

M. Zajicek, I.M. Jonsson. *In-car messages to promote safer driving for older adults*. *Gerontechnology* 2008; 7(2):248. Cars are essential for many older adults to maintain independent living. They provide the means for freedom of movement and mobility. There is, however, overwhelming evidence that drivers 55 years of age and older may have more difficulty than younger drivers in attending to the driving task in complex traffic situations. In addition, some of today's technology could be of great benefit to older people, but is taken up mainly by the young. Many older adults find difficulty in learning to use new systems and gadgets<sup>1</sup>. In-car message systems, for instance, under discussion here, are available in many cars, and could be of value to older people for orientation and help with driving. However, they are underused by this age group, since in their present form they require a good memory for setup procedures, and good eyesight from the users. We describe work carried out in the CARSITE Oxford Project as a collaborative study between Oxford Brookes University and Toyota Information Technology Centre into in-car speech messages to aid older adults' driving<sup>2-4</sup>. The study examines whether a speech-based in-car information system can positively influence older driver's attitudes, driving performance, and safety, and if this is significantly different from the effects on younger people. It was of particular interest to determine if the characteristics of the voice used by the in-car information system, such as the age of the voice, impacts the results. **Methods** Thirty-six participants, 18 between the ages of 55 and 73, and 18 between the ages of 18 and 25, used a STISIM driving simulator for approximately thirty minutes in one of three conditions: (i) an in-car information system with a younger adult's voice, (ii) an in-car information system with an older adult's voice, or (iii) no in-car system. The in-car information system gave drivers information about upcoming hazards and road conditions. **Results** The results from the driving simulator tests show a clear positive effect of driving with the in-car information system; drivers felt more confident driving and had fewer accidents. Older adult drivers also completed the driving course in less time (without exceeding the speed limit). There was also a clear favourable effect of using a younger adult's voice in the in-car information system for the older drivers. The results indicate that there is considerable potential for the use of in-car information systems to help older adults keep mobile and drive with more confidence and drive more safely.

## References

1. Dulude L. *Behaviour and Information Technology* 2002;21(3):171-184
2. Jonsson IM, Nass C, Endo J, Reaves B, Harris H, Le Ta J, Chan N, Knapp S. *Proceedings of CHI 2004 (CD-ROM)*
3. Jonsson IM, Zajicek M, Harris H, Nass C. *Proceedings of CHI 2005 (CD-ROM)*
4. Jonsson IM, Nass C, Reaves B, Endo J, Harris H. *Proceedings of CHI 2005 (CD-ROM)*

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