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TRANSPORT FINDINGS

Evaluation of an Influencer Campaign on Social Media Targeting Young E-scooter Users

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Findings

This study evaluates the effect of an influencer campaign on e-scooter risk behavior among adolescent e-scooter users in Norway. The analysis shows no statistical differences in self-reported risk behaviors (dual riding, riding under the influence and mobile phone use) among respondents who had seen one of the campaign films, compared to respondents who had not seen the films. Neither did the campaign change norms or attitudes. Hence, the campaign did not appear to have intended effects. On the contrary, differences in perceived attitudes, descriptive norms and intentions were found, which could imply a backfire-effect. Respondents who had seen the campaign held *poorer* attitudes, were *more* likely to claim that it was normal, and were *more inclined* to perform some of the risky behaviors.

1. QUESTIONS

The e-scooter has quickly become a popular means of transport, especially for young people. Surveys in Norway and other countries show that the risk of being involved in a crash or a single vehicle accident with an e-scooter is higher than with a bicycle (Fyhri, Karlsen, and Bjørnskau 2022; OECD/ITF 2020). It is therefore interesting to explore new measures to reduce the risk involved in their use.

Social media (SoMe) has been proposed as a particularly relevant platform for reaching out to young people with information about road safety. Influencers typically address their followers directly and share openly and honestly about their views and experiences. Studies on the effects of campaigns show mixed results, however a review (Phillips, Ulleberg, and Vaa 2011) found that campaigns containing personal communication (defined here as face-to-face communication) had a greater effect than campaigns that did not have such a form of communication. A campaign will often aim to influence people's attitudes in order to again lead to a behavioral change. The most influential theory about the link between attitudes and behaviors is the Theory of Planned Behavior (Ajzen 1991).

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Messages conveyed from an influencer may be perceived as more personal and credible compared to more traditional forms of mass-communication where the sender may appear more anonymous. Influencers have been used to increase knowledge among minority groups about influenza vaccines (Bonnevie et al. 2020), raise awareness about the harms of tobacco use (Kostygina et al. 2018) and to spread information about health recommendations during the Covid pandemic (Pöyry, Reinikainen, and Luoma-Aho 2022).

The research question posed in this study was: can a targeted SoMe campaign be effective in changing young people's risk behavior on e-scooters, and if so via which socio-psychological mechanisms?

2. METHODS

The campaign "Don't be a jerk" was launched in May 2022 by the non-governmental organization Youth in Traffic and lasted for three weeks. The campaign was fronted by Aleksander Sæterstøl, a Norwegian with more than 100.000 Instagram and 39 000 TikTok followers who can be defined as a macro-influencer (Campbell and Farrell 2020). The campaign consists of three short (approximately 30 second) films (respectively about dual riding (riding two on one e-scooter), mobile phone use (specifically tasks demanding visual attention), and riding under the influence of alcohol. In the project's first phase a survey was conducted to identify the most frequent risk behaviors for e-scooters among young users (Milch et al. 2022). Based on these results a workshop with decision-makers identified behaviors that were potentially dangerous and at the same time possibly influenceable through a campaign. The videos were made to fit the SoMe-format, that is, they were all short with a humorous twist. The campaign videos were promoted on TikTok, Snapchat and Instagram.

Survey

Data was collected via a web-based survey (N=1199). Two methods were used for recruiting respondents:

- Targeted recruitment through social media (N=721)
- Re-recruitment of respondents from a prior survey about e-scooters (N=478)

Respondents were youth between the ages of 13 and 22 from nine municipalities, primarily situated in the eastern part of Norway. The data collection period commenced immediately after the campaign had ended (June 2022). To comply with GDPR regulations in Norway, respondents under the age of 16 were recruited in a two-stage process where the parents were first asked to give consent that the child took part in the survey, before a survey invitation was sent to the child.

Table 1. Overview over survey items with response categories (second row) and description of how the items were distributed (bottom row).

	Behavior	Behavior change	Injunctive norm	Descriptive norm	Attitudes	Intentions	Perceived behavioral control
Number of items and response categories	Never; approx. 25% of times; approx. 50% of times; always	Much less often; less often; no change; more often; much more often	Three items (Friends, Family, People important for me): Totally disagree; disagree; Neither/ nor; agree; totally agree	Two items (Friends, Where I live): Totally disagree; disagree; Neither/ nor; agree; totally agree	Four items (Necessary, Very dangerous, Fun, Stupid): Totally disagree; disagree; Neither/ nor; agree; totally agree	Two items (Will avoid, Likely that I will): Totally disagree; disagree; Neither/ nor; agree; totally agree	One item Very hard to avoid; hard to avoid; Neither/ nor; Easy to avoid; Very easy to avoid
N	375	375	1129 2-on-1: 515 Mobile: 294 RUI: 320	1129 2-on-1: 515 Mobile: 294 RUI: 320	1129 2-on-1: 515 Mobile: 294 RUI: 320	1129 2-on-1: 515 Mobile: 294 RUI: 320	1129 2-on-1: 515 Mobile: 294 RUI: 320

The questionnaire contained several questions about general mobility behavior as well as more detailed questions about the use of e-scooters and single crash /crashes with them. Respondents who had used an e-scooter more than once during the last 30 days (31 percent of the sample), were asked questions about three relevant risk behaviors, namely dual riding (riding more than one person on an e-scooter), riding under the influence of alcohol, and riding while interacting visually with the phone. Respondents were asked whether they had seen the campaign. A total of 479 had seen it and were asked which of the films they had seen. Those who could not remember if they had seen it (N=70) where removed from further analysis. Respondents were then asked about attitudes, norms and intentions regarding those behaviors in line with the Theory of Planned Behavior (Ajzen 1991). To avoid too many questions, respondents were asked about only one of the risk-behaviors. Respondents who had not seen the campaign were randomly assigned to one of the three behaviors. Respondents who had seen only one film were assigned to that film, and respondents exposed to two or three films were randomly assigned to one of them. Of the 1129 included respondents 515 were in the dual riding condition (2-on-1), 294 were in the mobile phone condition and 320 were in the riding under influence (RUI) condition.

A more detailed account of survey items is given in Table 1.

To analyze the effect of the campaign, we compared respondents who had seen a film, with those who had not seen a film on the relevant outcome variables.

Table 2. Share of respondents who report to perform the risk behavior for each group of respondents.

	Dual riding		Mobile phone use		Riding under the influence	
	Not seen	Seen	Not seen	Seen	Not seen	Seen
Never	55	56	46	54	49	60
ca 25%	25	24	29	30	27	27
ca 50%	8	11	14	5	7	5
ca 75%	5	3	9	5	12	6
Always	7	5	3	5	5	2
Sum	100	100	100	100	100	100
Never	92	62	35	57	41	62

3. FINDINGS

A total of 40 percent of respondents had seen at least one of the campaign films, most of these (86%) had seen the film "Ride alone". The other two films ("Don't ride drunk" and "Pay attention") were both seen by 42%. Most were exposed to the campaign through Snapchat (58%), followed by TikTok (43%) and Instagram (27%). More girls (44 %) than boys (33 %) had seen the campaign. The highest impact was among 16-17 years (57 %), followed by 13-15 years (36 %). There were no gender or age differences in how well the campaign was liked or approved.

Table 2 shows respondents' self-reported risk behaviors during the last 30 days, for respondents who have seen and not seen the film.

The difference between those exposed and not exposed to the film was not statistically significant for any of the risk behaviors, using a Mann Whitney u-test. We also compared those exposed and those not exposed to the campaign on the output variable "behavior change" (i.e. if people report to have done the behavior more often or less often during the last 30 days). There were no statistically significant differences in this analysis either.

To further test the effects of the campaign, also on the TPB variables, we compared respondents who had seen the campaign with respondents who had not for each of the TPB variables, using ANOVA. Some statements were reversed prior to the analysis, and all variables were coded so that a higher score indicates a *higher* propensity to avoid perform a risky behaviour. Table 3 shows the results of the descriptive results and the results of the ANOVA.

We found a significant difference for dual riding and mobile phone on attitudes, and in addition for descriptive norms and intentions for mobile phone use. However, the observed differences were opposite than expected. Respondents who had seen the campaign held *less* positive attitudes towards avoiding to ride two-on-one, or to using the phone while riding. They were also less likely to claim that it was unusual to use the phone and had lower intentions for avoiding to do so themselves. For riding under the influence, we did not see any differences.

Table 3. Mean scores for respondents who have seen and not seen the campaign (by condition) on Attitudes, Injunctive Norms, Descriptive Norms and Intentions. F values for ANOVA and significance levels.

		Not seen	Seen	F	Sig.
Dual riding	**Attitudes**	**3.3**	**3.1**	**4.20**	**0.04**
N= 515	Descriptive Norms	2.8	2.8	0.02	0.88
	Injunctive norms	2.9	2.8	1.18	0.28
	Intentions	4.1	4.0	1.59	0.21
Mobile phone	**Attitudes**	**4.2**	**3.9**	**11.22**	**<.001**
N= 294	**Descriptive Norms**	**3.6**	**3.3**	**8.73**	**0.00**
	Injunctive norms	3.6	3.6	0.03	0.86
	Intentions	**4.4**	**4.0**	**8.19**	**0.01**
Riding under influence	Attitudes	4.1	4.0	1.08	0.30
N=320	Descriptive Norms	3.9	3.7	1.14	0.29
	Injunctive norms	4.0	4.0	0.15	0.70
	Intentions	4.6	4.5	1.80	0.18

To conclude: the campaign did not have any positive effect on either behavior, perceived norms, attitudes or intentions to behave in a safer manner. If anything, results suggest a backfire effect, meaning that those who had seen the campaign perceived risky behavior to be more normal.

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REFERENCES

Ajzen, Icek. 1991. "The Theory of Planned Behavior." *Organizational Behavior and Human Decision Processes* 50 (2): 179–211. https://doi.org/10.1016/0749-5978(91)90020-t.

Bonnevie, Erika, Sarah D. Rosenberg, Caitlin Kummeth, Jaclyn Goldbarg, Ellen Wartella, and Joe Smyser. 2020. "Using Social Media Influencers to Increase Knowledge and Positive Attitudes toward the Flu Vaccine." *Plos One* 15 (10): e0240828. https://doi.org/10.1371/journal.pone.0240828.

Campbell, Colin, and Justine Rapp Farrell. 2020. "More than Meets the Eye: The Functional Components Underlying Influencer Marketing." *Business Horizons* 63 (4): 469–79. https://doi.org/10.1016/j.bushor.2020.03.003.

Fyhri, Aslak, Katrine Karlsen, and Torkel Bjørnskau. 2022. *Public Health Effects of E-Scooters*. Oslo: Institute of Transport Economics.

Kostygina, Anna, Hy Tran, Steven Binns, Glen Szczypka, Sherry Emery, Elizabeth Hair, and Donna Vallone. 2018. "Anti-Tobacco Campaign Support, Opposition, and Reach on Twitter: The Role of Influencers and Memes." Paper presented at the APHA's 2018 Annual Meeting & Expo (Nov. 10-Nov. 14).

Milch, Vibeke, Ingunn Ellis, Katrine Karlsen, and Aslak Fyhri. 2022. "Youth and electric scooters: A survey on mobility patterns and accident conditions in nine Norwegian municipalities." Oslo: Institute of Transport Economics.

OECD/ITF. 2020. "Safe Micromobility." Paris: International Transport Forum. https://www.itf-oecd.org/safe-micromobility.

Phillips, Ross Owen, Pål Ulleberg, and Truls Vaa. 2011. "Meta-Analysis of the Effect of Road Safety Campaigns on Accidents." *Accident Analysis & Prevention* 43 (3): 1204–18. https://doi.org/10.1016/j.aap.2011.01.002.

Pöyry, Essi, Hanna Reinikainen, and Vilma Luoma-Aho. 2022. "The Role of Social Media Influencers in Public Health Communication: Case COVID-19 Pandemic." *International Journal of Strategic Communication* 16 (3): 469–84. https://doi.org/10.1080/1553118x.2022.2042694.