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Individual differences in older adults' working memory capacity and speed of using touch interfaces

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Abstract: I examined the effect of the working memory capacity (WMC) of older adult participants on tasks using touch interfaces, by using an extreme-groups design. Older participants (N = 100) completed a single tapping task and verbal, numerical, and spatial WMC tasks. To test whether the response time in the single tapping task differed as a result of the WMC, I performed a 2 x 2 Analyses of Variance with WMC (high, n = 25 /low, n = 25) as the between-subjects factors and the tapping interface (a touch pen, a finger, or a computer mouse) as within-subject factors. This indicated a significant interaction between the WMC and the tapping interface. The results suggested that the response time of participants with high WMC was shorter than the response time of participants with a low WMC, when using a touch pen and a computer mouse interface.