

# The Impact of Fatigue on Proper Name Retrieval

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## BACKGROUND

Forgetting people's names in one of the most frequent memory complaints for older adults (Weaver Cargin, Collie, Masters, & Maruff, 2008).

Names have been showed to be more difficult to recall than conceptual biographical information about people such as the person's profession or nationality, or even more specific, unique, pieces of information (for reviews, see Brédart, 2016; Hanley, 2014).

Given this particular vulnerability of proper name retrieval, the present study evaluated whether cognitive fatigue impacted the retrieval of people's names more strongly than the retrieval of biographical information about people.

## METHODOLOGY

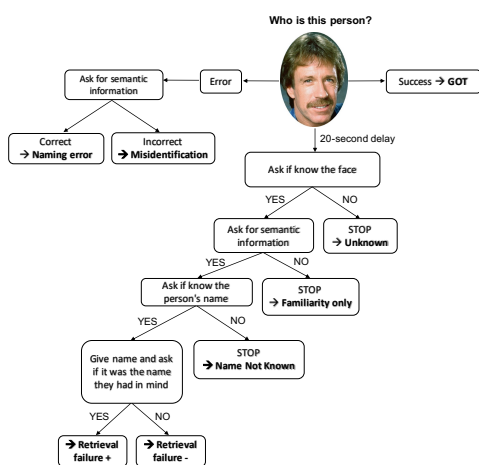
### Participants:

- N = 42
- Middle-aged adults (48 – 65 years,  $M = 54.55$  years,  $SD = 5.39$  years)
- 25 ♀

### Material and procedure:

Presentation of 130 pictures of famous people, including actors, singers, sports people, politicians:

- 10 training items
- 3 experimental blocks of 40 items each



## RESULTS

For each block, the rate of name retrieval failures (NRF) was estimated with the following formula:

$$\frac{n \text{ NRF}}{n \text{ NRF} + n \text{ GOT} + n \text{ Naming error}}$$

The rate of failures to retrieve semantic information was calculated separately for the profession, the nationality, and the specific information (e.g., the title of a specific movie, song or TV series) with the formula:

$$1 - \frac{(n \text{ GOT} + n \text{ NRF} + n \text{ Name not known} + n \text{ Naming error})}{\text{Total } n - n \text{ Unknown} - n \text{ Misidentification}}$$

A 2-way ANOVA 4 (Type of information: Name, Profession, Nationality, Specific information) X 3 (Blocks: 1, 2, and 3) with repeated measures on both factors was carried out on the calculated rates.

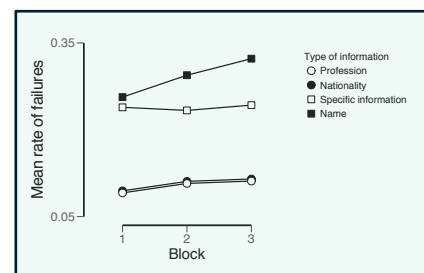
> Type of information X Block interaction,  $F(6,246) = 2.59$ ,  $p = 0.019$ ,  $\eta^2 = 0.059$

Four 1-way ANOVAs with repeated measures were then carried out separately for each Type of information.

> No main effect of the Block for the retrieval of profession, nationality or the specific information.

> Main effect of the Block for the rate of NRFs,  $F(2,82) = 5.65$ ,  $p = 0.005$ ,  $\eta^2 = 0.121$

NRFs in block 3 > NRFs in block 1.



## CONCLUSIONS

For the first time, we found a higher rate of name retrieval failures with increasing time on task.

The present results confirm in a new manner that the retrieval of people's names is more fragile than the retrieval of conceptual biographical information about people's identity.

Future research is needed to further examine the effect of fatigue on proper name retrieval. For instance, fatigue could be induced with a task involving high cognitive demands ensuring equal minimal task duration for every participant.

## REFERENCES

- Brédart, S. (2016). Names and cognitive psychology. In Hough, C., *The Oxford Handbook of Names and Naming* (pp. 476-487). Oxford, UK: Oxford University Press.
- Hanley, J. R. (2014). Retrieval failures for names of familiar people. In B. L. Schwartz & A. S. Brown (Eds.), *Tip-of-the-tongue states and related phenomena* (pp. 50-74). New York City, NY: Cambridge University Press.
- Weaver Cargin, J., Collie, A., Masters, C., & Maruff, P. (2008). The nature of cognitive complaints in healthy older adults with and without objective memory decline. *Journal of Clinical and Experimental Neuropsychology*, 30(2), 245-257.