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## A Preliminary Analysis of Attitudes Related to Driving

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## A Preliminary Analysis of Attitudes Related to Driving

DONALD W. CONOVER

Educators, psychologists and sociologists are stressing the problem of attitudes in many recent writings and those interested in safety feel it is one of the most fruitful approaches to successful accident prevention. Before the effects of training can be ascertained measuring instruments must be perfected and standardized.

A review of recent literature on safety reveals that writers frequently refer to the attitudes of drivers as factors considered important in relation to general driving ability (Stack and Siebrecht, 1945) (Hubert, 1940). For present purpose, an attitude has been defined as the "acceptance value of a belief". It follows from this definition that no assumption is made of the resultant behavior of the individual. Ferguson (1939) further points out that, "whether or not a person acts in accordance with his attitude is a question quite apart from a definition or measurement of it . . . The series of acceptance values, complete acceptance to complete rejection, constitutes the attitude continuum."

### *The Problem*

This study deals with preliminary data on the reliability of a form of the Iowa State Multi-Attitude Scale, a test covering the attitudes of individuals toward the socialized aspects of driving. A preliminary work was done by Lauer and others (1936) on the Iowa State Multi-Attitude Scale, one form of which has subsequently been standardized on 2319 cases.

Further investigation of the work done in relation to the attitude of drivers indicates that at present only one other scale is in common use in measuring attitude toward the safe driving of the automobile. Reference is made to an attitude scale developed by Siebrecht (1941) and based on the Likert (1932) technique. The Siebrecht scale is being administered in conjunction with the test now under consideration and the two tests will be compared in various ways by standard techniques.

### *Method and Procedure*

Eighty-six students taking driver-training at Iowa State College were used as subjects of this experiment. The scale used is constructed of 150 items, 80 of which are significant. The significant items consist of words or phrases which are assumed to carry certain affective connotations with regard to the driver's environment.

The selection of items was based upon certain criteria established by the findings of the National Safety Council. Contributive causes of automobile accidents are listed under several categories. The number of items included under each category concerning automo-

bile accidents was based on data released by the National Safety Council (1946).

The following categories are listed as contributing causes of automobile accidents, approximate percentages being based upon the fatalities attributed to each. In interpreting these percentages it is important to recognize that traffic accidents usually have more than one contributing circumstance or condition.

Alcohol .....	20%
Unsafe speed .....	40%
Vehicle defects .....	18%
Other unsafe driving .....	50%
Physical conditions .....	11%
Driver age groups .....	13%
Road conditions .....	32%
Unsafe pedestrian acts .....	75%
Vision obstructions .....	20%
Darkness .....	60%

The subject's reaction to each item on the scale is indicated by the degree of his indorsement or rejection of the item on the basis of 5 possible responses. In this test it is assumed that a scaled classification of response patterns is adequate for measuring attitudes of a given person at any one time. For convenience in scoring, the subject's response to each item is indicated by marking the value of the response in a space opposite the item.

*Results*

Reliability coefficients have been computed both for tests administered at the beginning and again at the end of the driver-training course. The reliability of the test was determined by the odd-even technique. A further check on results was made by correlating the first half of the test against the last half.

**Table I. Correlation Coefficients<sup>1</sup> for Odd versus Even Items in Modified Iowa State Multi-Attitude Scale.**

METHOD	Uncorrected r PE	Corrected for r length PE	N
ODD vs. EVEN Test given at beginning of course	.63 ± .08	.78 ± .05	25
ODD vs. EVEN Test given at end of course	.61 ± .06	.76 ± .04	61
SPLIT-HALF Test given at end of course	.76 ± .04	.86 ± .03	42

<sup>1</sup>The Pearson Product-Moment Formula was used for computing reliability; the Spearman-Brown Prophecy Formula in correcting for length of test.

The reliabilities are sufficiently high as to indicate their value for group predictions and they compare favorably with many other group tests in common use.

*Summary and Conclusions*

1. A study of the reliability of a new form of the Iowa State Multi-Attitude Scale gave coefficients ranging from .76 to .86 by different techniques.

2. The coefficients are sufficiently high to indicate consistency as shown by the P.E. of the reliabilities and to warrant its use in measuring possible shifts in attitudes of groups.

3. Further studies and refinements of the scale are now being made to increase the reliability.

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