

# Proceedings of the Iowa Academy of Science

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Volume 41 | Annual Issue

Article 101

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1934

## A Criterion of Driving Ability

Earl L. Allgaier  
*Iowa State College*

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### Recommended Citation

Allgaier, Earl L. (1934) "A Criterion of Driving Ability," *Proceedings of the Iowa Academy of Science*, 41(1), 281-283.

Available at: <https://scholarworks.uni.edu/pias/vol41/iss1/101>

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## A CRITERION OF DRIVING ABILITY

EARL L. ALLGAIER

### NEED FOR A CRITERION

In the field of highway safety considerable work has been done to develop various tests of driving ability. In this development two major problems present themselves. First, the test itself must be perfected so as to be reliable, that is, the test must give the same result when repeated. Second, the validity of the test must be determined by comparing the results of the test with actual performance. To do this a criterion of driving ability must be established. Rating of drivers from general observation does not yield satisfactory results. As an instance of this the correlation between accidents per year and a typical rating was found to be +.01 for a group of 43 bus drivers.

### TWO POSSIBLE CRITERIA

The criterion to be used will depend somewhat upon the viewpoint taken. The question arises as to whether we want a safe driver or one that is very skilful in getting places in a hurry, even though he may take some chances. Most men who employ drivers for commercial concerns would probably have this latter viewpoint. Some men may be slow and awkward in the manipulation of a vehicle and yet be able to avoid accidents. Their cautiousness may make up for, or be mistaken for, their lack of ability. For these reasons it appears necessary to set up at least two criteria of driving performance. One will apply to the commercial drivers and the other will apply to those who drive their own automobiles on the highway. The chief object of a state licensing system should be to limit or eliminate the dangerous drivers. It makes little difference to the public if John Jones drives only 25 miles per hour in going to town Saturday evening, if in so doing he drives carefully, avoids accidents, and does not inconvenience other drivers.

### CRITERION TO BE ESTABLISHED BY EXPERTS

The question next arises as to who is to define driving ability. The question might be put to the public at large but it seems much more desirable to let experts settle the issue. While it might be

justifiable to take a vote of the general public to determine the popularity of some radio program, it would hardly be desirable to ask the opinions of neighbors during illness. In case of sickness the opinion of one qualified doctor would be worth more than the combined opinions of 1000 well-meaning neighbors.

#### QUESTIONNAIRES SENT TO 100 MEN

To set up this criterion, questionnaires were sent to approximately 100 persons. Replies that could be used for statistical analysis were received from about 85. The questionnaire consisted of 20 items, which it is clear from experimental studies, were at least in some measure indicative of driving ability. The men to whom the questionnaires were sent were asked to rate each of the 20 items by the use of a 7 point scale, using the numbers from 1 to 7 to indicate the relative importance of each item, in their estimation. After all of the replies were in they were divided into two groups — those which came from men who would be most apt to look at driving ability from the safety standpoint and those from persons who would look at driving from the commercial viewpoint. In the latter group were placed those coming from men who employed bus and truck drivers. The safety group included those coming from members of city safety commissions, certain industrial psychologists and safety engineers. Many of the factors which tend to promote safety in driving are also necessary for commercial driving, such as ability to see well or to react quickly to a novel situation.

#### RESULTS OF THE INVESTIGATION

Of the twenty items rated the following ten were given the highest rating by the combined opinion of those interested in safety and those interested in commercial driving. These are arranged in order of merit with their average rating.

1. Ability to handle an emergency situation . . . . .	6.68± .06
2. Ability to see signs and markers while driving. . . . .	6.20± .08
3. Allowance of reasonable clearance ahead when overtaking other vehicles . . . . .	6.15± .07
4. Dependability when driving . . . . .	6.13± .12
5. Care in keeping out of tight places . . . . .	6.12± .07
6. Care in observing and obeying signs . . . . .	6.10± .10
7. Manipulation of vehicle in traffic . . . . .	6.03± .08
8. Road ethics and courtesy . . . . .	5.97± .08
9. Skill and care in turning corners . . . . .	5.87± .10
10. Use of hand and other conventional signals . . . . .	5.37± .10

From a commercial viewpoint the ability to handle an emer-

gency situation was ranked as the most important, there being a highly significant difference between that and the next four items which include care in keeping out of tight places, dependability when driving, ability to see signs and markers, and the allowance of reasonable clearance before passing other vehicles.

From the viewpoint of safety, the ability to handle an emergency situation was again given first place. Other items in their order of importance were, ability to see signs and markers, allowance of reasonable clearance before overtaking, manipulation of vehicle in traffic and care in keeping out of tight places.

#### GENERAL CONCLUSION

It seems that according to expert opinion the ability to handle an emergency situation is an important criterion of driving ability and should be used as the basic principle for the development of a test.

#### USE OF THE CRITERION

With the ratings of these items it is hoped that an objective scale may be developed for use in rating drivers. With this data the various items may be properly weighted. This will give a somewhat stable definition of driving ability. Correlations between these ratings and tests already developed will determine the validity of the tests. In the same way, the validity of new tests to be developed can be measured with a reasonable degree of accuracy.

DEPARTMENT OF PSYCHOLOGY,  
IOWA STATE COLLEGE,  
AMES, IOWA.