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TWO FACTORS IN TRAFFIC ACCIDENTS IN YOUNG AND OLDER DRIVERS

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In many countries the growth of the older population is seen as an increasing risk factor in motorized traffic. Analyzing the function relating traffic accidents to age group, it appears that, in contrast, by far the great majority of traffic accidents is caused by younger drivers, starting with a peak in the age range of 16-18. While the accident rate after the age of 24 is decreasing strongly, it is at a minimum between 40 and 60. It is only after the age of 70 that accident rate is increasing again, but at a relatively low rate. An interesting phenomenon is that accidents involving a female driver are significantly less frequent than those involving male drivers, by at least a factor of 2, and often even more. This same difference in accident liability is also found in other fields, for traffic it has been shown for flying planes, but also in a vastly different range of jobs in industry- jobs equated for males and females. The difference has been attributed to a different perception of risk. One important factor in traffic behavior, then, is risk perception that evolves over the years, becoming more detailed and comprehensive and supported by years of experience. Both the higher accident rates at young ages and high ages point to another factor, the development of attention. Focused attention only develops relatively slowly with age, and, like visual acuity reaches a plateau around the age of 21. Unlike what is frequently assumed, older people have a higher focused attention level than younger ones, but this can be offset by the interaction of distracting information. New data will be presented that shed light on attentional processes in old and young people, and that also make clear that visual acuity is hardly related to traffic accidents.

Recent Publications

1. Juola J F et al. (1991) Control of attention around the fovea. *Journal of Experimental Psychology: Human Perception and Performance*. 17(1):125-141.
2. Bouwhuis D G (2017) A Framework for the acceptance of Gerontechnology in relation to smart living. In *Handbook of Smart Homes, Health Care and Well-Being*. Springer. Cham. Pages:33-51. Doi:10.1007/978-3-319-01583-5_3.
3. Bouwhuis D G (2017) Reasons why ergonomics cannot make interactive devices to be user-friendly ($k > 3$), *Journal of Ergonomics* 2017, 7:195, DOI 10.4172/2165-1000195 .

Biography

Don G Bouwhuis has a background in cognitive science, mathematics and computer science. After a career in industrial research he was appointed Professor of Cognitive Engineering at the Eindhoven University of Technology, The Netherlands. He has carried out research on cognitive functioning in older people, in visual attention, image quality and on the interfaces of truck cabins. He was one of the Founders of the International Society of Gerontology. He has been a Research Fellow at the Cognitive Science Department, University of California at San Diego, the LIMSI (Computer Science Laboratory for Mechanics and Engineering Sciences)-C.N.R.S at Orsay, France, the Technion at Haifa, Israel and GeorgiaTech in Atlanta, USA. He taught at the University of Melbourne, Australia and The University of Technology at Cao Tun, Nantou, Taiwan.

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