

# AGE RELATES ACCURATELY TO REPORTED ESTIMATION OF MEMORY ABILITIES

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## BACKGROUND

HERMES is a project founded by the European Union under the 7FP Framework Program. The main objective of HERMES is to reduce the cognitive decline, achieved through an assistive technology focused on both prospective and episodic memory and also in cognitive games. The project results in a combination of a home-based and mobile devices to support the users' cognitive state and prevent cognitive decline. The target group includes elderly people suffering from Age Associated Memory Impairment (AAMI), but without any other cognitive impairment. The first step followed in this project has been to carry out an extensive users' requirements analysis under different approaches. One of them included an assessment of subjective and objective memory, as follows.

## OBJECTIVE

Age relation to memory decline in normal ageing is quite well established in the literature, but doubts persist about the nature of the relationship between age and reported memory complaints. In this study, a total sample of independently living 20 elderly people, 4 male and 16 female, with no diagnosis of cognitive decline and a mean age of 72.2 years old (sd = 7.12), were assessed to establish whether there was any relationship between age and both objective and subjective memory.

## METHODS

Both subjective and objective memory were respectively measured by means of the Memory Complaints Questionnaire (MAC-Q) (Crook et al., 1992) and the Wechsler Memory Scale – Third Edition (WMS-III) (Wechsler 2004). The MAC-Q asks to the participant about two questions: (a) the ability to remember things; (b) the frequency he/she presents forgetfulness. This scale was presented in the first place to avoid biases based on the performance in the WMS-III.

## RESULTS

- Age was negatively correlated with the value assigned by older people to their memory abilities ( $r(18) = -.610, p < .01$ ) and with their overall estimation of how their memory works ( $r(18) = -.501, p < .05$ ), as measured by the MAC-Q. Hence, the older they were, the lower the value the elderly gave to their memory performance.
- The comparison between WMS-III and MAC-Q scores correlated significantly. More specifically, 10 out of 13 MAC-Q items correlated to at least one WMS-III subscale, while one particular item and the MAC-Q Ability Subscale correlated to almost every score shown in the WMS-III.



Table 1: Correlations between age the subscales of the MAC-Q

		Ability Subscale	Frequency Subscale	MAC-Q Total Score
AGE	Pearson Correlation	-0.610	-0.195	-.501(*)
	Sig. (bilateral)	0.004	0.411	0.025
	N	20	20	20

## REFERENCES

Crook, T.H., Feher, E.P. & Larrabee, G.J. (1992). Assessment of memory complaint in age-associated memory impairment: The MAC-Q. *International Psychogeriatrics*, 4, 165-176.

Wechsler, D. (2004). *WMS-III, escala de memoria de Wechsler-III, manual de aplicación y puntuación*. Madrid: TEA Ediciones

## CONCLUSION

Elderly with no previous indication of cognitive decline estimated their memory abilities accurately, and this was reflected in their actual performance of memory tasks. These results have supported the development of HERMES interface and applications in the context of a User Centered Design (UCD).

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