Unravelling the underlying mechanisms of risky driving among adolescents and strategies for training by means of simulated driving

This proposal will focus on risky driving behaviour in adolescents (17-22 years) as this group of young novice drivers is overrepresented in terms of driving skill failures and driving violations. The overall aim is to explore the underlying mechanisms of increased driving skill failures (project 1) and driving violations (project 2) in adolescents, and to develop and pilot test training modules to reduce and prevent risky driving behaviour in young novice drivers (project 3). More specifically, the role of the neurocognitive executive functioning system as underlying mechanism of risky driving behaviour will be investigated.

This system is of central importance to the regulation of complex behaviour, including performance of appropriate as well as inhibition of inappropriate actions and responses. Executive functioning is not fully developed during adolescence, and this maturational lack of executive control might lead to increased risky driving behaviour directly (i.e., skill failures) as well as indirectly, when the affective system is triggered (i.e., violations). Training modules aimed at executive functions, thereby leading to the enhancement of regulatory competence will be combined and compared with simulator based training modules. The driving simulator is central to each of the proposed projects. Furthermore, an eye tracking device and measurement of (psycho)physiological responses will allow multidimensional measurement of (driving) performance.

Project ID

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