

P. WRIGHT, A.J. SOROKA, S. BELT. *Audio changes how older people follow animated instructions. Gerontechnology 2010;9(2):340; doi:10.4017/gt.2010.09.02.191.00.* **Purpose** Explanations for new procedures to accomplish familiar goals (e.g. microwaving rather than hob cooking) can be given by media such as CDs. Previous research has suggested older people benefit when instructions combine visual animation with spoken description¹. The present study explored the reasons for this, specifically whether the benefit came from memory processes or from visuo-spatial processes, both of which can become less effective with age². **Method** 16 men and 16 women aged between 65 and 80 watched animated instructions for changing a 7-piece pattern from a square to a bird (and from a square to a man), choosing whether to listen to a spoken description of the moves being made. Participants then re-arranged the pieces themselves on a computer touch-screen. Before doing these tasks everyone provided two cognitive measures: (i) short term memory (STM) was gauged by listening to digit sequences then tapping the corresponding buttons on screen; and (ii) visuo-spatial skill was assessed by an online version of the Pin-in-Paper test³ whereby a square of paper was shown folded, then pierced in one corner and participants select the pattern of holes that would be seen when the paper was unfolded. **Results & Discussion** When the patterns were scored for accuracy (max=28), seven people scored below 50%. Because these people had problems following the instructions their data were excluded. The analysis focused on data from 10 people who chose to listen during the instructions for both bird and man (Listening group), and 12 people who chose silence for both instructions (Silent group). These two groups did not differ in accuracy or time taken, but interest centred on whether they would differ in the contribution made by each of the cognitive measures taken. Correlations were with completion times because the groups had been pre-selected for accuracy. These showed the Listening group had a negative correlation with STM (-0.63, $p < 0.05$) indicating that people who had higher memory scores took less time completing the patterns, but there was no correlation with the visual Pin-in-Paper task ($p = -0.13$, non significant). These correlations contrasted with those for the Silent group where there were weaker negative correlations with both memory and visual abilities (STM, $p = -0.35$; Pins, $p = -0.44$). These differences between the two groups suggest they were using different strategies for doing the tasks, with the Listening group relying more on verbal than on visual representations of the instructions. This highlights the diversity of approaches older people can adopt for remembering and following procedural instructions. It also suggests the performance advantage from adding spoken instructions to animations comes from supporting this diversity in strategies.

References

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Address: Cardiff University, UK; E: wrightp1@cardiff.ac.uk