

UPDATE

THE EFFECTS OF RAISING AND LOWERING THE
MINIMUM LEGAL DRINKING AGE
JANUARY 1983

by

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(The opinions, findings, and conclusions expressed in this
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This paper is designed to update the attached report, "The Impact of Lowering the Legal Drinking Age in Virginia". It gives the current drinking ages in the various states, describes several studies on the impact of raising the legal drinking age, and re-examines the most current Virginia accident data for young persons.

RECENT EXPERIENCES IN OTHER STATES

The most current information concerning nationwide drinking ages appears in Table 1. By the end of 1980, 14 of the 30 states with lowered drinking ages had raised the age limits, but not necessarily back to the original ages. Very recently, New Jersey and Connecticut have also raised their drinking ages, and such legislation is pending in Georgia, Florida, Ohio, and Tennessee. In Virginia, the age at which beer can be purchased in stores for off-premise consumption was raised to 19 in 1981. The legal limit for purchasing beer for on-premise consumption in restaurants and taverns remains at 18, and the limit for purchasing wine or liquor is still 21 years.

Recently, several studies on raising the legal drinking age have been conducted. The Insurance Institute for Highway Safety compared nighttime fatal crashes for states who had raised their drinking age with those for states who had not. It was found that on the average, a state that raises the drinking age can expect a 28% decrease in these fatal crashes among young persons. In the 14 states with raised drinking ages, it was estimated that 380 fewer young drivers were involved in nighttime fatal crashes each year as a result of the change. It was also estimated that 730 fewer young drivers would be involved if the other 21 states would raise their legal drinking age to 21.⁽¹⁾

In Maine, where the age limit was raised from 18 to 20 years, nighttime accidents were reduced 18.6% for 18-year-old male drivers and 13.9% for 19-year-old male drivers.⁽²⁾ In a similar study in Illinois, where the drinking age was raised from 19 to 21, nighttime single-vehicle crashes were reduced 10.0% for 19 year olds and 7.4% for 20 year olds.⁽³⁾ Finally, in Michigan, where the age limit

Table 1
Minimum Legal Drinking/Purchase Ages and Date of Last Legislative Change
for the Fifty States and the District of Columbia

18	19	20	21	18/21
Hawaii (1972)	Alabama (1970)	Delaware (1972)	Arkansas (1925)	* Colorado (1945)
Louisiana (1948)	Alaska (1979)	Maine (1977)	California (1933)	** District of Columbia (1934)
Vermont (1971)	Arizona (1972)	Massachusetts (1979)	Illinois (1980)	* Kansas (1949)
West Virginia (1980)	Connecticut (1982)	Nebraska (1980)	Indiana (1934)	** Mississippi (1966)
Wisconsin (1972)	Florida (1980)	New Hampshire (1979)	Kentucky (1938)	** North Carolina (1935)
	Georgia (1980)	Rhode Island (1981)	Maryland (1982)	* Ohio (1935)
	Idaho (1972)		Michigan (1978)	* Oklahoma (1976)
	Iowa (1978)		Missouri (1945)	** South Carolina
	Minnesota (1976)		Nevada (1933)	* South Dakota (1972)
	Montana (1979)		New Mexico (1934)	****Virginia (1981)
	New Jersey (1982)		North Dakota (1936)	
	New York (1982)		Oregon (1933)	
	Tennessee (1979)		Pennsylvania (1935)	
	Texas (1981)		Utah (1935)	
	Wyoming (1973)		Washington (1934)	

* - 18 (3.2% Beer), 21 (Over 3.2% Beer, Wine & Distilled Spirits)
 ** - 18 (Beer & Table Wine), 21 (Fortified Wine & Distilled Spirits)
 *** - 18 (Beer & Wine), 21 (Distilled Spirits)
 **** - 18 (On-Premises Sale of Beer), 19 (Off-Premises Sale of Beer)
 21 (Wine & Distilled Spirits)

was raised from 18 to 21, total alcohol related crashes decreased 31.0% for the affected group compared to what would have been expected had the age not been raised.⁽⁴⁾

CURRENT VIRGINIA CRASH EXPERIENCE

In the attached report, Virginia accident data through 1979 have been analyzed. These data tables are updated through 1981 in the attachment to this document and are included so that the reader can study them as convenient. All subsequent analyses are based upon these tables. It can be noted from these tables that for persons 16 to 19 years old and for persons 20 to 24 years old, the numbers of alcohol-related crashes after lowering of the legal drinking age were significantly higher than expected, given previous trends, while no such increase was noted from non-alcohol-related crashes over the same time period (in fact, these non-alcohol-related crashes were lower than expected). Alcohol-related crashes for adults over 25, who were not affected by the age change, remained at expected levels.

Over the same time period, the percentage of crashes which were alcohol-related increased significantly for young persons (see Figure 1).

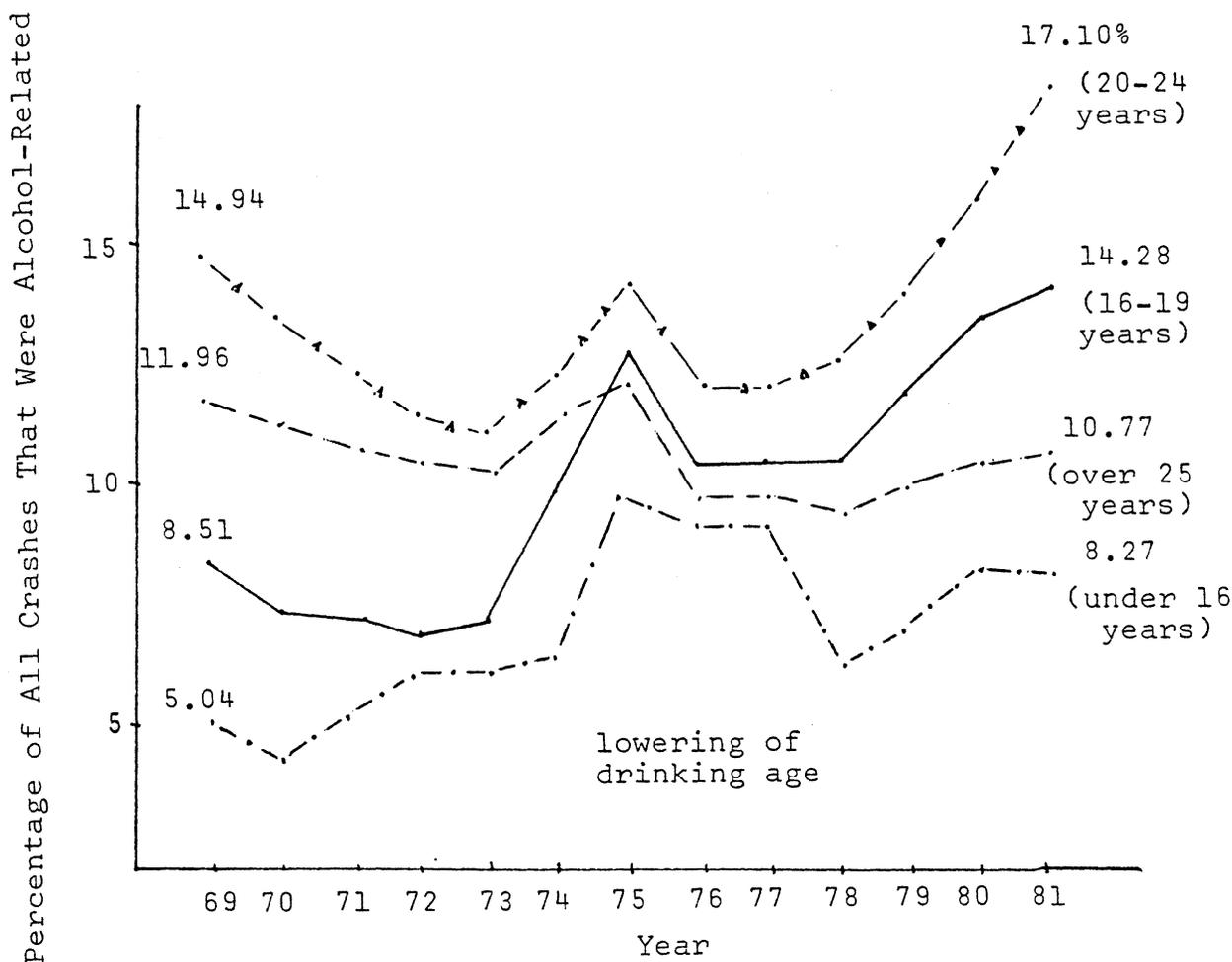


Figure 1. Percentage of crashes that involved alcohol, by age.

It can be seen from this figure that:

- . For adults, the percentage of crashes that were alcohol-related was going down before the age change and continued to go down afterwards.
- . The percentage of alcohol-related crashes for persons under 16 years old was going up before the change and continued to go up afterwards, only faster.
- . For persons 16 to 19 years old, the percentage of alcohol-related crashes was going down before the change, but began to increase rapidly afterwards.
- . For persons 20 to 24 years old, who were only partially affected by the age change, the percentage of alcohol-related crashes was going down before the age change. Afterwards, it began to go up, but not as fast as the percentage for persons 16 to 19 years old.

Thus, the change in the drinking age had its greatest effect on persons under 16 and 16 to 19, in that many more of their crashes involved alcohol. It had a lesser effect on 20 to 24 year olds and no effect on adults over 25.

The ultimate measure of the impact of lowering the legal drinking age is how much the number of alcohol-related accidents increased or decreased after the change. Figure 2 shows the percentage increase in alcohol-related crashes (compared to the pre-age-change average) from 1975 to 1981. While crashes for adults over 25 increased only slightly, alcohol-related crashes involving drivers in the affected age groups increased dramatically. Such accidents increased 79% among persons 20 to 24 years old, among whom only 20 year olds were affected by the lowering of the age limit. A more pronounced increase of 188% was noted for 16 to 19 year olds, all of whom were affected. Finally, a whopping 574% increase was noted for drivers under 16. This increase is artificially large, however, since 80 fewer accidents occurred within this group prior to 1974.

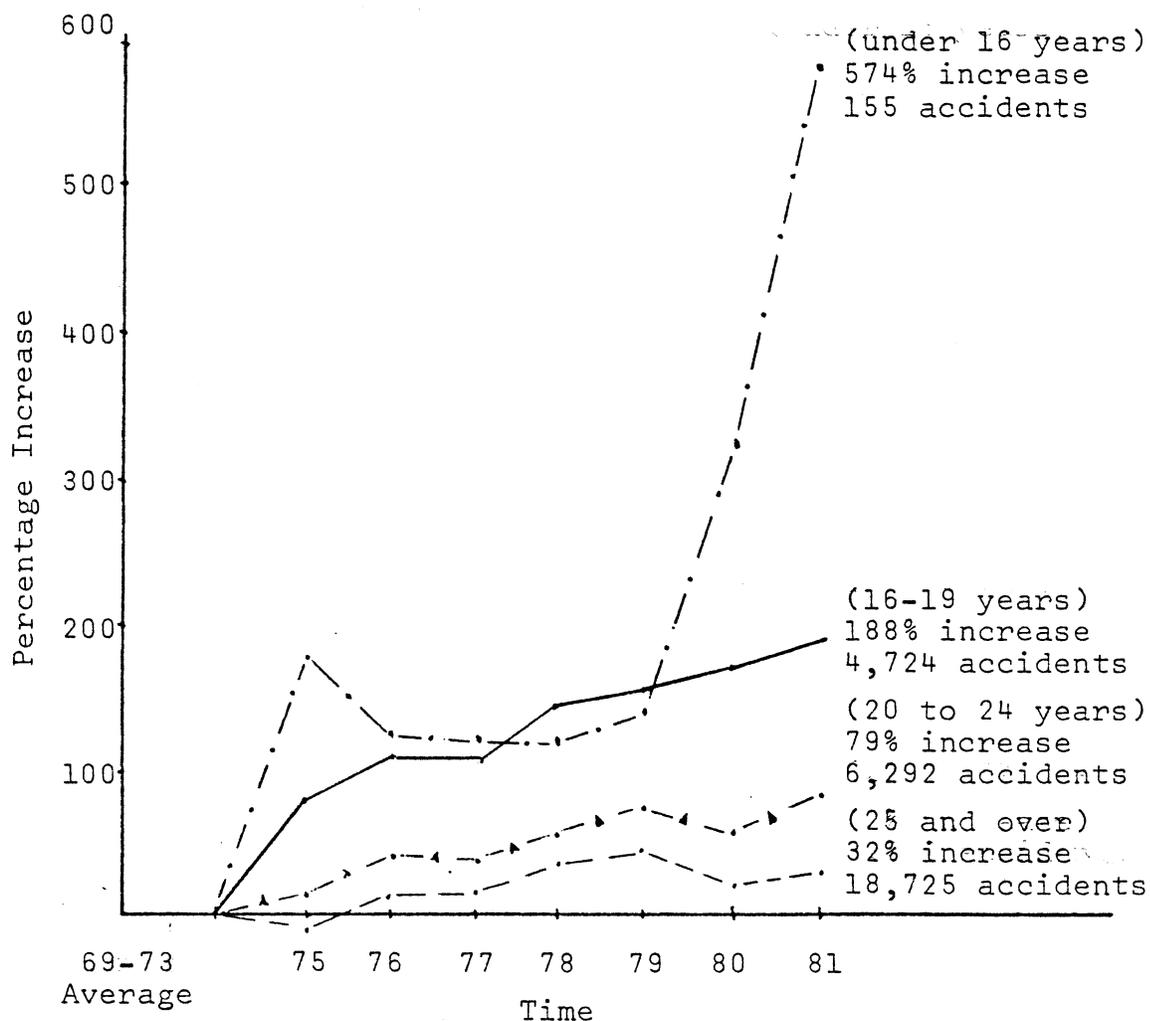


Figure 2. Percentage increase in alcohol-related accidents by age group.

Finally, Figure 3 compares the percentage increase in alcohol-related accidents with the same figures for non-alcohol-related crashes for each age group. If increases in accidents are due to the change in the drinking age, then only alcohol-related accidents for persons under 21 should change. This, in fact, was the case. For persons 16 to 19 years old, alcohol-related crashes increased while non-alcohol-related crashes decreased. Similar trends were noted to a lesser extent among persons 20 to 24 years old. There were essentially no differences between alcohol- and non-alcohol-crash patterns for adults over 25; neither increased very much after the change in the drinking age. Finally, for drivers under 16, alcohol-related crashes increased drastically (574%). However, non-alcohol-related crashes also increased dramatically (342%). This would indicate that something other than lowering the legal drinking age has also had a deleterious effect on crashes for this very young age group and that the increased availability of alcohol has exacerbated the situation.

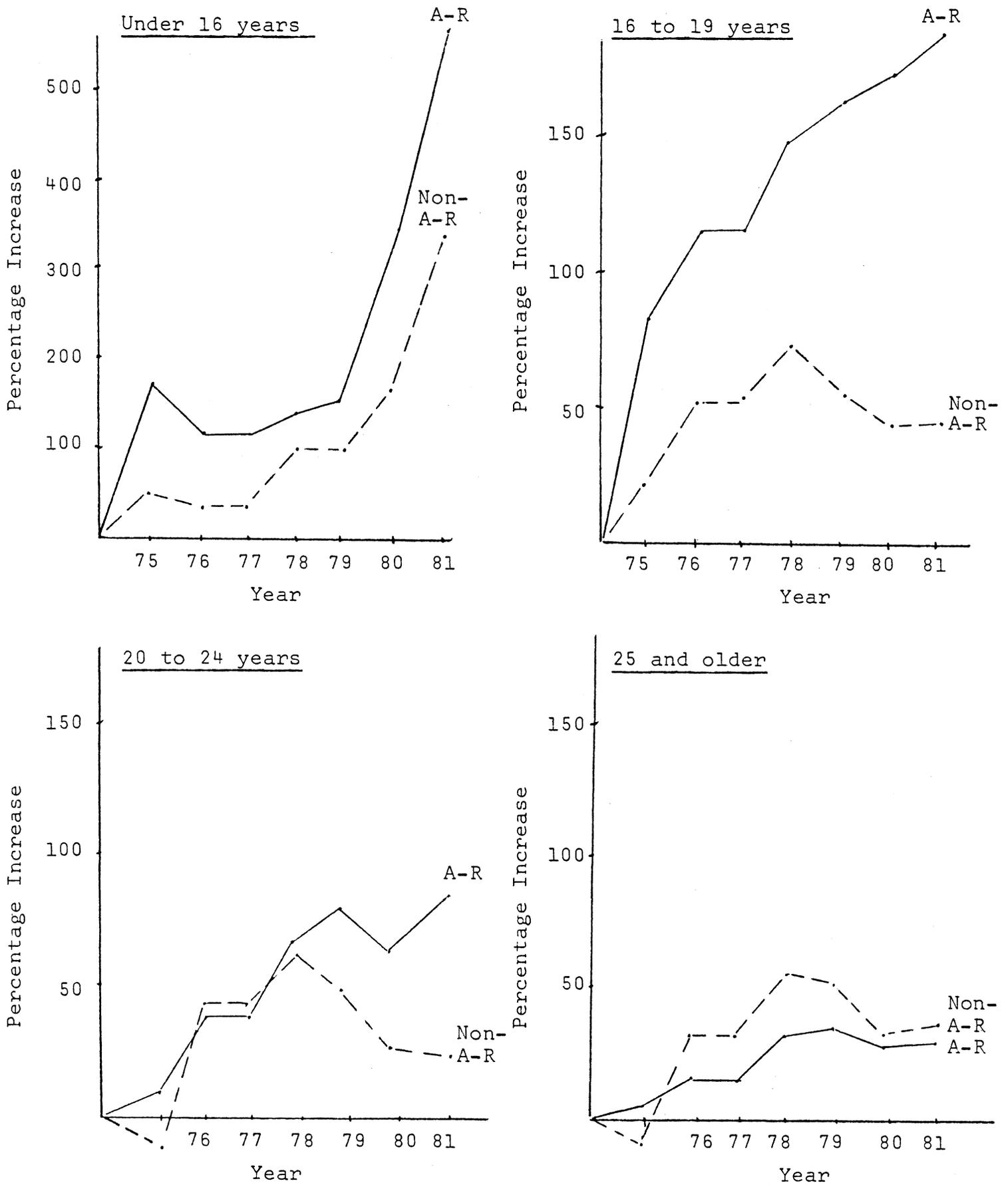


Figure 3. Percentage increase of alcohol-related and non-alcohol-related crashes by age.

One final note: there is no indication anywhere in Virginia crash data that increasing the legal age at which beer can be purchased in stores to 19 years has had any impact on the worsening crash rates among young persons.

CONCLUSIONS

The analyses performed in this update support the conclusions presented in the original report. Lowering the legal drinking age has resulted in increasingly serious accident problems for persons 20 years old and younger. The recommendation made in the original report, that the drinking age be incrementally raised to 21 for all alcoholic beverages, still stands.

REFERENCES

1. Williams, A. F., Zador, P. L., Harris, S. L., and Karof, R. S., "The Effect of Raising the Legal Minimum Drinking Age on Fatal Crash Involvement", Insurance Institute for Highway Safety, Watergate 600, Washington (1981).
2. Klein, T. M., "The Effect of Raising the Minimum Legal Drinking Age on Traffic Accidents in the State of Maine", DOT-HS-806149, Office of Program and Demonstration Evaluation, National Program Evaluation Division, National Highway Traffic Safety Administration, Washington (December 1981).
3. Maxwell, D. M., "Impact Analysis of the Raised Legal Drinking Age in Illinois", DOT-HS-806115, National Program Evaluation Division, National Highway Traffic Safety Administration, Washington (December 1981).
4. Wagenaar, A. C., "Effects of the Raised Legal Drinking Age on Motor Vehicle Accidents in Michigan", HSRI Research Review (January-February 1981).

ATTACHMENT

ALCOHOL-RELATED ACCIDENT DATA BY AGE

1969-1981

TABLE A-1

CRASH STATISTICS FOR PERSONS 16 TO 19 YEARS OLD
1969-1981 (EXCLUDING 1977)

Year	No. A-R Crashes	No. N-A-R Crashes	Percentage of Crashes That Were A-R	Percentage of All A-R Crashes
1969	1,535	16,492	8.51	10.88
1970	1,406	17,226	7.55	10.09
1971	1,614	20,145	7.43	11.14
1972	1,732	23,228	6.94	11.39
1973	1,904	24,335	7.26	12.53
1974	2,603*	22,757**	10.26*	16.43*
1975	2,970*	20,094**	12.88*	18.80*
1976	3,508*	30,350	10.36*	18.25*
1977	-	-	-	-
1978	4,122*	35,715	10.35*	18.04*
1979	4,310*	31,307**	12.10*	14.43
1980	4,529*	28,472**	13.72*	20.07*
1981	4,724*	28,362**	14.28*	20.01*

* Significantly higher than expected given previous trends

** Significantly lower than expected

TABLE A-2

CRASH STATISTICS FOR PERSONS UNDER 16
1969-1981 (Excluding 1977)

Year	No. A-R Crashes	No. N-A-R Crashes	Percentage of Crashes That Were A-R	Percentage of All A-R Crashes
1969	18	339	5.04	0.128
1970	13	284	4.38	0.093
1971	20	348	5.43	0.138
1972	37	552	6.28	0.243
1973	26	397	6.15	0.171
1974	46	656	6.55	0.290
1975	63	572	9.92*	0.399
1976	50	490	9.26	0.260
1977	-	-	-	-
1978	52	769	6.33	0.319
1979	57	734	7.21	0.396
1980	99	1044	8.66	0.439
1981	155*	1720*	8.27	0.657

* Significantly higher than expected given previous trends

** Significantly lower than expected

Table A-3

CRASH STATISTICS FOR PERSONS 20 TO 24 YEARS OLD
1969-1981 (Excluding 1977)

Year	No. A-R Crashes	No. N-A-R Crashes	Percentage of Crashes That Were A-R	Percentage of All A-R Crashes
1969	3,591	20,453	14.97	25.45
1970	3,409	21,818	13.51	24.47
1971	3,511	24,739	12.43	24.23
1972	3,540	27,435	11.43	23.29
1973	3,486	27,654	11.19	22.94
1974	3,456	23,933**	12.62*	21.81
1975	3,773*	22,559**	14.33*	23.89*
1976	4,687*	33,577	12.25*	24.38*
1977	-	-	-	-
1978	5,881*	40,259	12.75*	25.74*
1979	6,238*	36,628	14.55*	26.46*
1980	5,764*	30,791**	15.77*	25.55*
1981	6,292*	30,511**	17.10*	26.66*

* Significantly higher than expected given previous trends

** Significantly lower

TABLE A-4
 CRASH STATISTICS FOR PERSONS 25 YEARS AND OLDER
 1969-1981 (EXCLUDING 1977)

Year	No. A-R Crashes	No. N-A-R Crashes	Percentage of Crashes That Were A-R	Percentage of All A-R Crashes
1969	8,964	66,005	11.96	65.54
1970	9,103	69,879	11.53	65.34
1971	9,344	75,725	10.98	65.49
1972	9,890	82,149	10.74	65.07
1973	9,781	82,254	10.63	64.36
1974	9,739	73,908**	11.54*	61.47**
1975	8,990**	63,016**	12.48*	56.91**
1976	10,980	100,816	9.82	57.11**
1977	-	-	-	-
1978	12,792*	121,418*	9.53	56.36**
1978	12,971*	113,368	10.27*	55.01**
1980	12,169	100,751**	10.77*	53.94**
1981	12,433	103,349**	10.74*	52.67

* Significantly higher than expected given previous trends

** Significantly lower

