

## Ingroup or outgroup? How e-scooter riders are perceived by cyclists

*Juliane Anke, Madlen Ringhand, Tibor Petzoldt, Jenny Damme, Lea Fouckhardt and Theresa Jung*

**Keywords:** e-scooter, e-scooter riders, social identity theory, ingroup, outgroup, attributions, survey study

**Background:** Since the legal introduction of e-scooters in June 2019, their numbers on German roads have steadily increased. With the number of cyclists increasing as well, one suspected result is an increased risk of traffic conflicts between these two road user types. E-scooter riders legally share the same infrastructure with cyclists, but are limited to 20 km/h. Besides being a potential obstacle for cyclists who are more flexible in their speed, e-scooter riders might represent a different social group. Studies focusing on car drivers and cyclists already point to a social categorization as proposed by social identity theory (Tajfel & Turner, 1979), implying that road users distinguish between ingroup and outgroup in traffic. So far, however, there are hardly any findings on cyclists' attitudes towards e-scooter riders or on other indicators of ingroup/outgroup thinking in relation to this new mode of transport.

**Aim:** The aim of the present study was to investigate the attitudes of cyclists towards traffic violations by e-scooter riders compared to the same traffic violations committed by cyclists. In addition, the influence of experimental assignment to the ingroup (cyclist) or outgroup (e-scooter rider) was analyzed.

**Methods:** To address the research questions, an online survey study was conducted with  $n = 421$  cyclists. Data on the social identification of cyclists with other cyclists (IV), as well as expectations (DV1) and attributions towards cyclists and e-scooter riders (DV2) were collected. First, participants were asked to report their expectations regarding the riding behavior of the two groups. Subsequently, short video sequences depicting the behavior of another road user and instruction were presented, in which the identity of that road user was randomly manipulated (between groups design: cyclist, e-scooter rider, cyclist riding an e-scooter for once). Within these video, the presented road user violates certain traffic rules (order randomized: red light running, sidewalk riding, riding against the direction of travel, riding two on one vehicle). After each sequence, participants were asked to indicate their attributions of the violating behavior (situational or dispositional), their feelings of anger toward the presented road user (DV3), and the amount of the fine they would impose on the road user (DV4). The survey study ended with socio-demographic questions and the opportunity to participate in a raffle for a bike store voucher.

**Results:** The results show that the participating cyclists expected more traffic violations by e-scooter riders compared to other cyclists. Split into two groups according to their self-identification as cyclists (high / low), the data show that those that strongly identified as cyclists were more likely to expect rule violations by e-scooter riders than cyclists with lower self-identification. Differences in attributions were found for two of the four rule violation scenarios presented. For red light running and riding two on one vehicle, cyclists tended to attribute these rule violations to dispositional factors for e-scooter riders, which was not the case when they observed other cyclists committing the same violations. There was no such difference for the sidewalk riding and riding against the direction of travel scenarios. Furthermore, the results for feelings of anger were ambiguous. For red light running and riding two on one vehicle, cyclists were more angry when seeing an e-scooter rider perform the rule violations, this was not the case for the other two scenarios (sidewalk riding and riding against the direction of travel). The imposition of fines was not higher when an e-scooter rider was presented compared to a cyclist, regardless of which rule violation scenario was shown.

**Discussion:** The results of the present study do not indicate that cyclists generally see e-scooter riders as outgroup or more negatively compared to other cyclists as their ingroup. But for certain scenarios, the data point in that direction. For the sidewalk riding scenario, participants' comments suggest that sidewalk riding for a short period of time is not viewed as dangerous, and in some cases is even viewed positively. While the scenario driving against the direction of travel is seen as dangerous behavior under all circumstances, regardless of the road user.

### References:

Tajfel, H., & Turner, J. (1979). An Integrative Theory of Intergroup Conflict. In W. G. Austin & S. Worchel (Hrsg.), *The social psychology of intergroup relations* (S. 33–47). Brooks/Cole.