Metacognitive Training Method for Car Drivers Using VR Simulator

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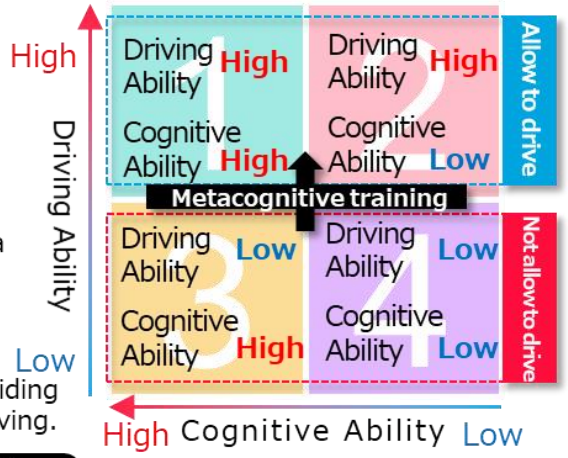
Motivation

Traffic accidents caused by decreased cognitive ability

Public transportation underdeveloped rural areas

BUT

There are people who need to drive a car for a living even if their cognitive function is somewhat impaired.



Objectives

To improve from (3)(4) to (1)(2) by providing **metacognitive training** and support for safe driving.

Process to help patients with cognitive impairment resume driving

STEP1

Assessing cognitive ability to drive safely

STEP2

Training to increase the level of **metacognition** and to acquire **compensatory behavior**

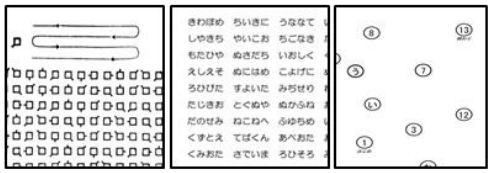
STEP3

Propose the use of **personal mobility** equipped with driving assistance systems.

Assessment of cognitive abilities necessary for safe driving

Desk based tests

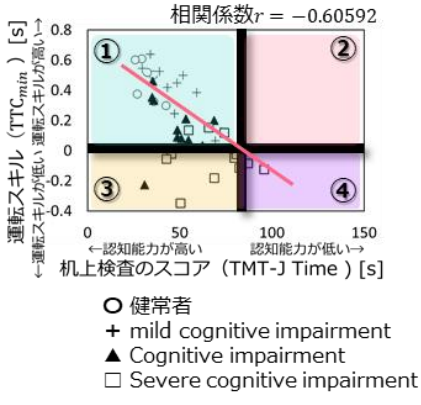
Tthree types of **neuropsychological tests**



Driving simulator tests

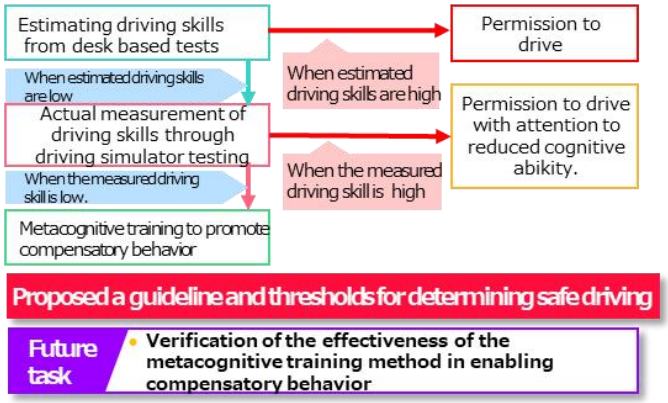
Accident scenarios at **unsignalized intersections**, where the number of traffic accidents is high

Relation between desk based tests and driving ability



○ 健常者
＋ mild cognitive impairment
▲ Cognitive impairment
□ Severe cognitive impairment

Flow for judging whether car driving is possible



Proposed a guideline and thresholds for determining safe driving

Future task • **Verification of the effectiveness of the metacognitive training method in enabling compensatory behavior**