

TITLE: The Relationship Between Field Dependence and Motor Vehicle Accident Involvement

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PROJECT OBJECTIVE:

To determine if any relationship exists between motor vehicle accidents and a perceptual response style referred to as field dependence (measured on response to figure / ground stimuli).

SUMMARY:

A random sample of Sacramento drivers who had at least three accidents within the preceding 3 years were designated the accident group. Non-accident sample was subsequently selected by matching subjects on age. Both groups were administered Witkin's Embedded Figures Test (EFT) to measure a perceptual response style referred to as field-dependent behavior. Information pertaining to age, marital status, driving mileage, occupation, traffic convictions, and verbal and quantitative ability were also collected because of their known relationship to field dependence and to accident involvement.

Field-dependent subjects (those who take a relatively long period of time in locating the hidden figure in the EFT) were found to accrue more accidents than field-independent subjects did. This significant relationship existed not only for responsible accidents but also for reportable accidents.

The test for response bias revealed no significant differences between respondents and nonrespondents within each sample on age and traffic conviction record. Therefore the respondents and non-respondents could be regarded as members of the same underlying population on these parameters.

The results of this exploratory study on field dependence and motor vehicle accident involvement suggested that perceptual response styles, such as field dependence, may play an important role in the future of traffic safety research.

IMPLEMENTATION STATUS OF FINDINGS AND RECOMMENDATIONS:

This study was a pilot test. *The Prediction of Accident Liability Through Biographical Data and Psychometric Tests* (Harano, McBride, & Peck, Report #39) was a follow-up to see if field dependence should be included in the latter study. The results from that study did not show an overall relationship to accident involvement, but did show a relationship for some age groups. The relationships were not considered to be sufficient for incorporation of the test into departmental programs.

SUPPLEMENTARY INFORMATION:

A summary was published in *Journal of Perceptual and Motor Skills*, 31, 272-274, 1970. Master's Thesis, California State University, Sacramento, 1963.