

# Preliminary results of an ergonomic study investigating the needs of older drivers and passengers

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## Abstract

World-wide, the elderly population is expanding. This is a positive phenomenon only if these people can maintain a good quality of life. Mobility is one of the determinants of quality of life, people who own a car and are able to drive can exert more control on their choices of work, daily life and leisure occupations. While with ageing functional abilities decline with appropriate ergonomic design some of these declining functions can be compensated.

Fiat Auto and the University of Turin co-operated in an ergonomic study on elderly persons. From a sample of 312 participants a series of anthropometric and biomechanical data and information on personal data, professional curriculum, current lifestyle, medical problems, and biological and genetic data were collected. The most problematic aspects for elderly drivers and passengers, and factors that tend to limit car use by elderly people were also investigated.

On the basis of this preliminary survey, a number of operations that were very critical for older people were selected; and a sub-sample of 25 persons carried out specific operations while video recordings of body movements were taken. The participants were observed whilst entering a car, getting out of the car, handling the door, and fastening and opening their seat belts. Tests were performed in four cars that significantly differed in the dimensions of the selected operations. Participants also completed a questionnaire on the most critical aspects of these cars.

In this paper preliminary results will be presented. Ultimate goal will be to define guide-lines for the design of cars so facilitating car use by the elderly.