A STUDY OF ACCIDENTS AND VIOLATIONS IN RELATION TO BEHIND-THE-WHEEL TRAINING

A Thesis

Presented to

The Department of Education

Indiana State Teachers College

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Education

---

by

Paul R. Hardesty

July 1953

The thesis of Paul R. Hardesty contribution of the Graduate School, Indiana State Teacher College,, number 749 under the title A Study of Accidents and Violations in Relation to Behind-the-Wheel Training

is hereby approved as counting toward the completion of the Master's degree in the amount of 8 hours credit.

Committee on thesis::

Charles Hardaway
Vesper D. Moore
Fred Swalls Chairman.

Representative of the English Department:

James R. Bash

Date of acceptance August 4, 1953

ACKNOWLEDGMENTS

The author wished to express his appreciation to his thesis committee composed of Mr. Charles Hardaway, Dr. V. D. Moore, and Dr. Fred Swalls for their sincere efforts and stimulating guidance. A great amount of credit is due the following people who helped supply data for this study: Mr. Maurice Woods, Mr. Ross Ritchie, Mrs. Margaret Mason, Mr. Earl Downey, Mr. Lowell Galloway, Mr. Orrin Stuckey, Mr. Thomas Byrd, and the police department of Princeton, Indiana.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION	1
The problem	1
Statement of the problem	1
Importance of the problem	2
Limitation of the investigation	2
Sources of data and method of procedure . . .	3
Procedure	3
Method used in securing data	3
Definitions of terms used	4
Driver training	4
Behind-the-wheel training	4
Accident	5
Violation	5
Organization of remainder of the report . . .	5
II. RELATED LITERATURE	6
Philosophy and development	6
Development	6
Current program	9
Related studies	14
Literature on the cost of driver education	16
III. PRESENTATION AND TREATMENT OF DATA	18

CHAPTER PAGE

Accidents 18
Purpose 18
Ages and training of the drivers 19
Costs incurred by drivers in the accidents. 21
Educational status of the drivers 24
The sex of the drivers 26
The scholastic ratings of drivers in sixty-four accidents 28
Allocation of responsibilities in the accidents 30
Residence of the drivers 32
Violations 34
Purpose 34
Ages and training of the drivers 35
Educational status of the drivers 37
The sex of the drivers 39
The scholastic ratings of drivers in fifty-three violations 41
Types of violations 43
IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . 46
Summary 46
Conclusions 47
Recommendations 48
BIBLIOGRAPHY 49

LIST OF TABLES

TABLE PAGE

I. The behind-the-wheel training and the ages of drivers in one hundred sixty-seven accidents 20

II. The costs of nineteen accidents incurred by drivers who had completed behind-the-wheel training 22

III. The costs of one hundred forty-eight accidents incurred by drivers who had not completed behind-the-wheel training 23

IV. The educational status of the drivers involved in one hundred sixty-seven accidents 25

V. The sex of the drivers involved in one hundred sixty-seven accidents 27

VI. The scholastic ratings of drivers in sixty-four accidents 29

VII. Allocation of responsibilities in the one hundred sixty-seven accidents 31

VIII. Residences of drivers in one hundred sixty-seven accidents 33

IX. The behind-the-wheel training and the ages of drivers in one hundred fifteen violations 36

TABLE PAGE

X. The educational status of the drivers involved in one hundred fifteen violations . 38

XI. The sex of the drivers involved in one hundred fifteen violations 40

XII. The scholastic ratings of drivers in fifty-three violations 42

XIII. Types of violations in one hundred fifteen cases studied 44

CHAPTER I

INTRODUCTION

The increasing number of automobile accidents has presented a problem to the drivers in the nation. The cost of repair, insurance, and disabilities has become a serious financial problem for many people. Few studies have been made to determine the effect of behind-the wheel training on the accident and violation rate.

I. THE PROBLEM

Statement of the problem. The purpose of this investigation was to reveal information about the driving performances of students in Gibson County, Indiana, who have completed an authorized course of behind-the-wheel training. The problem resolved itself into the determination of answers to the following questions: (1) What was the cost of the accidents by the trained and untrained drivers? (2) What were the numbers and percentages of trained and untrained drivers in the accidents and violations to be investigated? (3) What was the educational status of the trained and untrained drivers? (4) What was the sex of the trained and untrained drivers? (5) What were the scholastic ratings of the drivers in accidents and violations to be studied? (6) Who was responsible for the accidents? (7) Where did the

drivers live who had accidents? (8) What were the types of violations the drivers were committing?

Importance of the problem. When a program such as behind-the-wheel training is offered in the public schools, its value is sometimes questioned by the patrons of that community. The taxpayers in any community have a right to know the value of any part of the program in the public schools. To make an accurate measure of behind-the-wheel training in the school program is often difficult. A study of the driving records of students is one of the ways to measure the effect of the behind-the-wheel training program.

Few studies have been made of accidents and violations in regard to behind-the-wheel training. Studies made in the past have been chiefly concerned with the organization and administration of the behind-the-wheel training program.

Limitation of the investigation. This study was limited to drivers who live in Gibson County, Indiana. It was limited to drivers who were in the age group sixteen to twenty-three in 1953. The study was made of the accidents and violations reported from January 1, 1950, to March 31, 1953. Since the Indiana State Police records were unavailable, it is limited to the records of the city police of Princeton, Indiana; the sheriff of Gibson County, Indiana; and the records of the justices of peace of Princeton and Oakland City, Indiana. The study is limited to 167 accidents and to

115 violations which occurred during the period investigated.

II. SOURCES OF DATA AND METHOD OF PROCEDURE

Procedure. The normative survey and historical procedures were used to secure data for this study.

Method used in securing data. Investigations were made to learn how long behind-the-wheel training had been taught in the schools in Gibson County, Indiana. This information was secured by interviewing the instructors who taught behind-the-wheel training in five schools in the county. The top age group studied was set to coincide with the oldest pupils who had an opportunity to take behind-the-wheel training. The records of accidents on file in the offices of the city police in Princeton, Indiana, were then consulted to secure some of the information desired for the study. The information about the drivers secured from this source included the following: name, address, age, date of accident, amount of damage, and who was at fault. The same procedure was then followed in the investigation of the records of the sheriff of Gibson County, Indiana. The same type of information was secured from this source.

A study was then made of the records of the justices of peace of Oakland City and Princeton, Indiana, to secure information concerning violations committed by the age

group being studied. The following information about the drivers was secured from this source: name, address, age, date of violation, and type of violation.

After securing this information, records in the offices of superintendents of schools in Gibson County, Indiana, were consulted to find information concerning these drivers. The information secured included: whether the driver graduated from high school, whether he was currently in school, whether he quit school, the sex of the driver, and his scholastic rating while attending school.

Another interview was held with the behind-the-wheel training instructors to find how many of these drivers had successfully completed the authorized behind-the-wheel training program.

III. DEFINITIONS OF TERMS USED

Driver Training. Driver training shall be interpreted to mean the type of training offered in the public schools which does not include actual experience of practice driving.

Behind-the-Wheel Training. Throughout this report behind-the-wheel training will be interpreted to mean the type of instruction given in which the student actually

practices driving an automobile.

Accident. The term accident shall be interpreted as meaning any automobile being involved in damage to itself or other vehicles.

Violation. The term violation shall be interpreted as meaning any act on the part of the driver for which formal charges were filed and for which he was taken before a justice of peace.

IV. ORGANIZATION OF REMAINDER OF THE REPORT

Chapter II presents the literature related to this study including: a brief development of the behind-the-wheel training program, the program now in use, and the related studies that have been made. Chapter III presents the report of this study. Chapter IV presents the summary, conclusions, and recommendations. A bibliography concludes the report.

CHAPTER II

RELATED LITERATURE

I. PHILOSOPHY AND DEVELOPMENT

Development. The invention of the automobile has considerably changed the lives of the people in the world. The American family has begun to look upon the automobile as a necessity instead of a luxury. The automobile is being used more and more for commerce, convenience, and pleasure. In 1945 there were 31,035,500 automobiles registered in the United States.[1]

The automobile has greatly increased the hazards to the lives and property of the people. In 1946 more than 1,200,000 people in the United States were injured in motor accidents.[2] The suffering caused by these injuries is immeasurable.

The costs of the accidents in America represent an output of billions of dollars by the people, and is far greater than we spend on our public schools each year.[3] This does not include the cost of time and wages lost by

---

1 W. L. Robinson, and others, Sportsmanlike Driving, (Washington: American Automobile Association, 1947), p. 10.

2 Ibid., p. 13

3 Ibid., p. 15

the thousands of people totally disabled by automobile accidents.

A short time before World War II the safety engineers of the nation realized that a program must be instituted to reduce the number of accidents. The program was started with the cooperation of the following groups: state police, city police, county sheriffs, justices of peace, automobile manufacturers, various news agencies, and public school systems. The program was known as the three "E"s: engineering, enforcement, and education.

The automobile industries have instituted testing laboratories where experts test each part of the automobile to determine the safest method of construction. The manufacturers are trying to make their products mechanically safer.

Enforcement is a problem that is more difficult to perfect. In order to insure complete enforcement it would be necessary to patrol every mile of each road in the United States. This is impossible since police departments have neither the manpower nor the money to carry on such a program.

The state police force in Indiana has been enlarged in recent years and is making marked improvements in the enforcement program. The state police are attempting to standardize and improve such things as signs, signals, and

rules which the people must use for safe driving.

The state of Indiana is attempting to improve the records of licenses for drivers in order to discover the poor drivers and accident repeaters. The state is keeping individual records of each driver holding a license. When a driver has an accident it is entered on his record. If he becomes a reckless repeater, he is no longer issued a license.

There are standard penalties for violations, and the courts are giving them to each guilty driver. This helps the police forces in their job of enforcement.

The education program was probably the last of the three programs to be started and is still in the early stages of development. The aim of the educational program is to train the individual driver to such an extent that he will become safety conscious at all times. The driver should become so proficient in his driving habits that he will be ever conscious of the driving hazards.

The educational program was first started as a plea to the public to drive carefully and observe the rules of the road. This program was instituted by the use of radios, newspapers, and advertisements in magazines. Recently, the utilization of television has been prevalent in the safety program.

Another step to be instituted in the educational

program was a course in driver training in the public school curriculum. This course in driver training included classroom teaching of rules and laws which govern the traffic situation in the nation. The course was made a required part of each student's program. The instructors taught the mental phase of the driving program, but did not teach the student the physical operation of an automobile. The safety engineers felt that mental attitudes were the cause of many accidents; therefore, an attempt was made to improve the drivers.

Soon after World War II a program of behind-the-wheel training was incorporated in the public school curriculum. This program was instituted in hopes of teaching boys and girls the physical operation of the automobile. The plan was to let the students practice driving under the guidance of a trained instructor. This program has progressed very rapidly in the United States, but as yet only about one-half the eligible students are enrolled in the course. In the school year 1947-48 there were 3,055 schools in the United States giving courses with 333,017 pupils enrolled. By the 1951-52 school year there were 8,218 schools offering the course with 727,023 pupils enrolled.[4]

Current program. The behind-the-wheel training

---

4 "Driver Education News," Association of Casualty And Surety Companies Bulletin, October, 1952, p. 4.

program, as offered in Gibson County, Indiana, consists of two parts. The program includes classroom study and behind-the-wheel driving practice.

The classroom program consists of at least eighteen hours of instruction which is usually divided into four basic units:[5]

1. Teaching the physical and mental aspects of driving. To show the importance of vision, reaction time, and mental attitude to the driver.
2. Teaching sound driving practices. To teach the traffic laws and why we should observe them.
3. Teaching the operation of the automobile, and the different driving situations.
4. Teaching the use of modern highways and how automobiles are being improved.

Various teaching aids are used for the instruction of these units in the classroom.

The behind-the-wheel driving practice consists of actual experience by the student in the automobile. The students are in the automobile at least twenty-eight hours. Four students compose a driving group. Each student drives

---

5 Robinson, and others, op. cit., 425 pp.

one-fourth of the time and observes the other drivers the remainder of the time in the automobile. Each student is taught by a step-by-step program. The instructors assume the student knows nothing about driving an automobile. There is hope that any bad habits already learned will be corrected by this instruction. An example of this step-by-step program is the procedure used to teach the student how to start the automobile. It is as follows:

1. Adjust the seat.
2. Adjust the rear view mirror.
3. Declutch and shift the gear to neutral.
4. Turn on the key.
5. Press the starter button.
6. Shift to low gear.
7. Let out clutch and accelerate slowly.
8. Check traffic and look in the direction the car is moving.

These steps are practiced each time the student gets behind the wheel in the hope they will become a habit. The student is allowed to progress at his own rate in learning the driving skills. It is a general practice to divide the program into about fourteen units. This allows a student to complete a unit in the allotted time for practice.

A testing program is included in the behind-the-wheel training program. Physical tests are given each student

which include:: vision, color blindness, hearing, and reaction time. Equipment is not always available for extensive physical tests, but the schools are accumulating more devices each year.

Achievement tests are given to test the classroom program. These tests are much more extensive than the tests required by the state of Indiana for drivers' licenses.

Another phase of the testing program is the road driving test. In Gibson County, Indiana, behind-the-wheel driving instructors test the students in approximately the categories listed below. In order for the student to successfully complete the course, he must indicate competencies in the following areas:

1. Starting properly with preliminary preparations correctly performed.
2. Properly making right and left turns.
3. Proper braking procedures.
4. Proper methods of turning the car around in roads or streets on the right and left.
5. Proper method of turning around in the middle of the road.
6. Stopping in the middle of a hill going up, and starting again. The same for going down hill.
7. Angle and parallel parking.
8. Signaling at the proper times.

9. Proper highway driving procedures.
10. Backing in a straight line.
11. Shifting from high gear to second gear.
12. Getting back on the road if wheels leave the highway.
13. Stopping at stop streets and driving through caution streets.
14. City driving and staying in proper lanes.

Five schools in Gibson County, Indiana, are teaching the combined classroom and behind-the-wheel training. These five are Princeton, Oakland City, Francisco, Fort Branch, and Owensville. The other five schools in the county offer a short unit in driver training as a part of the safety requirement. These schools are Haubstadt, Mackey, Patoka, Hazleton, and Mt. Olympus.

Some schools teach the behind-the-wheel training over a period of a year, but in Gibson County, Indiana, only one semester is devoted to each group of students. The instructors feel that the students will be less likely to forget what they learn from one lesson to the next. The program was developed so that all students were given an opportunity to take advantage of it. It is now being taught in the sophomore year in the schools in Gibson County. A law has been passed in Indiana enabling students to take behind-the-wheel training at fifteen and one-half years of

age.

II. RELATED STUDIES

Much has been written with regard to the organization and administration of the behind-the-wheel training program; but, very few studies have been made to evaluate the program. Only a brief summary of the work of experimenters on the problem of evaluating behind-the-wheel training will be given in this study.

The traffic engineering and safety department of the American Automobile Association[6] conducted a study of the effect of driver training in Cleveland, Ohio. The study included 3,252 students of which 1,880 had received driver training instruction. Not all of the conclusions are related to the problem at hand; therefore, only those pertinent to this study are included. They are as follows:

> Generally speaking, training reduced the number of accidents in which men were involved by one-half.
>
> Because the total number of convictions and accidents reported for women was small, no conclusions regarding the effect of training are justified.
>
> The women had very few accidents and convictions per thousand months of driving compared to the men for both trained and untrained groups.
>
> The types of violations in which trained men were

---

6 Burton W. Marsh, "Driver Training Reduces Traffic Accidents One-Half," American Automobile Association Bulletin, 1945, p. 5.

involved followed about the same as that of the untrained men.[7]

The marked reduction in accidents by trained drivers was pointed out by the study.

Fentress[8] made a study of the research programs that had been made in evaluating the driver-training program. He found the following results:

> Over a period of three years in Vermont the trained drivers had one-fourth as many accidents and one-fifth as many violations as an equal number of untrained drivers.
>
> Untrained boys in Racine, Wisconsin, had four times as many accidents and over twice as many arrests as a trained group. In the case of girls, the ratio for both accidents and arrests was about 2 to 1 in favor of the trained group.
>
> In Bloomington High School (Illinois), a group of untrained boys had over twice as many accidents as the trained group, and the untrained girls had about four times as many accidents as the trained girls.[9]

Griffin,[10] in a study of traffic accidents, found a marked degree of improvement necessary to improve young drivers. In his study he found the following:

> It is estimated that about 1,000,000 persons of high school age take up driving each year. Statistics show

---

7 Ibid., p. 5.

8 Calvin Fentress Jr., "A Newsletter to Company Agents," Allstate Insurance Company: Indianapolis, April, 1953..

9 Loc. cit.

10 J. J. Griffin, "Driver Training For Safe High Schools," Safety Education, 27:6-8, March, 1948.

> that these young drivers, 16 to 20 years old, are responsible for five times as many accidents as drivers 45 to 50 years of age.[11]

The author stated that the good driver was the safe driver, and the only way to arrive at such a state is by systematic instruction.

Lauer,[12] in a report on the driver education program, states that any evaluation of driver education should be done on each of the two sexes, separately. He finds there are three times as many male drivers and their annual mileage is much greater. He also reports the inauguration of studies by Iowa State College on certain problems in driver education. These studies are to extend over a five-year period.

Literature on the cost of driver education. Hartung[13] made a study of the cost of the driver education program. He found the cost to range from $15 to $27 per pupil. Garvey,[14] in a study of the cost of the program, made the following report:

---

11 Ibid., p. 7.

12 A. R. Lauer, "Five Year Iowa Program to Evaluate Driver Education," Safety Education, 31:13, February, 1952.

13 M. L. Hartung, "Driver Education," School Review, 57:525-8, December, 1949.

14 D. E. Garvey, "Paying Dividends 200 to 1," Safety Education, 26:13, September, 1946.

> Some actuaries tell us a child's life is worth $87,000. Multiply that amount by the 12 teen-age drivers who would have died last year, if someone had not cared enough to teach them to drive, skillfully; and you have the impressive figure of $1,044,000. Quite a dividend for a state which spent about $5,000 on its driver training program last year.[15]

These studies seem to indicate that driver education is making an improvement in the driving program of the nation..

---

15 Loc.. cit.

CHAPTER III

PRESENTATION AND TREATMENT OF DATA

I. ACCIDENTS

Purpose. The purpose of this part of the investigation is to present an analysis of the records of reported accidents in Gibson County, Indiana, from January 1, 1950, to March 31, 1953, for sixteen to twenty-three year old drivers. As regards this phase of the study, it is intended that the analysis will reveal answers to the following questions:

A. In the 167 accidents investigated in this survey, how many drivers had behind-the-wheel training?

B. How much damage was being done by drivers in this age group during this period?

C. How many of the drivers had quit school, were currently in school, or had graduated from high school?

D. What was the sex of the drivers in this group of accidents?

E. What were the scholastic standings of the drivers in this group of accidents?

F. Who was responsible for the accidents in this survey?

G. Where did this group of drivers live?

Ages and training of the drivers. The investigator consulted the records of the instructors of behind-the-wheel training in Gibson County, Indiana, to determine how many of the drivers involved in the study had completed behind-the-wheel training. The investigation revealed that 823 students had completed the course. Of this number, it was found that nineteen were involved in accidents in this investigation.

A study of the public school records in Gibson County, Indiana, revealed that 3,256 students had an opportunity to take the training course. By dividing 3,256, the number of possible students, into 823, the number of trained students, it was found that about 25 per cent of the students had taken the course.

The ages of the drivers were taken from the accident reports. In Table I the drivers have been grouped by their ages and training status.

From Table I it can be observed that nineteen drivers had completed behind-the-wheel training, while 148 drivers had not completed the training. It can also be observed that 11 per cent of the drivers had completed behind-the-wheel training.

Only a very small number of drivers involved in 167 accidents had completed behind-the-wheel training.

TABLE I

THE BEHIND-THE-WHEEL TRAINING AND THE AGES OF DRIVERS IN ONE HUNDRED SIXTY-SEVEN ACCIDENTS

The ages of drivers investigated	No. of drivers with training	No. of drivers with no training
16	2	23
17	6	23
18	8	19
19	2	28
20	0	21
21	0	15
22	1	11
23	0	8
Total no. of drivers	19	148
Percentages of drivers	11	89

Costs incurred by drivers in the accidents. The purpose of this part of the survey was to reveal information about the costs of accidents incurred by drivers in this study. There was some difficulty in securing an accurate report of the damages. The information available was taken from the records of the accidents as reported by the drivers involved. These costs are only estimates and not the final costs of the damage incurred. The drivers did not always record the damage to all the vehicles involved.

In Table II is recorded information about the costs of the nineteen accidents involving behind-the-wheel-trained drivers. The damages incurred in any one accident, whether to one or all of the vehicles involved, were listed as one total. The costs were recorded in five range groups and do not give the exact damage in each accident.

The total costs and the average costs for each range group may be found in Table II. The total costs were found by adding the costs listed on the individual accident reports. The average costs were computed by dividing these total costs by the number of accidents in each range group.

TABLE II

THE COSTS OF NINETEEN ACCIDENTS INCURRED BY DRIVERS WHO HAD COMPLETED BEHIND-THE-WHEEL TRAINING

Range of costs of accidents	No. of accidents in each range	Total costs in each range	Ave. costs in each range
$1.00--$100	7	$450	$64
$101--$300	8	1,520	190
$301--$500	4	1,735	434
$501--$1,000	0	0	0
Over $1,000	0	0	0
Total cost		$3,705	

From Table II it can be observed that the total cost of the nineteen accidents was $3,705. By dividing $3,705, the total cost, by nineteen, the number of accidents, the average cost of each accident was found to be $195.

In Table III is recorded information about the 148 accidents involving drivers who had no behind-the-wheel training. The information in this table is recorded by the same method as that in Table II. The total costs have been recorded in each table.

TABLE III

THE COSTS OF ONE HUNDRED FORTY-EIGHT ACCIDENTS INCURRED BY DRIVERS WHO HAD NOT COMPLETED BEHIND-THE-WHEEL TRAINING

Range of costs of accidents	No. of accidents in each range	Total costs in each range	Ave. costs in each range
$1.00--$100	64	$3,016	$47
$101--$300	57	10,120	178
$301--$500	17	7,070	416
$501--$1,000	7	4,245	606
Over $1,000	3	3,800	1,267
Total cost		$28,251	

From Table III it can be observed that the total cost of 148 accidents was $28,251. By dividing $28,251, the total cost, by 148, the number of accidents, the average cost of each accident was found to be $191.

A comparison of the average cost of accidents, involving trained drivers, with the average cost of accidents, involving untrained drivers, shows very little difference.

It can be observed from Table II that no driver, who had behind-the-wheel training, was involved in an accident costing more than five hundred dollars. From Table III it can be observed that ten drivers, who had no training, were involved in accidents costing over five hundred dollars.

There was no conclusive evidence found that trained drivers incurred less damage on the average than the untrained drivers.

Educational status of the drivers. It was the desire of the investigator to determine the educational status of the 167 drivers involved in accidents. A study was made of the records filed in the offices of the superintendents of schools in Gibson County, Indiana.

The data were compiled in three categories: those who had quit school, those who are currently in school, and those who are high school graduates. These data are found in Table IV with the trained drivers and untrained drivers recorded separately.

TABLE IV

THE EDUCATIONAL STATUS OF THE DRIVERS INVOLVED IN ONE HUNDRED SIXTY-SEVEN ACCIDENTS

	Distribution of the 19 behind-the-wheel-trained drivers	Percentage of the 19 drivers in each educational group	Distribution of the 148 drivers with no training	Percentage of the 148 drivers in each educational group
No. of drivers who quit school	3	16	102	69
No. of drivers who are currently in school	6	32	6	4
No. of drivers who are high school graduates	10	52	40	27

From Table IV it can be observed that 69 per cent of the drivers with no training had quit school at the time of this investigation. It can also be observed that 16 per cent of the trained drivers had quit school. An investigation of the records filed in the offices of the superintendents of schools in Gibson County, Indiana, revealed that only 17 to 20 per cent of all students have quit school.

The data recorded in Table IV indicate that in 167 accidents a majority of the drivers had quit school.

The sex of the drivers. This phase of the study was to determine how many of the 167 accidents were incurred by boys and how many by girls. The record of the drivers' sex was taken from the accident report.

In Table V are recorded data regarding the sex of the drivers involved in these accidents. It can be observed in this table that, of 167 drivers involved, 139 were boys. By dividing 139, the number of boys, by 167, the total number of drivers, it was found that 83 per cent of the drivers were boys.

From records compiled by the Indiana State Police[16] it was found that about 89 per cent of the drivers in all accidents in Indiana are male. This seems to indicate that

---

16 E. O. Paul, "Summary of Motor Vehicle Traffic Accidents in Indiana," Indiana State Police Research Department, 1952.

TABLE V

THE SEX OF THE DRIVERS INVOLVED IN ONE HUNDRED SIXTY-SEVEN ACCIDENTS

	Male	Female
Total No. of drivers	139	28
No. of drivers with behind-the-wheel training	16	3
Percentages of drivers with behind-the-wheel training	84	16
No. of drivers with no behind-the-wheel training	123	25
Percentages of drivers with no behind-the-wheel training	83	17

the drivers in Gibson County, Indiana, for the age groups studied, are of about the same sex ratio as those for the whole state.

From Table V it can be observed that 84 per cent of the trained drivers were male, while 83 per cent of the untrained drivers were male. The behind-the-wheel training did not seem to effect the sex ratio of drivers involved in accidents.

The scholastic ratings of drivers in sixty-four accidents. In this phase of the study it was the hope of the investigator to show the scholastic ratings of the drivers. In securing these data it was found that the records of many of the drivers who had quit school were not available. Some of the records of drivers who had quit school were known by the investigator and have been included in the study.

The scholastic ratings of the drivers have been compiled in Table VI in three categories. They are: Above Average, Average, and Below Average. Above-Average ratings are those of A or B average in school marks; Average ratings are those of C average in school marks; and Below-Average are those of D or F average in school marks.

From Table VI it can be observed that six trained drivers and fifteen untrained drivers had scholastic ratings of below average. By dividing twenty-one, the total number

TABLE VI

THE SCHOLASTIC RATINGS OF DRIVERS IN SIXTY-FOUR ACCIDENTS

	Scholastic rating of above average	Scholastic rating of average	Scholastic rating of below average
No. of drivers with behind-the-wheel training	2	8	6
Percentages of drivers with behind-the-wheel training	13	50	37
No. of drivers with no behind-the-wheel training	8	25	15
Percentages of drivers with no behind-the-wheel training	17	52	31

of drivers with below-average ratings, by sixty-four, the total number of drivers whose records were available, it can be found that about 33 per cent had below-average ratings.

By the same type of computation, it may be found that the ten drivers who had above-average ratings represent about 16 per cent of the total drivers.

It was found in this phase of the study that more drivers had below-average ratings than above-average ratings in their scholastic studies.

Allocation of responsibilities in the accidents. This phase of the study is intended to show the drivers' responsibilities in the accidents. The report of accidents in Indiana includes the circumstances causing the accident. It was assumed in this survey that the drivers gave an accurate report of the circumstances in these accidents.

The data in Table VII reveal information about who was at fault in the accidents investigated. The data were recorded by the following extent of responsibility: drivers who were at fault, drivers who were not at fault, and drivers whose responsibility was not determined. There were seventeen accidents in which the responsibility was not determined. These responsibilities are often settled by court rulings, and no follow-up study was made of them.

From Table VII it may be discovered that 113 drivers who had no training were at fault in the accidents. This

TABLE VII

ALLOCATION OF RESPONSIBILITIES IN THE ONE HUNDRED SIXTY-SEVEN ACCIDENTS

The extent of the responsi-bility	No. of drivers with training	Percentages of drivers with training	No. of drivers with no training	Percentages of drivers with no training
Drivers at fault	10	53	113	76
Drivers not at fault	4	21	23	16
Drivers with fault not determined	5	26	12	8

represents 76 per cent of the 148 drivers who had no training. It may be found that ten drivers who had received training were at fault in the accidents. These ten drivers represent 53 per cent of the nineteen drivers who had received training.

An interesting fact found in the investigation was that no girl who had taken behind-the-wheel training was at fault in the accidents.

It was found in this study that drivers with no behind-the-wheel training were at fault in a higher percentage of cases than the drivers who had received behind-the-wheel training.

Residences of the drivers. In this phase of the study information has been compiled regarding the residences of the drivers. Gibson County, Indiana, is predominantly a farming area. The drivers living on farms do most of their driving in the country and drive in the cities only for short periods of time.

Only two cities or towns in the county have over 2,000 population. The data in Table VIII were grouped in three categories. These categories are: cities of over 2,000 population, towns with under 2,000 population, and rural areas.

An investigation of Table VIII will reveal that seventy-nine drivers in this investigation live in the

TABLE VIII

RESIDENCES OF DRIVERS IN ONE HUNDRED SIXTY-SEVEN ACCIDENTS

	No. of drivers living in cities of over 2,000 pop.	No. of drivers living in towns under 2,000 pop.	No. of drivers living in rural area
Drivers with behind-the-wheel training	10	5	4
Drivers with no behind-the-wheel training	69	40	40
Total no. in each group	79	45	44
Percentages of drivers in each group	47	27	26

cities. This represents 47 per cent of the 167 drivers. In studies by the Indiana State Police[17] it was found that 66 per cent of the drivers in Indiana in all accidents live in cities comparable in size to the two in Gibson County, Indiana.

It was found that a much larger number of drivers in this study lived in the cities and towns than in the rural areas.

II. VIOLATIONS

Purpose. The purpose of this part of the investigation is to present an analysis of the records of 115 violations. These violations occurred in Gibson County, Indiana, from January 1, 1950, to March 31, 1953, and were committed by sixteen to twenty-three-year-old drivers. As regards this chapter it is intended that the analysis will reveal answers to the following questions:

A. In the 115 violations investigated in this survey, how many drivers had behind-the-wheel training?

B. How many of the drivers had quit school, were currently in school, or had graduated from high school?

C. What was the sex of the drivers in this group of violations?

---

17 Loc. cit.

D. What were the scholastic standings of the drivers in this group of violations?

E. What were the types of violations committed by the drivers in this investigation?

Ages and training of the drivers. In the study of 115 violations, it was hoped to determine how many of the drivers had completed behind-the-wheel training. A study was made of the records of the justices of peace in Gibson County, Indiana. The ages of the drivers were found on these records.

The investigator consulted the records of the instructors of behind-the-wheel training in Gibson County, Indiana, to determine how many of the 115 drivers had completed the training. In Table IX these drivers have been grouped by their ages and training status.

From Table IX it can be observed that sixteen drivers completed behind-the-wheel training, and ninety-nine drivers had not completed the training. It can be observed that the sixteen trained drivers represent 14 per cent of all the drivers in this phase of the study.

Most of the drivers committing violations were between the ages of seventeen and twenty-one, inclusive. These are the boys and girls that behind-the-wheel training is supposed to help. The older drivers usually learn by experience.

In this study it was found that a large majority of

TABLE IX

THE BEHIND-THE-WHEEL TRAINING AND THE AGES OF DRIVERS IN ONE HUNDRED FIFTEEN VIOLATIONS

The ages of drivers investigated	No. of drivers with training	No. of drivers with no training
16	0	1
17	5	9
18	4	12
19	4	18
20	3	21
21	0	22
22	0	7
23	0	9
Total no. of drivers	16	99
Percentages of drivers	14	86

the violations were caused by the drivers with no behind-the-wheel training.

Educational status of the drivers. In this phase of the study, the investigator hoped to determine the educational status of 115 drivers charged with violations. To determine these data, a study was made of records filed in the offices of the superintendents of schools in Gibson County, Indiana.

These data will be found in Table X. They have been recorded in three categories: those who quit school, those who are currently in school, and those who are high school graduates. The trained drivers and untrained drivers have been recorded separately to show their educational status.

From Table X it can be observed that 69 per cent of the drivers with no training had quit school. Of the sixteen drivers with behind-the-wheel training 6 per cent had quit school. By adding the numbers of trained and untrained drivers who had quit school it was found that sixty-nine drivers in this group had quit school. This represents 60 per cent of the drivers in the group of violations being studied.

It was found in this phase of the study that a majority of the drivers committing the violations had quit school. It was also found that most of the trained drivers were high school graduates.

TABLE X

THE EDUCATIONAL STATUS OF THE DRIVERS INVOLVED IN ONE HUNDRED FIFTEEN VIOLATIONS

	Distribution of the 16 behind-the-wheel-trained drivers	Percentage of the 16 drivers in each educational group	Distribution of the 99 drivers with no training	Percentage of the 99 drivers in each educational group
No. of drivers who quit school	1	6	68	69
No. of drivers who are currently in school	3	19	3	3
No. of drivers who are high school graduates	12	75	28	28

The sex of the drivers. Any study of violations should include a survey of the sex of the drivers. The sex of the drivers in this study was determined from the records of violations in Gibson County, Indiana. The records were filed in the offices of the justices of peace in this county. These data have been compiled in Table XI.

From Table XI it can be found that 105 of the drivers committing violations were boys. By dividing 105, the number of boys committing violations, by 115, the total number of drivers, it was found that 91 per cent of the drivers were male. It might be noted that the ten girls committing violations were those with no behind-the-wheel training.

An interesting fact was discovered by the investigator in this part of the study. It was found that a majority of the sixteen trained drivers were boys who had learned to drive before taking behind-the-wheel training.

In the study of the sex of 115 drivers who were guilty of violations it was found that a very large percentage were boys. As has been mentioned earlier in this study, no girls who had completed behind-the-wheel training were guilty of violations.

TABLE XI

THE SEX OF THE DRIVERS INVOLVED IN ONE HUNDRED FIFTEEN VIOLATIONS

	Male	Female
Total no. of drivers	105	10
No. of drivers with behind-the-wheel training	16	0
Percentages of drivers with behind-the-wheel training	100	0
No. of drivers with no behind-the-wheel training	89	10
Percentages of drivers with no behind-the-wheel training	90	10

The scholastic ratings of drivers in fifty-three violations. In Table XII data have been presented concerning the scholastic ratings of fifty-three drivers who committed violations. The scholastic records of many drivers who had quit school were not available at the time of this study. The records of seven drivers who had quit school were known by the investigator and have been included in this study.

The scholastic ratings of the drivers have been divided into three categories. They are as follows: Above Average (A or B), Average (C), and Below Average (D or F). An average of all grades received by the driver was computed to determine his category. The letter grades used to find the drivers' averages were those they received while attending school.

From Table XII it may be found that one trained driver and fourteen untrained drivers were below average in scholastic ratings. By dividing fifteen, the number of drivers below average, by fifty-three, the number of drivers in this part of the study, it was found that 26 per cent were below average in scholastic ratings.

Based on the data studied, it might be concluded that scholastic ratings have very little effect on the driving performances of drivers.

TABLE XII

THE SCHOLASTIC RATINGS OF DRIVERS IN FIFTY-THREE VIOLATIONS

	Scholastic rating of above average	Scholastic rating of average	Scholastic rating of below average
No. of trained drivers	4	11	1
Percentages of trained drivers	25	69	6
No. of drivers with no training	5	18	14
Percentages of drivers with no training	14	49	37

Types of violations. There are numerous types of violations which drivers are charged with today. Some of them are: reckless driving, speeding, following too closely, running stop signs, incorrect signals, and others. Of the violations listed, reckless driving is the charge most often used, and the police use it for many types of driving violations. Some of these are passing on the wrong side, crossing the center or yellow line, not having complete control of the car, and racing.

This phase of the study is intended to show the types of violations charged in 115 cases, and the number of times they occurred. Table XIII reveals these data on the basis of the type of violation committed. These violations were filed by the arresting officers in Gibson County, Indiana.

By an analysis of the data in Table XI it was found that twelve trained drivers and sixty-seven untrained drivers were charged with reckless driving. This represents 69 per cent of the 115 drivers included in this study. The Indiana State Police[18] found that 44 per cent of the violations in the state of Indiana were reckless driving.

Of the other violations listed, speeding was the one found most frequently. This occurred in twenty-one cases.

The significance of this phase of the study is that

---

18 Loc. cit.

TABLE XIII

TYPES OF VIOLATIONS IN ONE HUNDRED FIFTEEN CASES STUDIED

	No. of trained drivers	Percentages of trained drivers	No. of untrained drivers	Percentages of untrained drivers
Reckless driving	12	75	67	68
Speeding	4	25	17	17
No license	0	0	8	8
Running stop sign	0	0	4	4
Failed to grant right of way	0	0	1	1
No lights	0	0	1	1
Drunken driving	0	0	1	1

these violations could have been avoided. The trained driver had had an opportunity to learn correct mental attitudes and driving habits. It was his responsibility to put them to practical use.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

The purpose of this study was to reveal information regarding students of behind-the-wheel training in Gibson County, Indiana. It was hoped the study would reveal information about accidents and violations in which these students were involved.

This report includes a study of the accumulated data from 167 accidents and 115 violations in Gibson County, Indiana, from January 1, 1950, to March 31, 1953. The age group studied was sixteen to twenty-three. The data were secured by checking the records of police, sheriff, justices of peace, behind-the-wheel instructors, and superintendents of schools in this county.

The drivers who had behind-the-wheel training were involved in nineteen of the 167 accidents investigated. They caused an average of $195 damage in the accidents and non-trained drivers caused an average of $191 damage.

It was found that 139 of the drivers in the accidents were male. It was also found that sixteen of the nineteen drivers with training were male.

In the study of violations, it was discovered that

sixteen drivers had behind-the-wheel training. There were 105 male drivers in the 115 violations. It was found that no trained female drivers were involved in these violations.

II. CONCLUSIONS

The data for this study were limited to only a small number of accidents and violations; therefore, any findings can not be conclusive.

From this study the following conclusions were obtained:

1. The drivers with behind-the-wheel training had fewer accidents than the drivers without the training.
2. The drivers with behind-the-wheel training had less costly accidents than the drivers without the training.
3. In the accidents studied the percentage of drivers who quit school is much greater than the percentage of those who graduated from high school.
4. The drivers investigated were about average in scholastic ratings in work done while in school.
5. Drivers with no behind-the-wheel training were at fault in a higher percentage of cases than those with behind-the-wheel training.
6. A major per cent of the drivers involved in these accidents live in the city.
7. The drivers with behind-the-wheel training were guilty of violations in fewer cases than the drivers with no training.
8. In the violations studied, the number of drivers completing high school was about the same as the number who did not.

9. The scholastic ratings of the drivers involved in violations were about average.

10. Reckless driving was the violation most often charged in the cases studied. Speeding was the next in number.

It was further concluded that training of drivers is not a complete guarantee against accidents. There does seem to be a trend that the behind-the-wheel training program is helping in the solution of the accident problem to some degree.

III. RECOMMENDATIONS

It is recommended that further studies be conducted to aid in a better understanding of the results of behind-the-wheel training. Studies in other counties and in other sections of the country would aid in arriving at more definite conclusions.

It is further recommended that school administrators give further consideration to behind-the-wheel training when organizing the school safety program.

BIBLIOGRAPHY

A. BOOKS

Robinson, W. L., and others, Sportsmanlike Driving, Washington: American Automobile Association, 1947, 425 pp. A textbook on behind the wheel training.

B. PERIODICAL ARTICLES

"Driver Education News," Association of Casualty and Surety Companies Bulletin, October, 1952, p. 4.

Garvey, D. E., "Paying Dividends 200 to 1," Safety Education, 26:13, September, 1946.

Griffin, J. J., "Driver Training for Safe High Schools," Safety Education, 27:6-8, March, 1948.

Hayden, M. M., "Young Drivers Can Be Safe Drivers," National Education Association Journal, 38:184-5, March, 1949.

Hartung, M. L., "Driver Education," School Review, 57:525-8, December, 1949.

Lauer, A. R., "Five Year Iowa Program to Evaluate Driver Education," Safety Education, 31:13, February, 1952.

Lauer, A. R., "Driving Habits vs Attitudes," Safety Education, 28:11-13, October, 1948.

Marsh, Burton W., "Driver Training Reduces Traffic Accidents One-Half," American Automobile Association Bulletin, 1945, p. 5.

Thompson, D., "Road Accidents Can Be Cut Down," Ladies Home Journal, 66:11-12, December, 1949.

C. UNPUBLISHED MATERIALS

Fentress, Calvin Jr., "A Newsletter to Company Agents," Allstate Insurance Company: Indianapolis, 1953.

Paul, E. O., "Summary of Motor Vehicle Traffic Accidents in Indiana," Indiana State Police Research Department, 1952.