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TEENAGE DRINKING AND DRIVING:
IMPORTANCE OF A DRIVER LICENSE

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements For the Degree
Master of Arts
in
Psychology


by
Caroline Luton Byasse
March 1994

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Approved by:


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Feb. 4 1996
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ABSTRACT

Even though automobile accidents, 50% of which involve alcohol consumption, are the greatest cause of teenage deaths (Donovan, 1983; DMV, 1992) motor vehicles are very important adolescent possessions (Kamptner, Rodrigues & Stevenson, 1989). To address the problem of drinking teenage drivers, this study examined (a) the importance of a driver license versus the importance of being permitted to drink alcohol and (b) which consequences would be perceived as the most effective deterrent to driving after drinking. First year students and seniors from a suburban area high school completed a questionnaire. The importance of a driver license was found to be equally important to both male and female teenagers, however, drinking alcohol was found to be more important to male subjects. Loss of license was the most recommended deterrent to adolescent drinking and driving. Additionally, educational programs exposing youth the graphic results of drinking and driving were also felt to be an effective deterrent to this risky behavior. Neither age nor gender affected attitudes towards the consequences received by passengers of drinking drivers. To counter the effect of modeling, additional investigation into the consequences for passengers of a drinking driver is needed, as well as earlier identification of problem prone youth and development of prevention programs.

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INTRODUCTION

In some cultures, specific rites occur at culturally determined ages which announce to society the onset of adulthood. However, in the United States there are no such national transitions. In this country, adolescence may be viewed as the period from 13 to 24 years of age, during which an individual progresses from childhood to adult status by acquiring the legal right to perform certain tasks or partake in particular activities. In some instances the age at which the individual is entitled to engage in the activity is determined by state law and varies from state to state. In a recent work, Liss, Byassee and Bieberdorf (1991) found the legal driving age ranged from 14 to 18 across the country (average age 16.4), whereas the legal drinking age was 21 in every state. Although persons under the age of 21 may legally drive but not consume alcohol, adolescent driving and drinking is a major problem in today's society. While statistics are available on the percentage of accidents involving alcohol and the number of adolescents who have been detained for driving after drinking, information regarding the number of adolescents who drink and drive is not available. In this study adolescents attitudes toward the activity of drinking and driving were examined with the hope of establishing guidelines which would be accepted by adolescents and thereby decrease the harmful activity of drinking and driving.

In a recent discussion with a 19 year old girl about adolescence and the teenage years, the following observation was made:

There are four ages which are important to teenagers, 13, 16, 18, and 21. Thirteen because it is the age when you actually become a teenager, 16 when you get your driver license, 18

when you reach the age of consent, and 21 when you can drink. Sixteen is the most important because driving means freedom and independence. It can give one a sense of superiority over those who can't yet drive (legally). (Byassee, 1990 interview)

This commentary provides one individual's milestones, ages 13, 16, 18 and 21, which she must pass to become an adult. This is a period called adolescence during which the individual makes the transition from childhood to adulthood. It is also a life phase during which adult privileges, such as age of consent, driving, voting or signing legal documents, arrive in a piecemeal fashion, the exact age depends on the state of residence. Further, adolescents are expected to behave responsibly in relation to those activities which have been permitted, while, at the same time, not participating in yet to be granted adult activities. This is a period when society needs to establish protective measures which will shield the youth from the harmful effects of risky behavior while at the same time allowing the individual to mature, to achieve self identity and to become a responsible adult.

Developmentally, adolescence is a very important phase. Among the tasks which need to be successfully negotiated is one which Erikson called the development of a sense of identity. According to Erikson (1964) this is the stage when the teenager acquires new skills, establishes new goals and expresses the desire for independence and the need to separate from the family of origin. Identity formation is an individual's "capacity to let oneself be identified as a circumscribed individual in relation to a predictable universe which transcends the circumstance of childhood" (Erikson, 1964, p 90). This is also the phase during which biological maturation takes place. For example, the deepening of the voice, growing facial hair and changes in

physique indicate maturation for males. For females, biological changes include menarche, breast development and a more curvaceous body.

Additionally, the development of mature abstract thinking occurs during this phase. According to Piaget, the cognitive abilities change from concrete operation to formal operations. Formal operations is the stage at which individuals are able to incorporate abstraction and make hypothetical propositions. This is also a period of moral development. According to Kohlberg's cognitive perspective on moral development, adolescents would have obtained the level of Conventional Reasoning. At this level adolescents would follow certain standards and base moral decisions on trust, caring and loyalty to others. However, the standards and values adopted are often those of others, their parents or their peers (DiBlasio, 1988).

Thus, adolescence is one of the most important phases in a individual's life and the manner in which each of these tasks is approached and accomplished may well have long term ramifications. Additionally, these developmental milestones connect with a time when an individual may experiment with new ideas, friends, and substances, depending on the milieu. Moreover, the environment or social context in which the adolescents find themselves wields great influence on what activities the teenagers will engage in and what values will be adopted (Erikson, 1964).

To learn how youth would define adolescence, Liss (1980) surveyed preteens and teens: sixth graders, ninth graders and twelfth graders. Both formal and informal rites of passages were included in the survey. While this study demonstrated the need for further clarification of this subject, some consensus was found. One section of the survey asked subjects to rank order

13 items identified as legal rites of passage, such as obtaining a driver license, buying a gun, quitting school, getting a full-time job, having a curfew and getting married. Obtaining a driver license was ranked as one of the most important along with age of consent and quitting school by the two younger groups.

In the United States, one important transitional rite of passage is obtaining a driver license, and if possible an automobile. The importance of personal possessions for adolescents was studied by Kamptner, Rodrigues, and Stevenson (1989). High school students were asked to rank the order the importance of personal possessions, such as jewelry, automobiles, stuffed animals, pictures, clothing and electronic and sports equipment.

Automobiles were ranked as one of the most important personal possessions, especially by the male subjects. Kamptner, Rodrigues and Stevenson described cars as "being extremely important symbols of prestige, independence, and being 'grown up' among adolescents, particularly males". The importance of possessing a motor vehicle to adolescents was reconfirmed in a subsequent study by Kamptner (1993). Additionally, Erikson states that "in connection with immature youth, however, it must be understood that both motor cars and motion pictures offer to those so inclined, passive locomotion with an intoxicating delusion of being intensely active" (Erikson, 1964, p 101).

Adolescence is also a stage when the desire to experiment may result in risky behavior or even problem behavior. Such behaviors include reckless driving while influenced by alcohol, illegal drug use, unsafe sex and delinquency. Arnett (1992) presented the developmental theory that there

were biological, cognitive and social factors contributing to the risky behavior as teenagers sought new and different sensations. Further, teenagers have a feeling of immortality and invulnerability and believe "that negative consequences will not happen to them (DiBlasio, 1988).

As a phase of life where the desire to experiment is coupled with the feeling of invulnerability, adolescents often engage in substance abuse. Alcohol has long been identified as the "drug of choice" for teenagers and teenage alcohol consumption has been a major concern for parents, educators and law enforcement officials. Several studies have addressed the question of why teenagers drink (Addeo & Addeo, 1975; Arnett, 1992; Beck & Summons, 1987; Madden & McCall, 1964; North & Oragne, 1977). These studies found the following motivations for teenage drinking: (a) a form of rebellion against parental authority; (b) the result of peer pressure; (c) the result of modeling adult behavior; and (d) a symbol of adulthood or maturity. Explanations for teenage drinking were that the illegality of the act contributed excitement and made it an act repudiating adult imposed standards of behavior. Another explanation was that drinking gave the appearance of maturity as well as provided the individual with the sense of being in style. Additionally, the alcohol's effect provided an escape from perceived boredom of teenage life and numbed the youth to pressures and expectations placed by parents and school. The preference of alcohol over other drugs was also due to its lower cost when compared to other drugs and its easy availability. Further, the observation of parental drinking reinforced the attraction of alcohol and contributed to the lack of experiencing guilt which might otherwise be associated with illegal behavior.

According to Lang (1985) adolescents have a number of positive expectations about the effect of drinking alcohol which generally outweigh any negative expectations. One belief is that alcohol will alter one's experience in a positive manner and add to one's social and physical pleasures. Other benefits are believed to be heightened enjoyment in sexual experiences and improved sociability. It is also believed that alcohol will result in increased aggression and dominance and also would reduce the amount of tension experienced. The potential behavior impairment pales when compared to these positive expectations, because adolescents believe themselves invincible. Lang also reported that the amount of alcohol consumed increased between the ages of 13 and 15, with males drinking more than females and higher rates of alcohol consumption found in Northern and urban areas. Lang also suggested that drinking by adolescents might be attributed more to lax parental and societal guidelines rather than merely youthful rebellion.

Teenage drinking is described as delinquency or a status offense, illegal only because of the age of the offender. Teenage driving after drinking is a delinquent offense which is defined as an act by a juvenile which, when committed by an adult, would be prosecuted in court (Sickmund, 1988). Sickmund surveyed status offenders and found that in 1988, 31% were "underage liquor law violations" and "that case rates increased continuously with age...more than 400 percent between the ages 15 and 17". It was also found that "males accounted for the majority of liquor law violations (76 percent)." A disproportionate number of white youth were identified as

"liquor law violation cases". While white youth comprise only 81% of the youth population, they account for 94% of "liquor law violations cases."

In view of the widespread appeal that alcohol has for youth, there exists national concern about teenage drinking, and numerous programs and laws have been instituted in the hope of decreasing teenage drinking and driving. The legal driving age ranges between 14 and 18, mean age 16.04, in 43 states (88 %) the driving age is 16. Two states issue a driver's license to 14 year olds, while in four other states the youth must be 17 or 18 before being allowed to obtain a license. At the present time the minimum legal age for purchasing alcohol has been raised to age 21 and is now uniform throughout the country (Liss, Byassee and Bieberdorf, 1991). This conformity was a response to the National Minimum Drinking Age Act of 1984 which required that states have a minimum legal drinking age of 21 in order to be eligible to receive Federal Highways Funds. However, this attempt to control adolescent's access to alcohol and to reduce the potentially dangerous behavior of drinking and driving has not been as effective as desired. Although the percent of drinking teenage drivers had been reduced from 53% to 28% in 1987, by 1989 "the percentage of fatally injured teenage drivers with a BAC (blood alcohol concentration) of 0.10 or higher had increased to 33 percent" (National Transportation Safety Board, 1993).

According to a 1993 National Transportation Safety Board (NTSB) study, although all states have laws prohibiting the sale of alcohol to a person under the age of 21, many states have no laws against teenagers attempting to purchase, possess or consume alcohol. Moreover, in 16 states minors may misrepresent their age with impunity and in 18 states there are no negative

consequences to having false identification. Further, when the youth has been able to purchase alcohol, it is the seller who is punished, not the buyer. Therefore, in many states there are no deterrents to prevent adolescents in their attempts to obtain alcohol, nor are youth held responsible for their behavior of buying or attempting to buy alcohol.

To determine whether alcohol awareness education would lower the incidence of drinking and driving, Meacci (1990) surveyed college students. Seven hundred and three undergraduate students completed a pretest, posttest and learning retention test to evaluate the effect of a school alcohol educational program. The author concluded that "the findings of this study are in agreement with the literature that has portrayed alcohol education as a reliable knowledge source but fails to influence responsible attitudes and reduce negative consequences" (Meacci, 1990). Teenagers have a feeling of immortality and invulnerability, such "that negative consequences will not happen to them" (DiBlasio, 1988, p 101). Since knowledge does not necessarily effect behavior, determining what will encourage responsible behavior is important if we are to establish programs which will be effective in preventing drinking and driving by adolescents.

Arnett (1992) presented a developmental theory which suggests that there are biological, cognitive and social factors contributing to risky behavior as teenagers seek new and different sensations. In modern day society new forms of risky behavior have evolved, such as drunk driving by youth. Also, those adolescents participating in risky behavior often participate in a variety of activities. The egocentrism is present in adolescents and leads them to believe in their uniqueness. Arnett explains this egocentrism by citing

Elkind, "Perhaps because he believes he is of importance to so many people, the imaginary audience, he come to regard himself . . . as something special and unique. . . This belief in personal uniqueness becomes a conviction that he will not die, that death will not happen to him"(1967,p 1031). Thus, many teenagers believe that they can drink then drive with no adverse consequences. Even when the information about the danger of risky behavior is available, adolescents believe it does not apply to them.

Behaviors Differentiating Drinking from Non Drinking Teenage Drivers

In modern day society, driving has become an integral part of adolescents developmental experience and movement toward independence. Schechter and Gump (1984) looked at the difference that the availability of an automobile made in relation to behavior and social experience. When youthful drivers with unlimited access to a car were compared to those who had only limited or no access to a car, different patterns of social activity and psychosocial attributes were found. Drivers with unlimited access to a car, when compared to those with limited access or non-drivers, had more varied experiences, had more freedom from parental control, exhibited higher social responsibility, and had more contact with peers, and there were no differences in time spent studying or in their G.P.A.'s. While teenage drivers were found to be more mature, independent and autonomous than non drivers, these very traits might contribute to the very drinking and driving behavior which needs to be curtailed. For example, the increased mobility of driving teenagers provides expanded opportunities to obtain alcohol, simply because they can leave home and search for it. Also, having already attained the

status of driving, they may feel that drinking is the next step towards maturity.

Farrow (1987) investigated adolescents' risky behavior in automobiles and found that driving was used to "blow off steam", to relieve boredom, to race, and to provide an opportunity for acting in a dare devil manner and getting high. Farrow designed his study to assess the decision making skills of three groups of adolescents with respect to driving situations by presenting scenarios of a youth drinking and having the subjects respond to suggested consequences. His three groups were (a) high school students who had driven for at least 6 months but had never been stopped while driving when intoxicated (DUI); (b) youthful drivers who had been stopped for DUI; and (c) youths who admitted drinking and driving but had no DUI records. He found that DUI offenders had specific characteristics including being "aggressive, alienated young male drivers who drink frequently" and that this group had the most accidents. Those youth stopped for DUI's said that they needed alcohol to feel comfortable in social situations. He also found that the second and third groups reported higher levels of both alcohol and drug usage than the first group.

Another risky behavior was identified by the NTSB (1993) survey-- nighttime driving after drinking. This survey found that teen drinking and driving was heaviest on weekend nights and that most fatalities (46% in 1988) occurred during nighttime hours. Also, novice drivers, those "16 and 17 years old have twice the rate of fatalities as older teens and four times that of adults" (NTSB, 1993). Similarly, the California Department of Motor Vehicles noted that adolescents have a "high traffic accident, injury and conviction

rate" (DMV, 1992, p 83). Chances of automobile accidents are increased when the inexperience, impulsiveness and poor judgment of a teenager are combined with alcohol.

Studies which investigated non-drinking individuals, who rode with drinking drivers, found that non drinking passengers tended to become drinking drivers (DiBlasio, 1988; Nusbaumer & Zusman, 1981). DiBlasio also found that peers afforded social reinforcement for this activity and that those who previously rode with a drinking driver were more apt to be apprehended for DUI at a later age. The authors concluded that youths tended to model the behavior of parents and peers who either drank then drove or who drank while driving. Additionally, DiBlasio (1988) found that there were no adverse consequences for those who rode with drinking drivers to discourage them from later drinking and driving. This research supports Nusbaumer and Zusman's (1981) conclusion that driving and drinking is a learned behavior and a logical progression for youth who ride with drinking drivers. To halt this progression from riding along to being a drinking driver, they recommended that emphasis be placed on restricting the access of the moderate drinking driver to an automobile. Because many adults drink and drive with impunity, teenagers tend to model this behavior. Nusbaumer and Zusman concluded that if the number of persons who drank, drove and then did not encounter any negative consequences was reduced, fewer adolescents would imitate this behavior.

Statistical Data Concerning Drinking Teenage Drivers

Drinking has been reported as a major contributing factor in automobile accidents and alcohol was involved in 33% of the traffic injuries and 50% of traffic fatalities (Donovan, 1983; DiBlasio, 1988; DMV, 1992; Stern, 1986). A 1993 NTSB publication reported that youthful drivers (those aged 15 to 20) accounted for a disproportionate percentage of driver fatalities. Also, these same individuals were responsible for 14.9 % of fatalities but comprised only 7.1% of the legal drivers. Further, 33% of the youthful fatalities had a BAC of 0.10 or higher. When alcohol consumption is combined with adolescent impetuosity and driving inexperience, tragic consequences are frequently the result. For teenagers, the NTSB (1993) determined that most of the accidents occur on Friday and Saturday nights. Also, this NTSB Safety Recommendation reported that 51% of the students between the grades of 7 and 12 "have drunk alcohol and 39% report drinking at least weekly", a pattern which increases with age.

Adolescents are not only more likely than those in other age groups to drive after drinking (Jonah & Wilson, 1984), but they also drive faster, closer to vehicles in front of them, and use seat belts less frequently (Jonah, 1986). This is a lethal combination. In 1986 adolescents (aged 16-24) comprised 18.7% of the licensed drivers, but 38.7% of the drunk drivers involved in fatal accidents (U.S. Bureau of the Census, 1987). Drivers aged 16-19 have the highest rate of involvement in accidents resulting in injuries (Jonah, 1984) and fatalities (Williams 1985) of any age group, and over half of the fatally injured drivers aged 16-25 have been found to have blood alcohol levels above the legal limit (Beirness, Haas Walsh, & Donelson, 1985). Automobile accidents are the leading cause among people aged 16 to 24 (U.S. Department of Education, 1988). (Arnett, 1992 p 343).

With such a large percentage of teenagers consuming alcohol, it seems inevitable that many youths drive while under its influence. These statistics demonstrate the need for our society to take immediate and forceful corrective action.

Information provided in the California 1992 DMV handbook includes a chart giving interpretation of the BAC as an indication of the degree of impairment expected from a drinking driver, The following guidelines were given:

<u>BAC Level</u>	<u>Degree Of Impairment</u>
1. .01% to .04%	May be DUI
2. .05% to .07 %	DUI likely. Definitely in an individual under age of 18
3. .08 and up	Definitely DUI

This information appears to this author to give the impression that a youth under age 18 might not be punished for having a BAC below .04%. Also implied is that for individuals between the ages of 18 and 21 a BAC between .05% and .07% might be acceptable, even though the minimum age to purchase alcohol is 21 years of age. To the author to publish such information gives mixed messages about driving and drinking to the adolescent who carefully studies this handbook. It would appear that a youth would be allowed to have a BAC under .05%. The author believes that when an adolescent has any BAC level above 0.0, loss of driver's license should be the consequence.

Traits Differentiating Drinking from Non Drinking Teenage Drivers

Farrow (1987) concluded that high risk drivers could be identified by personality traits such as easily bored and too impatient to find appropriate activities; impulsive--acting without thought to consequences; and aggressive behavior. Youths with these traits were more susceptible to drinking and driving. If such youth were identified, they could be enrolled in programs in which they might learn to analyze common dangerous situations and respond in a more efficacious manner.

Donovan and Jessor (1978) found that problem drinkers had more trouble with families and with social agents such as teachers or the police. Additionally, the study found that problem drinkers had personality systems which placed less value on academic accomplishments, had lower expectations of achievement, had a higher value of independence and were more prone to problem behavior. Donovan, Marlett and Salzberg (1983) looked at individuals with DUI records and concluded that persons with DUI records were more depressed, more aggressive, more paranoid and had lower self esteem. Further, this group consumed alcohol to reduce tension and for social relaxation. DiBlasio (1988) found traits similar for persons who rode with drinking drivers. These traits, combined with adolescent's poor conception of the consequences of dangerous driving, make the issue of adolescent driving under the influence a critical public safety issue (Farrow, 1987).

Smith, Hingson, and Morelock (1984), in a telephone survey in Massachusetts and New York looked evaluated whether raising the drinking age affected the drinking and driving practice of 16 and 17 year old youth.

They found that the drinking and driving practices had not changed after the enactment of the law, but what did change was when the youth drank and how they obtained the alcohol. Drinking was done in a more secretive manner and more devious methods were employed to obtain alcohol. Further, an attitude of cynicism towards the legislative process and a disregard for the law developed. Thus it appears that merely changing the drinking age is not an effective deterrent to teenage drinking and driving. Additionally, Burkett and Carrithers (1980) found little relationship between drinking and legal sanctions in a study of deterrents to deviant behavior. The most effective deterrent appeared to be the certainty of negative consequences. It was found that, while more youths responded to peer opinion, some were restrained by their individual moral commitment to the laws; however parental opinion or attitudes had the least amount of influence on adolescent attitudes or behavior.

Beck (1987) surveyed 2,315 high school students about the frequency and quantity of their consumption of alcohol and beliefs about the consequence of this behavior, such as being caught by the police or causing an accident. He found that there appeared to be "distinct social and psychological differences in the type of alcohol consumption between high school students who report drinking and driving and those who don't (report doing this)."

Additionally, there were significant differences between the two groups in relation to what type of alcohol--beer, wine or hard liquor--was consumed. Those students who would drive after drinking consumed more hard liquor and beer than students who did not drink and drive. Beck concluded that it was important to teach adolescents about the impairment of driving skill and

abilities when drinking. He suggested that peer based programs might be the most effective method for installing moderation and responsibility in youth since they tend to use peers, not parents or teachers as a source of information.

Using a self report questionnaire, DiBlasio (1988) investigated deviant behavior. One aspect he studied was the direction, intensity and frequency of exposure to deviant behavior. Another aspect looked at was the individual's personal attitude towards laws, whether there was respect or disregard for the law. Additionally, the effect of modeling was investigated, whether there were persons whose deviant behavior the subject might emulate. Also, the effects of different types of reinforcement, negative consequences or positive rewards, and combinations of the different types of reinforcement were investigated. DiBlasio (1988) found that peers were most influential as social reinforcement and modeling had the most influence on deviant behavior.

The NTSB Safety Recommendation made the following suggestions to all individuals who are in the position to implement changes in laws and enforcement of the laws:

1. Have the drinking age laws include "attempting to purchase, purchasing, publicly possessing or consuming alcoholic beverages and prohibiting the sale of alcohol beverages to person under the age of 21."
2. Enforce the laws to reduce the purchase of alcohol by minors and to increase the numbers of arrests of teenage drinking drivers.
3. Take license action against offenders, both sellers and purchasers.
4. Institute laws that "prohibit drivers under the age of 21 from driving with any measurable blood alcohol concentration (any level above 0.00 BAC)."

5. Have the laws include loss of license without exception plus criminal sanctions.
6. Develop a system of "provisional" driver licenses.
7. Prohibit novice drivers from night driving "especially midnight to 5 AM."

In view of the fact that most adolescents have misconceptions about the negative consequence of drinking and driving but place great value on the opportunity to drive, it is felt that adolescents might be the best source of ideas for effective preventative solutions to this problem. Therefore, because of the value that adolescents place on the opportunity to drive, the current study investigated the importance of a driver license to teenagers, whether a driver license was more important to them than the opportunity to drink and if this importance would change with age. The study surveyed both first year high school students, who were as of yet too young to drive, and last year high school students, most of whom were of driving age and had driver licenses. Subjects were asked to chose consequences for a drinking driver, to rank suggested consequences for the problem behavior of drinking and driving, and to suggest their own. There were three hypotheses:

1. The first hypothesis was that acquiring and retaining a driver license would be more important to adolescents than being allowed to drink alcohol.
2. A second hypothesis was that having a driver license would be more important to male adolescents than to female adolescents.

3. The third hypothesis was that as the age of the adolescent subject increased the importance of driving would increase more than the importance of being permitted to drink alcohol.

METHODS

Subjects

Two groups of high school students from an unincorporated suburban area in Southern California served as voluntary participants in this study. To obtain a subject group most representative of the population, students enrolled in required classes were asked to participate in this study. The younger group included 23 males and 29 females, ranging in age from 13 to 15 with a mean age of 14.2 years and a family income between \$40,00 and \$60,00 per year. The ethnic composition of this group was Anglo, 71%; African-American, 9.6%; Hispanic, 5.3%; Asian, 5.3% and, other, 3.8%. The older group included 26 males and 25 females, ranging in ages from 16 to 18, with a mean age of 17.2 years and a family income between \$40,000 and \$80,00 per year. The ethnic composition of the older sample was Anglo, 84%; African-American, 6%; Hispanic, 6% and Asian 4%. Seventy four percent of the older group had a driver license (males 86%; females, 68%) and 92.2% of them had taken Driver's Education. None of the younger group had either a driver license or had taken Driver's Education. Forty six percent of the overall subjects had been in an automobile accident, 52.9% of the older group and 40.4% of the younger group. Demographic information is presented in Table 1.

Table 1

DEMOGRAPHIC INFORMATION

	Younger Group	Older Group
Number	52	51
Male	23	26
Female	29	25
Mean Age	14.2	17.2
Ethnicity		
African-American	5	3
Anglo	37	43
Asian	3	2
Hispanic	5	3
Other	2	0
Have a Driver's License	0	38
Had Driver's Education	0	47
Been in Accident	21	48

Materials

The survey format was a four part questionnaire (see Appendix A). Section 1 consisted of demographic data, including sex, year in school, or highest grade completed, ethnic background, parental income, job status, car ownership, driver license status and SES as determined by the Hollingshead scale.

Section 2 consisted of vignette concerning the use of automobiles under conditions where youth have been drinking and driving. Each respondent was asked for his/her opinion to a series of questions about a same sex driver's actions; whether or not sanctions were required, and, if so, what specific sanctions might be imposed. While the respondent answered questions pertinent to a same sex youth, the age of the driver in the vignette example varied. Additionally, space was provided for the respondents to write suggestions of specific punishments for the deviant behavior and their ideas of actions that would discourage it.

In Section 3, respondents rank ordered their preferences for listed consequences for the behavior of driving after drinking as well suggested their own. Section 4 contained 40 agree-disagree statements concerning the participants' attitudes and beliefs. The subjects chose answers from a seven point scale ranging from 1 strongly agree to 7 strongly disagree to indicate their opinions.

Procedures

To identify and correct confusing or unclear items on the questionnaire, a pilot study using 5 subjects who attended schools in a

comparable community and school district was run. The final questionnaire was based on the responses and comments received from the pilot study participants.

After the initial written contact with the designated High School District Office (see Appendix B), verbal authorization was received to approach individual high schools for permission to administer the questionnaire to students. In person arrangements were made with the High School Vice Principal to survey students; telephone contacts with the individual teachers established survey dates. Separate dates were established to administer the questionnaire to each subject group in their respective classrooms. Prior to the day of data collection each teacher briefly discussed the purpose of the survey and distributed the parental consents forms to interested students (see Appendix C).

At the time of data collection, the examiner distributed survey questionnaires to those students who had returned parental permission forms. Students not wishing to participate were free to do homework or other non disturbing activity. No pressure to participate was placed on the students by either the instructor or the examiner. The top page of the questionnaire was a student consent form which the participants were asked to read and sign (see Appendix D). The Instruction Statement (see Appendix E) was read by the examiner and the participants answered the survey. Upon completion of the questionnaire, participants placed the Student Consent Form in one pile and the questionnaire in another and were provided a Debriefing Statement (see Appendix F). The subjects were thanked and

requested to keep the nature of the questionnaire confidential until all subjects in that class had completed the survey.

RESULTS

To test the first hypothesis that driving as indicated by the importance of possessing a driver license was more important than drinking as evidenced by the value placed on being allowed to drink, it was necessary to construct scales DRIVE and DRINK. Using SPSS factor analysis, PAF extraction and Varimax rotation was performed on 18 selected items whose scores would appear to demonstrate a clear preference for a specific activity. Adjustment analysis when items were removed and/or replaced resulted in two factors. One factors with three items (Items 8, 9, 18) were designated as DRIVE. The other factor with five items (Items 20, 31, 36, 38, 40) were designated as DRINK. A third scale was constructed using two items (Item 3, 40). These two item required the subjects to indicate their level of agreement with statements stating that one activity was more important to them than the other. Item responses were made on a seven point scale, 1 indicating strong agreement and 7 indicating strong disagreement. The lower the score indicated the stronger the subjects agreement with the statement.

All scale items were standardized and Cronbach's alpha was used to establish the internal consistency of the item. For the whole subject group (N=103), alpha for DRIVE was .7799, alpha for DRINK was .7828, and alpha for PREFERENCE was .4278. The reliability for PREFERENCE was considered low and the scale was not considered further for statistical purposes.

Since PREFERENCE was not deemed a reliable measurement, it was not possible to test for the first hypothesis that driving was more important than drinking. Further, due to the nature of DRIVE AND DRINK a

comparison between the two scale means was not enlightening and concise statistical analysis was unavailable. However, an examination of group means and the differences between group means provided information on group trends and differences. Means and Standard Deviations are presented in Table 2.

Independent t-tests were performed on DRIVE and DRINK to determine whether possessing a driver license and being allow to drink was more important to male than to female adolescents. For DRIVE $t(92)=-1.04$, NS. The results did not confirm that having a driver license would be more important to adolescent males than to adolescent females, but found that gender made a difference in the importance of being allowed to drink. For DRINK $t(68)=-3.20$, $p<.05$ meaning that these findingd indicated that being allowed or having access to alcohol was more importan to adolescent males than to adolescent females.

Analysis did not find support for the third hypotheses that as the age of the adolescent increased, the importance of driving would increase more than the importance of being permitted to drink alcohol. Independent t-tests for DRIVE and DRINK were performed to determine whether age would make a difference. For DRIVE $t(88)=-.47$, NS and for DRINK $t(98)=.61$, NS. Further analysis was not deemed necessary.

Supplemental Results

A 2 by 2 analysis of variance (Grade x Sex) was performed to determine whether either grade, sex or a combination of both would affect the value the subject groups placed on the opportunity to drive versus being permitted to

Table 2

SCALE MEANS and STANDARD DEVIATIONS

Scale	Total	Total	Total	Younger Group			Older Group			Reliability
	Group (103)	Male (49)	Female (54)	Total (52)	Male (23)	Female (29)	Total (51)	Male (26)	Female (25)	
DRIVE										
Means	6.25	6.00	6.82	6.24	6.39	6.11	6.61	5.65	7.70	.7799
SD	3.97	3.76	4.15	3.36	3.35	3.42	4.54	4.13	4.83	
DRINK										
Means	31.61	29.81	33.00	31.78	30.13	33.07	31.16	29.53	32.92	.7928
SD	5.32	6.23	3.11	5.02	6.04	3.66	5.20	6.49	2.38	
PREFERENCE										
Means	12.97	12.67	13.24	13.12	12.68	13.45	12.82	12.65	13.00	.4278
SD	2.19	2.61	1.70	2.14	2.80	1.43	2.24	2.50	1.98	

drink. A main effect for DRINK was found indicating that the sex of the subject made a difference in the importance of having access to alcohol, $F(1,99)=11.19, p<.001$. There were no interactions found. The responses of the male subjects indicated that this subject group placed more importance on being permitted to drink than did those of the female subjects.

To test whether age or gender made a difference on the vignettes presented in Section 3, independent t-tests were performed. For the first story in which the driver's age was 16, neither age [$t(94)=1.74, NS$] nor gender [$t(94)=.41, NS$] made a difference. Also, for the second story in which the driver's age was 20, neither age [$t(97)=1.33, NS$] nor gender [$t(95)=.35, NS$] made a difference. For the third story in which the driver was 15.5 and had only a learner's permit, again neither age [$t(99)=-.25, NS$] nor gender [$t(98)=.69, NS$] made a difference.

To determine whether age or gender made a difference on parental responses, how the story's subject should have acted or the consequences for drinking and driving, independent t-tests were performed. For expected parental responses neither age [$t(93)=-.38, NS$] nor gender [$t(92)=-.47, NS$] made a difference. As to the recommended behavior for the story's subject neither age [$t(95)=1.33, NS$] nor gender [$t(95)=1.33, NS$] made a difference. Also, for suggested consequences neither age [$t(97)=1.22, NS$] nor gender [$t(82)=.57, NS$] made a difference. Further, for the consequences given to a adolescent passenger of a drinking teenage driver, neither age [$t(96)=-.19, NS$] nor gender [$t(100)=-.59, NS$] made a difference.

Ranking of Consequences and Participants Suggestions

In Section 3 of the questionnaire six consequences were rank ordered by the subjects with 1 being most appropriate and 6 being least appropriate.

Rank	Consequence
1.	Loss of license and pay for damage.
2.	Loss of license for specific time.
3.	Loss of license and community service.
4.	Pay for damage with no loss of license.
5.	Traffic School.
6.	Community service with no loss of license.

All groups were in agreement about the rankings of the first three consequences. There were some differences in the ranking of the last three consequences, freshmen males ranked "community service with no loss of license" higher than "traffic school", while senior females ranked "traffic school" over "pay for damage with no loss license". Loss of license was the most recommended consequence and would be considered the best deterrent to the teenage drinking and driving. Group data is presented in Table 6.

Also, in Section 3 of the questionnaire subjects had the space to write their own suggestions of effective preventative actions. Responses were made by 86% of the entire sample; 96% of the younger females; 78% of the younger males; 96% of the older females; and 77% of the older males. While there were some "I don't know" and "nothing" responses, many specific suggestions were made. Some suggestions indicated the assumption of personal responsibility, such as naming a designated driver and/or not drinking; other responses seemed to place the responsibility on external control such as stricter penalties for providers of alcohol; limiting adolescents' access to alcohol. Loss of license (one subject recommended

losing the license for 10 years); harsher penalties for offenders and more expanded educational programs. However, one attitude was very evident, teenage drinking was accepted as a given by all groups, and very few "stop or don't drink" responses were given.

Younger females gave suggestions that appeared to depend on use of personal self control, such as knowing one's limit or making arrangements to avoid driving after drinking by arranging a designated driver or arranging for more chaperones. In contrast, younger males responses displayed more reliance on external controls, such as punishing the sellers, road blocks, raising the driving age or having more accepting parents. However, one younger male recommended that the issuing of a driver license be associated with a rating for responsibility, but gave no explanation on how to define or judge responsibility. Another respondent suggested that the obtaining of a driver license be associated with the subjects grade point average but gave no details.

Older females also gave responses that indicated the need for greater internal control as well as planning ahead by such as of as the selection of a designated driver. Respondents recommended educational programs, which included exposing teenagers to graphic movies or visiting the scene of accidents, which were described as being effective in increasing their awareness of the danger. Older males' responses also indicated the need for self control and plan ahead concepts, as well recommending overall harsher penalties such loss of license. One suggested the loss of license for 1 year plus and additional year for each 3 years that the driver was below the age of 21. For example, if the driver was 21 or more, lose license for 1 year; 18 to 20 years

of age, lose license for 2 years; 15 to 17 years, 3 years after the age of 16; and 12 to 14, 4 years after the age of 16. Also, educational programs, especially those which included graphic information were deemed to be a convincing deterrent to driving after drinking.

DISCUSSION

This study investigating adolescent's attitude towards the activity of drinking and driving found that driving, as indicated by the importance of a driver license, was equally important to both male and female teenagers, but that drinking alcohol was more important to male subjects. For participants in this study loss of one's driver license was the most recommended consequence for drinking and driving. Additionally, educational programs which included graphic examples of the tragic results of drinking and driving were deemed as effective in impacting this risky behavior. Moreover, neither age or gender affected attitudes towards drinking and driving or the consequences received by passengers of a drinking driver.

The finding that possessing a driver license and thus, the opportunity to drive, was equally important to teenage males and females may reflect societal changes. The increase of the percentage of females in the work force and female single parent household may make driving equally important to both sexes. Another explanation for the finding that both sexes valued a driver license equally might be that the data was collected in a suburban area in which public transportation is limited. For this reason driving may be more important to all adolescents in this rural area than to those who live in an urban area. For this population an automobile may be considered a necessity or at the least an expected convenience. Also, the above average

income of families in this study might affect the availability of an automobile to the adolescents making driving more than privilege but an expected right.

While the statistical tests did not find that driving would become more important than drinking as the subject aged, examination of group means scores for DRIVE and DRINK provide some interesting implications. The mean scores on DRIVE indicate that driving is more important to the younger group, while those for DRINK indicated that the older group places more importance on having access to alcohol. Although purely speculation, these scores might suggest that once the license is obtained, another goal not yet attained becomes more important. Also, the mean scores on Drive for the older female group suggest that this group places less importance on driving than the other groups.

Further, the findings agree with Lang's (1985) conclusion that male adolescents would value drinking more than female adolescents. Since in our society there are, with limited exceptions, no formalized societal rites of passage to adulthood, drinking alcohol may serve as a life milestone for males. For females, the biological changes associated with menarche may fulfill requirements for rites of passage to womanhood. The onset of menstruation and physical changes, especially development of the breasts, receive great attention and might provide adolescents females adequate signs of maturation. However, for adolescent males the biological changes may not suffice as rite of passage into manhood, and driving and drinking may have become associated with initiation into adulthood.

When this concept is joined with Donovan and Jessor's (1978) findings that problem drinkers placed less value on academic achievement, the

importance of school graduation as a life milestone may be diminished. Thus, for young males driving and drinking may act as important life markers. If, in deed, young males do regard both driving and drinking as signs of maturity, then maybe more punitive consequences for the illegal and reckless behavior of driving after drinking might change this perception. Additionally, if some more responsible behavior or other achievements, such as academic, athletic or social accomplishments, were emphasized, such attainments might be recognized and accepted as male life milestones.

Suggested Recommendation for Educational Programs

This study and others suggest that driving and the availability of an automobile are highly valued by adolescents (Kamptner, Rodrigues and Stevenson, 1989). Further, more driving after drinking seems to occur more frequently among youth who were easily bored and who acted without regard for consequences (Farrow, 1987). Given these findings, preventative programs might first identify high risk adolescents and, then, present educational programs about the effects of this risky behavior as well as increasing skills to find more appropriate sources of entertainment.

In addition, alienation has been found as an issue in previous studies (Donovan & Jessor, 1978; Farrow, 1987), thus interventions that focus on this might be appropriate. Such programs might be designed to strengthen the subjects opinion of their own ability using Bandura's "self-efficacy" and learned observation learning theory (Whitman, Loftus, Marshall, 1988, p 357). Needed are programs which establish activities that would increase the confidence of teenagers, particularly that of the males, and improve their

decision making skills, as well as offering opportunities to allow them to feel an equally important member of society.

In addition to alienation, adolescents with drinking and driving records were described as more depressed, more aggressive, more paranoid and had low self esteem. Interventions designed to affect these characteristics might also be considered. Programs need to provide the opportunities for adolescents with these traits to learn appropriate expression of feelings and to work on improving self esteem. Also, adolescents who are problem drinkers place less value on academic accomplishments and have lower expectations (Donovan & Jessor, 1978). Providing alternative measurements of success might be helpful for this group. Recognizing other accomplishments rather than a high G.P.A. might allow this group to feel more hopeful about their future and encourage behavior more acceptable to society.

Another issue found in previous studies was that of sensation or thrill seeking by adolescents (Arnett, 1992; Farrow, 1987). Teenage drinking and driving is a significant reckless behavior and of great concern. If Arnett's developmental theory that there are biological, cognitive and social influences which contribute to reckless behavior, interventions would need to address each of these factors. To accommodate biological sources of sensation seeking, alternative activities must be developed, while educational programs might affect the cognitive and social factors.

Although in conflict with Meacci's conclusion that knowledge would not affect behavior, the comment made by the subjects in this study indicate a consensus about the efficacy of educational programs in decreasing teenage drinking and driving. Their suggestions included the showing movies of

automobile accidents involving drinking drivers. Also suggested was allowing teenagers to view first hand, those accidents in which friends were involved. Additionally, these experiences might include riding with police to the scene of accidents and going to hospital emergency rooms. If adolescents were to observe the long term effects on peers injured in automobile accidents involving alcohol, perhaps they might recognize their own vulnerability. Also, exposure to consequences suffered by adults who drove after drinking might be included to dispel any perceived invulnerability of adults who often appear to go unpunished when participating in this risky and illegal behavior.

At the present time any programs regarding these subjects are generally presented in Driver's Education which is scheduled for either Junior or Senior school years. By this time, the youth, now 16 or 17 years of age, will have progressed part if not half way through the developmental phase which Erikson (1964) identifies as the Fifth Stage, Identity and Repudiation versus Identity Diffusion. At this age youths have already formed many basic opinions and redirection of their thinking will be more difficult. Therefore, exposing adolescents at an earlier age to classes which demonstrate the adverse consequences of drinking and driving is recommended. If such programs were combined with activities to build self esteem and social skills, the attraction of alcohol might be reduced, thus decreasing in the number of youth who would drive after drinking and the subsequent accidents.

Finally, the ranked consequences as well as the subjects' comments, indicate that the loss of license, either by itself or in combination with another sanction was considered the most deserved punishment for this

undesirable behavior. When this finding is looked at in conjunction with Burkett and Carrither's (1980) conclusion that the certainty of a negative consequence was the best deterrent for teenage drinking and driving, the author concludes that guaranteed loss of license for drinking after driving would be the most effective way to discourage this risky and illegal teenage behavior. The NTSB (1993) recommendations also support this conclusion.

Passengers of Drinking Drivers

Considering that the passengers of drinking drivers themselves more often become drinking drivers than persons who did not ride with drinking drivers, (DiBlasio, 1988; Nusbaumer & Zusman, 1981), interventions are needed for this group. Perhaps programs similar to those recommended for drinking drivers might be used to discourage the behavior of riding with a drinking driver. By providing youth with the knowledge of consequences for drinking and driving, the number of youth who are passengers might be reduced. Additionally, implementing punishments for passengers in a car driven by someone who had been drinking might be considered in order to reduce the number of youth who ride along. However, even if the number of teenage drinking drivers were decreased, there still remain many legal aged drinking drivers, parents and friends, whose behavior the teenager may imitate.

The issue of the legal aged drinking driver was also addressed by the participants in this study. Responses showed that the subjects participating in this survey felt that teenager drivers were being singled out and received harsher penalties than adults. In California if a minor is "convicted of using

alcohol", the result might be suspension of the driver license or postponement of the age when the license could be obtained (DMV, 1992). The participants in this study recommended that equally harsh sanctions should apply to legal aged drinking drivers. If more publicity were given to consequences currently meted out to adult offenders, youthful drivers might be less likely to imitate the behavior. Regardless, whether the act of drinking and driving is a delinquent offense committed by a juvenile or a criminal offense committed by an adult, the punishment should be the same.

Learner's Permits and Provisional Licenses

Other participant responses suggested that obtaining a driver license and being allowed to drive might be a privilege associated with some responsibility rating or the student's G.P.A.. Currently in California, in order to obtain a driver license, a youth must take a driver's education class, exhibit a specific level knowledge of the traffic laws on a written test and demonstrate the ability to physically control the motor vehicle in an appropriate manner. However, there is no way to predict the adolescents unsupervised behavior, the level of their responsibility taking or the quality of their judgment. Meacci (1990) found that knowledge does not necessarily affect attitude and behavior. Perhaps an evaluation of adolescents preparedness to obtain a learner's permit or a provisional driver license could include some indication of their willingness to obey the law and aptitude to make responsible decisions. Rather than the automatic progression from learner's permit to provisional license upon reaching the legal driving age, this privilege might

be contingent on an assessment of the youth's acceptance of responsibility and commitment to obeying the law.

At the present time California offers both a provisional permit and a provisional license (DMV, 1992). The learner's permit is issued to persons between the age of 15.5 and 17.5 years who have completed the driver education course in addition to other requirements, but not demonstrated ability to operate a motor vehicle. With a learner's permit the individual must always be accompanied by a licensed driver whenever s/he drives. The provisional license is issued to person between the age of 16 and 18 after a demonstration of the individual's driving ability, and allows the individual to drive alone. As long as it remains provisional, the license may be canceled by parents or suspended by the DMV under specific circumstances. However, the provisional part of the license expires when the individual becomes 18 years of age. If this provisional license were extended until the age of 21, then it could be more easily revoked if the youthful driver engaged in risky or illegal behavior. Further, perhaps any individual regaining a license after a revocation or suspension, regardless of age, should be issued a provisional license for a set time.

Also, maybe the length of time the learner's permit is in effect could be extended until the youth proved him/herself to be responsible. Responsibility might be attached to academic performance, school participation and community contribution, requiring the input from the education system and other community agencies. Reliance on solely academic standing would be unfair to a responsible but poor student.

Additionally, at the present time learner's permits are only required if the individual is below the legal driving age of 18. In California, once the legal driving age of 18 is attained, a regular, rather than a provisional, driver license is issued (DMV, 1992). One alternative might be requiring a learner's permits for all first time adolescent drivers, regardless of their age at the time of applying for a license. This would mean that any new driver under the age of 20 would have extended period of driving time accompanied by a more experienced driver.

BAC and the Teenage Driver

If the NTSB recommendation that a person under the age of 21 lose the driver's license if any level above 0.00 BAC were found, there would be no doubt about acceptable BAC levels. More forceful enforcement of the alcohol laws would include penalties for both driving and non driving youths. Perhaps random testing for BAC would discourage any youth who was interested in driving from ever drinking. If at any point a youth had a BAC above 0.00, the driver license would be immediately suspended or the date on which a driver license could be obtained would be postponed a predetermined and well publicized period.

Additionally, consideration of punishments for youth who attempt to obtain alcohol might be considered, whether the youth used a false I.D. or sought the help of an adult. This type of consequence would place the responsibility directly on the youth. Moreover, such consequences might reinforce the relation between obtaining or attempting to obtain alcohol and the risky behavior of drinking and driving.

The author concluded that strong sanctions are needed to discourage teenage driving after drinking. Farrow (1987) found that drinking teenage drivers demonstrate behaviors including impatience, impulsiveness, being easily bored and nonconformity, which distinguish them from the non drinking teenage driver. If programs which identified problem prone youth at an early age were created, then implementation of activities to help such youth develop more acceptable behavior might decrease or avoid this undesirable conduct. Studies of the problem group could be made to determine whether punishment, threat of punishment, a promise of a positive reward or some combination would be most effective deterrent to drinking and driving. Also, those youth who appeared likely to become problem drivers might be studied to determine what system of consequences would assure that they continue to stay uninvolved in risky behavior. If all else fails, a final recommendation might be raising the legal driving age to either 18 or 21.

This study identified other questions which need further investigation. One is how to identify youth who are at risk of drinking and driving. Second, it would be useful to elucidate the factors that might be effective deterrents to teenagers involvement in this risky behavior. Further, since drinking and driving may result from modeling, what, if any, is the effect of being raised in an alcoholic family. Finally, a question also needing investigation is the importance of drinking alcohol to the adolescent female in comparison to the adolescent male and what effect this difference may indicate for preventative programs.

APPENDIX A

Questionnaire

Background information:

Date of Birth _____

Sex M ___ F ___ (Check one)

Grade in School _____

GPA _____

Do you have a Learner's Permit? Yes ___ No ___

Do you have a Driver's License? Yes ___ No ___

Have you had drivers Ed? Yes ___ No ___ Do you Drive? Yes ___ No ___

Do you have a car? Yes ___ No ___ If you drive, is a car available to you? Yes ___ No ___

Write the correct number of older and younger sisters and brother you have on each line.

Younger brothers and sisters _____ Older brothers and sisters _____

Do you work? Yes ___ No ___ If so, do you need a car to go to work? Yes ___ No ___

How many legal drivers are there in your immediate family? _____

Have you been in a car accident? Yes ___ No ___

Do you know anyone who has been in a car accident? Yes ___ No ___

If "Yes" was this a relative ___; friend ___; neighbor ___; other _____.

Do you know anyone who has been in a car accident when the driver had been drinking? Yes ___ No ___

If "Yes" was this a relative ___; friend ___; neighbor ___; other _____.

Which of the following best describes your ethnic background? (Mark one)

1. Afro-American ___ 2. Hispanic ___ 3. White ___ 4. Asian ___
5. Native American ___ 6. Other _____ please specify

What is your family's yearly income (your best estimate). Please check number which applies.

1. Less than \$10,000 _____ 5. Between \$60,000 and \$80,000 _____
2. Between \$10,000 and \$20,000 _____ 6. Between \$80,000 and \$100,000 _____
3. Between \$20,000 and \$30,000 _____ 7. Over \$100,000 _____
4. Between \$40,000 and \$60,000 _____

Please indicate the type of work your parents do or did, if retired. Please check the one which applies.

	Your father	Your mother
1. Unemployed	-----	-----
2. Unskilled labor	-----	-----
3. Skilled, blue collar worker	-----	-----
4. Skilled, white collar worker (i.e. sales, clerical, service, etc.)	-----	-----
5. Manager _____	-----	-----
6. Professional, (e.g. nurse, teacher)	-----	-----
7. Executive, high income Professional	-----	-----

What was the highest educational level (school grade) of your parents? Please check the one which applies:

	Your father	Your mother
1. Less than high school	-----	-----
2. Some high school	-----	-----
3. High school graduate	-----	-----
4. Some college	-----	-----
5. College graduate	-----	-----
6. More than college graduate	-----	-----

SECTION 2 [Same Sex Scenario--Female Subjects Received Questionnaires Containing the Name "Sally"].

The next part of the questionnaire involves answering questions about a situation in which drinking and driving are involved. Please answer the questions based on the following story.

John is at a friend's house where liquor is available. Although he had not planned on drinking, his friends convinced him to have some beer. As the time passes and his curfew approached, he realized that he was feeling kind of funny and became anxious about driving. John was scared to call his parents for a ride so he drove home. His parents were home when he arrived and realized that he had been drinking and driving.

1. Have you ever been in a situation like John's? If so, which one (Mark all answer that apply to you.)

1. _____ None of this situation applies to me.
2. _____ Drank at a friends house after I had decided not to drink.
3. _____ Had to leave a social activity because I had a curfew.
4. _____ Been afraid to call my parents.

For the next 3 questions pretend that John is 16, lives at home and was driving his parent's car.

2A. If he calls his parents how will they react? (Mark one)

1. _____ They will be angry, refuse to pick him up and tell him to get home with someone else or walk.
2. _____ They will be angry, but will pick him up and then will ground him or invoke another punishment.
3. _____ They will be glad he called them instead of drinking and driving, and pick him up. There will be no punishment.
4. _____ They will be glad he called, but angry that he was drinking.
5. Other:

2B. What should have John done when his friends tried to convince him to drink? (Mark one)

1. _____ Agreed to drink with them.
2. _____ Stuck to his original decision not to drink.
3. _____ Drunk just a little.
4. _____ Left the party immediately.
5. Other:

2C. What type of punishment should John receive for drinking and driving? (Mark one)

1. _____ None.
2. _____ Receive punishment, such as grounded or loss of privileges, but keep license.
3. _____ Lose driver's license for specified period of time.
4. _____ Lose License until 18.
5. Other:

The next 3 questions are about the same incident, but this time pretend John is 20 years old and drives his own car. He still lives at home while attending school and has a part-time job.

3A. If he calls his parents how will they react? (Mark one)

1. _____ They will be angry, refuse to pick him up and tell him to get home with someone else or walk.
2. _____ They will be angry, but will pick him up and then will ground him or invoke another punishment.
3. _____ They will be glad he called them instead of drinking and driving, and pick him up. There will be no punishment.
4. _____ They will be glad he called, but angry that he was drinking.
5. Other:

3B. What should have John done when his friends tried to convince him to drink? (Mark one)

1. _____ Agreed to drink with them.
2. _____ Refused to drink.
3. _____ Drunk just a little.
4. _____ Left the party immediately.
5. Other:

3C. What type of punishment should John receive for drinking and driving? (Mark one)

1. _____ None
2. _____ Receive punishment, such as grounded or loss of privileges, but keep license
3. _____ Loss of driver's license for specified period of time
4. _____ Lose License until 21.
5. Other:

Please answer the following questions about the same incident but this time pretend John is 15 and 1/2 years old and has a learner's permit. He is driving his parent's car without their knowledge.

4A. If he calls his parents how do you think will they react? (Mark one)

1. _____ They will be angry, refuse to pick him up and tell him to get home with someone else or walk.
2. _____ They will be angry, but will pick him up and then will ground him or invoke another punishment.
3. _____ They will be glad he called them instead of drinking and driving, and pick him up. There will be no punishment.
4. _____ They will be glad he called, but angry that he was drinking.
5. Other:

4B. What should have John done when his friends tried to convince him to drink? (Mark one)

1. _____ Agreed to drink with them.
2. _____ Refused to drink.
3. _____ Drunk just a little.
4. _____ Left the party immediately.
5. Other:

4C. What type of punishment should John receive for drinking and driving? (Mark one)

1. _____ None
2. _____ Loss of learner's permit for specified period of time
3. _____ Lose learner's permit until 16.
4. _____ Not get driver's license until 18.
5. _____ Not get driver's license until 21.
6. Other:

Please answer the following questions about the same incident but this time pretend John, age 16 with a valid driver's license, had his friend Bob, age 16, in the car with him. On the way home they were involved in an auto accident and Bob was injured.

5A. What type of type of punishment should John receive for drinking and driving? (Mark one.)

1. _____ None
2. _____ Lose driver's license for specified period of time
3. _____ Lose license and pay for damage.
4. _____ Pay for damage, but not lose license.
5. _____ Lose license until 18.
6. _____ Lose license until 21.
7. Other:

5B. What type of punishment should Bob receive for riding with John who drank and drove? (Mark One)

1. _____ None.
2. _____ Lose driver' license for specific period of time.
3. _____ Lose license until 18.
4. _____ Lose license until 21.
5. _____ If Bob doesn't have driver's license, he shouldn't get it until he is 18.
6. _____ It depends on how seriously Bob is hurt.
7. Other:

SECTION 3 Ranking of Consequences

6. Below are some consequences which might happen if you are caught driving when drinking. Please rank these consequences from 1 to 6, with number 1 being the one you feel is most appropriate and 6 being the least appropriate.

1. _____ Lose your license for a specific period of time.
2. _____ Traffic school.
3. _____ Lose license and pay for damage.
4. _____ Pay for damage, no loss of license.
5. _____ Community service, loss of license.
6. _____ Community service, no loss of license.

7. Here is a chance for you to write your own ideas. What do you think would be the most effective way to stop teenagers from driving after drinking? Please write your own solution:

SECTION 4 Scaled Items

For each of the following statements please indicate whether you agree or disagree with it by circling the choice which most closely matches how you feel.

1 = Strongly agree 2= Agree 3= Somewhat agree 4 =Unsure 5= Somewhat disagree 6=Disagree
7 =Strongly Disagree

	Strongly Agree							Strongly Disagree
1. I would rather drink at 16 and wait until I was 21 to drive.	1	2	3	4	5	6	7	
2. If I knew I would lose my license for 5 years if I were caught I would not drive and drink.	1	2	3	4	5	6	7	
3. It's more important to me to drive than to drink.	1	2	3	4	5	6	7	
4. My parents would be more upset if I drove the car with out a license than if I came home after drinking.	1	2	3	4	5	6	7	
5. I would rather date someone with a driver license than someone who didn't have one.	1	2	3	4	5	6	7	
6. Driver's license should only be issued to those with a C+ grade point average.	1	2	3	4	5	6	7	
7. If someone who drops out of high school, he/she should not be allowed to obtain a driverslicense until he/she is18.	1	2	3	4	5	6	7	
8. Having a driver license is very important to me.	1	2	3	4	5	6	7	
9. If I lost my driver license my life would be much less pleasant.	1	2	3	4	5	6	7	
10. My life wouldn't be any different if I didn't have a driver license.	1	2	3	4	5	6	7	
11. I prefer to have friends who have a driver license.	1	2	3	4	5	6	7	
12. Everyone has the right to get their driver license as soon as they are 16.	1	2	3	4	5	6	7	
13. Too much concern is made about teenagers driving and drinking.	1	2	3	4	5	6	7	
14. It's more important for girls than boys to have a driver license.	1	2	3	4	5	6	7	
15. If someone rides with a drinking driver, they should not be allowed to get a driver's license until they are 18.	1	2	3	4	5	6	7	
16. Drinking and driving is OK as long as no one gets hurt.	1	2	3	4	5	6	7	
17. Drinking is all right as long as one doesn't drive.	1	2	3	4	5	6	7	
18. Being able to drive is very important to me.	1	2	3	4	5	6	7	

1 = Strongly agree 2 = Agree 3 = Somewhat agree 4 = Unsure 5 = Somewhat disagree
 6 = Disagree 7 = Strongly disagree

	Strongly Agree						Strongly Disagree
19. The right to drive is a privilege and must be earned.	1	2	3	4	5	6	7
20. I would drink and drive even if I knew that 75% of those who do have accidents.	1	2	3	4	5	6	7
21. Sometimes I wish that my parents would stop drinking.	1	2	3	4	5	6	7
22. The law should allow drinking at age 16, but not give driver license until age 18.	1	2	3	4	5	6	7
23. I can drink and drive without having an accident.	1	2	3	4	5	6	7
24. It would be more upsetting not to be able to drive to work than not being able to pick up a date.	1	2	3	4	5	6	7
25. If someone is caught drinking and driving, they should still be allowed to drive to work.	1	2	3	4	5	6	7
26. The school authorities should have the authority to revoke licenses of those who drop out of school.	1	2	3	4	5	6	7
27. The school authorities should have the power to revoke the driver license of those who don't maintain a proper grade point average.	1	2	3	4	5	6	7
28. If you have gotten away with drinking and driving, you should admit it, if your parents ask you.	1	2	3	4	5	6	7
29. My parents drinking has interfered with our family life.	1	2	3	4	5	6	7
30. I would prefer to go out with someone who drinks and drives rather than stay home.	1	2	3	4	5	6	7
31. If I could legally drink at 16, I would gladly wait to 21 to get my driver license.	1	2	3	4	5	6	7
32. It's more important for boys than girls to have a driver's license.	1	2	3	4	5	6	7
33. People who ride with drinking drivers should receive some type of punishment.	1	2	3	4	5	6	7
34. I know how much I can drink before it affects me.	1	2	3	4	5	6	7
35. Having a driver license makes people more attractive.	1	2	3	4	5	6	7
36. I would still drink and drive even though I know that I would lose my license if I were caught.	1	2	3	4	5	6	7

1 = Strongly agree 2 = Agree 3 = Somewhat agree 4 = Unsure 5 = Somewhat disagree
6 = Disagree 7 = Strongly disagree

	Strongly Agree							Strongly Disagree
37. My parents would be more upset if I got drunk than if I drove without a driver's license.	1	2	3	4	5	6	7	
38. Drinking alcohol is very important to me.	1	2	3	4	5	6	7	
39. The law should permit the issuing of a driver license at age 16, but not allow drinking until age 18.	1	2	3	4	5	6	7	
40. It's more important to me to drink alcohol than to drive.	1	2	3	4	5	6	7	

APPENDIX B

Letter to Local High School District

Caroline L. Byassee
45620 30th Street East
Lancaster, CA 93535

April 9, 1992

Antelope Valley Union High School District
44811 Sierra Highway
Lancaster, CA 93534-3226

As a graduate student at California State University, San Bernardino, I am investigating teenage drinking and driving and am asking your permission to administer a questionnaire to students in the Antelope Valley High School District. Currently, the major cause of teenage deaths is alcohol related automobile accidents. The purpose of my research is, by surveying teenagers, to study the importance of having a driver's license and what consequences would discourage their drinking and driving.

My survey is a six (6) page questionnaire asking the participants opinions of appropriate sanctions and the value of having a driver's license. The responses to this survey will be confidential and the results will be presented in group data format only. Before participating in this research, each student must have parental permission as well as the individual agreeing to participate. Participants may stop taking the survey at any point, if they so desire.

As my research will look at what teenagers feel might be effective deterrents to drinking and driving, I hope that some age specific programs might be developed. I have attached a copy of the questionnaire for your inspection., as well as copies of the consent forms and debriefing forms. Therefore, in order to continue my research, I ask your permission to survey first and last year students. There will no expense to the High School District as I will provide all the survey questionnaires.

Thank you for your cooperation in this matter. If there any questions that I may answer I will be happy to do so.

Sincerely,

Caroline L Byassee

APPENDIX C

Parental Consent Form

Dear Parent,

As a graduate student at California State University, San Bernardino, I am investigating teenage drinking and driving. Currently the major cause of teenage deaths is alcohol related automobile accidents. The purpose of my research is, by surveying teenagers, to study the importance of having a driver's license and what consequences would discourage their drinking and driving.

If you consent to have your son or daughter participate, your child will be asked to complete a questionnaire asking his/her opinion of appropriate sanctions for those who drink and drive and the value of having a driver's license. Your child's participation is entirely voluntary and he/she may stop at any time. The responses will be anonymous, confidential and the results will be presented as group data only. Please complete the middle portion of this letter to indicate whether or not you will allow your child to participate in this study and have your child return it to me.

Thank-you very much for your cooperation. If you wish to see the final results, please put your name and address at the bottom of this form.

Sincerely,

Caroline L. Byassee

I do/do not wish to have my

son/daughter _____ (Student's name)
circle one

participate in the survey on teenage drinking and driving.

Parent/Guardian

Date

Please send the results of the study on teenage drinking and driving to:

APPENDIX D

Student Consent Form

Dear Student,

As a graduate student at California State University, San Bernardino, I am investigating teenage drinking and driving. Currently the major cause of teenage deaths is alcohol related automobile accidents. The purpose of my research is to study the importance of possessing a driver's license and what consequences would discourage drinking and driving. Your assistance would be a great help.

If you agree to participate in this survey, you will be asked to complete a consent form and a questionnaire. This questionnaire asks your opinions about a situation concerning drinking and driving as well as rating your agreement with a number of statements. Your participation is completely voluntary. If at any time you wish to stop you may do so. Your responses will be entirely confidential, anonymous and all results will be presented as group data. It will take you approximately 30 to 40 minutes to complete the questionnaire. Please do not discuss this questionnaire while you are answering it. Your opinion is important to me and it is your opinion that I want. When everyone is finished and turned in the form you are free to discuss it.

If you are willing to participate in this research please sign at the bottom of this letter and detach it from the questionnaire. When you have completed the questionnaire, please place the questionnaire in one pile and this consent form in another. Please return both forms.

Thank-you very much for your assistance and cooperation.

Sincerely,

Caroline L. Byasse

I am willing to participate in this research project about teenage drinking and driving.

Signature

Date

APPENDIX E

Instructions

Currently automobile accidents involving alcohol is the leading cause of teenage death. This research is seeking information which would lead to the development of programs that would reduce the amount of driving by teenagers who have been drinking. If such programs could be developed it might mean saving many lives. Therefore, your participation in this process is very important.

This questionnaire asks your opinion of what would be appropriate consequences or punishments for teenagers who drink and drive and your feelings about the importance of having a driver's license. Please indicate your answers in the space provided or circle appropriate category. Your answers are completely confidential and all results will be reported as group information. No one person's answer can be identified. Your participation is entirely voluntary. If you do not wish to complete the survey you may stop at any time. Completing the questionnaire will take approximately 30 to 40 minutes. Please do not discuss the questions while completing the form. When everyone is finished, you are free to talk about it. Please sign the consent form and detach it from the questionnaire. Do not write your name on the questionnaire.

Your cooperation and assistance is greatly appreciated. There is no time limit, some of you will finish more quickly than others. Please answer the questions at your own rate. Are there any questions? If there are no questions please begin. When you have finished please place questionnaire in one pile and the consent form in another. Thank you very much.

APPENDIX F

Debriefing Statement

Thank-you very much for your cooperation and assistance by participating in my research. I sincerely appreciate your efforts. By taking the time to answer this questionnaire, I believe you have made an important contribution towards the solution of a national problem. I assure you that your responses are anonymous and confidential, and that all results will appear as group data only.

If for any reason you have found any of the questions upsetting, unsettling or bring up unpleasant thoughts, please talk to the school counselor, your parents or contact other agencies or groups, such as AA or AlaTeen, which might help you to alleviate any resulting stress or emotions. Your school counselor may be contacted by calling 948-7655 ext. 239.

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