# Attitude Trends in Relation to High School Grade and Driving Experience

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Three groups of high school students were administered a questionnaire consisting of 80 driving and non-driving items. The three groups were 10th grade pre-drivers (N = 119), 10th grade drivers (N = 169), and 12th graders (N = 216), all drivers. For each item three tests of significance for response differences between the three groups were determined. Differences significant at the 0.01 level were found for 21 items, and for 12 of these items the percentage of agree response of the 12th graders was more extreme than either of the 10th grade groups. Interest focused on these 12 items.

For seven of these items the 12th graders differed significantly from the 10th grade pre-drivers, but not from the drivers, and for each of these items the 12th grade response was the least socially recommended. For the remaining five items the 12th graders differed significantly from the 10th grade drivers, but not from the pre-drivers, and for each of these items the 12th grade response was the most socially recommended. Thus, there appear to be two distinct attitude trends during high school.

The content of the 12 items led to an interpretation of the two attitude trends: (a) the lower ethical values developed during high school tend to be anticipated by the 10th grade drivers, and (b) the greater acceptance of social controls tends to be anticipated by the 10th grade drivers.

ALTHOUGH the relationships between attitudes and driving have not been firmly established, it is believed that attitudes affect driving (1, 2, 3, 4). If this is so, then one might search for differences in attitudes as a partial explanation of differences which exist in quality of driving. One approach would be to investigate attitudinal differences among groups known to differ in driving ability. Since changes in driving quality are known to differ during the first few years of driving, it would seem fruitful to explore attitudinal differences in this period.

The present study considers differences in driving and non-driving attitudes among three groups of high school students: (1) sophomores with no driving experience, (2) sophomores with some driving experience, and (3) seniors, all of whom reported some driving experience. Attitudes were inferred from responses to questionnaire items. Although all statistically significant differences are reported, this report concentrates on an interpretation of those items which reveal a decided attitudinal trend.

## PROCEDURE

The procedure consisted of comparing the questionnaire responses of three groups of students. Comparisons were made for each item, and the conclusions drawn were based on those items for which significant differences emerged.

### Subjects

The subjects were students in two high school classes: 10th grade students (288

sophomores) and 12th grade students (216 seniors).

The 10th grade students, most of them 15 years old, were enrolled in a required course in driver education during the Fall 1958 semester. Responses to the questionnaire were obtained during the first week of the course. The 119 students who indicated that they had no driving experience will be referred to as the 10th grade pre-drivers; the other 169 students who indicated that they had some driving experience will be referred to as the 10th grade drivers. The 10th grade students consisted of 136 females and 152 males.

The 12th grade students, most of them 17 years old, were enrolled in required courses in U.S. Government or senior problems during the Spring 1959 semester. All of the 216 students (98 females and 118 males) indicated that they had some driving experience. (There were six 12th graders who took the questionnaire, but had no driving experience; they were not included in the study.)

All students attended the same high school, located in the Los Angeles metropolitan area in a neighborhood which includes both middle and upper socio-economic classes. Since there have been no dramatic changes in this neighborhood during the past few years, there is every reason to believe that the 12th graders, when they were in the 10th grade, were similar to the 10th graders used in this study.

## Data

Data consisted of responses (agree or disagree) to each of the 80 items of the Wilson Attitude Test (5), a questionnaire which consists of both driving and non-driving items.

## Analysis

For each item the percentage of students who agreed with the item was determined for 10th grade pre-drivers, 10th grade drivers, and 12th graders. Tests of significance were determined for percentage differences between the three groups, the three groups allowing three such tests for each item. All 240 tests of significance were referred to the 0.01 level.

The error term for these tests was based on an estimate of the population percentage, as advised by Fisher and described by Guilford (6). If the smallest product of $p_e$ and $q_e$ times $N_1$ or $N_2$ was less than 10, the difference between the sample percentage was reduced by the correction factor given in Guilford (6). When this product was less than 5, and in any other case in which the test result was equivocal, the exact probability test as described by Kendall (7) was employed.

# RESULTS

Initially, for each of the 80 items the difference in percent of agree response between the 10th and 12th graders was tested for significance. Significant differences emerged for six items (2, 13, 14, 22, 30, 60); yet for five of these items the 12th graders differed from either the 10th grade pre-drivers or drivers, but not both. Thus, to continue to consider the 10th grade as a combination of pre-drivers and drivers would only conceal the obvious response differences which exist between 10th grade pre-drivers and drivers. Therefore, the response differences considered are between (a) 10th grade pre-drivers and 10th grade drivers, (b) 10th grade pre-drivers and 12th graders, and (c) 10th grade drivers and 12th graders.

Of the 240 tests of significance (3 tests for 80 items), 28 proved to be significant at the 0.01 level. These significant differences involved 21 items, and for each of these items Table 1 lists (a) the percent of students in each of the three groups who agreed with the item, and (b) significant differences between group pairs. The 21 items are given in Table 2.

The following comparisons between the three groups will be on the basis of percent of agree response to individual items. One response to each item was evaluatively designated as the socially recommended response. Thus, if two groups differ on an item with respect to percent of agree response, they must also differ with respect to percent of socially recommended response.

TABLE 1

PERCENT OF AGREE RESPONSE FOR ITEMS SHOWING SIGNIFICANT DIFFERENCES

| tem | Percent of Agree Response: 10th Grade Pre-Drivers | 10th Grade Drivers | 12th Graders | Significant Differences: 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| 2 | 7.56 | 16.56 | 21.31 | | -[1] | |
| 4 | 100.00 | 91.12 | 90.75 | -[1] | -[1] | |
| 10 | 0.00 | 5.93 | 2.31 | -[1] | | |
| 13 | 11.75 | 14.81 | 4.18 | | | -[1] |
| 14 | 5.87 | 20.68 | 29.62 | -[1] | -[1] | |
| 16 | 10.06 | 14.18 | 6.00 | | | -[1] |
| 21 | 51.25 | 64.50 | 69.00 | | -[1] | |
| 30 | 45.37 | 53.25 | 38.87 | | | -[1] |
| 31 | 79.81 | 64.43 | 79.62 | | | -[1] |
| 37 | 3.37 | 8.87 | 12.93 | | -[1] | |
| 45 | 75.62 | 57.37 | 71.75 | -[1] | | -[1] |
| 49 | 6.75 | 16.56 | 17.56 | -[1] | -[1] | |
| 55 | 26.87 | 34.31 | 21.75 | | | -[1] |
| 56 | 47.87 | 62.12 | 52.75 | -[1] | | |
| 57 | 15.93 | 38.43 | 35.62 | -[1] | -[1] | |
| 59 | 78.12 | 63.87 | 72.68 | -[1] | | |
| 60 | 42.00 | 47.31 | 32.87 | | | -[1] |
| 61 | 8.37 | 31.93 | 22.68 | -[1] | -[1] | |
| 62 | 89.06 | 81.06 | 75.93 | | -[1] | |
| 73 | 10.06 | 26.62 | 14.81 | -[1] | | -[1] |
| 75 | 18.50 | 35.50 | 24.56 | -[1] | | |

ignificant at 0.01 level.
olumn 1: 10th grade pre-drivers vs 10th grade drivers.
olumn 2: 10th grade pre-drivers vs 12th graders.
olumn 3: 10th grade drivers vs 12th graders.

Significant differences between the 10th grade pre-drivers and the 10th grade driv-s emerged for 11 items (4, 10, 14, 45, 49, 56, 57, 59, 61, 73, 75), and for each of ese items the pre-drivers gave the higher percent of socially recommended response. dmittedly there may not be complete consensus on which response is the more soci-ly recommended, particularly for certain items.)

Significant differences between the 12th graders and the 10th grade pre-drivers e-erged for 9 items (2, 4, 14, 21, 37, 49, 57, 61, 62), and for each of these items the th graders gave the lower percent of socially recommended response. Of these 9 i-ms emphasis will be given to those seven (2, 4, 14, 21, 37, 49, 62) for which the rcent of agree response of the 12th graders is more extreme than either of the two th grade groups. For each of these seven items the 12th graders gave the lowest rcent of socially recommended response, the 10th grade pre-drivers the highest, ile the 10th grade drivers were intermediate. These differences are indicated dia-ammatically:

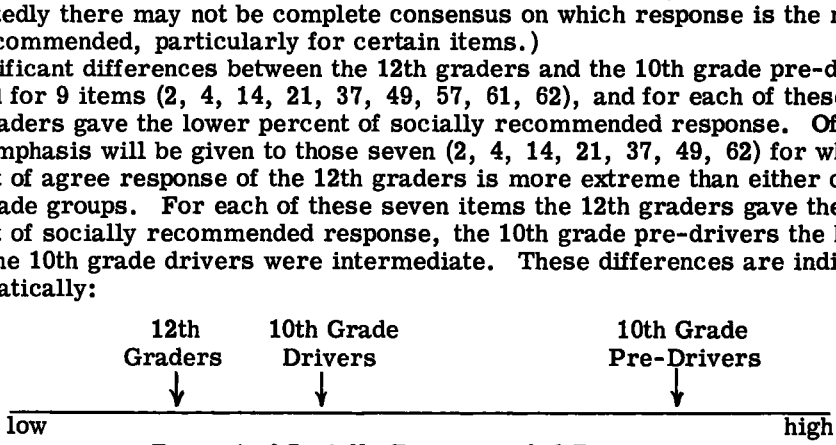
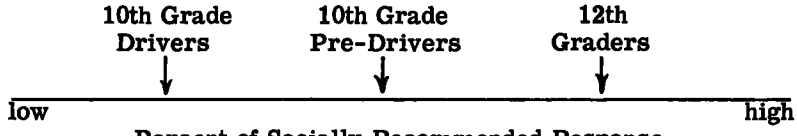


TABLE 2

ITEMS SHOWING SIGNIFICANT DIFFERENCES

| | |
|---|---|
| 2. | Going off the school grounds without permission is all right. |
| 4. | I have a responsibility to make this world a better place in which to live. |
| 10. | I didn't ask to be born; therefore, the world owes me a living. |
| 13. | It's a driver's own business if he wants to drink and drive. |
| 14. | Cutting classes once in a while is all right. |
| 16. | Since young people grow up faster these days, the legal age to vote should be changed to 16, or when one gets his drivers license. |
| 21. | High speed driving is all right if the road, weather and traffic conditions are favorable. |
| 30. | Each driver should be the judge of the speed at which he can control his car. |
| 31. | Parents should ask their teenagers where they have been or where they are going |
| 37. | It is all right to lie and cheat if others benefit by it. |
| 45. | I like school. |
| 49. | Life is a gamble; therefore, why not take a chance? |
| 55. | I hate details. |
| 56. | I love to be on the move; to go, man, go. |
| 57. | Women are poorer drivers than men. |
| 59. | Drinking alcholic beverages is a dangerous thing for one to do. |
| 60. | Policemen should ride around in unmarked police cars. |
| 61. | I would like to be an auto racer. |
| 62. | Driver Education makes safer drivers. |
| 73. | If there are no cars in sight, it is unnecessary to stop at boulevard stop signs. |
| 75. | School bores me. |

Significant differences between the 10th grade drivers and the 12th graders emerg for 8 items (13, 16, 30, 31, 45, 55, 60, 73), and for each of these items the 12th graders gave the higher percent of socially recommended response. Of these 8 item emphasis will be given to those five (13, 16, 30, 55, 60) for which the percent of agr response of the 12th graders is more extreme than either of the two 10th grade group For each of these five items the 12th graders gave the highest percent of socially rec ommended response, the 10th grade drivers the lowest, while the 10th grade pre-dri ers were intermediate. The following diagram indicates these differences:




Percent of Socially Recommended Response

The results can be summarized as follows: (a) There were seven items for which the 12th graders not only differed significantly from the 10th grade pre-drivers, but also gave a more extreme response than either 10th grade group, and for each of the items the 12th graders gave the lowest percent of socially recommended response; and (b) there were five items for which the 12th graders not only differed significant from the 10th grade drivers, but also gave a more extreme response than either 10th grade group, and for each of the items the 12th graders gave the highest percent of socially recommended response.

## DISCUSSION

Although the differences between the two 10th grade groups are interesting in and of themselves, emphasis is focused on changes in attitude which take place during hi

school. Such attitude changes are referred to as attitude trends in order to emphasize the fact that the attitude measurements were not of attitude changes of individuals over time, but rather of attitudes of groups at a given point in time. The inference of an attitude trend over time is based on the assumption that the attitudes of the 10th graders, if measured two or three years later, would be similar to the attitudes of the 12th graders used in this study.

Two types of items were identified on the basis of significant response differences between the 12th graders and the two 10th grade groups. Yet these quantitative differences were consistently matched by qualitative differences: For each item of the first type, the 12th graders gave the lowest percent of socially recommended response, whereas for each item of the second type, the 12th graders gave the highest percent of socially recommended response. Such consistency would seem to indicate two attitude trends, trends which could be determined by an analysis of the content of the items within each type.

Of the seven items of the first type, two pertain to driving and five to non-driving. Of the five items of the second type, three pertain to driving and two to non-driving (item 16 might be considered ambiguous). Thus the distinction between the two types of items is not with respect to driving and non-driving content.

What other element might be common to the items representative of each type? Items of the first type seem to pertain to ethics and expediency; items of the second type appear to deal mainly with social control. If these interpretations are valid, then the first trend indicates a change in group attitudes during high school toward greater acceptance of realism, toward expediency, toward less emphasis on ethical considerations. The second trend indicates a change toward greater acceptance of social controls.

Although it is hardly surprising to find that changes in realism and socialization are part of the developmental process, it is satisfying to know that such changes can be indicated by a statistical analysis of verbal responses.

The results indicate that (a) the 10th grade drivers, in comparison to the pre-drivers, consistently gave less socially recommended responses to all items, (b) the attitude toward ethical values of the 10th grade drivers is more indicative of the attitude which 10th graders as a group can be expected to have when they reach the 12th grade, and (c) the attitude toward social control of the 10th grade pre-drivers is indicative of the attitude which 10th graders as a group can be expected to have when they reach the 12th grade.

Because of the design of the study, the results are not amenable to causal interpretation. The results should not be interpreted to mean that as a student learns to drive he develops a lower code of ethical values and a greater acceptance of social control; it is entirely reasonable to expect that 10th grade drivers and pre-drivers also differ with respect to other variables associated with attitudes. Furthermore, the results in no way indicate that attitude changes (magnitude and direction) toward ethical values and social control are the same for both drivers and pre-drivers; the diagrammatic representations of the trends show that the two arrows representing the attitudes of 10th grade drivers and pre-drivers can be changed to a variety of positions while allowing the 12th grade arrow to act as a fulcrum.

Although the response differences were interpreted crudely as attitude trends, recognition should be given to the possibility that these response differences may reflect, at least in part, differences in perception and interpretation of the items. Quite aside from dissimulation and measurement error, response differences can be interpreted as attitude differences only if such phrases as "high speed driving" have the same meaning for all three groups used in this study. The recognition that meanings were not measured directly in this study should be used to temper any interpretation of the results.

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