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STATE OF IOWA

ALCOHOL RELATED FATAL MOTOR VEHICLE TRAFFIC

ACCIDENT STUDY: IOWA, 1974

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SUMMARY

1. There were 187 alcohol related fatal traffic accidents out of 583, or 32.1% in 1974. These claimed 227 lives, or 33.1% of the total traffic fatalities.
2. In 1974, eleven pedestrians were killed as a result of alcohol involvement. Five cases involved drinking pedestrians and 6 involved drinking drivers.
3. All of the drinking pedestrians were killed at night, 70% from 12:00 midnight to 5:59 A.M. They were predominantly male, from 15 to 64 years old. Their BAC ranged from 0.230 to 0.270, with a mean of 0.254.
4. In 1974, 6 out of 10 alcohol related fatal accidents were single motor vehicle accidents. The mean BAC in drivers involved in single motor vehicle crashes was significantly higher than the mean BAC in drivers involved in multiple motor vehicle fatal crashes.
5. Of 197 drinking drivers/pedestrians, 138, or 70.1%, had blood alcohol tests. Mean or average BAC of drivers tested was 0.180 and 81.9% had a BAC of 0.100 percent or more. Data also showed 62.3% had a BAC of 0.150 or more, which shows they were probably problem drivers.
6. Approximately half of the drinking drivers involved in fatal traffic accidents were young drivers, 24 years or under, which exceeds the number of young drivers already overrepresented in fatal accidents.
7. Analysis of drinking drivers involved in fatal crashes showed that early morning had more accidents (12:00-2:59 A.M.). On the other hand the older group had more accidents during early evening hours (6:00-8:59 P.M.).
8. Results showed that both the younger and older groups of drinking drivers have more of their accidents during week-ends. However, further analysis showed that the younger group is involved in significantly more crashes than older drinking drivers.

9. Study also showed that younger drivers had lower levels of alcohol in their blood, but higher involvement in fatal accidents. This strongly suggests that younger drivers increase vulnerability to traffic accidents when they drink.
10. August 1974 was a peak month for alcohol related fatal accidents, 45.4% of the month's fatal accidents were alcohol related.
11. Approximately half of the single vehicle crashes were caused by drinking drivers who were speeding, and about a third were caused by vehicles out of control.
12. Driving left of center and speeding accounted for three fourths of the violations in multi vehicle fatal crashes.
13. In 1974, 52 counties were above the state average of 32.1% alcohol related fatal accidents. These counties accounted for 72.7% of the total alcohol related fatal accidents during the year under review.
14. Twenty-two counties had no alcohol related fatal accidents in 1974.
15. In 1974 the number of fatal traffic accidents decreased by 99 or 14.5%, as compared to 1973. However, the difference between the 1974 proportion of alcohol related fatal accidents and an average of the 1970-1973 figures was insignificant, which shows that alcohol involvement continues to be a leading factor in fatal accidents.
16. A study of drinking drivers' records 3 years prior to their fatal accidents showed that only 27.3% of these drivers had clear records, i.e., no accidents or convictions.

ALCOHOL RELATED FATAL MOTOR VEHICLE ACCIDENT STUDY: IOWA, 1974

1.0 Objectives:

This report is a continuing study of alcohol related fatal traffic accidents in the State of Iowa from year to year.

The primary objective is to ascertain and evaluate the proportion of alcohol related fatal accidents. The secondary objective is to present information on the characteristics of alcohol related fatal traffic accidents and to examine the extent of drinking pedestrian involvement, as well as information necessary for planning a countermeasures program.

2.0 Sources of Data:

Data were collected from investigated fatal motor vehicle accident reports. A fatal accident is alcohol related if the investigating officer reports that the driver or pedestrian had been drinking and if the degree of drinking was classified under the following categories and possibly verified by a blood test:

- (1) Obviously Drunk.
- (2) Ability Impaired.
- (3) Ability Not Impaired.

3.0 Number of Alcohol Related Fatal Accidents and Fatalities: 1974

In 1974, 187, or 32.1% of the 583 fatal traffic accidents in the state were alcohol related. These claimed 227 fatalities or 33.1%. Table 1 shows that 115 out of 187, or 61.5%, involved drivers whose ability was impaired, and 16.0% involved drivers whose ability was not impaired.

4.0 Drinking Pedestrians:

In 1974, 11 pedestrians were killed as a result of alcohol involvement. Five of these fatalities were intoxicated pedestrians and the other 6

pedestrians killed were due to drinking drivers. Table 2 shows pedestrian fatalities attributable to alcohol consumption.

For the 5 intoxicated pedestrians killed, the mean BAC was 0.254 with a range of 0.04.

All were above 20 years old, 4 out of 5 died during early morning hours-- 12:00 A.M. to 3:00 A.M.

Degree of Drinking	Fatal Accidents			Fatalities		
	Number	% of subgroup	% of Total	Number	% of subgroup	% of Total
Obviously Drunk	115	61.5	19.7	137	60.4	20.0
Driver Ability Impaired	37	19.8	6.4	47	20.7	6.9
Driver Ability Not Impaired	30	16.0	5.1	38	16.7	5.5
Drinking Pedestrians	5	2.7	0.9	5	2.2	0.7
Subtotal	187	100.0	32.1	227	100.0	33.1
Total Not Drinking or Unknown if Drinking	396	-	67.9	458	-	66.9
Grand Total	583	-	100.0	685	-	100.0

Table 2: ALCOHOL RELATED PEDESTRIAN FATALITIES: IOWA, 1974

Fatality Group		1974	
		Number	Percent
Pedestrian Fatalities	Related to Drinking Pedestrians	5	2.2
	Related to Drinking Drivers	6	2.6
Driver and Passenger Fatalities	Related to Drinking Drivers	216	95.2
Total Alcohol Related Fatalities		227	100.0

Table 3: ALCOHOL RELATED FATAL ACCIDENTS BY NUMBER OF VEHICLES INVOLVED:
IOWA, 1974

Type of Crash	Fatal Crashes			Fatalities			
	Number	% of Total	% of Subgroup	Mean BAC	Number	% of Total	% of Subgroup
<u>Single Motor Veh.</u>	<u>109</u>	<u>58.3</u>	<u>100.0</u>	<u>0.192</u>	<u>122</u>	<u>53.7</u>	<u>100.0</u>
(a) Ran Off Road	77	41.2	70.6	0.178	87	38.3	71.3
(b) Collision w/ Fixed Object	23	12.3	21.1	0.210	26	11.4	21.3
(c) Collision w/ Drinking Ped.	5	2.7	4.6	0.254	5	2.2	4.1
(d) Collision w/Non- Drinking Ped.	4	2.1	3.7	0.316	4	1.8	3.3
<u>Multiple Motor Veh.</u>	<u>78</u>	<u>41.7</u>	<u>100.0</u>	<u>0.164^{1/}</u>	<u>105</u>	<u>46.3</u>	<u>100.0</u>
Collision w/							
(a) M.V. in Traffic	73	39.0	93.6	0.166	99	43.6	94.3
(b) M.V. in Traffic and Pedestrian	2	1.1	2.6	N.A.	2	0.9	1.9
(c) Parked M.V.	3	1.6	3.8	0.118	4	1.8	3.8
(d) Train	-	-	-	-	-	-	-
Total Alcohol Related	187	100.0	100.0	0.180	227	100.0	100.0

^{1/} The difference between mean BAC of single and multiple Motor Vehicle accidents is statistically significant.

Table 4: NUMBER AND PERCENT DISTRIBUTION OF DRINKING DRIVERS/PEDESTRIANS ^{1/}
TESTED FOR BLOOD ALCOHOL CONTENT: IOWA, 1974.

Drinking Driver/Ped	Degree of Drinking		Obviously Drunk		Ability Impaired		Ability Not Impaired	
	No	%	No	%	No	%	No.	%
Tested	138	70.1	114	92.7	7	17.5	17	50.0
Not Tested	59	29.9	9	7.3	33	82.5	17	50.0
Total	197	100.0	123	100.0	40	100.0	34	100.0

^{1/} Includes 4 drinking pedestrians tested.

5.0 Fatal Crashes Involving Drinking Drivers by Type of Crash: Iowa, 1974

The number of alcohol related fatal accidents by type of crash or number of vehicles involved is shown in Table 3. Table 3 shows that 6 out of 10 were alcohol related fatal crashes involving single vehicles. The table also shows a mean or average BAC (blood alcohol concentration) of drivers involved in fatal motor vehicle crashes. Results showed an average BAC of 0.180 for drivers whose BAC tests were positive. Figure 1 shows the distribution of alcohol related fatal accidents by number of vehicles involved (single or multiple vehicle) and by time of day. Peak time for single motor vehicle crashes was from midnight to early morning while peak time for multiple crashes was from early evening to midnight.

6.0 Number of Drinking Drivers Tested by Degree of Drinking: Iowa, 1974

In 1974, there were 197 drinking drivers/pedestrians involved in fatal traffic crashes and of these 138, or 70.1% had blood alcohol tests. Of the "Obviously Drunk" category, 92.7% were tested for blood alcohol content. Table 4 shows the distribution of drinking drivers tested and not tested.

7.0 Number of Drinking Drivers Tested by Blood Alcohol Content: Iowa, 1974.

The average blood alcohol content of those drivers tested was 0.180 (180 mg. per 100 ml. or 0.180 percent by weight).

Table 5 and Figure 6 shows the frequency of drinking drivers by BAC level. Out of 138 drivers tested, 113 or 81.9% had blood alcohol content of 0.100 per cent or more. Blood concentration of 0.100 per cent or more is prima facie evidence of operating a motor vehicle under the influence (OMVUI) in the State of Iowa. Data also shows that 62.3% had BAC of 0.150 or more which is symptomatic of the problem drivers.

8.0 Drinking Drivers in Fatal Accidents by Age: Iowa, 1974.

Age distribution of drinking drivers involved in fatal accidents in 1974 was studied to find out the role of age in alcohol related fatal traffic

accidents, as shown in Table 6. The table indicates that approximately half (45.1%) of the drinking drivers in fatal motor vehicle accidents were 24 years or less. This proportion is greater than the already large proportion of young drivers in fatal accidents (41.5%).

Figure 3 shows mean BAC level of drinking drivers by age in relation to the state average of 0.180. The age group 45 - 64 had BAC's above the state average.

9.0 Drinking Drivers By Age and By Day of Week:

Figure 4 compares the days of the week drinking drivers are involved in fatal accidents. Evidently the younger and older drinking drivers are involved considerably more during the weekends. Also, the group 24 years or younger is over-represented, as compared with the group 25 years or older. When analyzed for statistical significance, younger drivers were involved significantly more than the older drivers in alcohol related fatal accidents during the week end.

Table 5: FREQUENCY OF DRINKING DRIVERS BY BLOOD ALCOHOL CONTENT:

BAC Level	Number of Drinking Drivers	Relative Frequency
Below .050	15	10.9
.050- .099	10	7.2
.100- .149	27	19.6
.150- .199	24	17.4
.200- .249	32	23.2
.250- .299	19	13.8
.300- .349	4	2.9
.350- .399	4	2.9
.400- .449	1	0.7
.450- .499	2	1.4
Total	138	100.0

Table 6: DRINKING DRIVERS AND ALL DRIVERS INVOLVED IN FATAL MOTOR VEHICLE ACCIDENTS BY AGE GROUP: IOWA, 1974

Age Group	Drinking Drivers in Fatal Accidents		All Drivers in Fatal Accidents		Non-Alcohol Drivers in Fatal Accidents	
	Number	Percent	Number	Percent	Number	Percent
16 & Below	5	2.5	42	4.7	37	5.3
17	7	3.6	40	4.4	33	4.7
18	4	2.0	49	5.4	45	6.4
19	15	7.6	51	5.7	36	5.1
20	13	6.6	45	5.0	32	4.6
21-24	46	23.7	147	16.3	101	14.4
25-34	45	22.8	164	18.2	119	16.9
35-44	20	10.2	99	11.0	79	11.2
45-54	19	9.6	112	12.4	93	13.2
55-64	16	8.1	70	7.8	54	7.7
65 & Up	6	3.0	71	7.9	65	9.2
Not Stated	1	0.5	10	1.1	9	1.3
Total	197	100.0 ^{1/}	900	100.0 ^{1/}	703	100.0

^{1/} Details do not always add up to 100.0% due to rounding.

10. Drinking Drivers by Age and by Time of Day:

Table 7 and Figure 5 shows the percent distribution of drinking drivers by time of day in two groups -- 16 - 24 years old and 25 years or older. Figure 5 shows the young drinking drivers involved in more fatal accidents during the early morning hours while older drinking drivers (25 and over) were involved in more fatal accidents during the early morning hours (6:00 P.M. - 8:59 P.M.).

Table 7: DRINKING DRIVERS BY AGE AND BY TIME OF DAY: IOWA, 1974

Time \ Age	16-24		25 or Older	
	No	%	No	%
6:00- 8:59 A.M.	3	3.4	-	-
9:00-11:59 A.M.	2	2.2	3	2.8
12:00- 2:59 P.M.	2	2.2	9	8.5
3:00- 5:59 P.M.	6	6.7	16	15.1
6:00- 8:59 P.M.	15	16.9	27	25.5
9:00-11:59 P.M.	20	22.5	21	19.8
12:00- 2:59 A.M.	31	34.8	24	22.6
3:00- 5:59 A.M.	10	10.1	4	3.8
Unknown	1	1.1	3	1.9
Total	90	100.0 ^{1/}	107	100.0

Details do not always add up to 100.0% due to rounding.

11. Relationship Between Age of Drinking Drivers and Mean Blood Alcohol Content in Fatal Accidents: Iowa, 1974

One interesting question was whether age and blood alcohol content follows a distinct pattern. Age and mean blood alcohol content are tabulated with age group in Table 8.

It is interesting to note that drinking drivers who are 19 years old and younger have lower BAC's than their older counterparts. Young drivers may be vulnerable to smaller amounts of alcohol than the older drivers are, and therefore increase their risk of having an accident. In Figure 6, regression lines were fitted on the relationship between BAC level and age. BAC tend to increase with increasing age.

Table 8: MEAN BAC OF DRINKING DRIVERS INVOLVED IN FATAL ACCIDENTS BY AGE GROUP: IOWA, 1974

Age Group	No of Drivers	Average or Mean BAC	Standard Deviation	Variance
19 or Younger	18	0.149	.084	.007114
20-24	45	0.165	.083	.00685
25-34	28	0.184	.097	.00951
35-44	13	0.183	.059	.00384
45-54	16	0.201	.113	.01288
55-64	14	0.236	.090	.00816
65 & Up	4	0.181	.127	.01613
All Ages	138	0.180	.094	.00878

12. Alcohol Related Fatal Accidents and Fatalities By Month: Iowa, 1974

Variation by month of the year in 1974 is shown in Table 9. August 1974 had the highest number and proportion of alcohol related fatal accidents. This was 45.4 % of total fatal accidents and 45.2 % of total fatalities during the month.

Figure 7 shows the average BAC by month in relation to average BAC in 1974. October got the highest BAC average during the month.

13.0: Ranked Violations Committed by Drinking Drivers Involved in Fatal Accidents: Iowa, 1974.

Violations frequently committed by drinking drivers were investigated and ranked by type of accident (multiple - vehicle fatal accidents or single-

fatal accidents). This is reflected in Table 10 and Figure 8.

Drove left of center and speed too fast accounted for three fourths of violations in multiple vehicle accidents. On the other hand, speed too fast and not under control accounted for approximately half and about a third of the violations involving single vehicle crashes.

Table: 9 NUMBER AND PERCENT ALCOHOL RELATED FATAL ACCIDENTS AND FATALITIES BY MONTH: IOWA, 1974

Month	Fatal Accidents			Fatalities			
	Alcohol Related No.	% Dist.	All Fatal Traffic	% Alcohol Related	Alcohol Related	All Traffic	% Alcohol Related
Jan.	10	5.3	37	27.0	12	41	29.3
Feb.	14	7.5	39	35.9	14	46	30.4
Mar.	12	6.4	35	34.3	15	41	36.6
Apr.	13	6.9	43	30.2	15	49	30.6
May	12	6.4	36	33.3	20	46	43.5
June	19	10.2	50	38.0	22	56	39.3
July	19	10.2	68	27.9	22	74	29.7
Aug.	25	13.4	55	45.4	33	73	45.2
Sept.	16	8.6	59	27.1	18	71	25.3
Oct.	13	7.0	53	24.5	14	60	23.3
Nov.	17	9.1	58	29.3	22	68	32.3
Dec.	17	9.1	50	34.0	20	60	33.3
Total	187	100.0 ^{1/}	583	32.1	227	685	33.

^{1/} Details do not always add up to 100.0% due to rounding.

Table 10: VIOLATIONS COMMITTED BY DRINKING DRIVERS BY TYPE OF ACCIDENT: IOWA, 1974

Violations \ Acc. Type	Multiple Vehicle		Single Vehicle	
	No.	%	No.	%
(1) Drove left of Center or in Wrong Lane	42	48.3	-	-
(2) Speed too Fast	22	25.3	58	53.2
(3) Failed to Yield	5	5.7	2	1.8
(4) Ran Stop Sign	6	6.9	2	1.8
(5) Not Under Control	7	8.0	38	34.9
(6) Ran Traffic Signal	1	1.1	-	-
(7) Unknown	2	2.3	1	0.1
(8) Others, N.E.C.	2	2.3	8	7.3
Total	87	100.0*	109	100.0*

^{1/} The number of violations does not necessarily equal the number of drivers since there could be one or more violations per driver.

* Details do not always add up to 100.0% due to rounding.

14. Alcohol Related Fatal Accidents By County: Iowa, 1974.

Counties with their corresponding number and percentage of alcohol-related fatal accidents are shown in Tables 11 and 12.

The following 22 counties had no alcohol related fatal accidents in 1974.

Adair	Calhoun	Delaware	Howard	Monroe	Taylor
Adams	Cherokee	Fayette	Jasper	Page	Van Buren
Audubon	Dallas	Floyd	Madison	Ringgold	
Boone	Davis	Franklin	Monona	Shelby	

In 1974, 52 counties exceeded the state average of 32.1 % alcohol - related fatal accidents. These counties accounted for 72.7 % of the total number of alcohol-related fatal accidents.

Table 11: ALCOHOL RELATED FATAL ACCIDENTS AND FATALITIES
BY COUNTY AND BY PERCENT: Iowa, 1974

County	Fatal Accidents			Fatalities		
	Total	Alcohol Related	Percent Alcohol Related	Total	Alcohol Related	Percent Alcohol Related
Adair	5	-	-	8	-	-
Adams	2	-	-	3	-	-
Allamakee	6	5	83.3%	6	5	83.3%
Appanoose	2	1	50.0%	2	1	50.0%
Audubon	1	-	-	1	-	-
Benton	5	1	20.0%	5	1	20.0%
Black Hawk	20	3	15.0%	23	4	17.4%
Boone	6	-	-	7	-	-
Bremer	3	1	33.3%	4	1	25.0%
Buchanan	11	4	36.4%	12	4	33.3%
Buena Vista	3	3	100.0%	7	7	100.0%
Butler	4	1	25.0%	5	1	20.0%
Calhoun	1	-	-	1	-	-
Carroll	4	3	75.0%	4	3	75.0%
Cass	4	-	-	4	-	-
Cedar	6	3	50.0%	7	3	42.9%
Cerro Gordo	8	3	37.5%	10	5	50.0%
Cherokee	2	-	-	2	-	-
Chickasaw	5	1	20.0%	5	1	20.0%
Clarke	1	1	100.0%	3	3	100.0%
Clay	6	5	83.3%	9	8	88.9%
Clayton	4	2	50.0%	4	2	50.0%
Clinton	10	4	40.0%	11	5	45.5%
Crawford	5	1	20.0%	7	1	14.3%

County	Fatal Accidents			Fatalities		
	Total	Alcohol Related	Percent Alcohol Related	Total	Alcohol Related	Percent Alcohol Related
Dallas	4	-	-	5	-	-
Davis	2	-	-	2	-	-
Decatur	2	2	100.0%	2	2	100.0%
Delaware	2	-	-	2	-	-
Des Moines	5	3	60.0%	7	5	71.4%
Dickinson	5	1	20.0%	5	1	20.0%
Dubuque	12	3	25.0%	14	4	28.6%
Emmet	3	2	66.7%	4	2	50.0%
Fayette	3	-	-	6	-	-
Floyd	2	-	-	2	-	-
Franklin	1	-	-	1	-	-
Fremont	1	1	100.0%	1	1	100.0%
Greene	8	3	37.5%	9	3	33.3%
Grundy	6	1	16.7%	6	1	16.7%
Guthrie	8	3	37.5%	8	3	37.5%
Hamilton	2	1	50.0%	3	1	33.3%
Hancock	10	2	20.0%	12	2	16.7%
Hardin	4	1	25.0%	4	1	25.0%
Harrison	5	1	20.0%	5	1	20.0%
Henry	5	2	40.0%	5	2	40.0%
Howard	2	-	-	2	-	-
Humboldt	4	1	25.0%	4	1	25.0%
Ida	2	1	50.0%	2	1	50.0%
Iowa	5	3	60.0%	7	5	71.4%
Jackson	7	4	57.1%	8	5	62.5%
Jasper	7	-	-	7	-	-

County	Fatal Accidents			Fatalities		
	Total	Alcohol Related	Percent Alcohol Related	Total	Alcohol Related	Percent Alcohol Related
Jefferson	2	1	50.0%	2	1	50.0%
Johnson	10	6	60.0%	10	6	60.0%
Jones	3	1	33.3%	4	1	25.0%
Keokuk	6	2	33.3%	8	2	25.0%
Kossuth	5	1	20.0%	7	1	14.3%
Lee	11	3	27.3%	17	9	52.9%
Linn	30	6	20.0%	33	6	18.2%
Louisa	6	2	33.3%	6	2	33.3%
Lucas	2	1	50.0%	3	1	33.3%
Lyon	6	1	16.7%	7	1	14.3%
Madison	3	-	-	3	-	-
Mahaska	7	1	14.3%	12	2	16.7%
Marion	10	2	20.0%	13	5	38.5%
Marshall	4	2	50.0%	4	2	50.0%
Mills	2	1	50.0%	2	1	50.0%
Mitchell	4	2	50.0%	5	2	40.0%
Monona	-	-	-	-	-	-
Monroe	1	-	-	1	-	-
Montgomery	3	1	33.3%	3	1	33.3%
Muscatine	13	6	46.2%	15	6	40.0%
O'Brien	6	2	33.3%	7	2	28.6%
Osceola	7	3	42.9%	8	3	37.5%
Page	1	-	-	1	-	-
Palo Alto	4	3	75.0%	4	3	75.5%
Plymouth	8	2	25.0%	15	2	13.3%
Pocahontas	6	4	66.7%	7	5	71.4%

County	Fatal Accidents			Fatalities		
	Total	Alcohol Related	Percent Alcohol Related	Total	Alcohol Related	Percent Alcohol Related
Polk	34	8	23.5%	37	10	27.0%
Pottawattamie	19	7	36.8%	21	8	38.1%
Poweshiek	7	1	14.3%	8	1	12.5%
Ringgold	2	-	-	2	-	-
Sac	1	1	100.0%	1	1	100.0%
Scott	21	6	28.6%	23	8	34.8%
Shelby	6	-	-	7	-	-
Sioux	5	1	20.0%	6	1	16.7%
Story	8	3	37.5%	8	3	37.5%
Tama	5	2	40.0%	9	6	66.7%
Taylor	2	-	-	2	-	-
Union	2	2	100.0%	2	2	100.0%
Van Buren	3	-	-	3	-	-
Wapello	6	2	33.3%	9	2	22.2%
Warren	6	3	50.0%	6	3	50.0%
Washington	4	1	25.0%	5	1	20.0%
Wayne	1	1	100.0%	1	1	100.0%
Webster	11	5	45.5%	12	5	41.7%
Winnebago	6	2	33.3%	6	2	33.3%
Winneshek	3	1	33.3%	3	1	33.3%
Woodbury	20	7	35.0%	22	8	36.4%
Worth	4	2	50.0%	4	2	50.0%
Wright	6	2	33.3%	8	2	25.0%
Total	583	187	32.1%	685	227	33.1%

Table 12:

COUNTIES WITH ALCOHOL RELATED FATAL TRAFFIC ACCIDENTS ABOVE THE STATE AVERAGE OF 32.1% ALCOHOL RELATED FATAL ACCIDENTS: IOWA, 1974

County	Total	AR*	County	Total	AR*
Allamakee	6	5	Louisa	6	2
Appanoose	2	1	Lucas	2	1
Bremer	3	1	Marshall	4	2
Buchanan	11	4	Mills	2	1
Buena Vista	3	3	Mitchell	4	2
Carroll	4	3	Montgomery	3	1
Cedar	6	3	Muscatine	13	6
Cerro Gordo	8	3	O'Brien	6	2
Clarke	1	1	Osceola	7	3
Clay	6	5	Palo Alto	4	3
Clayton	4	2	Pocahontas	6	4
Clinton	10	4	Pottawattamie	19	7
Decatur	2	2	Sac	1	1
Des Moines	5	3	Story	8	3
Emmet	3	2	Tama	5	2
Fremont	1	1	Union	2	2
Greene	8	3	Wapello	6	2
Guthrie	8	3	Warren	6	3
Hamilton	2	1	Wayne	1	1
Henry	5	2	Webster	11	5
Ida 2	2	1	Winnebago	6	2
Iowa	5	3	Winneshiek	3	1
Jackson	7	4	Woodbury	20	7
Jefferson	2	1	Worth	4	2
Johnson	10	6	Wright	6	2
Jones	3	1	Total	288	137
Keokuk	6	2			

* AR/Alcohol Related

15.0 Comparison of 1970, 1971, 1972, 1973 and 1974 Alcohol- Related Fatal Accidents:

A comparison of 1970, 1971, 1972, 1973 and 1974 alcohol - related fatal accidents is shown in Table 13. Table 13 shows the different proportion of alcohol-related fatal accidents in 1970 through 1974. The average proportion in 1970 - 1973 was 32.1%. A statistical significance test for 1974 of 32.0 % showed that this proportion is not significantly different from the past years.

Table 13: ALCOHOL RELATED FATAL TRAFFIC ACCIDENTS AND FATALITIES: IOWA, 1970-1974

Year	Fatal Accidents			Fatalities		
	Alcohol Rel.	Total	% AR	Alcohol Related	Total	% AR
1970	222	751	29.6	270	912	29.6
1971	233	680	34.3	293	828	35.4
1972	210	721	29.1	252	874	28.8
1973	217	682	31.8	263	813	32.3
1974	187	583	32.0	227	685	33.1
1970-1974	1069	3417	31.3	1305	4112	31.7

16.0 Drinking Drivers' History Records: Iowa, 1974

Drivers records of drinking drivers involved in fatal accidents in 1974 were searched for convictions and accidents for 3 years prior to the fatal accident.

A total of 176 had records available and from these, Table 14 was prepared to show the numbers of drinking drivers with 0, 1, 2, 3, 4 or more accidents during the 3 years prior to the fatal accident.

Table 14: ACCIDENT RECORDS OF DRINKING DRIVERS IN FATAL ACCIDENTS: IOWA, 1974

Number of Accidents 3 Years prior)	Number of Drinking Drivers	% Distribution
0	80	45.4
1	55	31.2
2	28	15.9
3	8	4.5
4 or more	5	2.8
Total	176	100.0

Approximately half of the drinking drivers being studied had at least 1 accident, so 1 out of 2 drinking drivers had at least 1 accident during the 3 years prior to the fatal accident.

Similarly, Table 15 shows the numbers of drinking drivers with 0, 1, 2, 3, 4, 5 or more convictions during the 3 years prior to the fatal accident.

Table 15: CONVICTIONS OF DRINKING DRIVERS IN FATAL ACCIDENTS: IOWA, 1974

Convictions	Number of Drinking Drivers	% Distribution
0	72	40.9
1	36	20.4
2	33	18.8
3	19	10.8
4	7	4.0
5 or more	9	5.1
Total	176	100.0

The data show that 6 out of 10 of the drinking drivers had at least 1 conviction, but 27.3 % had clear records, i.e., no accidents or convictions on their driving records during the 3 years prior to the fatal accident.

17. Discussion:

The study shows that in 1974, 197 out of 583 fatal accidents, or 32.1 %, were alcohol related, and claimed 227 lives. Although motor vehicle traffic deaths decreased significantly in 1974, by 15.7 % as compared to the previous year, the proportion of alcohol-related fatal accidents was not significantly different from previous 4 - year average of 31.7 %.

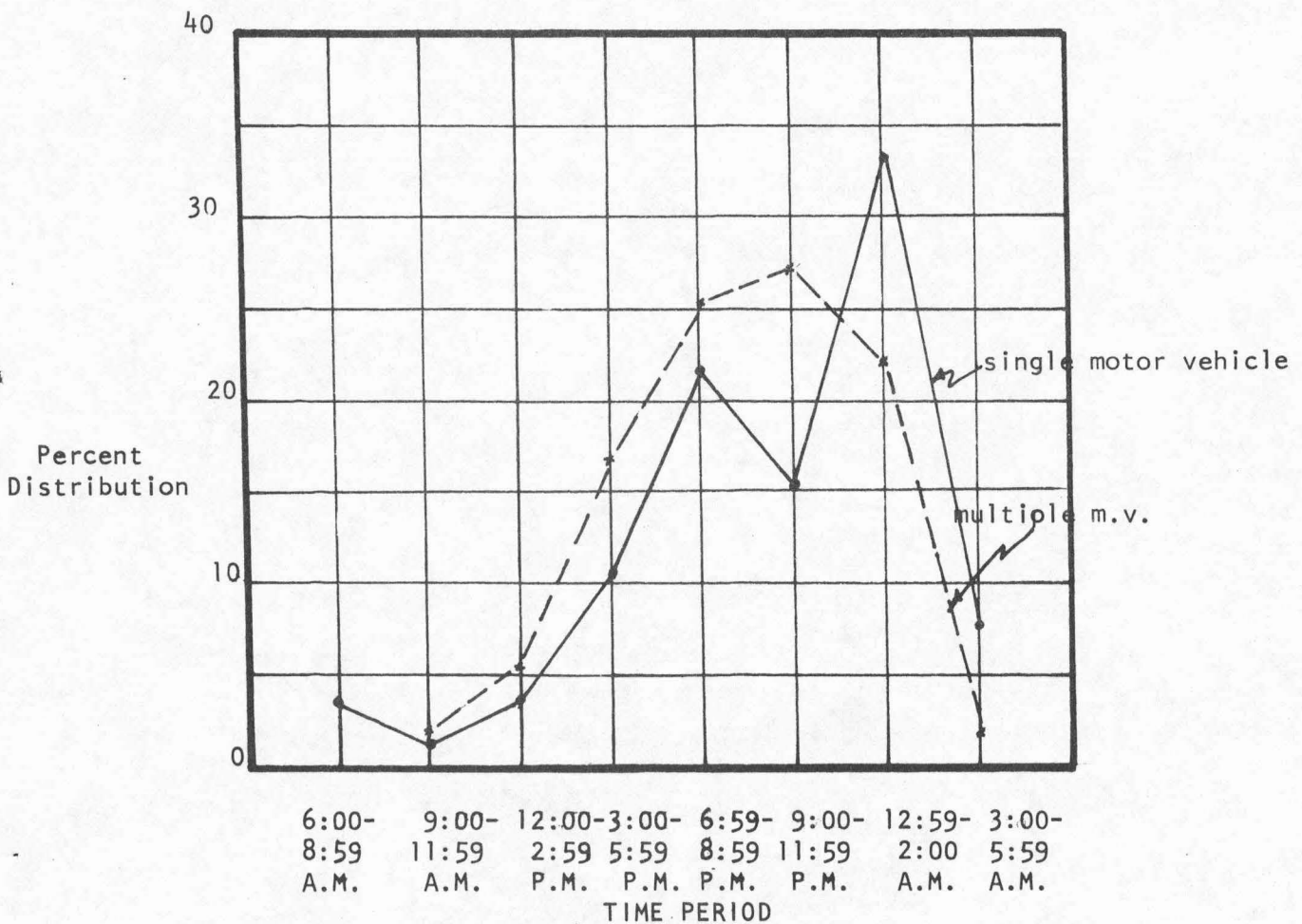
Blood alcohol tests were conducted on 138 drinking drivers, or 70.1 % of the total number of drinking drivers were tested. Approximately half of the drinking drivers in fatal traffic accidents were young (24 years and under). This is close to the proportion of young drinking drivers the previous year. This proportion is a little greater than that of all young drivers in fatal accidents which is 41.5 %. Hence, inexperienced drinking drivers are significant in alcohol-related crashes. The data indicated that younger drivers (19 years or under) had BAC's lower than their old counterparts, but they are much more similarly to be involved in crashes when they drink. This finding is similar to that of 1973.

Young drivers (24 years or younger) are most involved in fatal accidents during the early morning hours (midnight through 2:59 A.M.). On the other hand, older drinking drivers (above 24 years old) in 1974 were involved the most during early evening hours.

Analysis of alcohol- related accidents by number of vehicles involved showed BAC's of persons involved in single - vehicle and multiple vehicle crashes. The data show that drinking drivers in single crashes had significantly higher BAC than those in multiple vehicle crashes. This finding agrees with previous findings.

References:

1. Alcohol Safety Action Project, 1971- Evaluation Report.
2. Carlson, Alcohol Usage of the Nighttime Driver, Journal of Safety Research (March 1972, Vol. 4, No.1)
3. The Vermont Symposium on Alcohol, Drugs and Driving, Journal of Safety Research (September 1973, Vol. 5, No.3)
4. U. S. Department of Transportation, Alcohol and Safety (August, 1968)
5. Berenguel, Aurora P., Iowa Alcohol Related Fatal Accident Study, 1973.



PERCENT DISTRIBUTION OF ALCOHOL RELATED FATAL ACCIDENTS BY NUMBER OF VEHICLES INVOLVED (SINGLE OR MULTIPLE) AND BY TIME PERIOD : IOWA , 1974

FIGURE 1

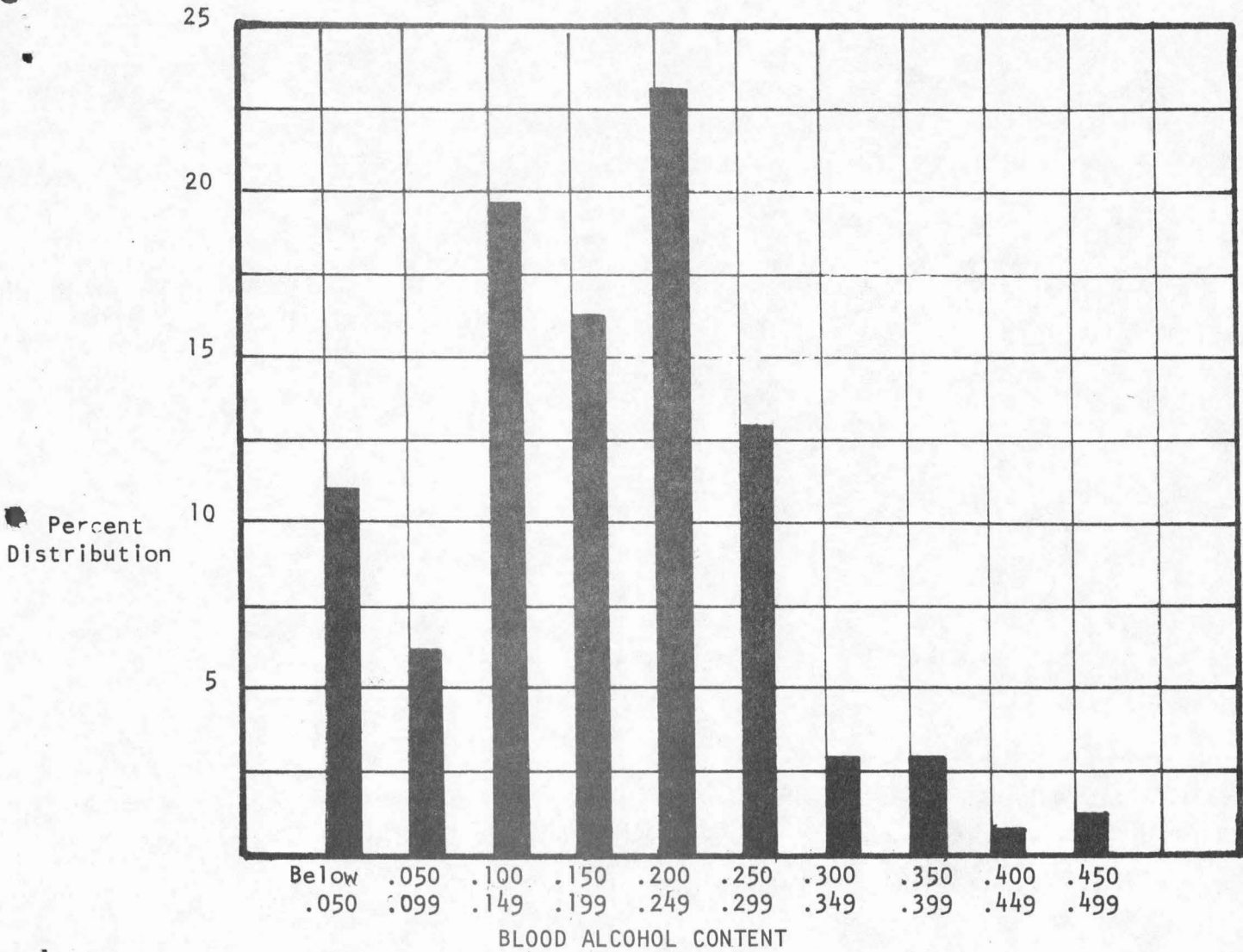


FIGURE 2: PERCENT DISTRIBUTION OF DRINKING DRIVERS INVOLVED
IN FATAL ACCIDENTS BY BAC: IOWA, 1974

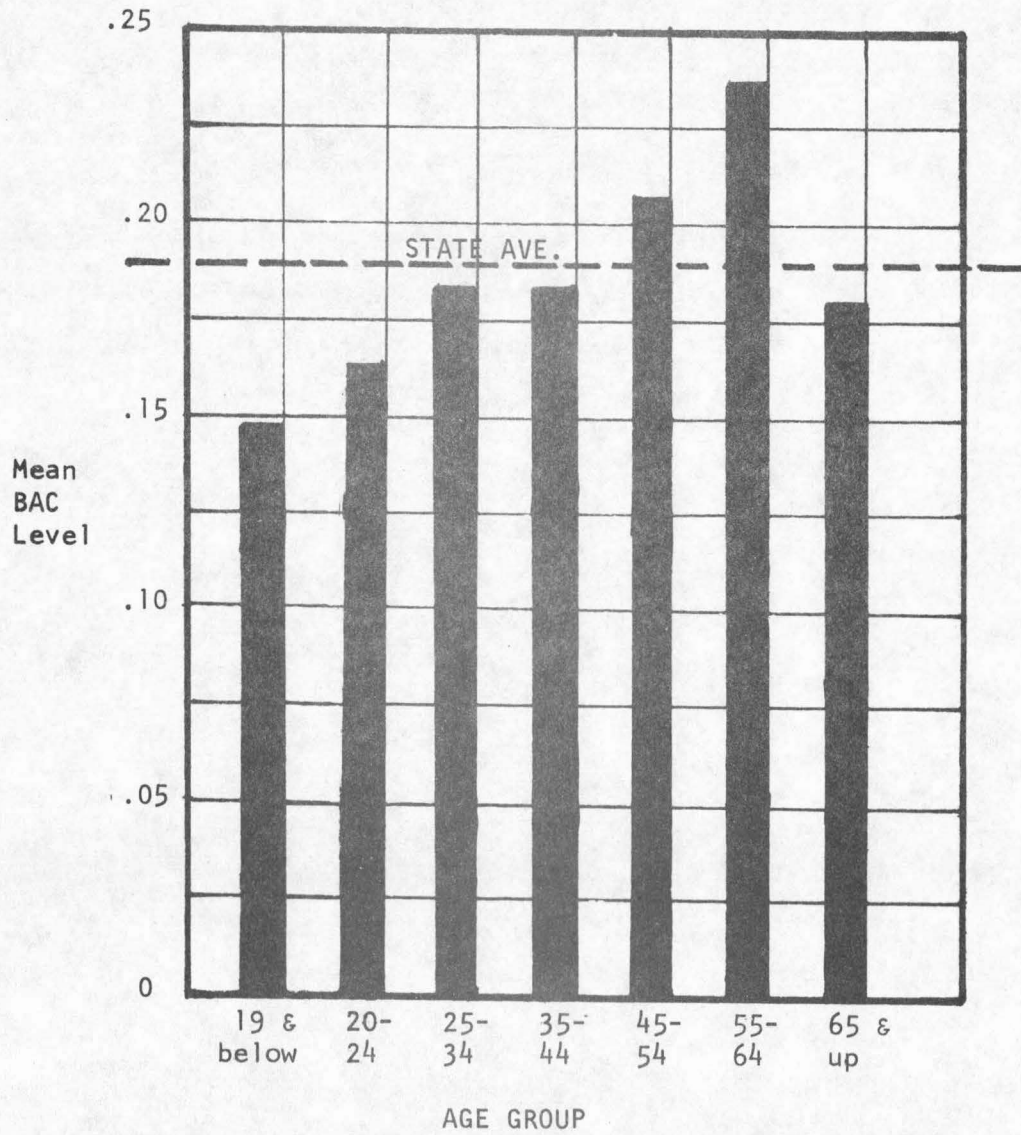


FIGURE 3: MEAN BAC LEVEL OF DRINKING DRIVERS BY AGE GROUP: IOWA, 1974

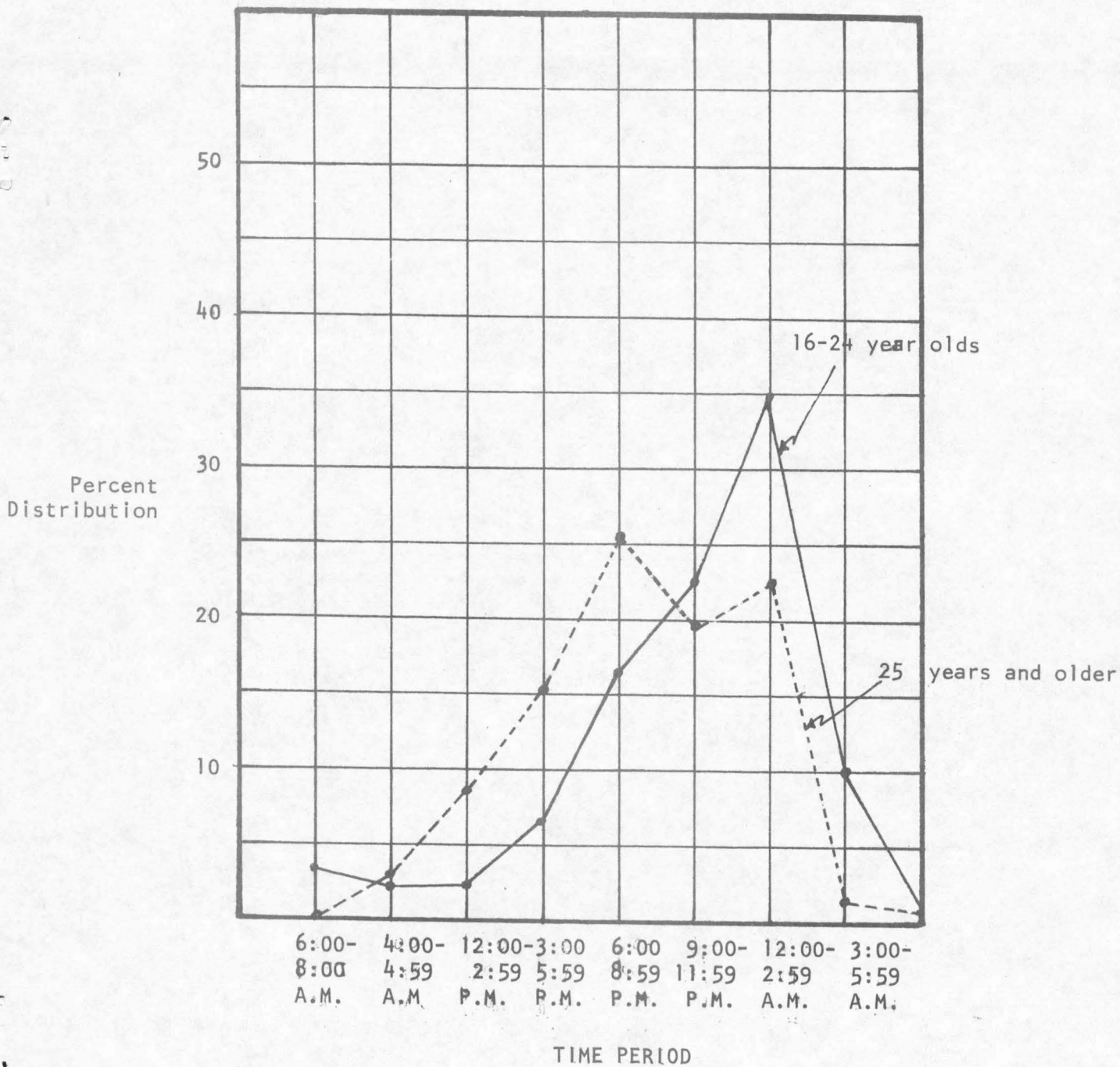


FIGURE 5 : PERCENT DISTRIBUTION OF DRINKING DRIVERS BY TIME AND BY AGE GROUP, 16-24 YEARS AND 25 YEARS AND OLDER:

IOWA, 1974

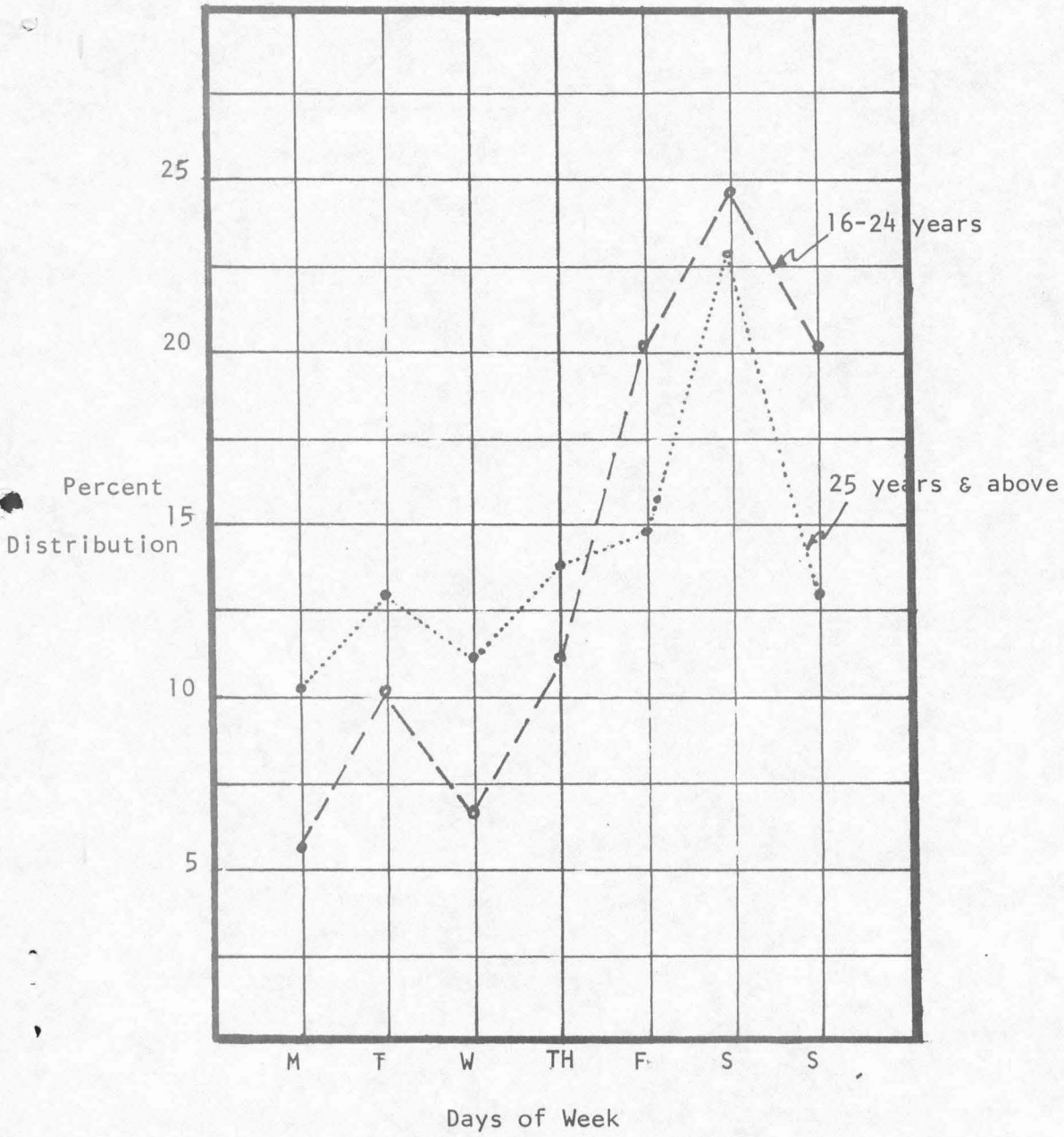


FIGURE 4: PERCENT DISTRIBUTION OF DRINKING DRIVERS INVOLVED IN FATAL ACCIDENTS BY DAY OF WEEK IOWA, 1974

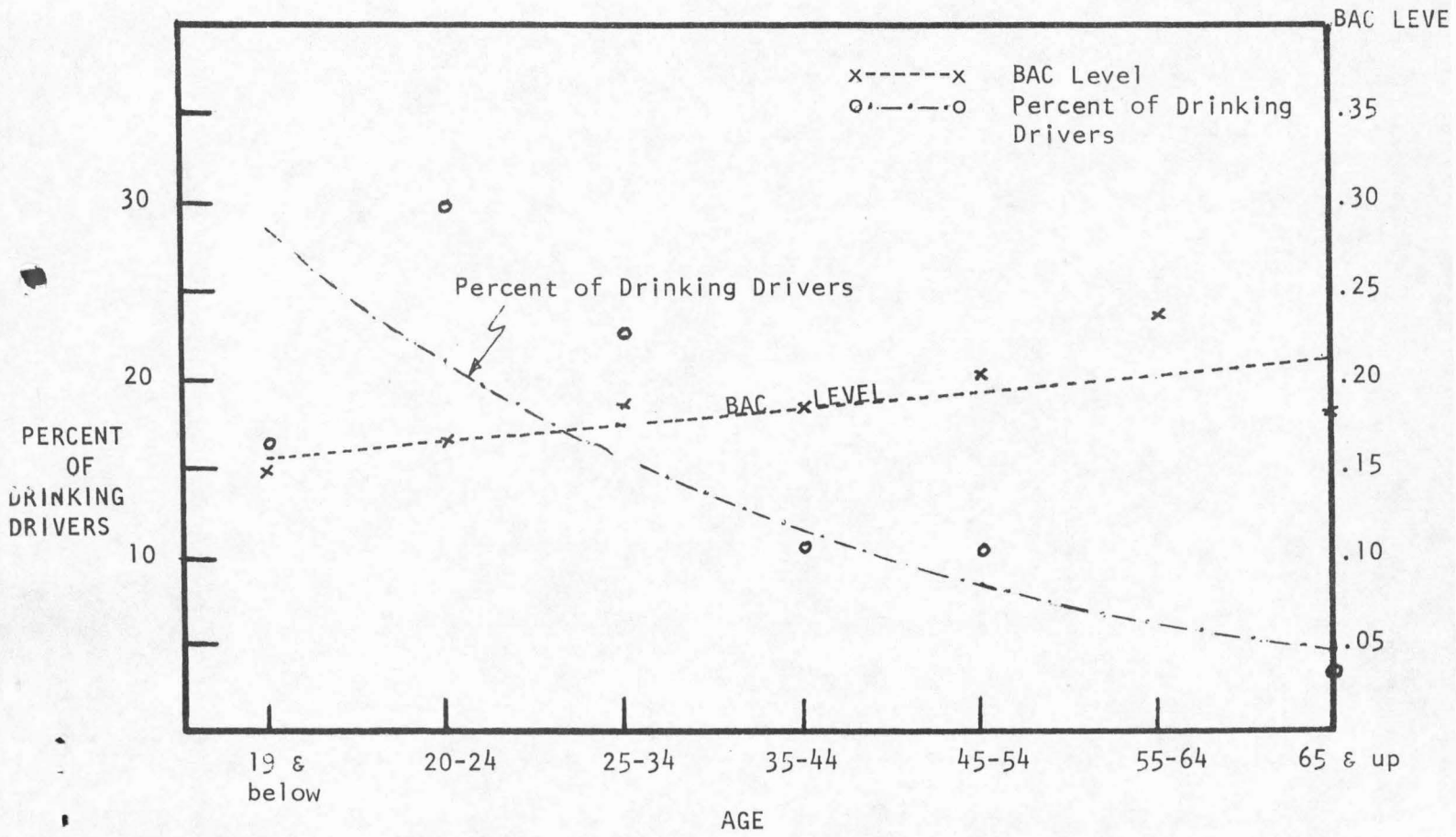


FIGURE 6: REGRESSION LINES FITTED ON PERCENT OF DRINKING DRIVERS INVOLVED IN FATAL ACCIDENTS AND BAC LEVEL BY AGE GROUP

IOWA, 1974

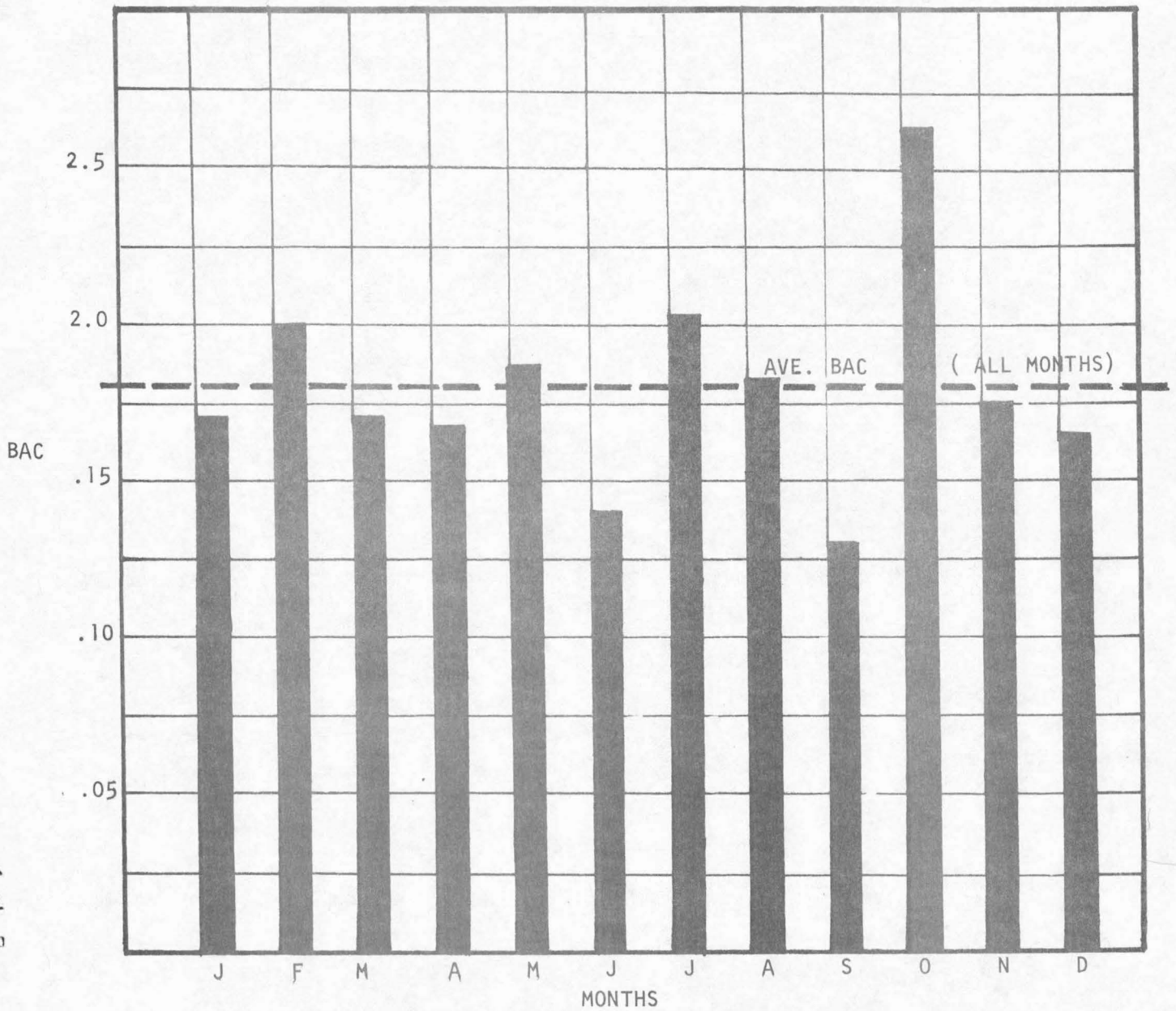


FIGURE 7: AVERAGE BAC OF DRINKING DRIVERS INVOLVED IN FATAL TRAFFIC ACCIDENTS BY MONTH: STATE OF IOWA, 1974

FIGURE 8: VIOLATIONS COMMITTED BY DRINKING DRIVERS, BY TYPE OF ACCIDENT
IOWA, 1974

