

INTRODUCTION

- The effects of aging on verbal short-term memory (STM) are still a matter of debate (e.g., Nilsson et al., 2003).
- Recent models of STM distinguish processes involved in the retention of item information (i.e., the identity of words) and order information (i.e., the order of presentation of items) (see Majerus, 2008, for a review).
- Finally, these models also incorporate relationships between STM and word production capacities, which are often impaired in aging (Burke et al., 1991).

AIMS

- To explore the effects of aging on both item and order STM capacities.
- To explore the effects of aging on naming capacities.
- To explore the relationships between STM and naming in aging.

PARTICIPANTS

3 groups of participants: (1) 56-64 years old (N=26) – (2) 65-74 years old (N=23) – (3) 75-84 years old (N=22)

- ✓ Matched for the Mill Hill and for socio-economic background
- ✓ Native French speakers
- ✓ Corrected or normal vision
- ✓ No
 - dementia (Mattis Scale > 130/144)
 - neurological, neuropsychological, psychiatric disorder
 - medication use

TASKS

Item STM

Single nonword delayed repetition task

Auditory presentation of monosyllabic nonwords (example: “dum”)
Matched for phonotactic frequency
Filled delay: backward counting, from 95, in steps of 3 (during 8 s)

Word recognition

Monosyllabic words and distractors (differ only by one phoneme)
Matched for imageability and lexical frequency
Presented in lists with increasing length (2 to 5 items)



Order STM

Animal race task

Lists of animals names
Presented in lists with increasing length (3 to 7 items)



Word production

Picture naming task

134 black and white drawings (adapted from Bonin et al., 2003)



! STM tasks = auditory presentation → participants' hearing status was controlled
 $F(2,67) = 25.77, p < .001$ - Post-hoc: 56-64 = 65-74 > 75-84 age group

RESULTS

Analyses of variance and covariance

Task	ANOVAS	Post-hoc	ANCOVAS
Nonword repetition	$F(2,68) = 3.78, p < .05$	56-64 = 65-74 > 75-84	} Become non significant when the hearing status is controlled for.
Word recognition	$F(2,68) = 5.84, p < .01$	56-64 = 65-74 > 75-84	
Order STM	$F(2,68) = 6.53, p < .01$	56-64 = 65-74 > 75-84	
Picture naming	$F(2,68) = 15.25, p < .001$	56-64 > 65-74 = 75-84	} Remains significant when the hearing status and the Mattis Scale are controlled for.

Partial correlations between the picture naming and the STM tasks

➔ Non significant.

Age, hearing status and Mattis Scale partialled out

	Word recognition	Nonword repetition	Order STM
Picture naming	-.07	.06	.06

DISCUSSION

- This study confirms the presence of naming difficulties in participants above 65 years of age, as previously shown by Verhaegen and Poncelet (in press).
- By contrast, in STM, the differences become non significant when the hearing status is controlled for.
- However, the items are presented auditorily in all STM tasks. Therefore, in order to confirm the absence of age-related differences in STM, it would be of interest to assess the participants with visual STM tasks.

References

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