

Detecting Early-Stage Dementia Using Naturalistic Driving

Abstract

Seniors, especially those suffering from mild cognitive impairment (MCI) represent some of our most vulnerable road users. Driving behaviors may serve as an early warning sign for the detection of MCI *prior to* the point where cognitive tests can detect such. Detecting drivers suffering with MCI pre-diagnosis may also yield substantial safety benefits. A naturalistic driving study would provide an opportunity to observe how such individuals perform in their everyday driving routines. The primary objective of the proposed study is to collect novel NDS data from pre-diagnosis early stage AD or others who claim to experience MCI symptoms to examine their driving behaviors and performance, and to compare these with a similar aged cohort of individuals with no indication of such impairment (i.e., from the SHRP 2 NDS database). The proposed study represents a collaboration between researchers at VTTI and Penn State University. VTTI will be responsible for providing the custom-designed data acquisition system (DAS) kits and for securely managing all data collected on the DAS. PSU will be responsible for the recruitment and management of participants. PSU will also be responsible for installation and maintenance of the DAS kits, with strong support from VTTI.

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