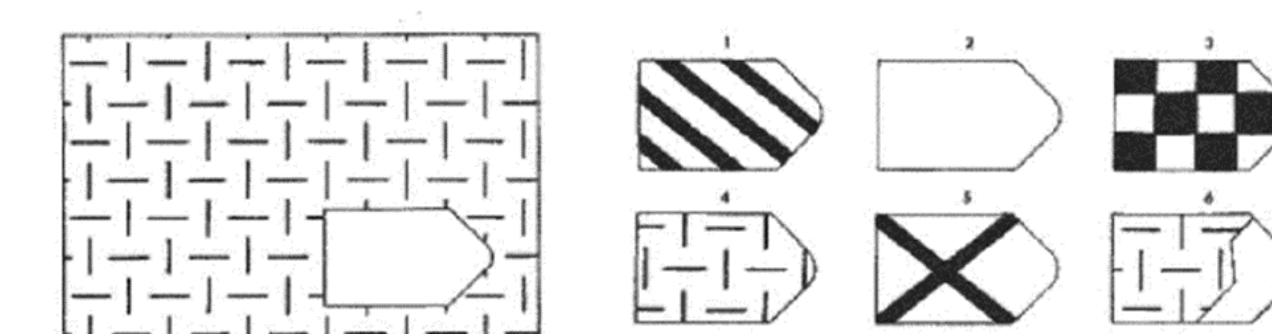
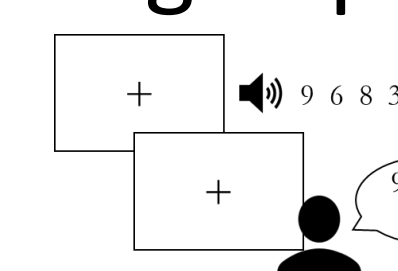
- 42 black-and-white line pictures, presented for 5 seconds each
- Name the pictures in Cantonese as quickly as possible



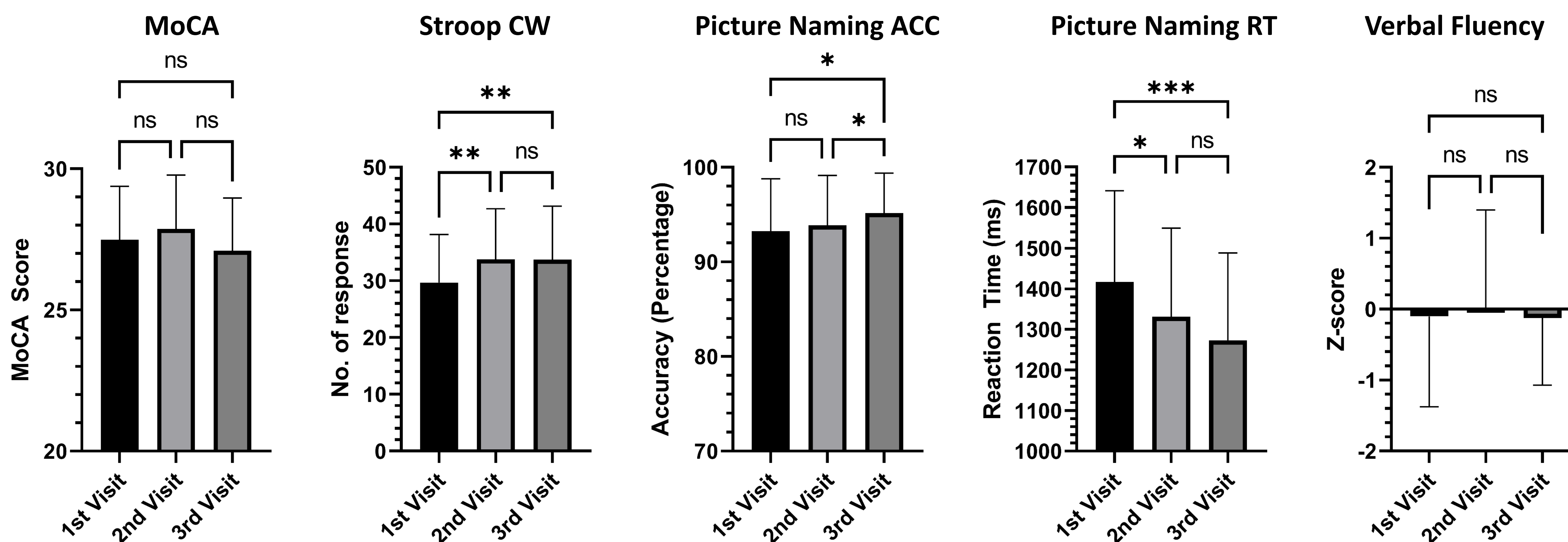
Other cognitive tests

- Stroop
- Digit Span Forward
- Raven's SPM

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RESULTS



- No change in general cognition as measured by MoCA, nor in working memory as measured by digit span
- Significant increase in Stroop CW and Picture Naming (in ACC and RT)
- No difference was found for Verbal Fluency

DISCUSSION

Different cognitive processes involved in the verbal ability tests exhibited different age-related changes

- Picture Naming relies on rapid retrieval from the semantic memory and inhibition for suppressing competing concepts (Abrahams et al., 2003). The improvement in picture naming might be due to the improved inhibition ability that helped suppressing the competing concepts in the semantic memory, as an increase was also observed in the Stroop task Colour-Word (CW) condition.
- Verbal Fluency relies on executive function in selecting effective strategies in item generation, especially clustering and switching (Abrahams et al., 2003).

No decline in cognition was observed

- Cognitive abilities remain unchanged for the healthy older adults in this study.
- Participants in this study were highly educated (M education year = 15.28, SD = 4.17) and mostly bilinguals, which were known factors that contribute to high cognitive reserve (Stern, 2009). We are currently collecting data from older adults with lower education background to investigate the effect of education on cognition.

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