Effects of face and voice learning on access to semantic information from names.

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Introduction

- Three kinds of information can be retrieved from the recognition of a person: lexical (i.e. the name), semantic (e.g. the occupation), and episodic information, such as a memory of a specific occasion or context where this familiar person was encountered.
- Some studies recently highlighted that semantic information is more likely to be retrieved following familiar face recognition than familiar voice recognition (1-4). It has been argued that this phenomenon can result from closer connections between the face recognition system and biographical information stored in semantic memory than between the voice recognition system and biographical information (1-3).
- Earlier studies that investigated the recall of biographical information following person recognition used stimuli that were pre-experimentally familiar to the participants (1-4), such as famous people's voices and faces (3-4). The present study was designed in order to allow a stricter control of frequency exposure with both types of stimuli and to ensure the absence of identity cues in the spoken extracts.

Method

Participants

- 64 undergraduate students (32 males) aged from 17 to 26 years (M =20; SD =2.05)

Material

- 20 Names
  - Half female
  - One single word
- 20 Occupations

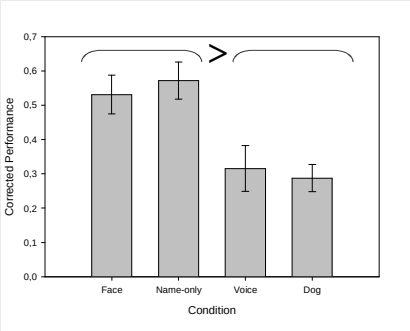
- 20 Faces
- 20 Voices
- 20 Dog's Faces
- 20 Name-Only

→ 4 Conditions
Between-subject Design

Procedure

- Participants were tested individually.
- During the explicit associative learning phase, participants had to associate lexical (i.e. name) and semantic information (i.e. occupation) with faces, voices, dog's faces or just between each other. Items were presented in a random order, during 6 seconds (except in the Name-Only condition: 4 seconds). Participants were showed each association three times.
- Following a distractive task, participants were cued by the person's names, and were requested to provide the associated occupations.

Results



One-way ANOVA with Condition as the independent factor on the Corrected performance [proportion of correct occupations recalled minus proportion of false alarms]:

$$F(3,60) = 7.04 \; ; \; MSE = 0.05 \; ; \; p < 0.001$$

Semantic information is easier retrieved from names when they have been associated with a face than with a voice.

Semantic information cued by name appears to be as difficult to retrieve when previously associated with a human voice as when previously associated with a dog's face.

Conclusion

- Present results are in line with previous research supporting a classical explanation in terms of stronger connections between the face recognition system, in comparison with the voice recognition system, and semantic memory representations (1-4).
- Moreover, participants' performance was not significantly different when names and occupation were associated with voices compared with dog's faces, whose complexity is postulated as similar to that of human faces, but for which we have poorer discrimination abilities. Hence, distinctiveness might be a key factor underlying the face advantage over voices, regarding semantic information retrieval (5): it would be harder to distinguish between voices than faces, this relative difficulty explaining why more semantic information can be recalled from recognized faces than from recognized voices.

References

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