Reasons for the Reduction in Young Alcohol-impaired Drivers

J. H. Hedlund, R. G. Ulmer, and D. F. Preusser
Preusser Research Group, Trumbull, Connecticut, USA

Abstract
This study investigated why drinking and driving in the United States decreased almost twice as much for drivers under age 21 as for drivers 21 and older from 1982 to 1998. The study documented the changes in youth drinking and driving, and in youth drinking, and compared the changes across states and regions. It analyzed the effects of the National Minimum Drinking Age and state Zero Tolerance laws, of programs directed at youth drinking and driving, and of factors not directed specifically at youth. It compared influences and trends in the United States with those in Canada. The study recommends how to reduce youth drinking and driving even further.

Introduction
Youth drinking and driving in the United States decreased spectacularly in the past 20 years. The best measure comes from fatal crash involvements: the number of drinking drivers under the age of 21 in fatal crashes dropped 61 percent, from 4,398 in 1982 to 1,704 in 1998 (Figure 1). While 43 percent of young drivers in fatal crashes had a positive BAC in 1982, only 21 percent did in 1998. In comparison, the number of drinking drivers aged 21 and above dropped only 34 percent during this time (Figure 2).

Methods
The study analyzed United States traffic crash data from NHTSA’s Fatality Analysis Reporting System (FARS) to disaggregate the changes by geographic area, driver age, and year. It analyzed survey data and research on youth drinking behavior to examine how drinking changes affect
drinking and driving. It synthesized existing research on the effects of economic factors, youth demographics, laws and programs directed at youth, and measures to control adult drinking and driving. It compared influences and results in the United States and Canada using data from the Traffic Injury Research Foundation (TIRF) Fatality Database. Complete citations are given in the full study report (1).

**Results**

**Youth Drinking and Driving -- National Trends.** Nationally, youth drinking and driving as measured by fatal crash involvements and by self-reported drinking and driving behavior decreased substantially from 1982 to 1998. Most of the decrease took place between 1982 and 1992. Young drivers of all ages up to 21 reduced their drinking and driving by similar amounts. A small portion of the decrease in youth fatal crash involvements is due to a decrease in the number of young persons in the population.

**Youth Drinking and Driving -- Regional and State Trends.** Youth drinking driver fatal crash involvements decreased substantially in all regions of the country and in most states. Drinking driver involvements per population decreased by more than 50 percent in 45 states. Many states followed the national pattern of a substantial drop from 1982 through the early 1990s, with little subsequent change. In 1998, youth drinking driver fatal crash involvements were about 5 per 100,000 population (or even lower) in the 10 best states and about 15 in the five worst states.

![Figure 3. Youth 30-day drinking, driving after drinking, and drinking drivers in fatal crashes](image)

**Youth Drinking.** Youth drinking also decreased from 1982 to 1998, but not as much as youth drinking and driving. Evidence from Monitoring the Future (2) and other surveys (3) shows a consistent drop in self-reported drinking by both high school and college students under 21. This decrease occurred fairly uniformly across all regions of the country. However, most youth still
drink; a majority drink at least monthly; a substantial minority binge drink regularly. Since about
1993 youth drinking has increased gradually, but youth drinking driver involvements in fatal
crashes have remained approximately constant.

Figure 3 illustrates these trends using data from 1984 to 1998. It shows a 19 percent drop in self-
reported drinking from 1984 to 1998 (the top line, from Monitoring the Future) compared to a 57
percent drop in drinking driver involvements in fatal crashes (the bottom line, from FARS). The
middle line shows self-reported driving after drinking, also from Monitoring the Future, which
first included this information in 1984. This trend tracks fatal crash involvements quite closely
through 1995 and provides additional evidence that youth drinking and driving has dropped
considerably more than youth drinking.

The decline in drinking thus accounts for some, but by no means all, of the decline in drinking
and driving. Youth have separated their drinking from their driving more in 1998 than they did
in 1982, and more than have drivers over 21. Drinking and driving has become less socially
acceptable among youth, as measured by youth attitudes and by the use and acceptance of
designated drivers (4).

Minimum Legal Drinking Age Laws. Thirty-six states raised their minimum legal drinking age
(MLDA) to 21 between 1983 and 1987 (the other 14 states had age 21 laws in effect before
1983) so that by 1988 MLDA was in effect in all states. MLDA 21 laws clearly reduced youth
drinking and driving (5, 6, 7). The laws reduced youth drinking by reducing alcohol availability
and by establishing the threat of punishment for alcohol use. But MLDA 21 laws do not work
particularly well in practice, as youth still can obtain alcohol relatively easily and underage
drinkers are highly unlikely to be detected and punished. MLDA 21 laws also may have
encouraged youth to separate their drinking from their driving. The observations that youth
drinking and driving decreased substantially more than youth drinking, and that youth drinking
and driving after drinking both decreased in states that had MLDA 21 laws throughout the
1980s, suggest that MLDA 21 laws were not the only influence on youth drinking and driving
during this period.

Zero Tolerance Laws. A Zero Tolerance law sets a maximum BAC of 0.02 or less for youth and
suspends or revokes an offender’s driver license. All states adopted Zero Tolerance laws
covering all drivers under 21 between 1991 and 1998. Zero Tolerance laws also have reduced
youth drinking and driving (7, 8). They likely did so for two reasons: by deterring youth through
the fear of losing their driver license if they drive after drinking and also by reinforcing the broad
community disapproval of youth driving after drinking.

Youth Programs. States and communities conducted extensive youth drinking and driving
programs in the past two decades (9, 10). These programs seek to motivate youth not to drink
and drive through positive means: by education on crash and injury risks posed by drinking and
driving and the effects of alcohol use and abuse, by providing positive role models that
discourage alcohol use, by establishing youth norms that do not include alcohol, and by
encouraging youth activities that do not involve or lead to alcohol use. Other organizations
concerned with traffic safety -- insurance companies, automobile manufacturers, MADD, and
many others -- did the same through public education and specific program activities.
There is little direct evidence of the effects produced by these activities. Very few have been evaluated to determine their effects on youth knowledge, attitudes, behavior, traffic violations, or crashes. A few well-organized and well-funded community programs have reduced youth drinking and driving after drinking (11, 12). Some school programs have affected students—knowledge and attitudes and may have affected their behavior. There is no direct proof that most of the many youth traffic safety program activities not involving laws and enforcement had any direct effect on youth drinking and driving. But there also is no proof that they did not. The accumulation of information, education, skills, role models, and the like provided by these programs may have been a crucial influence in the youth attitude, behavior, and crash changes that have occurred.

**Drinking and Driving Measures Not Directed at Youth.** In general, states that reduced overall drinking and driving the most from 1982 to 1998 also reduced youth drinking and driving the most. This suggests that states that took effective measures to reduce overall drinking and driving also saw the effect of these measures on youth drinking and driving. In addition, the travel, employment, and unemployment trends that influenced overall drinking and driving likely also affected youth drinking and driving.

![US, Canada Trends; Drinking Drivers](image)

**Figure 4.** US and Canadian trends, percentage change from 1982

**The Canadian Experience.** Canadian reductions in youth drinking and driving, measured both by fatal crash data and by surveys, followed virtually the same pattern as in the United States (Figure 4). The Canadian reduction was not due to laws directed at youth: the drinking age did not change during this time, and zero tolerance laws were implemented after the reduction had occurred. This means that the changes must have resulted from some combination of the difficult-to-assess educational and motivational programs and from other factors outside of
traffic safety. This suggests that a substantial portion of the reduction in the United States also resulted from these same causes.

**Discussion**

Three influences on youth drinking and driving are well-documented and well-understood: population changes, legal drinking age increases, and Zero Tolerance laws. However, these three by themselves account for only a portion of the observed decrease in youth drinking and driving. Influences from other factors -- youth programs, other drunk driving measures, and factors completely apart from driving or drinking -- can only be inferred.

Something has worked spectacularly well in reducing youth drinking and driving. Some causes are known; some are not. The most prudent strategy to retain and increase these gains would be to improve MLDA 21 and Zero Tolerance law enforcement, continue the programs directed at youth, and strengthen measures against all drinking and driving.

**References**


