

Pioneering study explores passengers' experiences of self-driving cars in winter conditions

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The finalized prototype of Google self-driving car. Credit: Google

Trust, safety and security are the most important factors affecting passengers' attitudes towards self-driving cars. Younger people felt their personal security to be significantly better than older people.

The findings are from a Finnish study into passengers' attitudes towards,

and experiences of, self-driving cars. The study is also the first in the world to examine passengers' experiences of self-driving cars in winter conditions.

The findings were published in Transportation Research Part F: Traffic Psychology and Behaviour. The study was carried out in collaboration between the University of Eastern Finland and Tampere University.

Self-driving cars face huge expectations in Europe and the United States, which is why passengers' experiences and expectations stand at the core of their development. The Finnish study explored passengers' experiences in Helsinki, the capital of Finland, and in Muonio, a small town in Finnish Lapland. In Helsinki, passengers used a driverless shuttle bus in two test areas. In Muonio, [local residents](#) traveled with an autonomous car in heavy [winter conditions](#) on the main road. The quantitative survey included 141 people, and 70 people participated in a qualitative interview.

The researchers charted passengers' attitudes towards self-driving cars, factors influencing their positive or negative attitudes, and factors that could encourage passengers to use self-driving cars.

According to the study, people's positive attitude towards self-driving cars was most influenced by trust, safety and security. However, people were not prepared to accept technological errors in self-driving cars, even though it is understood that the technology is still under development.

Young passengers clearly had more confidence in the safety and security of self-driving cars than older passengers, and students estimated their ability to act in an emergency to be better than the employed. Winter conditions had no significant impact on people's attitudes towards self-driving cars. There was also no significant difference between the

genders.

"Finns have a pragmatic approach to new technology: if the new mode of transport facilitates [everyday life](#) and is affordable, there seems to be no obstacle to it becoming mainstream," Professor Arto O. Salonen from the University of Eastern Finland says.

More information: Petri Launonen et al, Icy roads and urban environments. Passenger experiences in autonomous vehicles in Finland, *Transportation Research Part F: Traffic Psychology and Behaviour* (2021). [DOI: 10.1016/j.trf.2021.03.015](https://doi.org/10.1016/j.trf.2021.03.015)

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