Older cyclist assistance

No registrations found.

Ethical review   Positive opinion
Status   Pending
Health condition type   -
Study type   Observational non invasive

Summary

ID

NL-OMON28144

Source
NTR

Brief title
Safe and Aware

Health condition

Ageing, cycling, looking over shoulder, obstacle detection

Veroudering, fietsen, omkijken, obstakel detectie

Sponsors and support

Primary sponsor: Roessingh Reseach and Development;
TNO,
Fietsersbond
Source(s) of monetary or material Support: Ministry Infrastructure and Environment,
Province of Northern-Brabant, Province of Limburg, Province of Utrecht (NL)

Intervention

Outcome measures

Primary outcome

The main study parameter of the cycling experiments is the van der Laan technology acceptance scale. This scale has two sub-scores: one for usefulness and one for satisfaction.

Secondary outcome

Secondary study parameters are the cycling speed and qualitative video observations, which together represent cycling behaviour. A speed measurement device is mounted to the rear wheel. From the video recordings on fixed locations on the road, the cycling behaviour such as looking over shoulder, manoeuvring, sway, and distance and time of manoeuvring and sway, is described.

Furthermore, from the semi-structured interview Perceived usefulness, Perceived ease of use, Subjective norm (opinion of others) and Identity are assessed to get a better understanding of the underlying considerations and reasoning of the older cyclist.

Study description

Background summary

Rationale: In the Netherlands, older cyclists cycle more and up to a higher age. Unfortunately this group is prone to injury due to a cycling accident. Some of these accidents are related to issues looking behind, anxious feelings due to unforeseen other road user interaction, or overlooking an obstacle on the road. To support older cyclists in such situations, supporting devices have been developed which are able to inform the cyclist well in advance of traffic from behind and or for obstacle on the road. The supporting devices have been tested in laboratory environments, but have not been evaluated or validated in real life situations.

Objective: The aim of this study is to assess the supporting function of the 'Safe and aware' bicycle, including the rear view assistant and obstacle detection, in a group of older cyclists in safe real life situations. The aim of this study is to analyse if these supporting devices fulfil the wishes and desires of older cyclists.

Study design: This study has a cross-sectional design, with one measurement sessions for assessing the cycling behaviour of older cyclists on a bicycle with and without the supporting devices.

Study population: 20 older subjects (>65 years old).

Intervention (if applicable): no intervention will be applied.
Main study parameters/endpoints: The main study parameter of the present experiment is the van der Laan scale. This measure represents the technology acceptance of the user and classifies the usefulness and satisfaction of the older cyclists experience. These sub-scores are used to evaluate how well the technology fulfils wishes and desires of, in this case, the

older cyclist.

Nature and extent of the burden and risks associated with participation, benefit and group relatedness: The risks for the subjects are limited, since the cycling tasks represent functional and familiar movements and are performed within a safe, pre-designed and pre-directed environment. During the cycling tests the difficulty in task increases slowly and can be stopped, by the subject self or by a present therapist, at any time. A Failure Mode and Effect Analysis is performed to ensure there are no serious injury risks. In addition, the measurements used in this study are all non-invasive and involve no risks to the subjects in any way.

Participation of a subject in this experiment has no direct benefit for him/her, other than expanding knowledge about his or her cycling performance and aiding in development of sophisticated tools to improve bicycle safety.

Study objective

Rear-view assistance and obstacle detection are well accepted by older cyclists and support a more safe cycling behaviour

Study design

One measurement point;

Intervention

Control (1) and Rear-view assiatnce and Obstacle detection (2)

Contacts

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Eligibility criteria

Inclusion criteria

1. Minimum age of 65 years

2. Body length between 170 and 195 cm (to be able to cycle on the bicycle)

3. Problems looking behind while cycling and remaining seated on saddle

4. Regular cycling experience (2-3 times per week 15 min);

5. The ability to cycle for 20 minutes continuously;

6. Adequate visual and aural functions to understand the experiments, follow instructions, and give feedback to the researchers.

Exclusion criteria

1. Serious visual impairments that limit normal road traffic participation.

2. Serious aural impairments. The subjects should be able to hear and understand instructions given in a loud voice;

3. History of bicycle falls resulting in serious injuries

Study design

Design

Study type:	Observational non invasive
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Single blinded (masking used)
Control:	N/A , unknown

Recruitment

NL
Recruitment status: Pending

Start date (anticipated):   20-02-2016

Enrollment: 20

Type: Anticipated

Ethics review

Positive opinion
Date: 15-01-2016

Application type: First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL5518
NTR-old	NTR5645
Other	: METC Twente P15-28

Study results

Summary results
None so far