International Co-operation on Theories and
Concepts in Traffic Safety

Risk-taking behaviour among Norwegian adolescents using private or rented e-scooters

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Introduction

Micromobility has the potential to contribute to urban sustainable transport (McQueen et al., 2021), and refers to personal light electric vehicles mostly used for short distances in urban spaces (Eccarius & Lu, 2020). Stand-up electric scooters are very popular especially among adolescents (Mitra & Hess, 2021; Wang et al., 2022) who are vulnerable riders because of the high risk of injury in case of collisions with motorised vehicles. The main objectives of the present study are to examine attitudes toward traffic safety and risk-taking behaviour among Norwegian adolescents using private or rented e-scooters.

The specific aims of the study on which this paper is based were as follows:
(i) To examine the share of e-scooters use among adolescents
(ii) To examine attitudes toward e-scooter use (safety, mobility, costs, environment, fun)
(iii) To examine risk-taking behaviour (violations of rules and law)
(iv) To examine attitudes towards implementing safety measurements

Research methodology

A questionnaire was administered to high school students from two Norwegian cities. A sample of 239 respondents answered the questionnaire. There was a greater representation of students in the lower grades compared to third-grade high school students in the sample. Among the participants, 59 percent were female, while 37 percent were male. The age range of the participants was between 15 and 18 years, with 40 percent being 16 years old.

Results

The results showed that in 2022, one fifth of the respondents owned a private e-scooter and 72 percent used the city e-scooters available for rent. The adolescents perceived the use of e-scooters as risky, and half stated that e-scooters are dangerous to use and can result in serious injuries. They reported to rarely use a helmet, whereas two third stated that helmet use should be mandatory. They also perceived e-scooters as an efficient (91%) and practical (75%) way to get around. Approximately half stated that e-scooters are dangerous to use and can result in serious injuries, whereas a little more than half agreed that e-scooters are a safe mode of transport. One of four had used an e-sooter after drinking alcohol. They suggested mandatory helmet use for children under 15 years, and a blood alcohol concentration limit of 0.2 ‰.

Discussion and conclusions

We recommend that the schools in collaboration with municipalities strengthen the students' knowledge in traffic safety and regulations related to e-scooters. A safety campaign towards the common risk behaviours can raise adolescents' awareness and benefit all groups of riders. We also suggest a mandatory helmet use for all age groups. It should be also illegal to use e-scooters and bicycle with blood alcohol concentration of above 0.2 ‰. This became illegal in Norway after the survey was conducted. Furthermore, we advise to develop and implement new local regulations in areas with high density of pedestrians, where e-scooters should not be ridden faster than the walking speed or even banned when the pedestrians' density reaches a certain limit.

Keywords: Electric scooters, adolescents, traffic safety, vulnerable road users, risk-taking behaviour.

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