

ABSTRACT

Brief Field of View and Elderly Drivers. (May 1993)

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Driving accidents among the elderly are suspected to be related to visual information processing of briefly presented objects in the periphery. The primary purpose of this research was to determine if simple laboratory tests of visual information processing would predict driver visual processing performance in driving through an intersection. If so, then simple tests could be recommended for licensing of elderly drivers.

A secondary objective was to compare young and old drivers on the same set of tests to determine the degree to which visual processing skills degrade over the years, if at all. Brief field of view (BFOV) was measured in both the laboratory and the field with a sample of 20 young (mean age 26 years) and 20 older drivers (mean age 73 years).

The laboratory tests consisted of BFOV under two central vision task conditions, as well as tests of static and dynamic visual acuity. The controlled field study, conducted under closed course conditions, simulated a traffic intersection. Drivers reported briefly presented traffic signal configurations (colors in each lane)

at designated distances while they were driving a vehicle towards those signals.

No significant correlations were found between laboratory and field measures of brief field of view. Young drivers scored significantly higher on all measures of brief field of view. Young drivers scored significantly higher on all measures than their elderly counterparts. However, older drivers improved in visual performance from the laboratory to the field study whereas younger drivers' performance deteriorated in the field as compared to their laboratory performance.