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Age of Drinking Onset Predicts

Young Adults’ Self-Reported Drink-Driving

**Background**

The leading cause of death among young adults is automobile crashes. With this in mind 40% of crashes are alcohol related. This is a very serious subject that law makers and communities have struggled with and debated over. The alcohol consumption law changed from 18 to 21 to attempt to lower the rate of drunk-driving fatalities. The rate did decline for a period and then rose again 4% in 2000. The United States has a high rate of fatalities due to drunk driving when compared with other countries. It is imperative that an effective prevention strategy comes to light.

In this study it is reasoned that age of alcohol consumption onset is correlated to young adult drunk-driving habits. Demographics such as race and education are looked at closely to try and grasp drunk-driving behavior more effectively.

**Experiment**

Drivers with a license in the state of Michigan were given questionnaires when they were in 5th through 12th grade. This was to determine that onset age of drinking for the subjects in the sample. Students were asked how many times they had consumed more than a sip or a taste of an alcoholic beverage. The age onset of drinking was put into three categories: non-drinker, began drinking under the age of14, and began drinking after the age of 14.

Approximately 6 years after the subjects had graduated high school a telephone survey was conducted with 4,230 subjects in the sample. The mean age of the subjects in the survey was 24.2 with a standard variation of .8. These subjects were asked their race, gender, marital status, and education level. Along with determining the subjects’ demographics, the telephone surveys goal was to establish the drunk-driving level of the young adult. Drunk-driving levels were put into four categories: drinkers who do not drive drunk, drinkers who drive after 2 drinks of less, drinkers who drive after 3 or more drinks, and drinkers who drink in the car. Only subjects who had reported that they had drank an alcoholic beverage in the last 12 months more frequently than never were further questioned. Those subjects who were considered drinkers were asked questions like, “how many times did you drive within an hour after drinking 1 or 2 beers or other alcoholic beverages?” to determine their drunk-driving level.

**Results and Conclusion**

Statistical inferences of the data were completed by using chi-squared analysis. This is appropriate for the categorical groups the subjects were put into. Table 1 (see article) represents the data collected with inferences about demographics. It was concluded that there was significant relationship between age of drinking onset and gender: (chi square = 5.71, df = 1, p = 0.0169), race (chi square = 75.08, df = 2, p < 0.0001), and education level (chi square = 54.41, df = 4, p < 0.0001), but not between marital status (chi square = 2.11, df = 2, p =

0.3470). There were a higher proportion of subjects who had started drinking before age 14 that were men, white subjects, and those who had not attended college.

Table 2 (see article) shows the percentage of young adults by drunk-driving level and demographic group. It was concluded that there was significant relationships between drunk-driving level and gender (chi square = 51.51, df = 1, p < 0.0001), race (chi square = 39.51, df = 2, p < 0.0001), and marital status (chi square = 102.77, df = 2, p < 0.0001). There was not a significant relationship between drunk-driving level and education level. What was surprising about the collected date was that males who were never married and either white or black fell into the “drank in the car” category.

The most important part of this study, the relationship between age onset of drinking and drunk-driving level, is shown in Table 3 (see article). It was concluded that there was a significant relationship between the two (chi square = 134.36, df = 1, p < 0.0001). According to the data, the subjects with early drinking onset were more prone to have a high level of drunk-driving. 74.6% of the subjects who fell into the “drink in the car” level, and 60.6% of those subjects who fell into the “drive after three or more drink” level had started drinking before they were 14.

**Critique**

There are a few criticisms I have about this study. The first question is can the sample indicate the behaviors of the entire population which would be every young adult in America? This study takes place in one state, Michigan. Maybe the average age onset of drinking in Michigan is lower than the rest of the country or perhaps a larger population of the state drinks and drives because of the states geography. The sample size is large at n = 4,230, but the study would have less bias if they obtained from all different states. Also subjects of this study could deny questioning because they were questioned via telephone. This non-response bias could have a negative effect on the data. There is some selection bias in the study. The subjects were Michigan citizens who had a land line phone; the study leaves out those who do not use land lines. A major issue that comes to mind when analyzing this study is response bias. In the 5th to 12th grade when the subjects were asked if they had had an alcoholic beverage, what if they did not feel comfortable answering the question honestly. As if they might get in some sort of trouble. Or maybe they thought it was funny and wrote down an absurd amount to drinks. If the responses of the teenagers are biased then the data will not truly represent the population. This same response bias goes for the subjects questioned over the telephone. Drunk-driving is a serious issue; if the subjects did not feel comfortable admitting to driving drunk than the responses would be bias. These are a few claims to keep in the back of your mind, but all in all I think that this study did a nice job breaking down the subjects into demographics, and onset of drinking, and categories of drunk-driving levels. They conductors of the study used a good amount of subjects in their sample and the data came out to support their hypothesis. This study is a well-done reference that can be used to come up with prevention strategies for drunk-driving fatalities which is a step in the right direction.

http://www.saaq.gouv.qc.ca/t2002/actes/pdf/(31a).pdf