

ON THE USAGE OF PORTABLE ELECTRONIC DEVICES:

A QUALITATIVE STUDY OF CYCLIST BEHAVIOUR

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The study uses a multi-method design approach to answer the overall question of how do portable electronic devices affect the performance of bicyclists, and their subjective experience. A multi-method design approach involves qualitative and quantitative surveys, which are relatively complete on their own, for the purpose of triangulation to reach a more comprehensive whole.

Interviews

- Perceived experience
 - Target: 7 participants
 - Analysis: Qualitative approach- grounded theory
- **Compensatory strategies**

Market Survey

- Internet activity pattern
 - Target: Swedish market
 - Analysis: frequency/ popularity
- **24 electronic devices**

STRADA Database

- Accident rates
 - The Swedish national accident database- 2010-2013
 - Target: mobile, cyclist, etc.
 - Analysis: descriptive statistics, qualitative categorisation
- **97 device related accidents out of 27364 identified cyclist accidents**

HOW DOES ELECTRONIC DEVICES AFFECT BICYCLIST BEHAVIOUR

1. Compensatory strategies are used to minimise the distraction that electronic devices may cause. The physical, social, cultural and mental context determine its use. Alternation of speed, pausing activity, focus of attention, and increased cautiousness are experienced behavioural effects of its use.

2. The 24 identified devices falls into categories: training, service, pleasure. Three user groups (athlete, commuter, casual) was identified to use electronic devices

3. Electronic devices are involved in a small extent of the identified accidents. Less severe accidents are more common than fatal outcome. Likely causes include: (1) failure to notice hinder/events, (2) failure to manoeuvre the cycle, or (3) failure to foresee hinder. Motoric and visual demand contribute to accidents.

The current use and the strategies identified may be an explanation of the relatively low accident rates that can be contributed to the portable electronic device usage.

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