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ALCOHOL USE BY
YOUNG NEW YORKERS
1982 - 1986

Policy Brief 87-1
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Prepared by
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Introduction

As part of an ongoing study of alcohol and highway safety problems involving young New Yorkers, the Division of Alcoholism and Alcohol Abuse has conducted a series of Youth Alcohol Surveys. Surveys were conducted in November of 1982, 1983, 1985, and 1986. The surveys captured detailed information on alcohol purchasing and consumption as well as driving and other risk behaviors from random samples of young New Yorkers. The 1982 and 1983 surveys sampled 2,000 sixteen- to twenty-year-old New Yorkers, while the 1985 and 1986 sample size was expanded to 3,000 and included sixteen- to twenty-four-year-olds. The sampling design and data analysis were conducted specifically to test the effects of New York's two increases in the legal minimum age of purchase for alcohol (from 18 to 19 in December 1982; from 19 to 21 in December 1985). Combined with ongoing analysis of highway crash data, as well as State Police arrest data for DWI/DWAI, the study represents one of the most comprehensive analyses of the impact of drinking age legislation conducted to date. This report summarizes findings from previously released analyses of major variables from the Youth Alcohol Study and presents preliminary findings from the most recent survey of young New Yorkers.

Purchase age legislation is intended to restrict young people's access to alcohol by prohibiting the sale or giving of alcohol to anyone under the age of 21 years. New York State's law does not ban the possession of alcohol by persons under the legal age of purchase but rather prohibits the provision of alcohol, through sale or any other means, to persons under the legal age by anyone other than their parents. The major motivation for the legislation was to reduce the dramatic overinvolvement of young drivers in alcohol-related crashes. In order to examine the impact of the law, the surveys asked about young people's alcohol purchasing and consumption and related behaviors such as driving under the influence.

Results

Purchasing. Table 1 shows the percent of survey respondents who reported purchasing alcohol at least once during the previous 28 days by respondent age for each survey year. In 1982, when New York's legal purchase age was at 18, 62.26 percent of 18-year-olds reported purchasing alcohol in the 28 days prior to the survey. This does not differ significantly from the rates of purchasing for the other "legal" purchasing age groups in the survey, i.e. 19- and 20-year-olds. Also in 1982, the 18-year-old rate was more than two and one-half times greater than for 17-year-olds who could not legally purchase alcohol ($Z=10.52$, $P<.001$). In 1983, after the purchase age was raised to 19, 36.71 percent of 18-year-olds reported purchasing alcohol, which was a significant ($Z=-6.39$, $P<.001$) 41 percent reduction from the previous year. Nineteen- and twenty-year-olds, who remained legal purchasers, showed modest non-significant reductions of 9 and 6 percent respectively.

Results from the third survey conducted in 1985 showed that the rate of alcohol purchasing for 18-year-olds was 28.73 percent, significantly lower than the rate of purchase for 19-year-old legal purchasers ($Z=-6.09$, $P<.001$) or any other age group above the legal purchase age. In 1986, following the increase

of the purchase age to 21, 19- and 20-year-olds who had previously been legal purchasers, showed statistically significant reductions of 59 ($Z=-8.40$, $P<.001$) and 55 percent ($Z=-7.85$, $P<.001$) respectively. Those respondents who remained legal purchasers, i.e. 21- to 24-year-olds, all showed modest increases in rates of purchasing alcohol. Between 1985 and 1986, the rate of purchasing for 18-year-olds who were further removed from the legal purchase age by two years, was reduced significantly by 51 percent ($Z=-4.04$, $P<.001$).

Consumption. Table 2 shows the percent of survey respondents who reported drinking an alcoholic beverage at least once in the 28 days prior to the survey. The pattern of results for consumption closely parallels the findings for alcohol purchasing. In 1982, when the purchase age was 18, 80.97 percent of 18-year-olds reported drinking alcohol at least once in the 28 days prior to the survey, not significantly different from 19- and 20-year-olds. Following the increase in the purchase age to 19, consumption by 18-year-olds dropped by 21 percent ($Z=4.77$, $P<.001$), twice the decrease reported by 19- and 20-year-olds. In 1985, 18- and 19-year-olds showed little change in rates of consumption, while 20-year-olds returned to their 1982 levels. In 1985, 75.64 percent of 19-year-olds and 82.50 percent of the 20-year-olds reported drinking in the previous 28 days. In 1986, following the increase in the purchase age to 21, 19-year-olds reported a consumption rate of 62.39 percent, a significant 17.51 percent decrease ($Z=-3.21$, $P<.01$), while 20-year-olds decreased a significant 25.25 percent to a 61.67 percent rate ($Z=-5.33$, $P<.001$).

Intoxication. Details of various levels of consumption have been reported previously by the Division. A measure of particular importance is the consumption of five or more drinks on a single occasion. At this level virtually any drinker would reach a state of intoxication. Even if the five drinks were consumed over a period of hours, most individuals would experience significant impairment of motor ability and judgment. Table 3 shows the reported consumption of five or more drinks on at least one occasion in the 28 days prior to the survey. In 1982, 35.16 percent of 18-year-olds reported drinking five or more drinks on a single occasion. In 1983, with the purchase age increased to 19, 18-year-olds reported a rate of 22.78 percent, which was a significant 35.20 percent decrease ($Z=-3.20$, $P<.01$). Those not affected by the 19-year-old purchase age (i.e. 19- and 20-year-olds) showed little changes in reported drinking five or more drinks on at least one occasion. When the purchase age was raised to 21, 19-year-olds showed a significant 33.98 percent decrease ($Z=-2.85$, $P<.01$) and 20-year-olds showed a significant decrease of 31.84 percent ($Z=2.59$, $P<.01$) when compared to the previous year levels. Though 19- and 20-year-olds showed the greatest decrease, from 1985 to 1986, all age groups showed decreases between 18 percent and 35 percent. However, among legal drinkers, only 21-year-olds showed a decrease that was statistically significant ($Z=-2.14$, $P<.05$).

Drinking/Driving. Table 4 shows that, in 1982, 32.39 percent of 18-year-old licensed drivers in the survey reported driving while feeling the effects of alcohol. In 1983, with the purchase age raised to 19, 19.22 percent of 18-year-olds reported driving after drinking, a significant 43.74 percent decrease ($Z=-3.37$, $P<.01$). Those not affected by the law change, i.e. 19- and 20-year-olds, showed substantially smaller decreases. In 1985, driving after drinking was reported by 21.93 percent of 19-year-olds and 20.59 percent of 20-year-olds.

Consistent with other measures discussed above, when the legal purchase age was raised to 21, 19-year-olds reported an 18.83 percent decrease in driving after drinking. Twenty-year-olds showed an increase of 10.61 percent. Neither change reaches statistical significance.

Comparison of Persons Affected Versus Those Unaffected by Change. Table 5 compares rates of change from 1985 to 1986 for those below the legal purchase age of 21 (16- to 20-year-olds) compared to those not affected by the law (21- to 24-year-olds) on each the measures discussed above. The rates of decrease for each variable are dramatically greater for those affected by the law than for older respondents. All differences are statistically significant with the exception of having five or more drinks on a single occasion, in which all groups showed similar reduction between 1985 and 1986.

Table 5 also presents figures representing changes in drinking driver involvement in crashes recently released by the Department of Motor Vehicles. The figures compare the period December 1984 to June 1985 with December 1985 to June 1986. This analysis must be viewed as preliminary. A more thorough analysis of crashes is possible only after complete data is available in the Spring of 1987.

Discussion

Results from the Youth Alcohol Surveys conducted between 1982 and 1986 provide powerful support for the direct impact of New York's legal minimum purchase age legislation. Previous reports have demonstrated changes in alcohol-related crash rates, DWI/DWAI arrests, and consumption of alcohol related to changes in the legal minimum purchase age to 19. The pattern and magnitude of these changes are similar to the findings of the current analysis of the effects of purchase age 21.

Based on these findings, the immediate intent of the purchase age law to restrict purchasing of alcohol by minors has been met. Significant age-specific reductions in prevalence of alcohol use and in driving after drinking lend further support to the premise justifying the increase in purchase age. The common belief that a purchase age change would change location but not quantity of alcohol use is not supported by the findings of the survey. Also noteworthy is the generalized reduction among all young people in drinking large quantities in a given occasion. Further analysis of the survey results will explore differences among sub-populations and comparison with complete arrest and crash reports when these become available for the full year.

A review of impact on crashes in New York's border counties with Pennsylvania is also under way. The results of previous analyses when New York had a purchase age of 18 and Pennsylvania was 21 showed significant over-involvement of young Pennsylvanians in alcohol-related automobile crashes in New York State. That report has been credited by the National Highway Traffic Safety Administration as a significant factor in President Reagan's decision to support efforts to create a uniform national purchase age of twenty-one.

PERCENT REPORTING THEY
PURCHASED ALCOHOL
AT LEAST ONCE IN PAST
28 DAYS

AGE	1982	1983	ch82-83	zscore	1985	ch83-85	zscore	1986	ch85-86	zscore
16	17.26	13.46	-22.01	-1.64	7.81	-41.95	-2.78	5.71	-26.86	-1.28
17	24.74	22.77	-7.96	-0.70	16.67	-26.80	-2.13	9.21	-44.74	-3.01
18	62.26	36.71	-41.04	-6.39	28.73	-21.74	-2.06	14.11	-50.87	-4.04
19	68.21	61.82	-9.38	-1.58	63.27	2.35	0.35	25.66	-59.44	-8.40
20	69.58	64.86	-6.79	-1.17	63.21	-2.53	-0.40	28.75	-54.52	-7.85
21	NA	NA	NA	NA	62.14	NA	NA	62.36	0.35	0.05
22	NA	NA	NA	NA	63.70	NA	NA	67.02	5.21	0.83
23	NA	NA	NA	NA	61.42	NA	NA	62.17	1.23	0.18
24	NA	NA	NA	NA	60.92	NA	NA	65.53	7.57	1.15
16-20	42.41	35.15	-17.11	-4.47	32.16	-8.49	-1.85	14.20	-55.84	-12.03
21-24	NA	NA	NA	NA	62.06	NA	NA	64.33	3.66	1.11

Z SCORE $\geq +1.96 = P < .05$

Z SCORE $\geq +2.58 = P < .01$

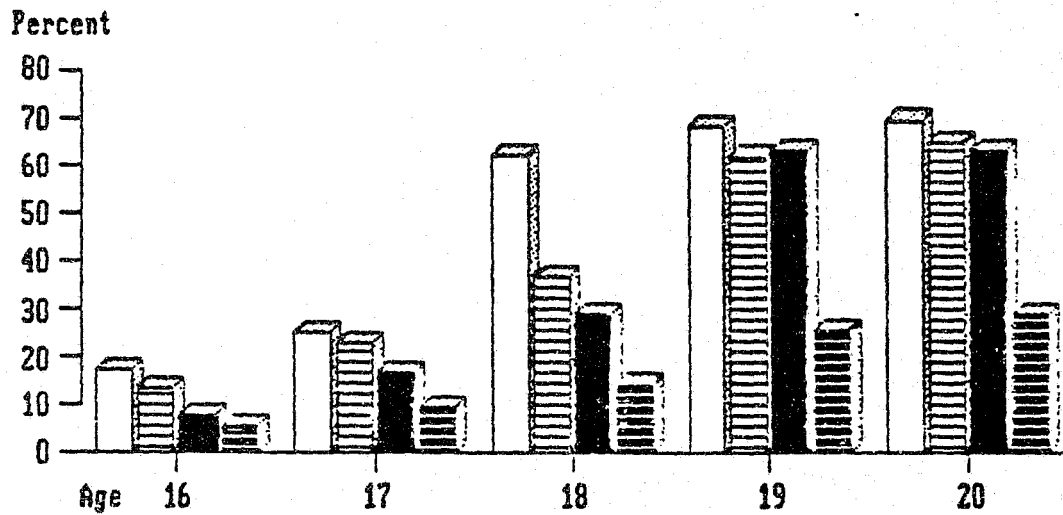
SOURCE: MYSDAAA YOUTH ALCOHOL SURVEY

PURCHASED ALCOHOLIC BEVERAGES

Changes in Alcohol Purchase Age

1982 1983 1985 1986

Age 18 to 19 Age 19 to 21

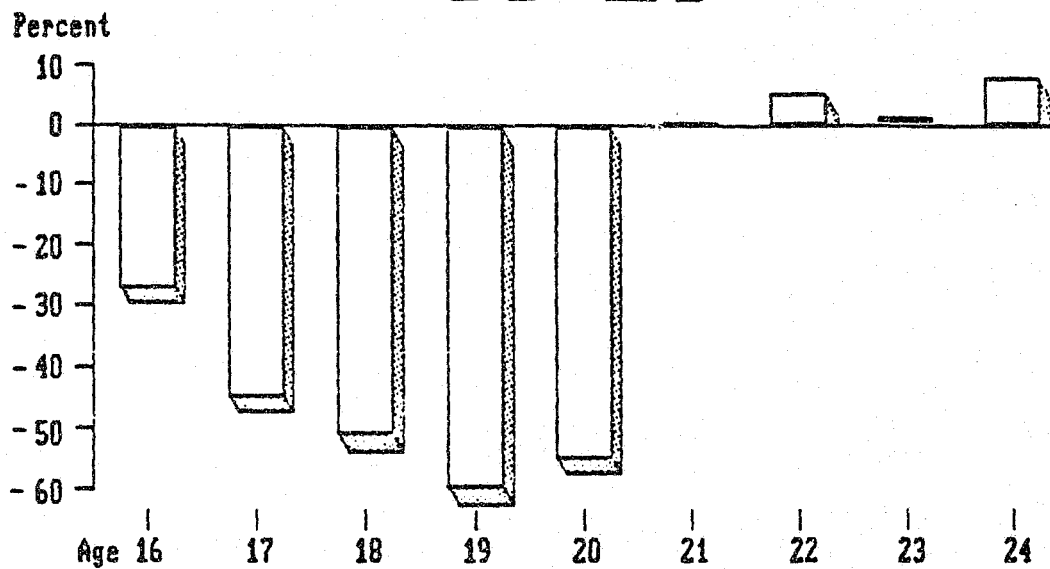


NYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

PURCHASED ALCOHOLIC BEVERAGES

PERCENTAGE CHANGE 1985 TO 1986

Change in Alcohol **19** to **21** Purchase Age



MYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

Table 2

PERCENT REPORTING THEY
DRANK ALCOHOL
AT LEAST ONCE IN PAST
28 DAYS

AGE	1982	1983	ch82-83	zscore	1985	ch83-85	zscore	1986	ch85-86	zscore
16	48.65	39.75	-18.29	-2.78	36.83	-7.35	-0.92	33.06	-10.23	-1.21
17	63.52	54.91	-13.56	-2.66	48.85	-11.04	-1.70	39.74	-18.66	-2.47
18	80.97	63.92	-21.05	-4.77	62.91	-1.59	-0.26	53.23	-15.39	-2.24
19	84.64	76.73	-9.35	-2.36	75.64	-1.42	-0.30	62.39	-17.51	-3.21
20	82.51	73.91	-10.42	-2.41	82.50	11.62	2.45	61.67	-25.25	-5.33
21	NA	NA	NA	NA	76.43	NA	NA	73.06	-4.40	-0.91
22	NA	NA	NA	NA	74.73	NA	NA	77.66	3.92	0.82
23	NA	NA	NA	NA	73.62	NA	NA	71.54	-2.83	-0.53
24	NA	NA	NA	NA	72.89	NA	NA	70.99	-2.60	-0.51
16-20	68.58	58.68	-14.44	-6.18	58.24	-0.74	-0.26	46.34	-20.44	-6.75
21-24	NA	NA	NA	NA	74.43	NA	NA	73.32	-1.50	-0.60

Z SCORE $>+/-1.96=P.<.05$

Z SCORE $>+/-2.58=P.<.01$

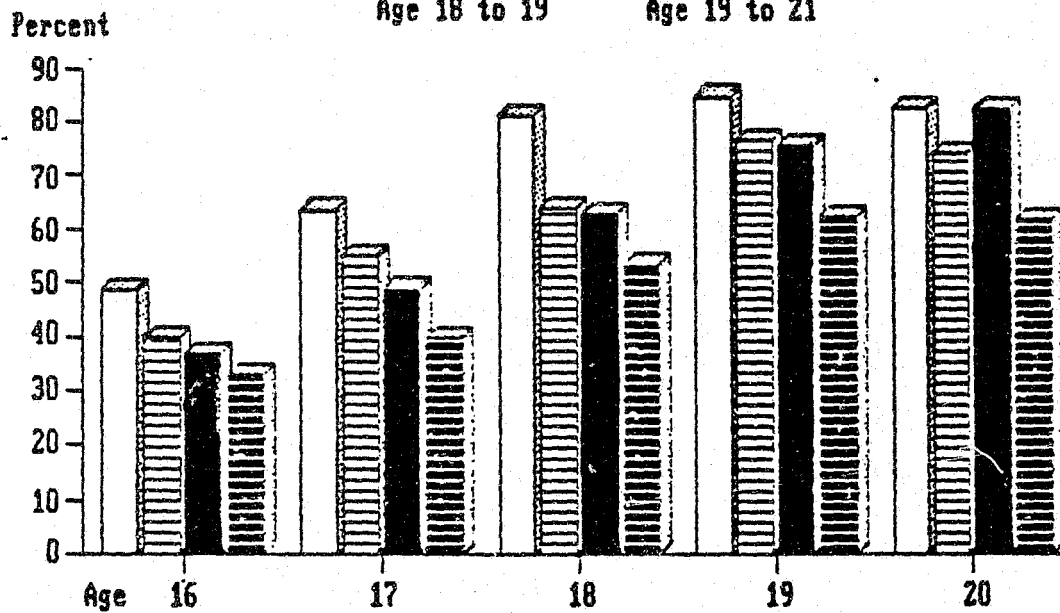
SOURCE: MYSDAAA YOUTH ALCOHOL SURVEY

CONSUMED ALCOHOLIC BEVERAGES

Changes in Alcohol Purchase Age

1982 1983 1985 1986

Age 18 to 19 Age 19 to 21

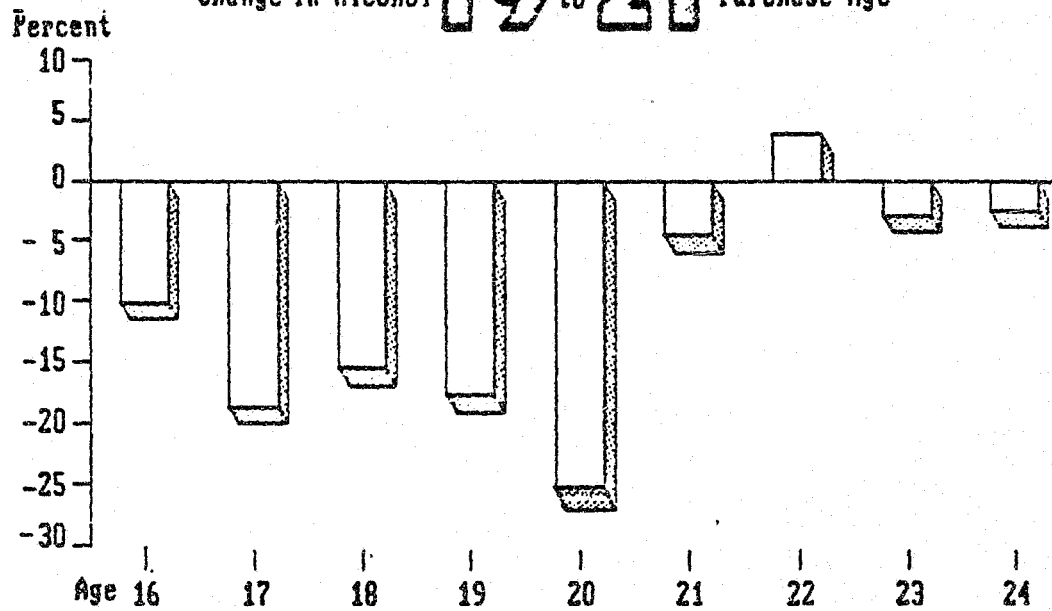


MYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

CONSUMED ALCOHOLIC BEVERAGES

PERCENTAGE CHANGE 1985 TO 1986

Change in Alcohol **19 to 21** Purchase Age



MYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

Table 3

PERCENT REPORTING THEY
DRANK 5 OR MORE
AT LEAST ONCE IN PAST
28 DAYS

AGE	1982	1983	ch82-83	zscore	1985	ch83-85	zscore	1986	ch85-86	zscore
16	21.21	15.11	-28.73	-2.45	13.39	-11.39	-0.75	11.02	-17.71	-1.11
17	25.79	17.86	-30.75	-2.91	19.54	9.43	0.61	12.63	-35.36	-2.54
18	35.16	22.78	-35.20	-3.41	26.18	14.91	0.96	17.74	-32.24	-2.32
19	38.21	33.82	-11.50	-1.08	34.18	1.08	0.09	22.57	-33.98	-2.85
20	34.22	33.33	-2.59	-0.22	31.79	-4.64	-0.39	21.67	-31.84	-2.59
21	NA	NA	NA	NA	28.93	NA	NA	21.03	-27.29	-2.14
22	NA	NA	NA	NA	28.83	NA	NA	22.70	-21.27	-1.66
23	NA	NA	NA	NA	27.95	NA	NA	21.72	-22.29	-1.65
24	NA	NA	NA	NA	22.89	NA	NA	18.43	-19.47	-1.32
16-20	29.32	22.80	-22.23	-4.46	23.55	3.30	0.52	15.72	-33.26	-5.58
21-24	NA	NA	NA	NA	27.12	NA	NA	20.93	-22.80	-3.40

Z SCORE $>+/-1.96=P.<.05$

Z SCORE $>+/-2.58=P.<.01$

SOURCE: NYSDAAY YOUTH ALCOHOL SURVEY

CONSUMED FIVE OR MORE DRINKS

ON AT LEAST ONE OCCASION

Changes in Alcohol

1982

1983

1985

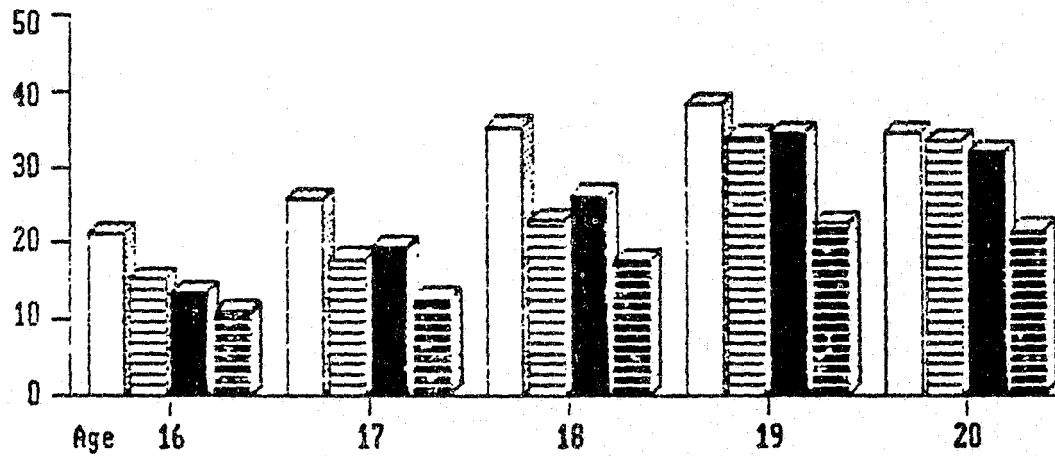
1986

Purchase Age

Age 18 to 19

Age 19 to 21

Percent

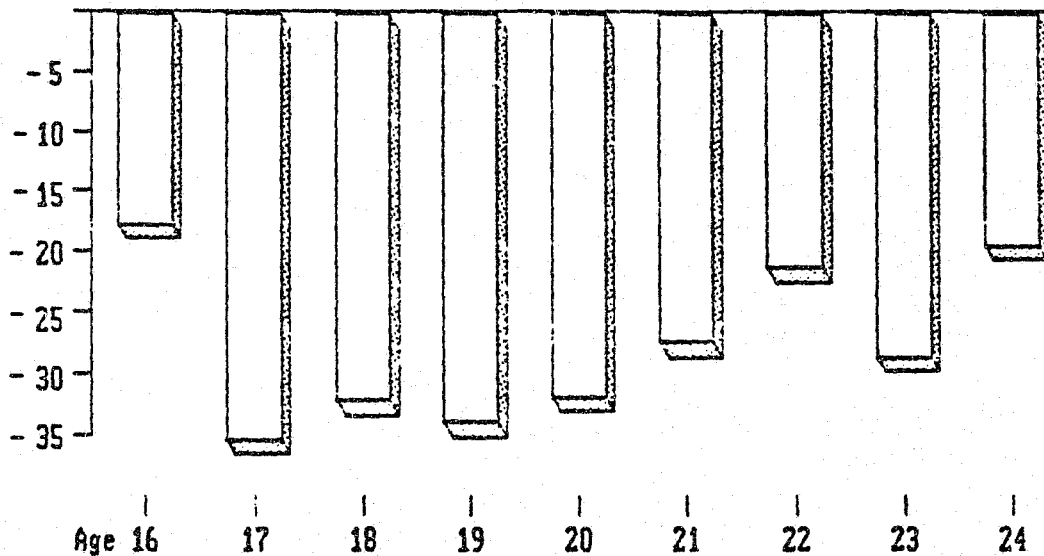


MYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

CONSUMED FIVE OR MORE DRINKS ON AT LEAST ONE OCCASION

PERCENTAGE CHANGE 1985 TO 1986

Change in Alcohol **19 to 21** Purchase Age



MYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

Table 4

LICENSED DRIVERS WHO
DROVE AFTER DRINKING
AT LEAST ONCE IN PAST
28 DAYS

AGE	1982	1983	ch82-83	zscore	1985	ch83-85	zscore	1986	ch85-86	zscore
16	12.50	4.67	-62.62	-1.98	8.18	75.09	1.05	2.59	-68.39	-1.88
17	15.44	12.66	-18.04	-0.89	7.08	-44.10	-1.97	6.00	-15.20	-0.47
18	32.39	18.22	-43.74	-3.37	14.22	-22.00	-1.11	9.00	-36.69	-1.63
19	31.36	28.22	-10.03	-0.71	21.93	-22.28	-1.51	17.80	-18.83	-1.05
20	38.64	29.33	-24.10	-2.03	20.59	-29.80	-2.14	22.77	10.61	0.55
21	NA	NA	NA	NA	22.18	NA	NA	21.90	-1.25	-0.07
22	NA	NA	NA	NA	24.31	NA	NA	25.81	6.14	0.39
23	NA	NA	NA	NA	23.29	NA	NA	28.57	22.69	1.29
24	NA	NA	NA	NA	17.14	NA	NA	21.03	22.69	1.12
16-20	27.40	19.83	-27.61	-3.95	15.32	-22.75	-2.63	12.10	-21.06	-2.07
21-24	NA	NA	NA	NA	21.72	NA	NA	24.25	11.69	1.34

Z SCORE >+/-1.96=P.<.05

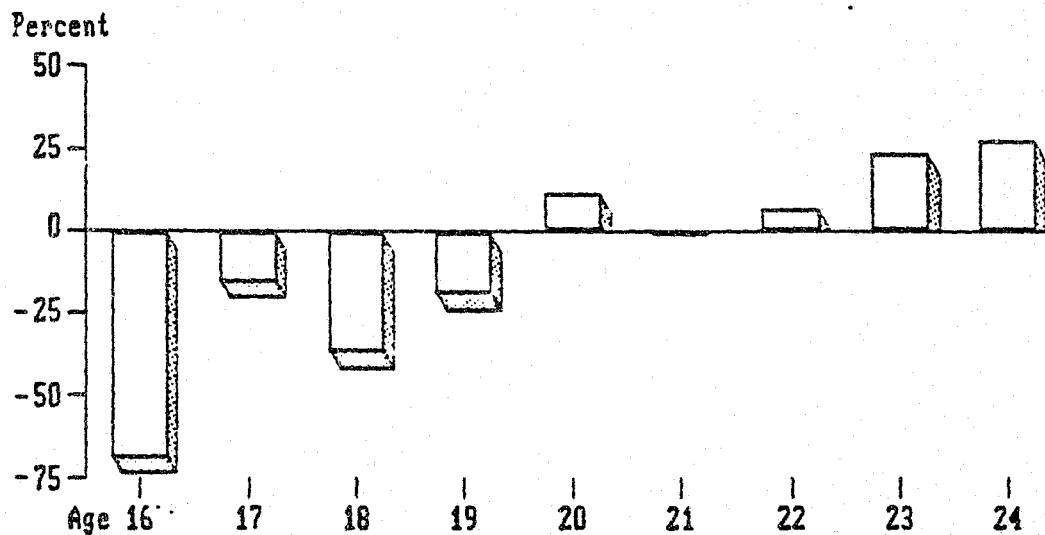
Z SCORE >+/-2.58=P.<.01

SOURCE: NYSDAAA YOUTH ALCOHOL SURVEY

SELF REPORTED DRIVING AFTER DRINKING

PERCENTAGE CHANGE 1985 TO 1986

Change in Alcohol **19** to **21** Purchase Age



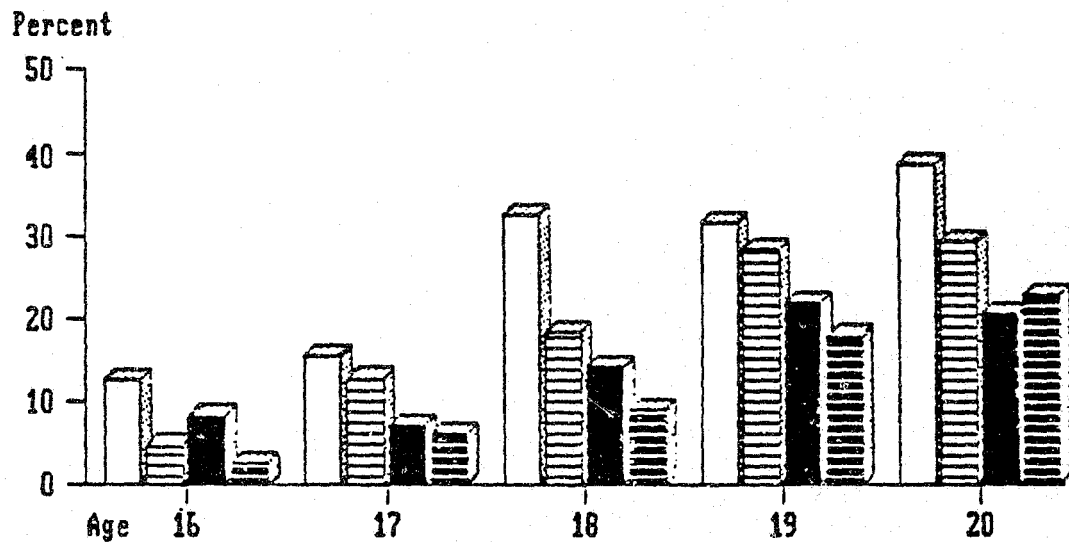
MYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

SELF REPORTED DRIVING AFTER DRINKING (LICENSED DRIVERS ONLY)

Changes in Alcohol Purchase Age

1982 1983 1985 1986

Age 18 to 19 Age 19 to 21



MYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

Table 5

CHANGES FROM 1985-86

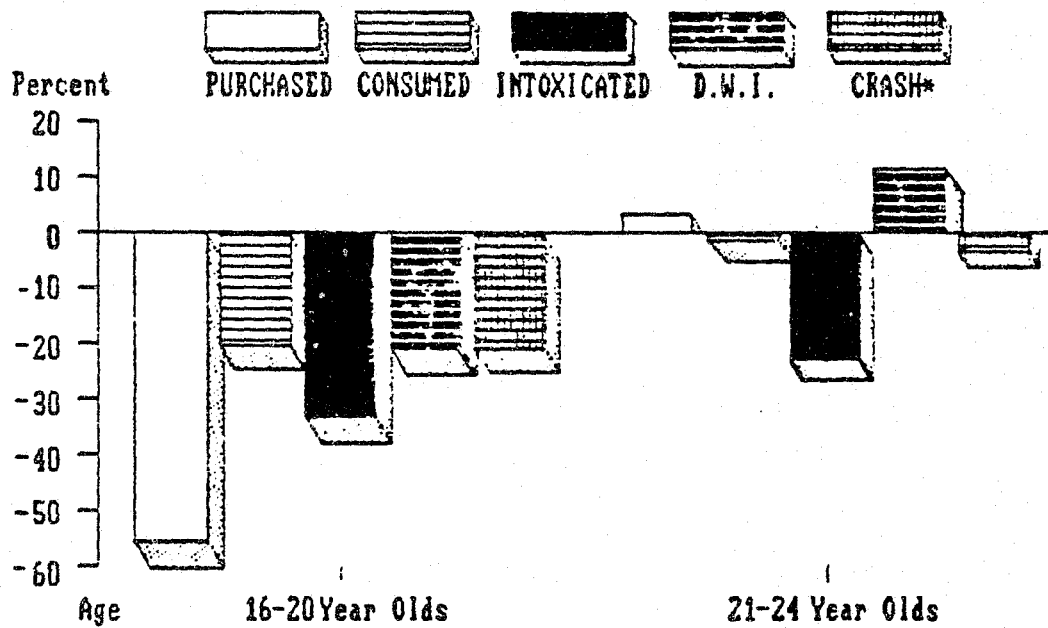
AGE	PURCHASED ANY ALCOHOL IN PAST 28 DAYS	DRANK AT LEAST ONCE IN PAST 28 DAYS	DRANK 5 DRINKS ON AT LEAST 1 OCCASION	SELF-REPORTED DRIVING AFTER DRINKING	DRINKING DRIVERS IN CRASHES
16-20	-55.84	-20.44	-33.26	-21.06	
21-24	3.66	-1.50	-22.80	11.69	-19.01
Z SCORE FOR DIFF IN CHANGE	-9.29	-4.35	-1.54	-2.41	-3.17 NA

SOURCE: WYSDAAA YOUTH ALCOHOL STUDY

SOURCE: WYSDMV PRESS RELEASE
DECEMBER 1, 1986Z SCORE > +/-1.96 = P < .05
Z SCORE > +/-2.58 = P < .01

PERCENTAGE CHANGE 1985-1986

Change in Alcohol **19** to **21** Purchase Age



NYS Division of Alcoholism and Alcohol Abuse - Youth Alcohol Study

*.Source: NYS Department of Motor Vehicles