

Changing Characteristics of High-Accident Drivers Over a Five-Year Period

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INTRODUCTION

In order to develop an effective accident prevention program it is necessary to know the characteristics of all of the system components involved: the environment, the vehicle, and the driver. The characteristics that are least understood and the most difficult to predict are those of the individual driver, and it is the driver who is held responsible for the great majority of traffic accidents.

Various research reports in this field have presented contradictory statements regarding the characteristics of drivers involved in accidents. For example, some show that traffic accidents happen to almost everyone, while others indicate that most accidents are the result of voluntary violation of traffic laws, and are subject to correlation with the issuance of citations. Evidence given by Crancer (3, 4, 5)* indicates that it is the non-average driver that is involved in fatal accidents, while Goldstein (6) states that most accidents occur to normal, average people.

Each year a small percentage of drivers are involved in an excessive number of accidents. Very little is known about the characteristics of these drivers or how their accident histories vary over periods of time. In a 1946 report by Johnson (7), it is stated that "Operators who are accident-repeaters in one period tend to regress toward the average of the group in another period." This temporary nature of accident proneness is further reinforced by more recent reports of Schuster and Guilford (10) and Campbell (1), but is contradicted by Shaw and Sichel (12) who say, ". . . The man whose past record has been

* Numbers in parentheses refer to references in the bibliography.

unsatisfactory is unlikely to improve, punishing him will have very little effect, and retraining him means throwing good money after bad. The only practical way of insuring that he does not have accidents is to prevent him from driving."

It is recognized that one method of possibly reducing accidents would be to restrict the driving liberty of those who could be classified as accident repeaters. But to provide such restrictions, good evidence of the benefits to society will be necessary. It would be desirable to know the answer to several questions, for example: Why do some individuals have more accidents than other drivers? Does an individual's relative accident involvement rate in one year remain the same in succeeding years or does it increase or decrease? If improvements or deteriorations are noted, what are the causative factors of these changes?

In 1967 there were about 2.7 million drivers licensed in the state of Indiana. During that year 301,921 drivers were involved in 175,886 reported motor vehicle accidents within the state. During that same year, 2,064 drivers were involved in three or more accidents each for a total of 6,573 reported accidents. Thus less than one tenth of one percent of the total licensed drivers in Indiana were involved in over 3.7 percent of the accidents that were reported during the year 1967.

While 3.7 percent is not a very large proportion of the total accidents, it is a substantial number. If it could be determined that these high accident drivers were going to continue to become involved in such a large number of accidents during the following years, it would be foolish to allow them to continue as a threat to society. Therefore, this study was directed toward those 2,064 individuals who were involved in three or more accidents during the year 1967.

Data were collected for two classes of drivers for the purpose of this study. The first class of drivers included all persons who were identified as being involved in three or more accidents during the year 1967. Complete accident record summaries were collected for each member of this class for the years 1967 through 1971. In addition, driver record summaries were collected for all in this class who had a total of five or more accidents during the five-year study period.

The second class of drivers was selected randomly from the entire population of Indiana drivers. This class of drivers was selected to serve as a control to which the multiple accident driver could be compared. Complete accident record summaries and driver record summaries for the years 1967 through 1971 were collected for all drivers in the control class.

It must be reported, however, that the information recorded on the driver and accident records conveys only a small amount of information

about that person's driving performance. Furthermore, a driver may continuously violate traffic laws but will receive a citation which will be recorded on his record only when ticketed by a law enforcement official or perhaps when involved in an accident. A driver may have been involved in many potential accidents (near misses) but was recorded (1967-71) as having an accident only when an accident actually occurred and was reported—required by law if damage was over \$50 and/or an injury or fatality occurred. Even then it is probable that some drivers may have had one or more accidents that were unreported.

Final Data Groups

The final 1967 data for which both accident and driver records were available were organized into four groups as follows:

Group	Number of Drivers in Group
Control Group	326
5-Accident Total	361
6 to 7-Accident Total	288
≥8-Accident Total	127

In addition to the drivers in these four groups, information concerning accident records and age and residence of drivers, but not other driver characteristics was obtained for drivers who had three or four accidents in 1967.

RESULTS

The Accident Picture

As noted, the search of the 1967 accident records produced 2,064 drivers who had three or more accidents in Indiana during that year and who are believed to have been Indiana drivers for the five-year study period. The number of accidents in which these drivers were involved during that single year ranged from three to nine accidents as shown in Table 1. The group as a whole were involved in a total of 6,573 accidents during the year.

Looking at the accident record of this same group of drivers for the entire five-year study period, 1967 through 1971, it was found that the number of accidents in which the individual drivers were involved ranged from a low of three, all in 1967, to a high of 29 accidents (see Table 2). The group as a whole were involved in 9,269 reported accidents during the entire five-year study period.

TABLE 1. 1967 MULTIPLE ACCIDENT DRIVERS

Number of Accidents Per Driver During The Year 1967	Number of Drivers	Total 1967 Accidents	Total Additional Accidents During Following Four- Year Period 1968-1971
3	1763	5289	2102
4	241	964	393
5	46	230	131
6	10	60	56
7	3	21	11
8	0	0	0
9	1	9	3
	2064	6573	2696

Taken as a group, it is clear that the accident record of these 2,064 drivers underwent much improvement during the four-year period following the 1967 base year. In 1967, the group had an average of 3.18 accidents per driver while the average per year for the following four-year period was 1.30 accidents per driver. In comparison, the control driver was found to have an average of 0.09 accidents per year. This latter figure is shown in Table 3, a summary of important driver characteristics. Taken as a group, the drivers who had three or more accidents in 1967 showed considerable improvements in their accident record during the following four-year period, but they still had more than ten times the number of accidents as the average driver.

Table 4 presents some interesting statistics on the accident picture over the five-year period of the drivers in the study group. Of the group of 1,763 drivers who had three accidents in 1967, 728 or 41.3 percent of the group had no additional accidents during the following four-year period. Of that same group, 27.3 percent had only one additional accident and 16.5 percent had two additional accidents during the same four-year period.

If all of the 1,763 drivers in this study who had three accidents during the year 1967 were prevented from driving during the following four-year period, they as a group would not have become involved in 2,102 additional accidents that they had during this period.

TABLE 2. TOTAL ACCIDENT INVOLVEMENT DURING FIVE-YEAR STUDY PERIOD 1967-1971 BY DRIVERS INVOLVED IN THREE OR MORE ACCIDENTS IN 1967

Total Accidents Per Driver 1967-1971	Number of Drivers	Total Accidents	Total Accidents Per Driver 1967-1971	Cumulative Number of Drivers
3	728	2184	≥ 3	2064
4	560	2240	≥ 4	1336
5	361	1805	≥ 5	776
6	195	1170	≥ 6	415
7	93	651	≥ 7	220
8	50	400	≥ 8	127
9	38	342	≥ 9	77
10	13	130	≥ 10	39
11	9	99	≥ 11	26
12	7	84	≥ 12	17
13	4	52	≥ 13	10
14	2	28	≥ 14	6
15	1	15	≥ 15	4
.				
.				
17	1	17	≥ 17	3
.				
.				
23	1	23	≥ 23	2
.				
.				
29	1	29	≥ 29	1
		9269		

Of the group of 241 drivers who had four accidents in 1967, 32.8 percent had no additional accidents during the following four-year period. Of that same group, 25.7 percent had only one additional

TABLE 3. SUMMARY STATISTICS

Numbers in parentheses refer to number of drivers, suspensions or violations upon which percentage or mean is based.

	Control Group 326 Drivers	5 Accident Group* 361 Drivers	6-7 Accident Group* 288 Drivers	≥ 8 Accident Group* 127 Drivers
Percent Male	59.2 (193)	95.6 (345)	94.8 (273)	97.6 (124)
Mean Age	38.7	29.6	29.9	32.3
Median Age	36.6	25.1	25.3	27.9
License Type				
Percent Operator	90.5 (295)	70.9 (256)	67.0 (193)	58.3 (74)
Percent Chauffeur	7.7 (25)	24.7 (89)	26.0 (75)	23.6 (30)
Percent Public Passenger Chauffeur	1.8 (6)	4.4 (16)	7.0 (20)	18.1 (23)
Percent of Drivers With One or More Violation Citations in 1967	4.9 (16)	42.1 (152)	41.0 (118)	45.7 (58)
Mean Number of Violation Citations Per Driver in 1967	0.055 (18)	0.620 (224)	0.670 (193)	0.653 (83)
Percent of Drivers With One or More Serious** Violation Citations in 1967	1.2 (4)	12.5 (45)	13.5 (39)	11.8 (15)
Mean Number of Serious Violation Citations Per Driver in 1967	0.012 (4)	0.161 (58)	0.170 (49)	0.142 (18)
Percent of Drivers With One or More License Suspensions in 1967	0.3 (1)	3.0 (11)	2.4 (7)	3.1 (4)

Mean Number of License Suspensions Per Driver in 1967	0.003 (1)	0.050 (18)	0.038 (11)	0.032 (4)
Percent of Drivers With One or More Suspensions for Driving While Intoxicated in 1967	0.3 (1)	1.7 (6)	1.0 (3)	2.4 (3)
Mean Number of Suspensions For Driving While Intoxicated in 1967	0.003 (1)	0.022 (8)	0.010 (3)	0.024 (3)
Percent of Drivers With One or More Suspensions For Failing to Appear in 1967	0 (0)	0.6 (2)	0.7 (2)	0.8 (1)
Mean Number of Suspensions For Failing to Appear in 1967	0 (0)	0.006 (2)	0.007 (2)	0.008 (1)
Percent of Drivers With One or More Suspensions for Leaving the Scene of an Accident in 1967	0 (0)	1.1 (4)	0.7 (2)	0 (0)
Mean Number of Suspensions for Leaving the Scene of an Accident in 1967	0 (0)	0.014 (5)	0.010 (3)	0 (0)
Mean Number of Accidents in 1967	0.080 (26)	3.216 (1161)	3.403 (980)	3.850 (489)
Mean Number of Accidents During Entire Study Period 1967-1971	0.454 (148)	5.000 (1805)	6.323 (1821)	9.578 (1219)

* Total accidents during the five-year study period.

** Serious violation refers to a violation with a point count of five or more or a violation that requires mandatory license suspension.

TABLE 4. NUMBER OF ACCIDENTS IN 1967 IN RELATION TO NUMBER OF ACCIDENTS IN THE FOLLOWING FOUR-YEAR PERIOD 1968-1971.

Number of Additional Accidents During Following Four-Year Period 1968-1971	Number of Accidents Per Driver in 1967														
	3		4		5		6		≥ 7		Number of Drivers		Percent		
0	Number of Drivers	728	79	8	17.4	100.0	0	0	0	0	0	0	0	Cumulative Percent	0
1	Number of Drivers	481	62	10	21.7	82.6	1	10.0	1	10.0	0	0	0	Cumulative Percent	0
2	Number of Drivers	291	45	12	26.1	60.9	4	40.0	4	40.0	1	25.0	1	Cumulative Percent	25.0
3	Number of Drivers	140	24	7	15.2	34.8	0	0	0	0	2	50.0	2	Cumulative Percent	75.0
4	Number of Drivers	56	16	4	8.7	19.6	2	20.0	2	20.0	0	0	0	Cumulative Percent	25.0
5	Number of Drivers	23	5	2	4.4	10.9	1	10.0	1	10.0	0	0	0	Cumulative Percent	25.0
≥ 6	Number of Drivers	44	10	3	6.5	6.5	2	20.0	2	20.0	1	25.0	1	Cumulative Percent	25.0
	Number of Drivers	1763	241	46	100.0	100.0	46	100.0	10	100.0	4	100.0	4	Cumulative Percent	100.0

accident and 18.7 percent had two additional accidents during the following four-year period.

Of the group of 46 drivers who had five accidents during the year 1967, only eight drivers, or 17.4 percent of the group remained accident free during the following four-year period. Of that same group, 21.7 percent had only one additional accident, 26.1 percent had two additional accidents, and 15.2 percent had three additional accidents, all during the same four-year period.

Of the 14 drivers who were found that had six or more accidents during the year 1967, all had at least one accident during the next four years. Only one in fact had only one accident. Almost half of the drivers in this group had four or more accidents during this same four-year period.

One point is clear from this analysis—the greater number of accidents that a driver has during a particular year increases the probability that he will have additional accidents during the following years.

Another point, however, that is also clear is that one cannot with much accuracy predict who the high-accident drivers of future years are going to be from the high accident drivers of today. Almost 40 percent of those drivers who had three or more accidents in 1967 did not have another accident during the next four years. Denying these 815 drivers the right to drive would have provided no recognizable benefits to society. An additional 551 drivers or 27 percent of the group had only one additional accident during the following four-year period.

The average number of accidents per driver over the five-year period for the control group was 0.45, in other words the average accident rate of an Indiana driver is about one accident per driver every 11 years. Perhaps one accident during a certain four-year period is not too bad a record. Even two accidents in a certain four years might not be considered too unusual. By denying licenses to all drivers who had a total of three or more accidents during the year 1967, 1,366 individuals who had none or only one accident during the following four-year period would have suffered in order to prevent 698 persons who continued to have a number of accidents from driving and having these accidents.

Similar results would have occurred if four or more accidents in 1967 had been chosen as a decision criteria for driver license continuance. More drivers would have been prevented from driving who had no accidents or only one accident during the next four years as drivers who had two or more accidents.

If the criteria of five or more accidents in a year would have been used in 1967 only 60 drivers would have lost their license and only 201 accidents would have been prevented over the next four years—not a very significant number—but it would have been helpful. But even here, a no-license penalty might be too severe for the 19 of the 60 who had no more than one accident during the following four-year period.

In addition to the number of accidents, it might be enlightening to look at the characteristics of high accident drivers. Perhaps then one could better predict who the high accident driver is likely to be and direct safety efforts at him.

The drivers records of each of the high accident drivers and of the control group, therefore, were obtained and available characteristics compared. Characteristics of the accidents of the high accident drivers were also studied. First a few words about these accident characteristics.

Seriousness of the Accidents

State police records classified into three categories based on the type of accident. These categories in 1967-71 were property damage only for accidents in which \$50 or more damage resulted and no one was killed or injured; injury accidents in which someone sustained a personal injury; and fatality accidents in which a death resulted.

Using these three categories as a criterion on which to base the seriousness of an accident, the data indicated (Figure 1) that, in general, the more accidents that a driver has in a year the less serious are the accidents. About 27 percent of the reported accidents in which the three-accident driver group were involved were either injury or fatality

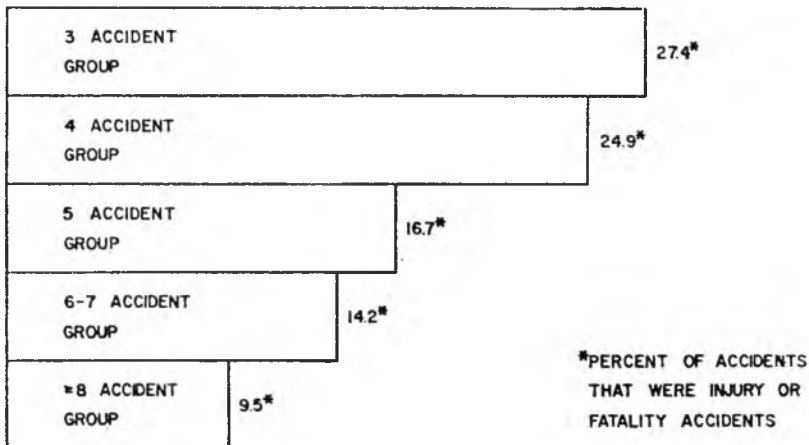


Fig. 1. Seriousness of accidents in relation to total accident involvement.

accidents. In comparison, less than ten percent of the accidents in which the eight or more accident group were involved were injury or fatality accidents.

Where the Accidents Occurred

A definite relationship was also found between the number of accidents that a driver had and his residence and the location of the accidents (see Figure 2). About 13 percent of the drivers in the control group were found to reside in Indianapolis while more than 20 percent of the drivers in the five- or more-accident group resided in Indianapolis. About 14 percent of the accidents incurred by the drivers of the control group took place in Indianapolis. More than 20 percent of the accidents of the five- or more-accident driver group occurred in Indianapolis. Over 46 percent, or nearly half of all accidents in which the drivers of the group who had eight or more accidents were involved occurred either in Fort Wayne or Indianapolis.

These findings seem to suggest that the high accident driver is most likely to be a resident of a large urbanized, more densely populated area. This seems reasonable since there are more vehicles and pedestrians in these areas, more congestion, and thus many more conflicts and opportunities for accidents to occur.

Driver Characteristics

Several personal characteristics of the drivers were available from the driver and accident records. These characteristics included age, sex, and license restrictions.

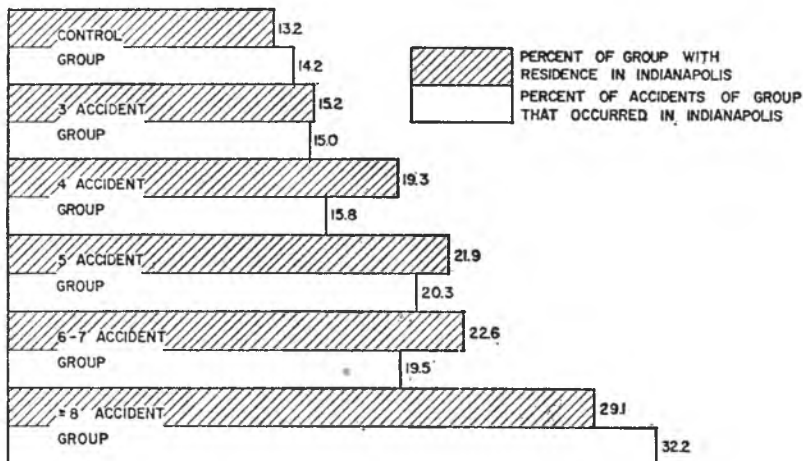


Fig. 2. Residence and accident occurrence in Indianapolis in relation to total accident involvement.

Age—The high accident driver is, in general, younger than the average driver (see Table 5). The control driver was found to have an average age of 38.65 years. The mean age of the high accident driver ranged from 29.59 years for the five-accident group to 32.46 years for the three-accident group.

Many studies have noted that certain age groups, most notably the younger drivers, have a higher probability of being involved in accidents. The data from this study agree with this finding. However, this study indicates that age has little value as a predictor of which drivers who are high-accident drivers during a particular year will continue to have accidents during the following years.

The 728 drivers who had three accidents in 1967 and no additional accidents during the following four-year period had a mean age of 32.46 years and a median age of 27.5 years as indicated in Table 5. In contrast, the 127 drivers who had eight or more accidents during the five-year study period had a mean age of 32.29 years and a median age of 27.9 years. There is less than half a years' difference between either the means or medians of the ages of these two driving groups. Clearly the age of the driver who had already had three or more accidents during a particular year will, in most cases, be of little use in predicting whether he will have additional accidents during following years.

While it is well established that male drivers have a greater accident involvement than females, the results of this study are striking. Less than 60 percent of the licensed drivers in Indiana are male; however, male drivers accounted for over 94 percent of the drivers with three or more accidents during the year 1967 and a total of five or more accidents during the entire five-year study period. Of the 776 drivers in this group of drivers, only 34 were female.

License Type

It is unfortunate that no information was available concerning the exposure rate of the drivers under study. The number of miles that a person drives and the circumstances under which they are driven should undoubtedly be an important consideration in this type of an accident study. It is probable that a person who holds a chauffeur's or public passenger chauffeur's license is driving more than the average person with just an operator's license. However, it is also probable that the high-accident drivers in this study are not average drivers. It is certainly possible that many of these high-accident drivers also

travelled many more miles in 1967 and the years following than the average driver with an operator's license.

The statistics of this study indicate that as the number of accidents in which a driver is involved goes up, the probability that he is a holder of either a chauffeur's or public passenger chauffeur's license also goes up.

While only 7.7 percent of the control group were drivers with chauffeur's licenses, 23.6 percent of the drivers with eight or more accidents during the five-year study period were drivers with chauffeur's licenses. The accident involvement of drivers holding the public passenger chauffeur's license is even more stunning. While they constitute only 1.8 percent of the control group, 18.1 percent of the drivers in the eight- or more-accident group were public passenger chauffeur's license holders.

This evidence that a high percentage of the drivers who had a high number of accidents during the five-year study period hold chauffeur's or public passenger chauffeur's licenses probably provides some explanation of some of the other characteristics of this group. The finding that a high number of the drivers of this group resided in large urban areas and had accidents there is undoubtedly highly correlated with the license type. Similarly the finding that as the number of accidents increased the seriousness of the accidents decreased probably results from the fact that many of these accidents are in urban areas where speeds are low and congestion great and that those possessing chauffeur's or public passenger chauffeur's licenses are likely driving during these congested conditions.

In fact a pattern of who the very high accident driver is most likely to be, emerges. He is likely to be a young male with a chauffeur's or public passenger chauffeur's license who resides in and drives a lot in the larger urban areas of Indiana and has a large number of property damage accidents each year. Sounds like a taxi driver doesn't it—and it probably is.

The Violation Record

The 1967 violation record of drivers with three or more accidents during the year 1967 and a total of five or more accidents during the entire five-year study period appears to be of little use in predicting those drivers that will continue to have accidents. Drivers who had no violation citations in 1967 constituted 54.3 percent of the drivers who had eight or more accidents during the five-year study period and 57.9 percent of the drivers who had five accidents during the same

TABLE 5. AGE DISTRIBUTION.

Age Groups—Years	Percent of Drivers in Age Groups					
	Control Group	3 Accident Group	4 Accident Group	5 Accident Group	6-7 Accident Group	≥ 8 Accident Group
15	1.5 (5)	0 (0)	0.2 (1)	0.8 (3)	0.4 (1)	0 (0)
16	3.1 (10)	3.8 (28)	4.8 (27)	6.4 (23)	5.2 (15)	3.9 (5)
17	2.8 (9)	7.0 (51)	7.0 (39)	6.1 (22)	8.3 (24)	6.3 (8)
18-19	6.1 (20)	14.7 (107)	13.8 (77)	15.5 (56)	14.9 (43)	11.8 (15)
20-24	11.0 (36)	18.0 (131)	17.3 (97)	19.9 (72)	20.1 (58)	19.7 (25)
25-34	23.3 (76)	19.5 (142)	20.0 (112)	20.8 (75)	20.1 (58)	22.8 (29)
35-44	13.2 (43)	14.8 (108)	14.6 (82)	15.8 (57)	15.7 (45)	12.6 (16)
45-54	19.0 (62)	11.7 (85)	10.2 (57)	8.9 (32)	8.3 (24)	11.8 (15)

55-64	12.6 (41)	6.1 (44)	8.0 (45)	3.6 (13)	4.5 (13)	7.9 (10)
65-74	6.1 (20)	2.6 (19)	2.7 (15)	1.4 (5)	2.1 (6)	3.2 (4)
≥ 75	1.3 (4)	1.8 (13)	1.4 (8)	0.8 (3)	0.4 (1)	0 (0)
	100.0 (326)	100.0 (728)	100.0 (560)	100.0 (361)	100.0 (288)	100.0 (127)
Mean Age	38.65	32.46	32.38	29.58	29.91	32.29
Median Age	36.6	27.5	26.8	25.1	25.3	27.9

TABLE 6. 1967 VIOLATION CITATIONS.

Number of Citations in 1967	Control Group			5 Accidents *			6-7 Accidents *			≥ 8 Accidents *		
	Number of Drivers	Percent	Cumulative Percent	Number of Drivers	Percent	Cumulative Percent	Number of Drivers	Percent	Cumulative Percent	Number of Drivers	Percent	Cumulative Percent
0	310	95.1	100.0	209	57.9	100.0	170	59.0	100.0	69	54.3	100.0
1	14	4.3	4.9	102	28.2	42.1	71	24.7	41.0	40	31.5	45.7
2	2	0.6	0.6	35	9.7	13.9	28	9.7	16.3	13	10.2	14.2
3	0	—	—	12	3.3	4.2	12	4.2	6.6	3	2.4	4.0
4	0	—	—	1	0.3	0.9	5	1.7	2.4	2	1.6	1.6
5	0	—	—	1	0.3	0.6	2	0.7	0.7	0	—	—
6	0	—	—	0	—	0.3	0	—	—	0	—	—
7	0	—	—	1	0.3	0.3	0	—	—	0	—	—
	326	100.0	—	361	100.0	—	288	100.0	—	127	100.0	—

* Total accidents during the five-year study period.

period (see Table 6). Those drivers who had two or more violation citations during the year 1967 constituted 13.9 percent of the drivers who had five total accidents and 14.2 percent of the drivers who had eight or more total accidents. The percentage of drivers having various numbers of citations from each of the high accident groups is roughly the same, thus making violation citations of little use as a predictor to determine whether a driver who has a number of accidents during a particular year will continue to have accidents during the following years.

The same situation seems to be true of serious violations. The fact that a driver had one or more serious violations during the year 1967 did not have any significant relationship to the number of accidents in which the driver was involved during the following years.

While in many cases the violation record of a driver may be highly correlated to his accident record (2, 4, 8, 11), it appears to be of little use for predicting whether drivers who are high accident drivers during one period will continue to be high accident drivers in the following period.

Case Histories

Finally, the case histories of those drivers who continued to have accidents during the period 1967-1971 were studied in detail, especially those with large numbers of accidents. Two of these cases follow:

Case History A

Residence: St. Anthony
 License: Operator
 Age: 45
 Sex: Male
 Restrictions: None

This driver had a record of four license suspensions, two of which were for driving while intoxicated, during the years 1960 through 1966. His last suspension was still in effect during the first part of the year 1967.

Date	Action	Violation Points
5/29/67	Property damage accident	
6/10/67	Reckless driving violation	6
6/10/67	Leaving the scene of an accident violation	
6/10/67	License suspended (1)-leaving	

Date	Action	Violation Points
(6/10/67)	the scene of an accident	
7/01/67	Property damage accident	
7/10/67	Failed to report accident violation	7
7/10/67	Driving while suspended violation	
9/02/67	Injury accident	
10/09/67	Reckless speed violation	6
10/09/67	Driving while intoxicated violation	
10/09/67	Driving while suspended violation	
12/10/67	License suspended (2)-driving while suspended (7/10/67)	
6/10/68	Suspension (2) closed	
6/10/68	License suspended (3)-driving while suspended (10/09/67)	
10/21/68	Driving while intoxicated violation	
10/21/68	Driving while suspended violation	
12/10/68	License suspended (4)-driving while intoxicated (10/09/67)	
11/01/69	Property damage accident	
11/01/69	Property damage accident	
11/03/69	Reckless driving violation	6
11/03/69	Driving while suspended violation	
12/10/69	License suspended (5)-driving while intoxicated (10/21/68)	
3/15/70	Driving while intoxicated violation	
3/15/70	Driving while suspended violation	
3/22/70	License suspended (6)-responsible for accident (11/01/69)	
5/21/70	Suspension (6) closed	
12/10/70	License suspended (7)-driving while suspended (10/21/68)	
12/10/71	License suspended (8)-driving while suspended (11/03/69)	
12/14/71	Suspension (7) closed	
12/10/72*	License suspended (9)-driving while intoxicated (3/15/70)	

* These are dates that the suspensions will automatically go into effect for the past violations listed.

12/10/73* License suspended (10)-driving
while suspended (3/15/70)
2/15/72 Current status-suspended until
6/08/74

The fact that this driver's license was suspended during the entire five-year study period gives emphasis to the need for better controls to prevent unlicensed individuals from driving.

Five-year summary:	Total accidents	5
	Total violations	13
	Total violation points	25
	Total suspensions	10

Case History B

Resident: Indianapolis
License: Public passenger chauffeur
Age: 29
Sex: Male
Restrictions: None

This driver had one violation for speeding for which his license was suspended for one month in 1960.

Date	Action	Violation Points
1/20/67	Property damage accident	
6/22/67	Property damage accident	
9/05/67	Property damage accident	
10/26/67	Injury accident	
10/29/67	Property damage accident	
11/11/67	Property damage accident	
3/29/68	Chauffeur license issued	
7/06/68	Property damage accident	
8/29/68	Injury accident	
11/06/68	Property damage accident	
1/11/69	Injury accident	
5/30/69	Injury accident	
6/05/69	Property damage accident	
6/17/69	Property damage accident	
7/11/69	Speeding violation-44 mph in 30 mph zone	2
10/25/69	Property damage accident	
12/24/69	Property damage accident	

Date	Action	Violation Points
12/30/69	Property damage accident	
1/02/70	Injury accident	
1/07/70	Property damage accident	
1/21/70	Signal violation	2
1/16/70	Injury accident	
4/14/70	Injury accident	
5/04/70	Property damage accident	
5/18/70	Signal violation-local ordinance	2
6/12/70	Property damage accident	
8/15/70	Injury accident	
9/03/70	Injury accident	
9/18/70	Property damage accident	
11/08/70	Property damage accident	
2/12/71	Property damage accident	
2/18/71	Injury accident	
5/10/71	Operator license issued	
5/11/71	Property damage accident	
6/24/71	Signal violation-local ordinance	2
6/24/71	Signal violation-local ordinance	2
7/09/71	Public passenger chauffeur license issued	
2/10/72	Current status-6 active violation points	

The longest period that this driver was able to go during the five-year study period without having an accident was less than six months. During the same period he averaged approximately one accident every two months.

Five-year summary:	Total accidents	29
	Total violations	5
	Total violation points	10
	Total suspensions	0

Driver A has clearly been identified as a problem driver. His license was suspended for the entire five-year study period. This, however, did not prevent him from driving as he was involved in five reported accidents during this same period.

Driver B was involved in six reported accidents during the year 1967 and a total of 29 during the five-year study period. While his violation record is relatively mild compared to other study drivers, he was involved in the most reported accidents of the study.

While these two drivers are extreme examples of problem drivers, there were a few other drivers with very similar records. It is clear that more work is needed both in the identification of such problem drivers and either rehabilitation and effective driving prevention methods for these drivers.

There is some indication that a study of driver and accident records over a period of several years would permit development of a few case histories which would provide a reasonably accurate prediction of a high-future-accident involvement. The evidence, however, must be so great that only an extreme small number of drivers could be so rated. Unfortunately, it appears this can be predicted only after they have had numerous accidents and violations. Even if these drivers were removed from the road—which driver license suspension as currently managed does not do—only an extremely small reduction in the accidents in any one year would result.

CONCLUSIONS

The following conclusions concerning high-accident drivers summarize the findings of this research.

1. As a group, the accident record of drivers who are involved in three or more accidents during a particular year tends to show much improvement during following years.
2. A large proportion of those drivers who are involved in three or more accidents during a particular year remain accident free during the following four years.
3. Nearly all high-accident drivers are male.
4. Drivers with chauffeur's licenses and particularly public passenger chauffeur's licenses account for a large proportion of the individuals who are high accident drivers during one year and continue to be high-accident drivers during the following years.
5. High-accident drivers are likely to be residents of large urban areas.
6. The violation record of a driver who has a high-accident involvement during a particular year has little relationship to his accident record in the following years.
7. In general, the accident record of a driver during one year, even when combined with information available in the Indiana drivers records, does not enable a reasonable prediction of the drivers accident record for future years. In a very few cases, where a history of numerous violations and accidents are recorded, a reasonable prediction of continued high-accident involvement can possibly be made.

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