



Road Safety and Simulation (RSS) 2022 conference, June 8-10. Athens, Greece

Summary of conference

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The conference took place in Athens, Greece, at the national park. The focus this year was on Road Safety and Digitalization. The conference included 27 sessions. As a researcher in the field of human factors in transportation and road user behavior, I attended sessions related to my field: road users, autonomous cars, road safety, and human factors. The conference was well organized, and there were some activities to help the attendants interact and meet each day. There was a welcome reception on the first evening, and on the second evening, we were invited to a special GALA dinner near the sea. During the conference, I met Ph.D. students that explored similar topics as me.

There were five keynote lectures that road safety experts gave. They were all related to the global challenges of Digitalization on road safety and policy and explored new safety, simulation, and public transport approaches. In addition, there was an Expert Panel Discussion that focused on digital solutions that will improve road safety in the future using Big Data and advanced simulations.

The session I was part of was held on the second day of the conference; its focus was Connected and Automated Vehicles. The emphasis was that the research community must combine multi-disciplinary research to develop complete system solutions for the long transition phase of mixed traffic (traditional, manually driven, and automated vehicles). Our research, co-authored with my advisor Prof. Tal Oron Gilad, and Prof. Yisrael Parmet, showed the combined effect of context and eHMI meaning on pedestrians' crossing decisions in dynamic video-based scenarios. Relative to fixed scenes, pedestrians were more conservative and relied less on the eHMI

suggestions. Interactions of distance and message meaning affected compatibility and response time. Even when pedestrians understood the eHMI message, they did not necessarily comply. Distance of the vehicle from the crossing place influenced the crossing decision, as it does today. Another study in the same session discussed users' perceptions and attitudes toward Autonomous Vehicle (AV) Technologies after Simulation Exposure (Sisiopiku et al.). In this study, a comparison between responses before and after exposure to AV was performed to examine differences within and between age groups and gender. The statistical analysis revealed that older and middle-aged adults showed statistically significant positive changes in perceptions toward AVs after exposure to a driving simulator in AV mode compared to the baseline (pre-exposure). Older drivers showed the most significant improvement in willingness to use, barriers, and AVs acceptance, compared to middle-aged and younger drivers. Concerning gender differences, female drivers showed increased comfort with AVs after exposure to the driving simulator. Moreover, positive changes in intention to use, barriers, and acceptance were more significant for females than males.

More general notes conference:

As we all know, vulnerable road users are involved in more than 50% of road fatalities, so it is our priority as a society to keep them safe. This goal can be achieved by combining the needs of pedestrians, cyclists, and motorcyclists in the sustainable urban mobility new plans and adopting the 30 km/h driving speed in certain areas in large cities. Human factors research played a significant part in this conference. It was proven again that it is necessary to investigate vulnerable road users and drivers interactions and behavior to improve road safety. Researchers should keep examining driver and pedestrian skills, physical conditions, and risk perception to meet that goal. In addition, when concerning driving, simulation is still the safest way to investigate driver behavior in different traffic complexities. Still, we need to examine findings in field studies and actual traffic conditions.

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