

AN EXAMINATION OF HOW KNOWLEDGE AND  
ATTITUDES ABOUT ALCOHOL IMPACT  
ON DRINKING BEHAVIOR AND  
DRUNK DRIVING

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AN EXAMINATION OF HOW KNOWLEDGE AND  
ATTITUDES ABOUT ALCOHOL IMPACT  
ON DRINKING BEHAVIOR AND  
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## PREFACE

This study is about attitudes and behavior and how they influence drinking and drunk driving behavior. However, this study would not have been possible without the assistance of several people.

Without the invaluable help and patience of Dr. Richard Dodder I could not have persevered through this endeavor. Additionally, the research data provided through Drs. Dodder and Hughes' efforts made my job much easier. Also the support provided by my parents Mr. Philip A. and Mrs. Barbara J. Howe helped sustain me through the difficult times I experienced. And without the words of encouragement from friends within and without the discipline, I do not know if I could have kept up my drive.

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## CHAPTER I

### INTRODUCTION

In any attempt to generalize about tendencies of individual or group behavior there is a degree of complexity that can be a barrier to analysis. When one considers the complexity of a behavior such as alcohol consumption the difficulty is multiplied. The basis of research of this type must have a sound foundation of theory and a definitive body of literature behind it. Such was the case with the present study.

The theoretical nexus of this study of whether attitudes and knowledge influence drunk driving behavior is based on symbolic interaction. Specifically, the work done by George Herbert Mead (1934) and further espoused by Herbert Blumer (1969) created a foundation for support. Their ideas on a complex of attitudes as a definition of self leads directly to the next thought of the self being reflexive. This reflexive ideology allows one to point toward interaction not only with others as well as with one's own self. The level of reflexivity can be general or specific in focus.

The real meat of the analysis pertained to internalization of attitudes of others that reflects a systematic

pattern of group behavior. Because most actions are under volitional control, the intention to perform is equated to a determinant of behavior.

The other major theoretical ideology used was that of cognitive dissonance as explained by Festinger (1962). Festinger discussed the consistency of behavior with a decision as a result of rationalization by the individual. In his discussion of Decision Theory, Festinger stated that after making a decision an individual attempts to reinforce the "correctness" of a decision. The individual attempts to enhance consonance and downplay dissonance. This was a possible explanation of consistency of behavior among drivers and drinkers after a decision has been made.

In considering pertinent literature, La Piere (1934) attempted to correlate attitudes toward Orientals with actual behavior toward Orientals. But La Piere concluded that the reliability of assumptions of this connection were questionable.

In addition, Ajzen and Fishbein (1977) attempted to predict single actions performed by an individual. Ajzen and Fishbein (1963) found behavioral intentions could be predicted with more accuracy by considering attitudes toward all behavioral alternatives instead of one. Fishbein also found that beliefs about an attitude object can be used to predict attitudes toward any object.

Building on Decision Theory, Ajzen and Fishbein combine it with Fishbein's model for predicting behavior.

The prediction of behavioral intentions depends on attitudes, personal normative beliefs, social normative beliefs, and motivation to comply with social normative beliefs.

McCarty, et al. (1983) studied the effect of attitudes and beliefs on alcohol use. Fishbein's work helped pinpoint occurrences when attitude and social norms influence alcohol use. Intentions of certain behaviors correspond strongly to aspects of similar actions and less so to varying actions.

Schlegel (1977), testing Ajzen and Fishbein's thesis, agrees that the strongest correlations result when attitudes toward specific behaviors are compared to later actual behavior. Strong attitude-behavior correlations are expected only when measures of attitude and behavior agree on several dimensions. Attitudes toward behavior and the object, plus considering the context and time of behavior, are important.

Concerning the methodology of the research done for this study, there was reliance on a one-shot case study with the questionnaire being administered at the Stillwater Tag Agency in September and October of 1985 (N=434) to all who came to obtain or renew a driver's license. The sampling procedure was described as being an accidental sample by Sellitz, et al. (1959). The questionnaire itself contains 65 items and was designed by Drs. Dodder and Hughes to ascertain knowledge, attitudes, and actual self-reported

behavior.

The questionnaire asked eight items of demographic interest, four of which were used in this study. Sex, age, education and marital status were the controls for this study. Studies of this nature show a high degree of repeatability and the reliability as well as validity are also quite high. The generalizability probably should not be extended to a large population, as the sample is drawn from a largely rural, mid-western community. To scale the measures, factor analysis was used to define traits which clusters of intercorrelated items measure. Knowledge items did not scale as well as the attitude and behavior items.

The basic diagram of the research objectives is laid out in such a way as to posit the question: are there correlations between cognitive ideologies (knowledge of alcohol, opinions about the police liability, opinions about social liability and total liability, perceptions of behaviors and penalties for drunk driving) and drinking/driving behaviors (frequency of wine consumption, frequency of liquor/beer consumption, total consumption, frequency of consuming more than one's self-imposed limit, and frequency of driving after consuming more than an intoxicating amount). Since there is variation on these measures by sex, age, education, and marital status, the correlations will also be examined for each category of each control variable (sex, age, education, and marital status).

Chapter II of the thesis will include a discussion of the theoretical perspective used to analyze the impact of attitudes and beliefs on drinking and driving behavior. Chapter III will be a review of the present literature on the impact of attitudes and beliefs on intention to behave as well as an analysis of Festinger's idea of cognitive dissonance. Next in Chapter IV will be a discussion of the methodology relied on to analyze, collect, and interpret the data. Chapter V will cover the results of the analysis of the drinking and driving problem, with Chapter VI summarizing the thesis en toto.

## CHAPTER II

### THEORY

Symbolic interactionism as a theoretical perspective relies mainly on three basic premises. The first is that human beings act toward things on the basis of the meanings that the things have for them. Secondly, the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows. And thirdly, these meanings are handled in and modified through an interpretive process used by the person in dealing with the things the person encounters (Blumer, 1969 p. 2).

Symbolic interactionism as described by Blumer originally blossomed out of the work done by George Herbert Mead. It presented the notion that the individual was a complex set of attitudes that are obtained from outside oneself that can be oriented in any direction. The individual or self can even be an object to itself. This characteristic is represented in the word "self", which is a reflexive and indicates that which can be both subject and object (Collins, 1985 p. 269). For Mead, the thinking mind is itself social, an internalized conversation among the different parts of the self, the "I", "me", and "generalized other" (Collins, 1985 p. 268).

The importance of this theoretical discussion lies in the fact that both Blumer and Mead concur on the issue of interaction. Whether interacting with another or with oneself or with an intangible "generalized other", human behavior involves interactions on the part of those concerned.

The fundamental difference between the game and play is that in the latter the child must have the attitude of all the others involved in the game (Collins, 1985 p. 276). Blumer goes a bit further to state that before interaction can take place there must be an intersubjectivity of meaning. The use of meanings by the actor occurs through a process of interpretation (Collins, 1985 p. 285). The actors must indicate to themselves that toward which they are acting, which is self-communication. Then they must select, check, suspend, regroup, and transform the meaning in the light of the situation in which they are placed and the direction of their action (Collins, 1985 p. 285).

Mead and Blumer's description of human behavior being based on attitudes derived from others is basic to the hypothesis presented by Ajzen and Fishbein. As implied above, the assumption is made that most actions of social relevance are under volitional control and, consistent with this assumption, the theory ties a person's intention to perform (or not to perform) a behavior as the immediate determinant of the action (Ajzen and Fishbein, 1980 p. 5). Ajzen and Fishbein's thesis grows from the seeds of the

micro-interactionist tradition.

In order to predict behavior one must know the importance of attitudinal or normative factors. Intention leads to behavior (reasoned action); and by identifying the determinants of intentions, one can predict behavior. According to Ajzen and Fishbein, a person's intention is a function of two basic determinants, one personal in nature and the other reflecting social influence (Ajzen and Fishbein, 1980 p. 6). The personal factor is the individual's positive and negative evaluation of a behavior, not unlike the "I" of Mead. The "I" . . . is something so to speak, responding to a social situation which is within the experience of the individual (Collins, 1985 p. 280). To further correlate Ajzen and Fishbein's model of behavior to symbolic interactionism, there is the social influence. This is the perceived pressure exerted on the individual to perform or not to perform a certain behavior. The attitudes of the others constitute the organized "me" . . . (Collins, 1985 p. 280).

Another theoretical construct that has been quite useful in explaining the consistency of behavior of drivers and drinkers after a decision has been made was cognitive dissonance, specifically, the aspects dealing with downplaying dissonance after making a decision. One particular facet of cognitive dissonance fits quite nicely into the analysis--making a decision between two alternatives, each having both positive and negative



aspects. Festinger stated that this is probably the most usual type of decision situation. In this scenario there were "some cognitive elements corresponding to the negative aspects of the chosen alternative which will be dissonant with the cognition of having chosen one particular alternative" (Festinger, 1965 p. 36). Dissonance is in this instance an inescapable fact of life.

According to Festinger the relative attractiveness of the decision determines the magnitude of dissonance. The more attractive the unchosen alternative the more likely it is that dissonance will be great. Thus, the individual must secure means to lessen the amount of postdecision dissonance.

The usual method that individuals use to decrease dissonance is changing one's cognition about the alternatives. Because any decision involved dealing with positive characteristics of the unchosen alternative and negative aspects of the chosen alternative, the dissonance is reduced by eliminating some aspects or adding new aspects of cognition that follow the direction of the decision. By reworking their cognition of the good and bad aspects of their decision, dissonance is arrested. Festinger further explicates this point by saying:

He may now be able to magnify the importance of the good points associated with the chosen alternative and to think of new advantages that he hadn't thought of before. He may be able to discover new information that favors the decision he took or to get others to agree with his action. (Festinger, 1965 p. 45).

Drinking drivers may attempt to redefine or re-evaluate their behavior in light of this process. Choosing this alternative, they may attempt to downplay the social and normative beliefs that create dissonance about this type of behavior. As the intention of behavior is associated with actual behavior, the individual follows through with manifestations of behavioral intent. Act follows thought in this scenario.

## CHAPTER III

### A LITERATURE REVIEW

The idea of predicting behavior has been researched for quite some time. An early social science attempt to discuss this relationship was an attempt by La Piere in 1934. In this study La Piere attempted to draw a correlation between attitudes and actual behavior toward an Oriental couple. La Piere's thesis is that there need be no relationship between what the hotel proprietor says he will do and what he actually does when confronted with a colored person. One would be tempted to assume that there would be a positive correlation between proprietor's attitudes and their actual behavior. La Piere's research showed that the reliability of this assumption is questionable. La Piere and his Oriental companions were turned away once out of 66 times at various hotels while the results of his survey showed that 43% of the queried hotel proprietors said they would not allow Chinese into their establishment.

Overwhelmingly the hotels and restaurants surveyed stated they would not allow Chinese or other ethnic groups to use their facilities (La Piere, 1934 p. 234). La Piere's study, though inconclusive and rather sloppy in con-

struction, paved the way for future research on attitudes and behavior.

A more up-to-date work being done on attitudes versus behavior are the theses presented by Ajzen and Fishbein. They attempt to predict single actions--specific behaviors performed by an individual (Ajzen and Fishbein, 1980 p. 31). Fishbein found that behavioral intentions in a choice situation could be predicted with higher accuracy by considering attitudes toward all behavioral alternatives rather than by using this towards only one of the possible actions (Fishbein, 1967 p. 400). In support of this model Azjen and Fishbein (1969) found that behavioral intentions for single acts as well as for acts in dichotomous and multiple choice situations were a function not only of attitudes toward the acts but also of normative beliefs with respect to these behaviors (Ajzen and Fishbein, 1969 p. 400).

In line with Rosenberg (1956), Zajonc (1954), and others, Fishbein has demonstrated that an individual's attitudes toward any object can be predicted with a high degree of accuracy from a knowledge of the individual's beliefs about the attitude object and the evaluative aspects of those beliefs (Ajzen and Fishbein, 1969 p. 400).

Building on a model of "Decision Theory" Ajzen and Fishbein attempted to combine it with Fishbein's model for the prediction of behavioral intentions in choice situations. In their article one hundred undergraduate

students participated by filling out a seven part questionnaire. The point being that Ajzen and Fishbein felt they could predict behavioral intentions better with attitudes, personal normative beliefs, social normative beliefs and motivation to comply with social normative beliefs than with only an individual's attitude toward the behavior in a given situation (Ajzen and Fishbein, 1969 p. 404).

In regards to the effect that attitudes and beliefs have on alcohol use, McCarty, Morrison, and Mills (1983 p. 238) employed several different attitudinal surveys--one of which was Fishbein's model of intention. This was tested by Schlegel et al. (1977 p. 421). McCarty, Morrison, and Mills state that compared to previous research, the Schlegel study was a major advance in the analysis of alcohol-related attitude-behavior relationships since a theoretical framework was used to investigate the relative contribution of attitudes in different contexts (1983 p. 328). For example, conditions were discovered in the research dealing with attitudes and drinking behavior. Fishbein's model helped to pinpoint the occurrences when attitudes and social norms influence alcohol use (McCarty et al., 1983 p. 328). Additionally, it should be pointed out that their research showed that intentions of certain behaviors correspond strongly to that same actual behavior and less strongly to varying aspects of similar actions. For example, intentions to drink beer at a party corresponded to drinking beer at parties and less strongly to

drinking wine in a pub. Both Ajzen and Fishbein and Schlegel et al. conclude that the strongest correlations resulted when attitudes toward specific behaviors were compared to later actual behavior.

Furthermore, Azjen and Fishbein (1977 p. 888) suggested that strong attitude-behavior correlations should be expected only when the measures of attitude and behavior agree on several dimensions. According to Ajzen and Fishbein, to predict beer drinking at a party on Saturday night, the attitude toward drinking (behavior) beer (object) at a party (context) on Saturday night (time) should be assessed. The more elements that attitudes and behaviors share in their correlation the more likely they are to correspond.

In Ajzen and Fishbein's study dealing with alcohol use being influenced by attitudes, self-reported alcohol use correlated in a more significant manner with other attitudinal measures. For example, heavy drinkers tended to approve of alcohol use in others whereas abstainers did not. On the other hand, beliefs about alcoholism and total consumption showed a weak correlation. The assessments of moderate and heavy beer drinking also correlated stronger with total consumption than did the less specific beliefs about alcoholism (McCarty, Morrison, and Mills, 1983 p. 328). Once again, the point is that prediction is more reliable when dealing with specific behaviors than with general ones.

Going hand-in-hand with beliefs about alcohol are

attitudes about alcohol. Attitudes, in regard to alcohol, have been the strongest influence on alcohol consumption in most settings (McCarty, Morrison, Mills, 1983). But more importantly the researchers have found that attitudes toward specific behavior seemed to correlate stronger than did attitude toward generalized behavior. By specifying a target (i.e., beer) and the action (i.e., drinking) one can expect a stronger correlation between elements. McCarty, Morrison, and Mills (1983) state "specific behavior (beer drinking) was most strongly related to an attitude measure that specified both the target and the action."

Pursuing the results of their research, it was shown throughout that specified targets proved to be more reliable predictors of behavior than generalized attitudes toward behavior.

The influence of specificity was more apparent when a more specific measure of drinking behavior was examined -- monthly beer consumption. The less specific attitude toward alcohol correlated less strongly ( $r=.43$ ) than the more specific attitude toward drinking eight or more beers ( $r=.52$ ,  $+2.29$ , 445 d.f.,  $p<.05$ ). (McCarty, Morrison, Mills, 1983).

In addition, Schlegel tested Fishbein's model of intention and applied it to an analysis of alcohol use among high school students. Schlegel found that attitudes and social expectations contributed significantly to the prediction of both intentions to drink and even to the self-reporting of drinking behavior. Fishbein's model showed that specific conditions are needed as influential

determinants of behavior. Schlegel used this theoretical framework for the first time in an analysis of alcohol related attitude-behavior relationships (McCarty, Morrison, and Mills, 1983).

To further corroborate the attitudinal hypothesis, O'Brien, Rossi, and Tessler (1982) conducted a study to measure popular conceptions about drinking problems. Subjects in this study were presented vignettes or scenarios of various types of drinking behaviors and asked to rate the seriousness of the behavior. In all, seven independent variables were manipulated. Here are two examples of vignettes presented to the subjects.

Subject number 12 Mary P., is 23 years old. She comes from a middle class background. She drinks an average of 9 beers and drinks above the amount once a month. She says she is able to relax after drinking.

Subject number 767, Craig L., is 19 years old. He comes from an upper-middle class background. He drinks an average of 5 beers one or twice a week. He worries less about school after drinking. He is currently seeing a health counselor about drinking.

The seven variables manipulated in this study were:

- 1) sex, 2) social class, 3) age, 4) consumption,
- 5) frequency, 6) consequence, 7) help sought.

It was found in the results that the coefficients of amounts and frequency of drinking proved to be the most powerful predictors of seriousness (O'Brien, Rossi, and Tessler,



1982). Also the results illuminated a degree of disparity as to what society deems proper drinking behavior. It should also be mentioned that subjects rating the vignettes were liable to be swayed by personal drinking habits as well as habits of significant others. In conclusion, O'Brien, Rossi, and Tessler (1982 p. 318) stated that "the vignette method illustrates the potential of such an approach for the investigation of social psychological issues concerning the societal reaction to drinking problems." This in essence was an analysis of attitudes toward certain drinking behaviors.

In regards to the literature dealing with attitude and behavior, Ajzen and Fishbein's (1980) model of intent leading to behavior seemed quite appropriate. According to these authors, intention was a function of two basic determinants, an individual's personal attitude toward an object and socially influenced determinants (e.g., society's attitudes toward an object or behaviors, societal norms).

Ajzen and Fishbein further stated that there were two types of beliefs that underlie the attitudinal and normative factors influencing behavior. Though they stated that behavior cannot be directly observed, they believed it can be inferred from single actions. These single actions can be used to construct a general behavior criterion.

Ajzen and Fishbein's main premise regarding attitudes was that the individual made a favorable or unfavorable evaluation of the performance of a behavior, in this case

drinking and driving. This framework showed a close resemblance to symbolic interactionism. To further elaborate, Ajzen and Fishbein stated that behavioral intentions are influenced by subjective norms, by perceptions of others as they influence one's behavior, and are attributed to a generalized social agent.

## CHAPTER IV

### METHODOLOGY

The data available for this thesis were collected in a one-shot case study. This is when a group is studied only once (Campbell and Stanley, 1963 p. 3). In this case a 65-item questionnaire was administered to all individuals obtaining or renewing driver's licenses during the months of September and October in 1985. This method took in a cross-section of the Payne County, Oklahoma population. There were 434 respondents who voluntarily completed the questionnaire.

The questionnaire itself was designed by Drs. Dodder and Hughes of the Oklahoma State University Sociology department, following accepted procedures in the profession. Several of the knowledge questions asked are in a modified form from those asked by Engs (1977). The focus of this survey was to ascertain attitudes, knowledge and actual self-reported behaviors of individuals regarding alcohol consumption and subsequent drunk-driving behavior.

The sampling procedure for this study was quite simple. All individuals renewing or obtaining drivers licenses in Payne County in September or October of 1985 were asked to fill out the questionnaire. All licenses were processed

at the same window at the Payne County Tag Agency. Instructions were provided licensees as to where to obtain the surveys, as well as pertinent information about the surveying body. As the respondents waited for their pictures to be developed, they were allowed sufficient time to complete the questionnaire.

Occasionally there were those who did not want to complete the questionnaire. According to workers at the tag agency these individuals tended to be older and further stated they didn't drink so they weren't concerned with the survey. Since younger individuals are known to be responsible for a majority of alcohol-related difficulties, older respondents' refusal to complete a questionnaire should not adversely affect the results.

The sample obtained from the Tag Agency was what Sellitz, Jahoda, Deutsch and Cook (1985) describe as an accidental sample. "In accidental sampling, one simply reaches out and takes the cases that fall to hand, continuing the process until the sample reaches a designated size" (1959, p. 516). In addition, some may not have filled out the questionnaire as asked or answered erroneously.

There is no known way (other than by doing a parallel study with a probability sample or with a complete census) of evaluating the biases introduced in such samples. If one uses an accidental sample, one can only hope that one is not being too grossly misled (Sellitz, Johoda, Deutsch and Cook, 1959 p. 516).

The questionnaire itself addressed several areas. The first of which was general demographic data, items such as

sex, marital status, income, residence, age, education, and occupation were included. Next, questions of knowledge and attitude were asked. Specifically, knowledge about the effects of alcohol were asked and the attitude questions addressed the individual's perspective on police and the social and legal liabilities of drinking and driving. In Part II of the questionnaire, questions of drinking behavior were asked. The response categories of each measure were quite dissimilar. The knowledge questions were constructed as true, false, and don't know. True answers were coded as 1 and false answers were coded as 2 with don't know having been coded as 3. The opinion questions were built in a different fashion, the scale went from 1 for strongly disagree to 5 for strongly agree with neutral responses falling under 3.

The questions that pertained to quantity and frequency of drinking beer, liquor and wine were found in Part II, questions 1-6. The response categories allowed the respondents to describe their drinking behavior from 1 for never drinking beer, wine, or liquor to drinking these things 1-2 times a day.

A demographic description of the sample population follows, utilizing the categories pertinent to this study. First, a total of 201 men responded comprising 46% of the subjects. Women outnumbered the men by a small margin. The marital status of the respondents included 184 single persons (42%), 214 married persons (49%), and 36 persons

who were divorced, widowed, or otherwise alone. The next category is age. This was broken down into four different clusters. The first cluster was 35 and down with 44 (11%) respondents falling into this grouping. The second cluster went from 36 to 55 years of age with 125 respondents making up 31% of the sample. The third category went from 56 to 64 years with 160 members comprising 39% of the population. And the last age category to be considered was made up of those from the age of 65 on up. These numbered 78 people who made up 19% of the 407 total respondents. It should be noted that 27 respondents failed to complete the age category. In making a subjective appraisal as to the efficacy of generalizing about this sample it would seem that the two middle clusters (number 2 and 3) would be the easiest to discuss. Together these two categories comprise 285 of the total respondents and exactly 70% of the sample. Any relationship found in this analysis should make referencing to these clusters rather easy.

In considering the last category to be used as a variable in this study, the education level of the respondents was broken down into five categories. The first category contained 15 and made up 3.5% of the sample population. These individuals had less than a high school education. The second category had 66 persons making up 15% of the sample who were high school graduates. Next were the individuals with some college education. They number 190 and were 44% of the population. The fourth

TABLE I  
CHARACTERISTICS OF THE SAMPLE  
IN THIS STUDY

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Characteristics	Categories	
Sex:	Male	46.3%
	Female	53.7%
Age:	30 on down	42.0%
	31 to 60 years	31.0%
	61 on up	27.0%
Marital Status:	Single	42.0%
	Married	49.0%
Education:	High School	18.5%
	Some College	44.0%
	College Degree	36.5%

---

cluster possessing a college degree numbered 95, having a modest 22% of the sample. The last group numbered 62 and came in at 14.5% of the same sample. These persons had some degree beyond a college degree.

The numerical situation seemed to show that those with some college education were the ones it would have been logical to generalize about. Also the number of unclassified responses only numbered six, a small fraction of the total sample population.

The instrument itself is now to be addressed as to its reliability. One may desire to conduct a retest in order to determine the reliability or repeatability of such a study. In this case, the desire to conduct a retest is denied by the realization that retests seem to merely corroborate the previous findings. An example of this is shown by Ogle's (1972) doctoral dissertation. Ogle surveyed an undergraduate sociology class with a seventeen-item tolerance measure developed for her dissertation, a measure similar in structure to the ones used in the present research. One week later, the same class was given the same survey and scored like the previous test. The correlation coefficient between the scale totals on Test-run I and Test-run II was .96, indicating that subjects were responding almost identically to the scale on both occasions (Ogle, 1972 p. 61). Her scales were quite similar to the ones used here.

Further, self-reported data also runs a significant



risk of being biased, thus its reliability and validity could be in question. Sobell, Maisto, Sobell and Cooper (1978), however, reported the test-retest reliability of alcohol abusers' self-reports of their daily drinking and alcohol-related incarcerations and their drinking problem history were highly reliable ( $r=+.79$  to  $.98$ ).

In attempting to generalize about the research population to the population at large, one should be careful not to elaborate greatly. The sample surveyed is drawn from a largely rural, mid-western community, and attempting to generalize to other groups may bias other attempts at research. This is a fair sample, however, of drivers in this area. Thus the results will only be used to discuss behavior of individuals in this area. The data may not be applicable to other diverse groups.

At the outset the raw data are used to intercorrelate the items listed under the headings of attitude, knowledge, and behavior. The various items from the questionnaire are to be related to each other under their prospective listings and if they correlate the resulting intercorrelation matrix (R) is the beginning of the factor analysis. The (R) matrix is only the pattern of relationships among the items of each category.

Next, the eigenroots and vectors were extracted from the intercorrelation matrix. This gave a matrix of factor loadings that indicated the degrees of relationship between the original items and any new factor variables. By

performing these functions it was shown whether or not the items in the attitude, knowledge, and behavior categories exhibited common factor variance and the relationships between them.

Utilizing standard factor analytic modalities, the items of knowledge, attitude and behavior were inter-correlated separately and the resulting values made up a factor loaded matrix. As stated earlier this table or matrix listed values that posited the relationship between the original items and any underlying factors.

The six items designed to measure opinions regarding drunk drivers were factor analyzed together. The pertinent results are shown in Table II.

In consideration of the six attitudinal items contained in this study there were significant patterns to be sure. The eigenvalue on factor 1 was 2.48 accounting for 65% of the variance of the six items and all six measures loaded higher than .30 on the first factor. This is a significant clue that the items measured something in common, presumably what they were intended to measure. Upon a varimax rotation of the two factors extracted, four of the six items loaded at least twice as heavily on one of the factors and the remaining two measures loaded similarly on the other factor. The four items loading on a factor were: 1) police don't arrest enough drunk drivers, 2) police should use roadblocks to catch drunk drivers, 3) the age of 21 for 3.2 beer is good, and 4) drunk drivers

TABLE II  
 FACTOR ANALYSIS OF ATTITUDE ITEMS  
 PRINCIPAL AXIS ANALYSIS  
 FACTORS 1 AND 2  
 (N=417)

<u>Items</u>	$\bar{X}$	unrotated Factor 1	rotated Factor 1	rotated Factor 2
1. Police don't arrest enough drunk drivers	3.70	.64	<u>.77*</u>	.11
2. Police should set up roadblocks to catch drunk drivers	3.00	.69	<u>.76</u>	.21
3. The age of 21 for drinking 3.2 beer is good	3.40	.69	<u>.60</u>	.11
4. Drunk drivers stopped close to home should be taken there instead of jail	3.40	.36	<u>.62</u>	-.13
5. Social hosts should be liable for accidents by their guests	2.24	.71	.10	<u>.92</u>
6. Bartenders should be liable for accidents by their patrons	2.06	.71	.09	<u>.93</u>

\*Underlining indicates factor loadings which are approximately twice as strong on one factor as any other.

stopped close to home should be taken there instead of jail. Consequently this factor was named liability of police. The other factor contained two items: 1) social hosts should be held liable for their guest's accidents and 2) bartenders should be held liable for their patron's accidents. This factor was named social liability. Thus three attitude measures were developed; police liability, social liability and total liability.

The six items measuring quantity and frequency of alcohol consumption were factor analyzed together. The pertinent results are shown in Table III. Factor 1 on behavior accounted for 72% of the variance explained by the first factor. Its eigenvalue was 3.24; and again, the factor loadings for behavior on factor 1 were all well above .30.

Upon a varimax rotation of the two factors extracted four of the six items loaded at least twice as heavily on one of the factors and the remaining two measures loaded on the other factors. The four items loading on one factor were: 1) how often, on the average, do you usually drink beer, 2) how often, on the average, do you usually drink liquor, 3) when you drink, how much beer do you usually have during one drinking period, and 4) when you drink, how much liquor do you usually have during one drinking period. Consequently, this factor was labeled drinking liquor/beer. Frequency and quantity of wine consumption loaded together on the other factor and was labeled drinking wine.

TABLE III  
 FACTOR ANALYSIS OF BEHAVIOR ITEMS  
 PRINCIPAL AXIS ANALYSIS  
 FACTORS 1 AND 2  
 (N=381)

<u>Items</u>	$\bar{X}$	unrotated Factor 1	rotated Factor 1	rotated Factor 2
How often on the average do you usually drink:				
1. beer	2.46	.78	<u>.85*</u>	.14
2. wine	1.97	.59	.09	<u>.92</u>
3. liquor	2.12	.79	<u>.68</u>	.41
When you drink, how much do you usually have during one drinking period:				
4. beer	2.23	.72	<u>.89</u>	-.02
5. wine	1.77	.68	.24	<u>.86</u>
6. liquor	1.96	.82	<u>.77</u>	.32

\*Underlining indicates factor loadings which are approximately twice as strong on one factor as any other.

Concerning the knowledge items 6 out of 8 of them contained in the matrix loaded at significant levels to suggest an acceptable amount of common variance among the items. But three were negative, meaning that getting items 1-3 wrong was correlated with getting items 4-8 correct. In addition, the unrotated factor 1 accounts for only 32% of the total of the variance of the eight items explained by the first factor. That suggested that the loadings of each item in the category of knowledge should be scrutinized thoroughly. Table IV shows the loading of the knowledge items on factors 1 and 2. Also looking over the varimax rotation only four items had strong loadings.

Knowledge is always a difficult item to scale. Characteristically knowledge items display less consistency than other attitude variables. The best one can do is posit a tendency that contrary to attitudes, where we assume a consistent basis for holding beliefs, knowledge may be more segmented. Still our interest in knowledge is in the number of correct responses a subject knows whether knowledge is consistent or not. Thus, three measures will be used -- total right (correct knowledge), total wrong (misinformation), and total don't know (lack of knowledge).

The reliability of factor analysis is in its reductionistic characteristics. Factor analysis boils down variables to their basic units and allows researchers access to basic foundations. The other basic feature of factor analysis is its ability to test hypotheses. As a

TABLE IV  
 FACTOR ANALYSIS OF KNOWLEDGE ITEMS  
 PRINCIPAL AXIS ANALYSIS  
 FACTORS 1 AND 2  
 (N=242)

Items	$\bar{X}$	unrotated Factor 1	rotated Factor 1	rotated Factor 2
1. Drinking coffee or taking a cold shower helps sober a person	1.80	-.40	-.32	.21
2. Alcohol is usually classified a stimulant	1.70	-.50	.06	<u>.75</u>
3. 10% of fatal accidents are alcohol related	1.50	-.61	-.15	<u>.74</u>
4. Liquor mixed with soda will affect you faster than liquor drank straight	1.85	.31	.11	-.22
5. To avoid arrest a 150 lb. person should drink less than three beers in a 2 hour period	1.50	.54	<u>.76*</u>	.02
6. Moderate consumption alcohol is not harmful to the body	1.49	.52	<u>.68</u>	-.10
7. Eating while drinking slows alcohol absorption	1.31	.26	.26	-.12
8. A person can't become an alcoholic by drinking beer	1.97	.13	.13	-.20

\*Underlining indicates factor loadings which are approximately twice as strong on one factor as any other.

statistical package in and of itself, it is realible. It is in the act of application that factor analysis may be used incorrectly. Factor analysis can isolate basic factors underlying variables, but it cannot name those factors. This analytic package works arithmetically as it was designed to but because fallible researchers employ it, there is always the potential for mistakes. Kerlinger (1985) states:

It is easy to name a factor and then to believe there is a reality behind the name. But giving a factor a name does not give it reality. Factor names are simply attempts to epitomize the essence of factors. They are always tentative, subject to later confirmation or disconfirmation.

Simply put, factor analysis will perform as it was designed to, but the human element is what will determine whether or not it remains reliable.

The validity and reliability of a study such as this does leave some doubt as to the worth of the information gathered. Such studies say Campbell and Stanley (1963) "often involved tedious, often specific detail, careful observation, testing and the like, and in such instances involve the error of misplaced precision." Some believe the validity of studies of this type are subject to misinterpretation or an overemphasis on the meaning of the applied statistics.

The use of factor analysis is necessary when tests address large numbers of items or batteries of items. The questionnaire administered by Drs. Dodder and Hughes is



such a test. Factor analysis is used to define the traits which clusters of tightly intercorrelated items measure.

Factor analysis was used in this research to determine if item's coefficients are measuring something in common. By extracting the common factor variance from the correlations between items making up each scale and the three clusters of attitude, knowledge and behavior, it was shown that they measured something in common. By showing that the scales share variance the scores obtained were added together and were used as one measure in analysis.

The basic hypotheses of this study were based on whether knowledge and attitude have some relationship to behavior. It was believed by the researcher that knowledge and attitude are positively correlated to behavior. Additionally, it was postulated that other characteristics might influence the effect of knowledge and attitude on behavior -- namely sex, age, marital status, and education.

Thus the research questions are:

1. Were there correlations between cognitive variables (correct knowledge, misinformation, no information, police liability for drunk drivers, social liability for drunk drivers, perceptions of drunk drivers and penalties for drunk driving) and drinking and driving behaviors (drinking wine, drinking liquor/beer, and total quantities consumed, the frequency of driving while intoxicated, the amount one can consume and still

feel one can drive well). Being involved in accidents while under the influence and being arrested while under the influence were dropped from the study as they produced no statistically significant values.

2. Were there differences by control variable categories (sex, age, marital status, and education) on the variables correlated above.
3. Were there differences in the correlations listed above for each category of each control variable.

## CHAPTER V

### RESULTS

The basic diagram of the research objectives is laid out in such a way as to posit the question: are there correlations between cognitive ideologies (knowledge of alcohol, opinions about police liability, opinions about social liability and total liability, perceptions of behaviors and penalties for drunk driving) and drinking/driving behavior (frequency of wine consumption, frequency of liquor/beer consumption, total consumption, frequency of consuming more than one's self-imposed limit, and frequency of driving after consuming more than an intoxicating amount). The information in Table I will be examined to determine the extent of the correlations between the three measures of knowledge and extent of drinking and driving behavior. Second, the question of whether there were differences related to the control variable categories (sex, age, marital status, and education) on the variables correlated above will be examined. And, thirdly, were there differences in the correlations in the first group of associations listed above by categories of the control variables.

### Correlations of Drinking and Cognitive Variables

Drinking wine did not correlate significantly (.05) with knowledge measures (see Table V). People who drank more liquor/beer displayed greater knowledge of alcohol and its effects (.30) and fewer "don't know" responses (-.20). Similarly total drinking was correlated to knowledge measures such that more total drinking was related to more correct answers (.38), fewer incorrect answers (-.25), and to fewer "don't knows" (-.23).

Drinking more wine correlated to less stringent total opinion (-.19) about police. More liquor/beer drinking correlated negatively and significantly to less stringent opinions about police (-.33), opinions of less social liability (-.21), and less stringent total opinion (-.28). Total drinking displayed the strongest negative and significant values with less stringent opinion about police (-.73), less stringent opinions of social liability (-.23) and less stringent total opinion (-.52).

The next category of variables to be correlated was perceptions of drinking and driving behaviors. More wine drinking correlated to believing one could drive well after consuming his/her self-perceived limit of drinks (.25), but not to believing his/her chances of being stopped by police while intoxicated were low (.02), and not to being knowledgeable as to what would happen if one was stopped

after drinking too much (.01). More liquor/beer drinking correlated to believing one could drive well after consuming one's self-perceived limit of drinks (.52). Total drinking correlated to believing one could drive well after consuming one's self-perceived limit of drinks (.61).

As penalties were discussed, more wine drinking correlated to believing one should not lose one's license as a punishment for drunk driving (.50). All other penalties failed to reach any level of statistical significance. More liquor/beer drinking also correlated to believing one should not lose one's license as a punishment for drunk driving (.25). All other penalties for drunk driving failed to reach significant correlations at the .05 level. Total drinking correlated positively on not losing of one's license as punishment for drunk driving (.23). Fines failed to correlate at the significant level (.02) as well as community service, driving school, counseling programs, jail after the first offense, and jail after the second offense registering. These respective correlations: -.07, .02, .11, .15, and .03.

#### Correlations of Drunk Driving And Cognitive Variables

Those that have driven after consuming more than their self-imposed limit were the only group to reach statistical significance in regards to knowledge at .21. This group also displayed insignificant values on misinformation and

no information at  $-.10$  and  $-.16$  respectively. This group reached negative significance on less stringent opinion about police ( $-.55$ ) and less stringent total opinion ( $-.39$ ). Less stringent opinion on social liability of hosts failed to reach statistically significant levels at  $-.18$ . Perceptions of drinking and driving behaviors showed a strong correlation with believing that individuals could consume more and still drive well at  $.45$ . This was the only perception to be statistically significant. In regards to knowledge as to what would happen after drinking too much and being stopped by police the correlation was  $.15$ , an insignificant value. Of the possible penalties for drunk driving only the loss of one's license correlated with driving drunk in the past year at  $(.20)$ , a weak statistically significant value. Other penalties such as community service, driving school, counseling programs and jail after first and second offenses failed to reach significant correlations.

#### Correlations of Frequency of Drunk

#### Driving And Cognitive Variables

Driving after having at least two drinks or three beers registered a  $.23$  correlation with total correct knowledge. It displayed no significant correlation with incorrect or lack of information with respective values of  $-.16$  and  $-.13$ . Opinion items correlated fairly strong and negative with having at least two drinks or three beers and

driving. Resulting correlations were more stringent opinion of police (-.70), less stringent opinion on social liability (-.21) and more stringent opinion overall (-.48). Frequency of drunk driving correlated in a strong negative fashion with more stringent opinion of police liability at a value of -.70.

Frequency of drinking and driving correlated significantly on only one perception item. The amount of drinks one can have and still feel they can drive well correlated at .59. Those that drink and drive more frequently also feel they can consume more alcohol and still drive well. This is a fairly strong relationship. Frequency of drinking and driving correlated insignificantly with the items of chances of being stopped by police (-.01) and what would happen if stopped by police (.09).

Turning now to the penalties section of Table V, those that consumed more wine, those that consumed more liquor/beer and greater total frequency of consumption showed positively significant correlations with support for loss of one's license. The respective values were .50, .25 and .23. Those drinking more wine correlated most significantly with believing that loss of license is not an appropriate penalty for drinking and driving.

Driving drunk within the past year registers a weak positive correlation with loss of one's license (.20). More frequent drunk driving also registers a correlation of .24 with loss of one's license as a penalty for drunk

driving. Being arrested for drunk driving failed to reach a significant correlation with any penalty for drunk driving. Being involved in a traffic accident while intoxicated also failed to reach a significant correlation with any penalty for drunk driving. Throughout the penalties section only loss of one's license reached statistical significance with any variable.

Correlations of Arrest and Accidents  
and Cognitive Variables

For correlations between total knowledge and involvement in a traffic accident after drinking and driving, none reached significance. Correct knowledge correlated at  $-.04$ , misinformation at  $.02$ , and no information at  $.02$ . Opinion items correlated at similar insignificant levels with opinions on police ( $.02$ ), opinions of social liability ( $.03$ ) and total opinion ( $.04$ ). Perceptions of drinking and driving behavior additionally failed to approach significant correlation. The values were  $-.08$  for amount of drinks one felt one could have and still handle oneself in a car,  $.05$  for chances of being stopped by police, and  $.01$  for what would happen after being stopped by police.

Penalties also failed to show any significant correlations with accidents. Fines correlated at  $-.08$ , removal of license at  $-.05$ , community service at  $-.04$ , driving school at  $-.03$ , counseling programs at  $-.02$ , jail after first offense at  $.01$ , and jail after a second offense



at .03.

In summary six cognitive variables related consistently to the behavioral variables (more than half correlated significantly). These were total correct knowledge, police liability, total liability, self-perceived driving ability after drinking a certain amount, and using loss of a license as a penalty for drunk driving.

Quantity/Frequency of Means for  
Drinking and Driving Behavior  
for Control Variables

Comparing males to females both consumed about the same amount of wine, but males showed a higher mean of 2.52 compared to the females mean of 1.86 on the consumption of liquor/beer. This means that men consumed a substantially larger amount of liquor/beer than women. For total consumption of alcohol, men again consumed more than women, a 2.31 versus a 1.86 respectively.

Considering wine drinking in the three age categories only those 60 years old and up showed any disparity from the others. On wine, their mean was a 1.96 out of 4.0. In fact, for all, the 60 year old group averaged a higher amount than the younger age categories. This age group drank 1-2 times a month, on the average, and subsequently had nearly 3-4 drinks during those drinking periods. The average consumption of liquor/beer for those aged 31-60 years old was 1.93, drinking nearly 1-2 times a month.

In describing the means for the educational level on wine drinking, those that consumed the most were those with a college degree or better. But considering liquor/beer drinking and total consumption, those with some college education averaged the highest frequency of drinking and amount of consumption during those drinking periods.

Those with a high school education tended to drink more liquor/beer than wine (1.90 compared to 1.54). Total consumption for this group averaged 1.79 out of 5.0. Considering the other two drinking categories, similar patterns were found. Liquor/beer drinking had the highest mean 2.34 and 2.11 for some college and college degree or a higher degree, respectively. Total consumption for both groups was 2.18 and 2.07 and was higher than the means for wine drinking in those educational groups (1.85 and 2.00 respectively).

Considering the marital status of the respondents, single persons drank a slightly higher amount of wine than married persons. Single persons similarly outscored married people, but to a greater extent, on liquor/beer drinking and total consumption scoring 2.60 and 2.39 respectively compared to married persons values of 1.82 and 1.80.

#### Drunk Driving for Each Control Variable

Reviewing the driving behavior of males and females,

males admitted to driving a few more times a year after having more than their self-described limit. The pattern of consistency continued as those aged 60 on up averaged a higher mean for driving after having their self-described limit. The 30 on down age group showed the lowest average at 1.23 compared to 1.68 for 60 years on up. The education level of those who drove after having more than their self-described limit showed the strongest mean for those with some college education, though the difference between the highest and lowest means was only .13. Single and married persons' averages were quite different on this item. Single persons drove more often than married persons after drinking more than their self-described limit, averaging 1.70 compared to a 1.28.

Frequency of Drunk Driving for  
Each Control Variable

Looking at the means for those who drove after having at least two beers or three drinks the same patterns persist. Men, the 60 years old and up group, those with some college education, and single persons all carried means that placed them higher than other control categories on this variable. Respectively, the values were 2.05 for males compared to 1.51 for females denoting that males drove after having at least enough alcohol to be intoxicated a few more times a year. Females fell somewhere between never and a few times. The 60+ age group produced a mean of 2.07

compared to 1.56 and 1.58 for the other younger age groups, again averaging out to driving after having 2 beers or 3 drinks a few times a year. Those with some college education averaged a higher mean than those with a high school education and those with a college degree or more. Though the mean of 1.90 for some college is quite low compared to sex means and age means, it still is the highest in the education category.

Looking at the marital status of respondents, singles outscored married persons by a wide margin. Single persons averaged 2.12 compared to 1.45 for married people. After drinking 2 beers or 3 drinks they drove a few more times a year.

#### Correlations for Arrest and Accident for Each Control Variable

Considering the last two rows of categories in this table, there is very little disparity in the values from the lowest to the highest value dealing with having been arrested for drunk driving. Males had a lower value (1.88) than females (1.99). The difference of .11 between the means of the two groups is the largest difference between any of the groups on this item. Being arrested then was an uncommon event and an "equal event" for most (nearly all) respondents in this survey. Regardless of age, education or marital status, all respondents averaged slightly above a 1.90 mean. The tendency here is that though some groups

admitted to driving after consuming an intoxicating amount, nearly all respondents reported never having been arrested for drunk driving. In a last look at the means for the control variables the last item to be considered is whether or not individuals have even been involved in a traffic accident after drinking and driving. Again the largest range of mean values was the difference between males and females. Males averaged 1.93 on this question while females averaged 1.99, a mere .06 separates the values. Regardless of age, education, or marital status no other group averaged less than 1.94 on this last item. Thus with even less difference between category means, nearly all respondents reported that they have never had a traffic accident after drinking and driving.

Considering the lack of significant correlation and little variation, correlations for those involved in accidents or arrested under the influence were dropped from further analysis.

#### Correlations of Knowledge and Drinking Behavior by Sex

As the relationship between knowledge and drinking was assessed first for males then for females, both displayed a similar pattern of correlations (See Table VII); that is, more drinking correlated to more knowledge, to less misinformation, and to less don't knows, although there are variations in strength and significance. Females displayed

greater strength of correlation with all types of drinking behavior and total correct knowledge. Females drinking more wine correlated with correct knowledge at .32, liquor/beer drinking correlated with correct knowledge at .37, and total consumption correlated with correct knowledge at .41. Males displayed positively significant correlations with liquor/beer drinking and total consumption, .28 and .27 respectively.

Females additionally displayed greater strength of correlation on misinformation. Females that drank more wine correlated with misinformation at -.25. Females that drank more liquor/beer correlated with less misinformation at -.19 and total consumption correlated with less misinformation at -.24. Males correlated with misinformation only in the category of total consumption at -.21.

In regards to don't know responses females again displayed negative correlations across the board. Females drinking more wine correlated with "don't know" responses at -.19, barely a significant level of correlation. Females drinking more liquor/beer correlated with "don't knows" at -.30 and total consumption correlated with don't knows" at the same -.30 level. Males, on the other hand, failed to achieve any statistically significant correlations between knowledge and drinking.

Correlations of Knowledge and Drinking  
Behavior by Age

Perusing the age categories, distinct patterns for each age group emerge. In Table VIII all age groups had similar patterns of correlation with drinking behavior and correct knowledge. In the 30 and under age group those that drank more wine correlated with correct knowledge at .34. The 31-60 year old group correlated at .22 on these same two items, and the 61 on up age group had the lowest correlation at .19.

For all age groups, those drinking more liquor/beer had very similar correlations on correct knowledge. In the 30 on down age group, those drinking more liquor/beer correlated with correct knowledge at a value of .31. In the 31-60 year old group those drinking more liquor/beer correlated with correct knowledge at a .37. The strongest correlation for these two items was displayed by the 61 on up group at .39.

Looking now to total consumption and correct knowledge the correlations were nearly identical. The 30 on down age group correlated at .36 with total consumption and correct knowledge. However, the 31-60 year old group and the 61 on up group displayed a .38 with total consumption and correct knowledge.

Considering misinformation, the 30 on down group failed

to reach statistical significance on any item of drinking behavior. But the 31-60 year old group had significant correlations for all drinking behaviors. Those drinking more wine correlated with misinformation at a .20, which was the only positive correlation in this age group. Those drinking more wine in the 61 on up age group failed to reach statistically significant levels.

Those drinking more liquor/beer correlated with misinformation at a  $-.28$  in the 31-60 year old group, while the 61 on up group had a similar correlation at  $-.22$ . Total consumption in the 31-60 group correlated with misinformation at  $-.30$ , and the correlation for total consumption and misinformation in the 61 on up group was  $-.24$ .

Looking at the "don't know" responses of the three groups, only those drinking more wine in the 30 on down age group displayed a statistically significant correlation ( $-.46$ ). The 31-60 year old group and the 61 on up group failed to achieve a significant correlation on these variables. Those drinking more liquor/beer drink in the 30 on down group correlated with "don't know" responses at  $-.35$ , while the same type of drinking behavior in the 31-60 age group correlated with "don't know" responses at  $-.20$ . The 61 on up age group drinking more liquor/beer correlated at  $-.26$  for "don't know" responses.

Total consumption for all three groups correlated negatively with "don't know" responses. Total consumption



by those in the 30 on down age group correlated with "don't know" responses at  $-.44$ , the strongest of all three groups. Total consumption for those in the 31-60 year old group correlated with "don't know" responses at  $-.20$ . A similar correlation of  $-.23$  was found in the 61 on up age group for the same variables.

Conversely, it also seemed that the older one was and the more liquor/beer one drank the stronger the correlation was for correct knowledge. Additionally, it seemed that regardless of the type of consumption, weak negative correlations resulted with misinformation and don't know responses.

#### Correlations of Knowledge and Drinking Behavior by Education Categories

In Table IX education level was controlled. Only those drinking more wine with a college degree or some other degree correlated positively with correct knowledge ( $.32$ ). Those drinking more wine with at least a high school diploma and those with some college failed to reach statistical significance on correct knowledge.

Those drinking more liquor/beer with at least a high school diploma correlated with correct knowledge at  $.37$ ; in fact, those with some college and college graduates both correlated at nearly identical levels of  $.36$  and  $.39$  respectively. Total consumption for those with a high school diploma correlated with correct knowledge at  $.34$ .

The correlations for the same items for those with some college and those with college degrees was .36 and .42 respectively.

Considering misinformation, those drinking more wine for all three educational groups displayed nearly identical correlations with knowledge measures. Those drinking more wine with at least a high school diploma correlated with misinformation at  $-.21$ . Those with some college on the same items correlated at  $.21$ , and those with a college degree on the same items correlated at  $-.22$ . Those drinking more liquor/beer that had at least a high school diploma correlated with misinformation at  $-.32$ . Those with some college correlated at  $-.22$  on the same items, and those with a college degree failed to reach statistical significance. Total consumption for those with at least a high school diploma correlated with misinformation at  $-.33$ . Total consumption for those with some college with misinformation failed to reach statistically significant levels, and total consumption for college degree holders as well as those with some other degree correlated with misinformation at  $-.21$ .

Looking at the correlation between those drinking more wine and don't know responses for those with at least a high school diploma, there was no statistically significant correlations. Nor was there for those drinking more liquor/beer and total consumption. Those drinking more wine correlated with don't know responses for those with some college at  $-.25$ . Those drinking more wine correlated with

don't know responses for those with college degrees at  $-.31$ .

Those drinking more liquor/beer correlated with don't know responses for those with some college at  $-.25$ , and those drinking more liquor/beer correlated with don't know responses for those with college degrees was  $-.30$ . But total consumption failed to correlate with don't know responses for those with some college. However, total consumption correlated with don't know responses for those with a college degree or better at  $-.19$ .

Those drinking more liquor/beer seemed to display greater correlations with correct knowledge as they gained education.

#### Correlations of Knowledge and Drinking

##### Behavior by Marital Status

Considering Table X, those that drank more wine correlated with correct knowledge for singles at an insignificant level. Those that drank more wine correlated with correct knowledge for those that were married at  $.27$ , and those that drank more liquor/beer correlated with correct knowledge at  $.27$  for those that were single. Those that drank more liquor/beer correlated with correct knowledge at  $.37$  for those that were married, while total consumption correlated with correct knowledge at  $.27$  for those that were single. Total consumption correlated with correct knowledge at  $.39$  for those that were married.

The correlation between drinking more wine and mis-

information did not reach statistical significance for those that were single, but drinking more wine correlated with misinformation at  $-.21$  for those that were married. Drinking more liquor/beer did not correlate with misinformation for singles, and total consumption did not correlate with misinformation for singles. Those that drank more liquor/beer correlated with misinformation at  $-.23$  for married persons; and total consumption correlated with misinformation at  $-.26$  for those that were married.

Drinking more wine failed to correlate with don't know responses for singles. Likewise, drinking more wine failed to correlate with don't know responses for those that were married. Those that drank more liquor/beer correlated with don't know responses at  $-.23$  for single persons, and at  $-.24$  for married persons. Total consumption correlated with don't know responses at  $-.22$  for singles, and total consumption correlated with don't know responses at  $-.24$  for married persons.

General patterns discernible from Table X were that singles that drank more wine tended not to correlate significantly with knowledge at all, while married persons that drank more wine tended to correlate strongest on correct knowledge and displayed less misinformation. Those married persons that drank more liquor/beer displayed greater correlation with correct knowledge than singles, as well as, less misinformation and slightly less don't know responses. Total consumption showed a like pattern for

married persons on knowledge measures.

Correlations of Liability and Drinking  
Behavior by Sex Categories

Those males drinking more wine failed to correlate significantly with police liability for drunk drivers. They also failed to approach statistical significance with either variable of social liability or total liability. Females, on the other hand, that drank more wine correlated with police liability at  $-.25$ . They, similarly, achieved significance by correlating with total liability for drunk driving at  $-.23$ . Females that drank more wine failed to correlate significantly on social liability.

Those males that drank more liquor/beer correlated at significant levels for liability though negatively. Males drinking more liquor/beer correlated at  $-.57$  with police liability. They further correlated with social liability of hosts at  $-.30$  and total liability at  $-.58$ . Females on these same variables correlated at nearly the same levels. Females that drank more liquor/beer correlated at  $-.56$  for police liability for drunk drivers,  $-.27$  for social liability, and  $-.56$  for total liability.

Total consumption of alcohol by males correlated at  $-.51$  with police liability, at  $-.26$  for social liability, and at  $-.52$  for total liability for drunk drivers. Females again displayed nearly identical values when compared to males. Total consumption for females when correlated with

liability of police was  $-.53$ , social liability was  $-.24$ , and total liability was  $-.53$ .

It would seem that the most consistent correlations result from liquor/beer drinkers and total consumption regardless of sex, though females that drank more wine did correlate at weak levels on two of the liability variables. Those males and females that drank more liquor/beer tended to place liability more with the police or society in general than with social hosts.

#### Correlations of Liability and Drinking Behavior by Age Categories

Looking to Table VIII, drinking more wine among those who were aged 30 or less failed to achieve statistical significance on police liability for drunk drivers. However, those that drank more wine did reach significance when correlated with social liability and with total liability posting levels of  $-.22$  and  $-.21$ , respectively. Drinking more wine in the 31-60 year old group failed to correlate significantly with police liability, social liability, or total liability. Those that drank more wine in the 61 on up category correlated with police liability at  $-.24$  but failed to reach significance when correlated with social liability. When correlated with total opinion those that drank more wine in this older age category exhibited a  $-.20$ .

Drinking more liquor/beer in the 30 or less category

was statistically significant on all variables of liability. Police liability correlated with drinking more liquor/beer at  $-.31$ , and it correlated with social liability at the same value of  $-.31$ . Those that drank more liquor/beer when correlated with total liability registered a slightly higher  $-.38$ . On the other hand, those that drank more liquor/beer in the 31-60 age group correlated significantly at  $-.55$  for police liability, at  $-.20$  for social liability, and at  $-.51$  for total liability. Those that drank more liquor/beer in the 61 on up category correlated at  $-.55$  with police liability for drunk driving, at  $-.28$  for social liability, and at  $-.55$  for total liability for drunk driving.

Total consumption by those in the 30 or less category correlated at  $-.30$  with police liability, at  $-.33$  with social liability, and at  $-.39$  with total liability for drunk driving. Total consumption by those in the 31-60 age category listed a  $-.50$  for police liability and  $-.46$  for total liability. Social liability with total consumption failed to reach statistical significance. The total consumption correlation with police liability was  $-.51$  for those in the 61 on up category; total consumption correlated with social liability was  $-.22$  for the 61 on up age group; and the total consumption correlation for total liability for this age group was  $-.50$ .

Those that drank more wine seemed quite inconsistent in their correlations on liability and when they did

correlate the values were weak negative ones. However, those that drank more liquor/beer increased the strength of their correlation as one progressed in age. The relationship posited is that as one got older there was less belief in the liability of police and social hosts for drunk driving as related to more drinking. This held true especially as one drank more for total consumption and liability for the three age groups.

#### Correlations of Liability and Drinking

##### Behavior for Education Categories

Among high school graduates drinking more wine correlated with liability of police and total liability with values of  $-.36$  and  $-.33$ . Social liability of hosts failed to reach statistical significance with any measure of drinking among high school graduates. But for those with some college education, drinking more wine correlated with police liability ( $-.23$ ), with social liability ( $-.28$ ) and with total liability ( $-.58$ ). Those that drank more wine that were in the college graduate group correlated at the strongest levels with liability measures--police liability was  $-.19$  and total liability was  $-.51$ .

Those that drank more liquor/beer in the high school graduate group registered significant correlations on police liability at  $-.41$  and total liability at  $-.37$ . Social liability did not reach significant levels. Those that drank more liquor/beer in the some college group



correlated with police liability at  $-.62$ , social liability at  $-.32$  and total liability at  $-.61$ . Those that drank more liquor/beer in the college graduate category correlated with police liability at  $-.56$ , social liability at  $-.27$  and  $-.56$  for total liability.

Total consumption of those with a high school diploma when correlated with police liability was  $-.41$ ; social liability was not significant; and total liability was  $-.36$ . Total consumption by those in the some college category correlated with police liability at  $-.60$ ; social liability was insignificant; and total liability was  $-.19$ . Total consumption for those with a college degree or some other degree registered a  $-.28$  correlation for social liability and  $-.18$  for total liability. Police liability failed to reach statistically significant levels for any measure of drinking among college graduates.

#### Correlations of Liability and Drinking Behavior for Marital Status

Among single people, drinking more wine did not correlate with any of the three liability variables. Among those that were married, however, drinking more wine correlated with total liability at  $-.19$  only. Correlations with police liability and social liability failed to reach statistical significance.

Among singles, drinking more liquor/beer correlated with police liability at  $-.58$ , social liability at  $-.26$  and

total liability at  $-.55$ . Drinking more liquor/beer among married people correlated with police liability at  $-.38$ , social liability at  $-.21$  and total liability at  $-.39$ .

Total consumption for those that were single correlated with police liability at  $-.54$  with total liability at  $-.50$ . The correlation with social liability was statistically insignificant. Total consumption for those that were married correlated with police liability at  $-.35$ , social liability at  $-.21$ , and total liability at  $-.37$ .

In summary, any trends based on drinking more wine were slight and usually insignificant. Correlations of drinking more liquor/beer, on the other hand, were more reliable. It seemed that among singles, those that drank more liquor/beer tended to feel less that police and social hosts were liable for drunk driving. Married people who drank more liquor/beer felt less so about this. Total consumption for both singles and married persons followed similar patterns. Correlations among married persons were weaker than single persons between drinking and believing police and social hosts were liable for drunk driving.

#### Correlations of Perceptions and Drinking Behavior for Sex Categories

Among males drinking more wine correlated with self-perceived limit of drinks at  $.26$ . Among females, drinking more wine displayed a correlation of slightly higher strength at  $.30$  for the same variables. The other two

perception variables failed to reach statistical significance with drinking for males and females alike. These other two variables were perceptions of chances of being stopped by police and of the results of being stopped by the police.

Among males drinking more liquor/beer correlated at a fairly strong level of significance with self-perceived limit of drinks with a .59. Females on the same variables registered an identical value of .59. Females drinking more liquor/beer had an identical correlation with perception of limits of drinks for themselves. Chances of being stopped by police and results of being stopped by police failed to reach statistical significance for males or females with drinking more liquor/beer.

Total consumption for males correlated with limit of drinks at .56. Total consumption for females correlated with limit of drinks at .57. Again, chances of being stopped by police and results of being stopped by police failed to have a significant correlation.

Perceptions about police did not correlate significantly. Drinking more liquor/beer displayed the strongest correlations with perceptions similarly for males or females. It seems that those that drank more liquor/beer for both sexes had higher perceptions of their limit of drinks. Total consumption for both sexes on limit of drinks had a similar association.

Correlations of Perceptions and Drinking  
Behavior for Age Categories

Drinking more wine in the 30 on down category correlated with limit of drinks but failed to reach a substantive level. Drinking more wine in the 31-60 year old group correlated with limit of drinks at .20, but failed to achieve significance when correlated with chances of being stopped by police and with results of being stopped by police. Drinking more wine in the 61 on up category correlated with limit of drinks at .30. Correlations with chances of being stopped by police and results of being stopped by police failed to achieve correlation significance above the .19 level.

Drinking more liquor/beer in the 30 on down group correlated with limit of drinks at .57. Drinking liquor/beer also correlated with chances of being stopped by police at .31 and results of being stopped correlated at .20 for this group. This trend was not followed by those in the 31-60 year old group. Those that drank more liquor/beer in this age group correlated with limit of drinks at .63. Correlations with chances of being stopped by police and results of being stopped by police failed to net any substantive values. Drinking more liquor/beer in the 61 on up group correlated with limit of drinks at .66; but again, the variables of chances of being stopped by police and results of being

stopped by police failed to reach appreciable correlation.

Total consumption for those in the 30 on down group correlated with limit of drinks at .52. Total consumption also correlated with chances of being stopped by police and results of being stopped by police at .25 and .21, respectively, for this group. Total consumption for those in the 31-60 year old group correlated with limit of drinks at .58. Correlations with chances of being stopped and results of being stopped by police failed to reach substantive levels. Total consumption for those in the 61 on up age group correlated with limit of drinks was .63. Once again chances of being stopped by police and results of being stopped by police failed to achieve appreciable correlation for the 61 on up age group. It seemed that there was less correlation between the two variables (perception of chances of being stopped by police and results of being stopped by police) with increasing age. The variable that showed some significant consistency was perception of limit of drinks. With the exception of those that drank more wine in the 30 on down group this variable was significant for all age groups and all drinking behaviors.

#### Correlations of Perceptions and Drinking

##### Behavior for Education Categories

Those that drank more wine in the high school diploma group correlated with limit of drinks at .35. Chances of being stopped by police and results of being stopped by

police failed to reach statistical significance at .05 level, for the group. Those that drank more wine in the some college group correlated with limit of drinks at .31, but again failed to produce correlations with chances of being stopped and results of being stopped by police. Those that drank more wine in the college graduate group failed to achieve significance on limit of drinks, chances of being stopped and results of being stopped by police.

Those that drank more liquor/beer in the at least high school graduate group correlated with limit of drinks at -.36. This same group correlated with chances of being stopped by police at .24, but failed to correlate with results of being stopped by police. Those that drank more liquor/beer in the some college group correlated with limit of drinks at .61. Even so, this group failed to correlate significantly with chances of being stopped by police and results of being stopped by police.

Those that drank more liquor/beer in the college graduate/some other degree group correlated with limit of drinks at .68, though failing to achieve significance on correlations with chances of being stopped by police and results of being stopped by police.

Total consumption by those in the at least high school graduate group correlated with limit of drinks at -.40, a moderate negative correlation. However, the correlations between this group and chances of being stopped by police and results of being stopped by police did not reach sta-

tistical significance. Total consumption for those in the some college group correlated with limit of drinks at .62. Total consumption for those in this group correlated with results of being stopped at .19, but failed to reach significance with chances of being stopped by police.

Total consumption for those in the college graduate group correlated with limit of drinks at .61. Total consumption for those in the college graduate group failed to correlate significantly with chances of being stopped by police and results of being stopped by police.

It seemed that the only consistency in these correlations was in the correlations between the various drinking behaviors and limit of drinks. With the exception of at least high school graduates, all education categories had positive correlations. It seemed that regardless of education level or drinking behavior there was very little correlation with chances of being stopped and results of being stopped by police.

#### Correlations of Perceptions and Drinking

##### Behavior for Marital Status

Drinking more wine in the single group correlated with limit of drinks at .29, but did not achieve significance with chances of being stopped and results of being stopped by police. Drinking more wine in the married group showed a like disposition by registering a .19 correlation with limit of drinks and not correlating significantly with

chances of being stopped and results of being stopped by police.

Drinking more liquor/beer in the single group correlated with limit of drinks at .59. Drinking more liquor/beer in the single group failed to correlate significantly with chances of being stopped and results of being stopped by police. Drinking more liquor/beer in the married group correlated with limit of drinks at .61. Drinking more liquor/beer in the married group correlated with chances of being stopped and results of being stopped by police at insignificant levels.

Total consumption for those in the single group correlated with limit of drinks at .58, but failed to correlate significantly with chances of being stopped and results of being stopped by police at insignificant levels. Total consumption for those in the married group correlated with limit of drinks at .55 with chances of being stopped and results of being stopped failing to reach significance at the .19 level.

These correlations show that regardless of the type of drinking (wine or liquor/beer) or marital status (single or married) limit of drinks was the most important variable. Single and married persons did not correlate at all on chances of being stopped or results of being stopped by police. These groups had little correlation on perception of being stopped or what would happen after being stopped.



Correlations of Frequency of Drunk Driving  
and Knowledge for Sex Categories

Those that showed some frequency of drunk driving that were male correlated with none of the knowledge items. Correct knowledge, misinformation and don't know responses failed to achieve significance. However, those that showed some frequency of drunk driving that were female correlated with correct knowledge at .27 and misinformation at -.19. Don't know responses for this group failed to achieve significance.

Females that showed some frequency of drunk driving seemed to display more correct knowledge that also led to having less misinformation. Additionally, both males and females that showed some frequency of drunk driving failed to correlate significantly with don't know responses.

Correlations of Frequency of Drunk Driving  
and Knowledge Measures for Age Categories

Frequency of drunk driving for those in the 30 on down group correlated with correct knowledge at .28 and misinformation at -.30. Don't know responses failed to correlate significantly. A similar pattern was apparent for those in the 31-60 year old group--frequency of drunk driving correlated with correct knowledge at .26 and with misinformation at -.19. In this group, don't know responses also failed to correlate significantly. Frequency of drunk

driving for those in the 61 on up group failed to achieve significance on any knowledge measure with drunk driving.

The pattern seemed to be that age did not affect the association between frequency of drunk driving and knowledge. Correlating positively on correct knowledge seemed to lead to having less incorrect information. The strength of this association decreased as one got older, but the relationship between knowledge variables remained the same.

#### Correlations of Frequency of Drunk Driving and Knowledge for Education Categories

Frequency of drunk driving for those who were at least high school graduates correlated with correct knowledge at .27 and with don't knows at -.19. Misinformation for this group failed to achieve significance. Frequency of drunk driving for those in the some college group correlated only with misinformation at a -.19. Correct knowledge and don't know responses failed to achieve significance at or above .19. Those that showed some frequency of drunk driving that were in the college graduate group correlated with correct knowledge at .29 and with don't knows at -.25. Misinformation for this education group did not correlate appreciably.

The pattern that seemed to develop was positive correlations between correct knowledge and fewer don't know responses with frequency of drunk driving. This pattern

held true for those that were high school graduates and those that were college graduates. Those with some college, however showed some correlation between frequency of drunk driving and less misinformation but other knowledge items failed to correlate to drunk driving.

#### Correlations of Frequency of Drunk Driving and Knowledge for Marital Status

Frequency of drunk driving among those that were single correlated with none of the knowledge items. Correct knowledge, misinformation and don't know responses all failed to meet sufficient levels of significant correlations. Frequency of drunk driving among those that were married, however, correlated with correct knowledge at .27. Misinformation and don't know responses did not reach significance.

#### Correlations of Drunk Driving in the Past Year and Knowledge Items for Sex Categories

Drunk driving in the past year among males did not correlate with knowledge items. Correct knowledge, misinformation and don't know responses did not reach the .19 level of correlation. However, drunk driving in the past year among females correlated with correct knowledge at .25 and with don't knows at -.20. Misinformation correlated at an insignificant level for those that drove drunk in the

past year that were female.

Correlations of Drunk Driving in the  
Past Year and Knowledge Items for  
Age Categories

Drunk driving in the past year among those who were in the 30 on down age group failed to correlate at a significant level for any of the three knowledge items. However, drunk driving in the past year for those in the 31-60 year old group correlated significantly on two of the three knowledge items. In this group, correct knowledge correlated at .28 and misinformation at -.20. Don't know responses failed to correlate at a significant level.

It seemed that drunk driving in the past year only in the 31-60 year old group displayed a significant level of correct knowledge. This group also displayed a weak negative correlation on misinformation.

Correlations of Drunk Driving in the  
Past Year and Knowledge Items for  
Education Categories

Drunk driving in the past year for those in the at least high school graduate group correlated with correct knowledge at .28 and with misinformation at -.20. Don't know responses failed to achieve levels above the .19 cut-off. Drunk driving in the past year among those in the some college group correlated with none of the knowledge

variables. Drunk driving in the past year that were in the college graduate group correlated with correct knowledge at .28 and with don't knows at -.30. Misinformation failed to achieve significance for this group.

Correlations of Drunk Driving in the  
Past Year and Knowledge Items for  
Marital Status

Frequency of drunk driving in the past year among the single group failed to correlate significantly on any knowledge items. Drunk driving in the past year for those in the married group correlated with correct knowledge at .27 and with don't know responses at -.24. Misinformation for this group failed to reach significance.

Correlations of Frequency of Drunk Driving  
and Liability for Sex Categories

Frequency of drunk driving among males correlated with police liability for drunk driving at -.47, social liability of hosts at -.19, and total liability at -.45. Frequency of drunk driving among females correlated with liability of police at -.50, social liability of hosts at -.27 and total liability at -.48.

The strength of the associations as well as the direction of them seemed to give one the ability to say that those that showed some frequency of drunk driving regardless of sex felt that liability for drunk driving did

not fall on the police, social hosts or a combination of the two.

Correlations of Frequency of Drunk Driving  
and Liability for Age Categories

Frequency of drunk driving among those in the 30 on down age group correlated with social liability at  $-.28$  and with total liability at  $-.25$ . Police liability for this group failed to achieve significance. Frequency of drunk driving in the 31-60 year old group correlated with police liability at  $-.50$ , with social liability at  $-.19$ , and with total liability at  $-.46$ . Similarly frequency of drunk driving and were in the 61 on up age group correlated with police liability at  $-.47$ , social liability at  $-.19$  and total liability at  $-.45$ .

With the exception of police liability, frequency of drunk driving for those that were in the 30 on down group all groups displayed negative and weak correlations on liability. The strength of the correlations for this group was similar for all items of liability. All groups correlations on liability led one to believe the relationship was negligible.

Correlations of Frequency of Drunk Driving  
and Liability for Education Categories

Frequency of drunk driving for those in the at least high school graduate group correlated with police liability

at  $-.27$  and with total liability at  $-.25$ . Social liability failed to correlate significantly for this group. Frequency of drunk driving among those in the some college group correlated with police liability at  $-.51$ , with social liability at  $-.28$ , and with total liability at  $-.51$ . Similarly, frequency of drunk driving that were college graduates correlated with police liability at  $-.53$ , with social liability at  $-.20$ , and with total liability at  $-.50$ .

The pattern, strength and level of association between these variables showed that regardless of education level those that showed more frequency of drunk driving were of the opinion that police and social hosts were less liable for drunk drivers. The association between the variables was negatively correlated throughout for all groups, with the exception of the correlation between frequency of drunk driving and the liability of social hosts.

#### Correlations of Frequency of Drunk Driving and Liability for Marital Status

Frequency of drunk driving among those that were single correlated with police liability for drunk drivers at  $-.46$  and with total liability at  $-.42$ . Social hosts failed to achieve significance. Frequency correlation of drunk driving among the married correlated with all three liability items. The correlations were police liability ( $-.38$ ), social liability of hosts ( $-.20$ ), and total liability ( $-.38$ ).

The correlations for these variables were quite similar. Like other groups before them the marital status did not seem to impact the correlations of frequency of drunk driving. Those who more frequently drove drunk felt that police and hosts were not liable for drunk drivers, though social liability for singles failed to reach significance. The strength of the association was slightly stronger for singles than for married persons.

Correlations of Drunk Driving in  
the Past Year and Liability for  
Sex Categories

Driving drunk in the past year who were male correlated with police liability at  $-.37$ , with social liability of hosts at  $-.26$ , and with total liability at  $-.40$ . Driving drunk in the past year for females correlated with police liability at  $-.38$  and with total liability at  $-.34$ . But driving drunk in the past year for females failed to correlate with social liability of hosts.

Driving drunk in the past year whether, male or female, tended to display moderate levels of negative significance with liability measures. This meant that those that drove drunk more, regardless of sex, tended not to blame police or hosts for liability in dealing with drunk drivers.



Correlations of Drunk Driving in  
the Past Year and Liability for  
Age Categories

Driving drunk in the past year among the 30 on down age group correlated with police liability at  $-.22$  and with total liability at  $-.23$ . However this variable failed to correlate significantly with social liability. Driving drunk in the past year among the 31-60 year old age group correlated with police liability at  $-.29$  and with total liability at  $-.30$ . Social liability failed to correlate significantly with driving drunk for those in the 31-60 age group. Driving drunk in the past year among those in the 61 on up age group correlated with police liability at  $-.39$ , with social liability at  $-.19$ , and with total liability at  $-.38$ .

The pattern seemed to show that as one gained in age the strength of the negative association between drunk driving in the past year and liability got stronger. Though social liability did not seem to lend itself to this trend as well as did police liability and total liability.

Correlations of Drunk Driving in the  
Past Year and Liability for  
Education Categories

Driving drunk in the past year among those in the at least high school graduate group correlated with police

liability at  $-.21$  and with total liability at  $-.21$ . Social liability, though, failed to reach significance for this group.

Driving drunk in the past year among those in the some college group correlated with police liability at  $-.42$ , with social liability at  $-.24$ , and with total liability at  $-.42$ . Also, driving drunk in the past year for the college graduate group correlated with police liability at  $-.42$  and with social liability at  $-.41$ . Social liability of hosts failed to achieve significance above the  $.19$  level.

It seemed that as one gained in education the strength of the negative correlation between driving drunk in the past year and police liability increased. This tendency seemed to hold true for total liability also.

Correlations of Drunk Driving in  
the Past Year and Liability for  
Marital Status

Driving drunk in the past year among the singles correlated with police liability at  $-.39$  and with total liability at  $-.36$ . Social liability failed to achieve significance above the  $.19$  level. Driving drunk in the past year among married subjects correlated with police liability at  $-.25$  and with total liability at  $-.27$ . Social liability for this group was insignificant.

The tendency seemed to be that as one went from single to married the strength of the negative association between

driving drunk in the past year and police liability decreased. The same tendency was found for total liability, but social liability failed to correlate with driving drunk in the past year for both groups.

Neither married or single persons that drove drunk more in the past year felt police were liable for drunk driving. The same tendency was found for total liability.

#### Correlations of Frequency of Drunk Driving and Perceptions for Sex Categories

Frequency of drunk driving among males correlated with limit of drinks at .53. Chances of being stopped by police and results of being stopped by police failed to reach significance. Frequency of drunk driving among females correlated with perceived limit of drinks at .59, though chances of being stopped and results of being stopped by police failed to reach levels of significance.

It seemed that those that drove drunk more frequently were able to perceive their limit of drinks at nearly identical levels of correlation.

#### Correlations of Frequency of Drunk Driving and Perceptions for Age Categories

Frequency of drunk driving among those were in the 30 on down age group correlated with perceived limit of drinks at .67 and chances of being stopped by police at .27. Results of being stopped by police did not reach signifi-

cance. Frequency of drunk driving correlated for the 31-60 year old group at .53. Perceived chances of being stopped by police and results of being stopped by police failed to achieve significance. Frequency of drunk driving among those in the 61 on up age group correlated with perceived limit of drinks at .59. Perceived chances of being stopped by police and results of being stopped by police again failed to reach significance.

Only in the 30 on down age group did some frequency of drunk driving reached significance on something other than perceived limit of drinks. It also correlated significantly on perceived chances of being stopped by police. However, in all three age groups, frequency of drunk driving correlated strongly with the ability to perceive their limit of drinks, but failed to achieve significance in the ability to perceive their chances of being stopped and results of being stopped by police.

#### Correlations of Frequency of Drunk Driving and Perceptions for Education Categories

Frequency of drunk driving among those who are at least high school graduates correlated with perceived limit of drinks at .56. Perceptions of chances of being stopped by police and results of being stopped by police failed to correlate significantly. Frequency of drunk driving for those who had some college correlated with perceived limit of drinks at .57. Perceptions of chances of being stopped

by police and results of being stopped by police did not correlate at significant levels. Frequency of drunk driving among college graduates correlated with perceived limit of drinks at .61. Chances of being stopped by police and results of being stopped by police, however, failed to correlate at significant levels.

Correlations of Frequency of Drunk Driving  
and Perceptions for Marital Status

Frequency of drunk driving among single subjects correlated with perceived limit of drinks at .58, but failed to correlate significantly on perceived chances of being stopped by police and on perceived results of being stopped by police. Frequency of drunk driving among the married correlated with perceived limit of drinks at .54 yet failed to achieve significance with perceived chances of being stopped by police or with perceived results of being stopped by police.

Correlating significantly with perceived limit of drinks seemed to lead one to fail to correlate significantly on all other perception items. Again, the strength of the correlation was such that the association between those that showed some frequency of drunk driving and perceived limit of drinks was fairly strong.

Correlations of Drunk Driving in the  
Past Year and Perceptions for  
Sex Categories

Driving drunk in the past year for males correlated with limit of drinks at .44. Drinking drunk in the past year for males failed to correlate significantly with chances of being stopped by police or with results of being stopped by police. Driving drunk in the past year among females correlated with limit of drinks at .33 but failed to reach levels of significance with chances of being stopped by police or with results of being stopped by police.

It seems that driving drunk in the past year regardless of sex correlated positively with limit of drinks. Achieving a positive correlation on limit of drinks led to no correlation on chances of being stopped and results of being stopped by police.

Correlations of Drunk Driving in  
the Past Year and Perceptions  
for Age Categories

Driving drunk in the past year among those in the 30 on down group correlated with all perceptions of drinking and driving behavior. The correlations were .46 for limit of drinks, .52 for chances of being stopped by police, and .28 for results of being stopped by police. For those in

the 31-60 year old age group, driving drunk in the past year correlated with limit of drinks at .37. Chances of being stopped and results of being stopped by police, however, failed to achieve significance. Considering those in the 61 on up age group, driving drunk in the past year correlated with limit of drinks at .44; but like the 31-60 year old group driving drunk failed to reach significance at the .19 level.

It seemed that the tendency was that driving drunk in the past year correlated positively on limit of drinks. However, for those in the 30 on down age group, driving drunk correlated to being stopped by police after drinking and driving in the past year. For this group also, drunk driving was related to knowing what would happen after being stopped by police. The older one got though driving drunk in the past year tended to relate to perceiving their limit of drinks but failed to relate to being able to perceive their chances of being stopped by police or to the results of being stopped by police.

Correlations of Drunk Driving in the  
Past Year and Perceptions for  
Education Categories

Driving drunk in the past year among those in the at least high school graduate group correlated with limit of drinks at .49. But chances of being stopped by police and results of being stopped by police did not reach signifi-

cance. Driving drunk in the past year for those in the some college group correlated with limit of drinks at .40 but again failed to achieve significance on chances of being stopped by police and on results of being stopped by police. Drinking drunk in the past year among those in the college graduate group correlated with perceived limit of drinks at .47 and with results of being stopped by police at .19. Chances of being stopped by police did not correlate at a significant level.

It seems that the relationship between perceptions of chances of being caught drunk driving and what would happen if they were stopped for drunk driving increased as levels of education increased.

Correlations of Drunk Driving in the  
Past Year and Perceptions for  
Marital Status

Drinking drunk in the past year that were among single respondents correlated with limit of drinks at .46. Drinking drunk in the past year among married people correlated with limit of drinks at .32. However, regardless of marital status drinking drunk in the past year failed to correlate significantly with chances of being stopped by police and with results of being stopped by police.

It seemed that marital status had little or no impact on relationships between perceptions about chances of being stopped by police and results of being stopped by police



with driving drunk. Only perceptions of limit of drinks seemed to show some correlation with driving drunk in the past year for both single and married persons.

### Correlations of Penalties and Drinking

#### Behavior for Sex Categories

Drinking more wine for males failed to correlate with any penalty for drunk driving. Drinking more wine for females failed to correlate with any of the seven penalties for drunk driving. These penalties were fines, loss of license, community service, driving school, counseling and jail for a first offense and jail for a second offense.

Drinking more liquor/beer among males correlated with loss of license as a penalty for drunk driving at .20. All other penalties failed to correlate at significant levels. Drinking more liquor/beer among females also correlated with loss of license as a penalty for drunk driving at .30. No other penalty attained significance.

Total consumption for males correlated with no penalties at all; i.e., none achieved statistical significance. Total consumption for females correlated with loss of license at .25. None of the other penalties correlated asignificantly.

It would seem that for drinking more wine whether males or females did not impact feelings that feel any of the penalties was appropriate for drunk driving. However, those that drank more liquor/beer seemed to feel loss of

license was a less appropriate punishment--the only punishment that correlated significantly.

### Correlations of Penalties and Drinking

#### Behavior for Age Categories

Drinking more wine among those in the 30 on down group failed to correlate significantly with any of the penalties. Those that drank more wine in the 31-60 year old group also failed to achieve significance on any penalty. Those that drank more wine in the 61 on up group correlated with jail as a penalty for a first offense at .25. This was the only significant correlation for this age group.

Drinking more liquor/beer for those in the 30 on down group correlated with fines for drunk driving at -.30 and with jail for a second offense at .24. No other penalties correlated significantly. Drinking more liquor/beer in the 31-60 age group correlated with loss of license at .26 for drunk driving. The other penalties failed to correlate significantly. Drinking more liquor/beer in the 61 on up age group correlated with three different penalties, loss of license, counseling, and jail after a first offense at .25, .25, and .27, respectively.

Total consumption for those in the 30 on down group correlated with fines and community service at -.22 and -.24, respectively, denoting negative associations. Total consumption for those in the 31-60 year old group

correlated with loss of license at .21. Again, none of the other penalties was significant. Total consumption in the 61 on up group correlated with loss of license and jail after the first offense as a penalty for drunk driving with values of .23 and .30, respectively.

It seemed that the relationship between age and penalties increased as one got older as more alternatives for punishment correlated positively as age increased.

#### Correlations of Penalties and Drinking

##### Behavior for Education Categories

Drinking more wine among those with at least a high school education correlated with fines as punishment for drunk driving. None of the other penalties was significant. Drinking more wine for those that had some college correlated with none of the penalty variables. Likewise for college graduates drinking more wine correlated with none of the penalty items.

Drinking more liquor/beer for those who were at least high school graduates correlated with driving school at .19 and jail after the first offense at .23 as penalties for drunk driving. Drinking more liquor/beer for those that had some college correlated with loss of license at .32 and with jail after the first offense at .24 as penalties for drunk driving. Drinking more liquor/beer correlated with loss of license (-.26) and with jail after the second offense (.26) as penalties for drunk driving. None of the

other penalties correlated significantly for any of these groups.

Total consumption for those that were at least high school graduates correlated with driving school at .19 and with jail after the first offense at .23 as penalties for drunk driving. Drinking more liquor/beer among those that had some college correlated with loss of license (.32) and with jail after the first offense (.24) as penalties for drunk driving. Drinking more liquor/beer correlated with loss of license (-.26) and with jail after the second offense (.26) as penalties for drunk driving. None of the other penalties correlated significantly for any of these groups.

Total consumption for those that were at least high school graduates correlated with fines (-.27), with loss of license (-.23) and with jail after the first offense (.21) as penalties for drunk driving. Total consumption for those with some college correlated with loss of license at .32 and jail after the first offense at .25. Total consumption for those with a college degree correlated with jail after the second offense only. Again all other penalties failed to achieve significance above the .19 level.

The only discernible pattern in this scenario was the tendency toward a more punitive reaction to drunk driving. As one gained more education, greater drinking related to greater penalties for drunk driving, moving from fines in

the high school graduate group to loss of license and jail for second offense in the college graduate group. Drinking more liquor/beer tended to have more significant correlations.

#### Correlations of Penalties and Drinking

##### Behavior for Marital Status

Those that drank more wine that were single correlated with none of the penalty items. Likewise, those that drank more wine that were married failed to elicit any significant correlations with penalties of any sort.

Those that drank more liquor/beer that were single correlated with loss of license at .32 as a penalty, counseling at .19 and jail after the first offense at .22. None of the other penalties correlated at significant levels. Those that drank more liquor/beer that were married correlated with none of the penalty items.

Total consumption for those that were single correlated with loss of license at .29 and jail after the first offense at .22. None of the other penalties was significantly correlated. Total consumption for those that were married correlated with none of the penalty items.

It seemed that only single persons believed in penalties for drunk driving and those were quite punitive. Loss of license and jail after the first offense were the items most often significantly correlated. Married persons for whatever reason failed to correlate significantly on

any penalty whatsoever.

Correlations of Frequency of Drunk Driving  
and Penalties for Sex Categories

Those that showed some frequency of drunk driving that were males correlated with loss of license at .24 and counseling as penalties for drunk driving. Those that showed some frequency of drunk driving that were female correlated with loss of license as a penalty for drunk driving. In both groups the unmentioned variables of fines, community service driving school, jail for a first offense and jail for a second offense failed to reach statistical significance.

Loss of license for males and females that showed some frequency of drunk driving seemed to be the only penalty in common between the two groups. The male group also found significance of correlation with counseling.

Correlations of Frequency of Drunk Driving  
and Penalties for Age Categories

Those that showed some frequency of drunk driving that were in the 30 on down group correlated with loss of license at .24. None of the other penalties correlated significantly for this group. Those that showed some frequency of drunk driving that were in the 31-60 year old group correlated with loss of license at .21 as a penalty for drunk driving. Also, none of the other penalty items correlated

significantly. Those that showed some frequency of drunk driving that were in the 61 on up group correlated with loss of license at .22, counseling at .19 and jail after a first offense at .24. Other penalty items failed to achieve statistical significance.

As one reached the 61 year old mark the correlations with possible punishments broadened. Loss of license was the only significantly correlated variable in the two younger groups. Maybe as one got older the type of punishment as well as security of punishment needed to be different. It may have been that older persons that showed some frequency of drunk driving felt there might be a need for more variability in punishment.

#### Correlations of Frequency of Drunk Driving and Penalties for Education Categories

Those that showed some frequency of drunk driving that were at least high school graduates correlated with fines as a punishment for drunk driving at .24. None of the other variables such as loss of license, community service, driving school, counseling, jail for a first offense or jail for a second offense correlated significantly. Those that showed some frequency of drunk driving that had some college correlated with loss of license at .28. All other penalty items did not reach statistical significance. Those that showed some frequency of drunk driving that were college graduates correlated with loss of license at .27

and jail after a second offense at .22. All other penalty items did not correlate significantly.

It seemed that with a change in education level there was a corresponding change in the type of penalty correlated with. Those that had at least high school education correlated with fines as punishment, those that had some college education correlated with loss of license and those that were college graduates correlated with loss of license and jail after a second offense.

#### Correlations of Frequency of Drunk Driving and Penalties for Marital Status

Those that showed some frequency of drunk driving that were single correlated with loss of license at .30 and jail after a first offense at .19 as an adequate punishment for drunk driving. Fines, community service, driving school, counseling and jail after a second offense did not reach statistical significance. Those that showed some frequency of drunk driving that were married correlated with none of the penalty items.

Single persons that showed some frequency of drunk driving were the only group under marital status to correlate significantly. That is to say it could have been stated that married persons that showed some frequency of drunk driving did not have a strong relationship with penalties for drunk driving. The relationship was spurious while the relationship between single persons and loss of



license and jail after a first offense was a good one.

Correlations of Drunk Driving in  
the Past Year and Penalties for  
Sex Categories

Those that drove drunk in the past year that were male failed to correlate with penalties for drunk driving. However, those that drove drunk in the past year that were female correlated positively with loss of license and jail after a first offense as penalties for drunk driving. The correlations were .20 for loss of license and .19 for jail after a first offense.

It seemed that females alone correlated with penalties of any sort for drunk driving with loss of license and jail after a first offense as the only significantly correlated items.

Correlations of Drunk Driving in the Past Year  
and Penalties for Age Categories

Those that drove drunk in the past year that were in the 30 on down group correlated with two penalty items. The items were driving school at  $-.19$  and jail after a first offense at  $.23$ . No other penalty items correlated significantly for this age group. Those that drove drunk in the past year that were in the 31-60 year old group failed to correlate significantly with any penalty items. Those that drove drunk in the past year that were in the 61 on up age

group correlated with loss of license at .21 and jail after a first offense at .21.

A discernible pattern of correlation was not readily apparent in the age categories. There was very little consistency in the correlations from group to group. It seemed that in the age groups that displayed significant correlations jail after a first offense was a constant.

#### Correlations of Drunk Driving in the Past Year and Penalties for Education Categories

Those that drove drunk in the past year that were at least a high school graduate correlated with fines at .19 and driving school at .21 as penalties for drunk driving. None of the other penalty items correlated significantly. Those that drove drunk in the past year that were in the same college group correlated positively with loss of license at .24 and jail after a first offense at .21. Again, none of the other penalty items achieved statistical significance. Those that drove drunk in the past year that were in the college graduate group correlated with loss of license and jail after a second offense as penalties for drunk driving. The correlations were .19 for loss of license and .23 for jail after a second offense. All other penalty items failed to reach significance.

Those that drove drunk in the past year that had more than a high school education seemed to favor more stringent penalties for drunk driving. But I was curious that loss

of license and jail after an offense seemed to be the overwhelming choice for punishment of drunk driving for those with some college education and college graduates. Those with less education (high school graduates) that drove drunk in the past year seemed to favor less stringent penalties like fines and driving school.

#### Correlations of Drunk Driving in the Past

##### Year and Penalties for Marital Status

Those that drove drunk in the past year that were single correlated with loss of license at .30 and jail after a first offense at .23 as penalties for drunk driving. All other penalty items failed to reach statistically significant levels. Those that drove drunk in the past year that were married failed to correlate at significant levels for any penalty item.

It seemed that single persons that drove drunk in the past year, favored loss of license and jail after a first offense as adequate penalties for drunk driving. One could possibly argue that being married precluded a significant correlation on any penalty item.

## CHAPTER VI

### SUMMARY AND CONCLUSIONS

#### Summary

In summarizing the major findings of this research, several tendencies of drinking behavior and drunk driving behavior emerged. This was true for particular behaviors (drinking and driving) and general trends (i.e. total consumption) correlated with items such as knowledge.

Those that drank more of any kind of alcohol tended to have more correct knowledge. In the case of this study, particularly those that drank more liquor/beer tended to have more correct knowledge. In addition, they also tended to have less misinformation and fewer don't know responses.

Another interesting result was that those that drank more of one thing (wine, liquor/beer) tended to have less favorable attitudes of liability. That is they tended to say that others should not be held responsible for drinking and driving. None of the categories show positive correlates on any type of alcohol and liability for drunk driving.

Drinking more of any type of alcohol seemed to correlate highly with believing one can consume more drinks. Total drinking with significance for all control categories

(sex, age, education, and marital status). Those that showed some frequency of liquor/beer consumption correlated positively with total correct knowledge. However the strongest correlations resulted when total consumption was correlated to knowledge measures. The strongest correlations for all categories resulted when these two variables were cross-tabulated. In Table V the result was .38 for total consumption and total correct knowledge, -.25 for total misinformation and -.23 for total don't know. For all categories having more correct knowledge also leads to having less misinformation and less don't know responses. Additionally, for the entire sample, those that drove drunk in the past year and those that showed some frequency of drunk driving displayed weak positive correlations of .21 and .23 respectively. Misinformation and don't know responses failed to achieve statistical significance.

Liability items showed almost unanimous negative correlations when crossed with drinking and driving behaviors. Those that showed some frequency of total consumption seemed to feel that police should be held less liable for drinking/driving behavior. The correlation between these items was -.73. Social liability of hosts also correlated negatively with total consumption and total liability correlated with total consumption resulted in a -.52 denoting less liability for those that drink any kind of alcohol. These results were mirrored by all other control categories with the only difference being in the

strength of the relationship.

Perceptions of one's limit of drinks correlated positively and significantly with drinking more wine, drinking more liquor/beer and total consumption of any kind of alcohol. A curious occurrence was that regardless of the type of alcohol consumed respondents perceived themselves susceptible to being stopped by police. As a matter of fact the correlations though positive were very weak insignificant values. (.02 for those drinking wine and .03 for those drinking liquor/beer). (.01 and .01 for drinking wine and liquor/beer, respectively). Results of being stopped by police created a similar level of correlation when con-tracted with differing types of alcohol consumption. The correlations were all statistically insignificant. Only two categories showed variation from this pattern. Table VIII showed significant positive correlations on all perception items when correlated with those that drank more liquor/beer and total consumption. And Table IX showed negatively significant correlations between the perception items of limit of drinks, chances of being stopped by police and results of being stopped by police when correlated with consumption of liquor/beer and total consumption.

Penalties for drunk driving when correlated with drinking behavior failed to reach statistical significance on all but one item--loss of license. Those that drank more wine and those that drank more liquor/beer as well

as total consumption correlated positively on this one item. Those that drank more wine correlated with loss of license at .50, while those that drank more liquor/beer correlated at .25 and total consumption correlated at .23. This pattern was not mirrored by the other control categories in Table VII (Sex) in which males and females diverged in their ideas on penalties. Those males in the study failed to achieve statistical significance on any penalty item regardless of the type of alcohol consumed. However, females did achieve statistical significance on loss of license. Those females that drank more liquor/beer correlated at .30 on loss of license.

In reviewing this study, it appears that there was little variation in correlations by control variable category. There were minute fluctuations or differences within categories; but as a whole, general patterns held true across categories. The most notable exceptions were correlations on the items of drinking and penalties for sex, age, education and marital status.

### Conclusions

Possible explanations for these results could be the norms of a college environment regarding drinking as well as drinking and driving behavior. This study was done in Payne County wherein a major university is located. Some of the behaviors recorded in this study may more accurately portray college behaviors and not behaviors of

the general population. The strong correlations between more drinking and perceived limit of drinks may be a result of drinkers feeling their behavior is responsible. They may feel they can consume a larger amount, but still effectively operate a vehicle. This is not legally responsible behavior if the rate of consumption per hour exceeds established limits.

Another possible explanation of the correlations of drinking and driving behavior may involve a rationalization of one's behavior. By assuming a "not me" posture many persons may effectively reduce the influence of better judgment on their part. Looking at the drunk driving problem as someone else's responsibility because "I can handle myself after drinking" creates an impression within the individual of invulnerability. These individuals may consider themselves "supermen," not realizing that alcohol affects not just one's reflexes, but also one's reasoning abilities.

Other considerations of how to explain one's behavior in regards to drinking and driving, those involved in deviant behaviors also have the ability to manipulate other's perceptions about that behavior. In addition, if one drives while intoxicated, a certain amount of expertise may be derived from this behavior. Individuals operating in a deviant manner often develop roles they portray to explain their deviance. Being stopped for drunk driving may result in a driver explaining that he/she lost a



contact while driving, that a bee flew in the car and other such creative story-telling in order to prevent detection for drunk driving.

Further speculations on the conclusions derived from the research could be the scenario wherein alcohol is consumed. For example, wine is consumed more by those in older age brackets maybe in restaurants where the norms for consumption are different. Those in a younger age group might consume liquor/beer in a bar, nightclub or party situation where again norms governing behaviors are different for each age group.

In regards to liability for drunk drivers, those that drink more liquor/beer and wine believe that police should not bother them. And conversely those that drink less liquor/beer and wine feel police should take more responsibility for drunk drivers. The reasoning for this might be explained by considering norms. It seems reasonable to consider that those that persist in drinking and driving have that behavior as part of their normative make-up, thus the persistence of the behavior, this can work conversely for those that do not drink and drive.

#### Limitations

The limitations of a study such as conducted here are important to be considered. First, the size of the sample could have affected the results. Surveying a few hundred persons and attempting to generalize to a larger population

could have deleterious results. The sample was comprised of 434 subjects and depending on when the data were collected (September - October, 1986), how the data were collected (unsupervised surveys given sometimes sporadically) and who the data covered (42% were 30 and under) could seriously impair this study's ability to generalize to other populations. Police could also be more sensitized to the younger age groups in regards to enforcement.

Additionally, missing values on partially answered questionnaires could alter correlations and means alike. If a certain age group did not want to fill out the questionnaire then the sample would not be an accurate cross-section of the population. Or if the individuals sought to alter purposely the results by answering the questionnaire falsely, this would skew the results.

The theoretical orientation used in this research as in any other research can not be proven conclusively. General tendencies of behavior, though, can be generalized to similar populations from sample populations. The relationships between the variables in this study were given close scrutiny and under like conditions with similar respondents the results may be quite close. The one limitation that reasonably affect the results was time. If the data were collected over a longer period of time, say one year, then the results may have been different. The number of respondents at least would be larger thus making

the generalizability of the data that much more efficacious.

### Summary of Results

The results could be interpreted to be consistent with the theoretical underpinnings of the study. Individuals did seem to orient behavior to others. The internalization and organization of the attitudes of others could explain the pattern of group behavior exhibited by those in the control categories examined by this study.

In all the control categories the correlations followed similar patterns. The strength of the correlations changed in each case, but a pattern of significant values was recorded for most of the controls if there was significant correlation overall.

An example of Festinger's discussion of the maintenance of consonance after making a decision is that those who tend to drink and drive might also attempt to rationalize the "correctness" of their decision. By stating they can have a certain amount of alcohol and still maintain control, individuals may attempt by various means to rationalize their behavior. Individuals who might attempt to enhance the consonance of conscience with their behavior may seek to downplay the dissonance. Thinking they would not get caught or that they would not have an accident might generate rationalizations which could possibly explain the consistency of behavior for drinkers and drinking drivers after a decision has been made.

To draw together the literature and the results, the attempt by Ajzen and Fishbein to draw a connection between beliefs about an attitude object being used to predict behavior toward an object seem to be relevant. Those that stated they could consume a certain amount and still drive well tended to report doing just that.

In addition, Ajzen and Fishbein's work led to the attempts of McCarty, et al. to relate and effect the beliefs and attitudes on alcohol use. It was found that intentions of certain behavior correspond strongly to aspects of similar actions. Schlegel agrees with Ajzen and Fishbein in that the strongest correlations result when attitudes toward specific behaviors are compared to later actual behaviors. This was borne out in the correlations that were apparent when respondents were asked how often do they drive after reaching their limit. The correlations for this were quite informative. For example, males that drove drunk in the past year correlated with perceived limit of drinks at .44 while females that drove drunk in the past year correlated with perceived limit of drinks at .33. Categories showed similar correlations on these same variables. Those in the 30 and under group that drove drunk in the past year correlated with greater perceived limit of drinks at .46, the 31-60 year old group displayed a .37 on these variables and the 61 on up group registered a .44 on the correlation between drunk driving in the past year and perceived limit of drinks.

Of interest were the negative correlations on so many measures. Overwhelmingly, for all categories the negative correlations on attitudes toward police, perceptions about being stopped by police and what might happen if one were stopped were curious. There was no positive relationships drawn for any group. This means that regardless of control category, those drinking more are less likely to believe that police should be held responsible for drunk driving. Respondents also seemed to have less knowledge about the consequences of being stopped by police and chances of being stopped by police.

Those that drove more after having more than their limit showed moderate to strong correlations on how many drinks they felt they could have and still drive well. All groups in all instances correlated positively and significantly. Those that drove after consuming more than their self-described limits also tended to agree that loss of one's license was an inappropriate penalty for drunk driving. This group also correlated positively on attitudes about driving well after consuming more than their self-imposed limits.

Conclusions of available data seemed to show that those that drank more wine and those that drank more liquor/beer displayed similar positive correlations. Those that drank more liquor/beer though displayed greater strength of correlation.

APPENDIX

AS A PART OF A STATE- AND LOCALLY-FUNDED PROJECT, WE WOULD LIKE SOME OPINIONS FROM THE DRIVING PUBLIC IN OKLAHOMA. PLEASE COMPLETE THE FOLLOWING QUESTIONNAIRE AND RETURN TO THE LOCKED BOX. ALL RESPONSES ARE STRICTLY CONFIDENTIAL—PLEASE DO NOT SIGN YOUR NAME.

- |  |  |
|--|--|
| <p>1. SEX:<br/> <input type="checkbox"/> 1 male<br/> <input type="checkbox"/> 2 female</p> <p>2. PRESENT MARITAL STATUS:<br/> <input type="checkbox"/> 1 never married<br/> <input type="checkbox"/> 2 married<br/> <input type="checkbox"/> 3 other (divorced, widowed, etc).</p> <p>3. COMBINED FAMILY INCOME:<br/> <input type="checkbox"/> 1 less than \$10,000<br/> <input type="checkbox"/> 2 \$10,000-\$30,000<br/> <input type="checkbox"/> 3 \$30,000-\$50,000<br/> <input type="checkbox"/> 4 over \$50,000</p> <p>4. PAYNE COUNTY RESIDENCE:<br/> <input type="checkbox"/> 1 Stillwater<br/> <input type="checkbox"/> 2 town other than Stillwater<br/> <input type="checkbox"/> 3 rural area</p> | <p>5-6. YEAR YOU WERE BORN:<br/>         _____</p> <p>7. EDUCATION:<br/> <input type="checkbox"/> 1 less than high school<br/> <input type="checkbox"/> 2 high school graduate<br/> <input type="checkbox"/> 3 some college<br/> <input type="checkbox"/> 4 college graduate<br/> <input type="checkbox"/> 5 higher college degree</p> <p>8. PRESENT OCCUPATION:<br/> <input type="checkbox"/> 1 professional<br/> <input type="checkbox"/> 2 white collar<br/> <input type="checkbox"/> 3 blue collar<br/> <input type="checkbox"/> 4 housewife<br/> <input type="checkbox"/> 5 student<br/> <input type="checkbox"/> 6 retired</p> |
|--|--|

THESE ITEMS CONCERN KNOWLEDGE OF ALCOHOL—PLEASE CIRCLE YOUR ANSWER

	True	False	Don't Know
9. Drinking coffee or taking a cold shower can help sober a person.	1	2	3
10. Alcohol is usually classified as a stimulant.	1	2	3
11. Approximately 10% of fatal highway accidents are alcohol related.	1	2	3
12. Liquor mixed with soda pop will affect you faster than liquor drunk straight.	1	2	3
13. In order to avoid arrest, a 150 pound person should drink less than three beers in a two hour period.	1	2	3
14. Moderate consumption of alcoholic beverages is generally not considered harmful to the body.	1	2	3
15. Eating while drinking will help slow down becoming drunk.	1	2	3
16. A person cannot become an alcoholic by just drinking beer.	1	2	3

THESE ITEMS CONCERN YOUR OPINIONS

	Strongly Disagree	Neutral	Strongly Agree		
17. Police do not arrest enough drunk drivers.	1	2	3	4	5
18. Police should set up road blocks to catch drunk drivers.	1	2	3	4	5
19. The new drinking age of 21 for 3.2 beer is good.	1	2	3	4	5
20. A drunk stopped by the police close to home should be taken there rather than to jail.	1	2	3	4	5
21. Social hosts should be held liable for drunk driving accidents caused by their guests.	1	2	3	4	5
22. Bartenders should be held liable for drunk driving accidents caused by their customers.	1	2	3	4	5

23-29. In a situation where someone you knew had been drinking too much and was about to drive, which do you think you might do? (check all that apply)

- 1 nothing (it is not my business)
- 2 offer a ride home
- 3 persuade the person not to drive
- 4 prevent the person from driving
- 5 ask people nearby for help
- 6 call the police
- 7 other (please list) \_\_\_\_\_

30-36. If your behavior regarding alcohol has changed over the past year, please check all changes.

- 1 discuss drinking/driving more often with others
- 2 drink more
- 3 drink less
- 4 serve more at parties
- 5 serve less at parties
- 6 plan for transportation home
- 7 other (please list) \_\_\_\_\_

37. In the last year, have you become aware of any programs in Stillwater that are trying to reduce alcohol related traffic accidents?  
 1 yes       2 no

38. Please tell us about these programs.

<u>Name of program</u>	<u>Who conducted it</u>	<u>How you heard of it</u>	<u>Your involvement in it</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

PART II PLEASE CIRCLE THE CORRECT ANSWER

In the last year, how often, on the average, did you usually drink:

	Never	a few times a year	1-2 times a month	1-2 times a week	1-2 times a day
1. Beer	1	2	3	4	5
2. Wine	1	2	3	4	5
3. Liquor	1	2	3	4	5

In the last year, when you drank, how much of the following did you usually have during one drinking period?

	None	1-2 Drinks	3-4 Drinks	5-6 Drinks	Over 6 Drinks
4. Beer	1	2	3	4	5
5. Wine	1	2	3	4	5
6. Liquor	1	2	3	4	5

PLEASE CHECK THE CORRECT ANSWER FOR THE FOLLOWING

7. How many drinks do you feel you can handle and still drive well?  
 1 none  
 2 1-2 drinks  
 3 3-4 drinks  
 4 5-6 drinks  
 5 over 6 drinks

8. How often during the past year have you driven after consuming more than that amount?  
 1 never  
 2 a few times  
 3 once or twice a month  
 4 once or twice a week  
 4 nearly every day

9. If you drive after drinking too much, what do you feel are your chances of being stopped by the police?  
 1 very low  
 2 low  
 3 about even (50-50)  
 4 high  
 5 very high

10. If you are stopped by the police after drinking too much, which one of the following do you feel would most likely happen? (check one)  
 1 nothing  
 2 warning  
 3 ticket  
 4 fine  
 5 counseling program  
 6 driver training school  
 7 license removed  
 8 jail sentence  
 9 other (please list) \_\_\_\_\_

11. In Oklahoma, what percentage of alcohol in the blood will determine that you are driving under the influence?  
 1 .02 percent  
 2 .05 percent  
 3 .08 percent  
 4 .10 percent  
 5 don't know

12-19. Which penalties for drunk driving do you feel should be used more often or increased? (check all that apply)  
 1 fines  
 2 removal of license  
 3 community service  
 4 driving school  
 5 counseling programs  
 6 jail after first offense  
 7 jail after second offense  
 8 other \_\_\_\_\_

20. How often do you usually drive after having at least 2 drinks or 3 beers?  
 1 never  
 2 a few times a year  
 3 1-2 times a month  
 4 1-2 times a week  
 5 nearly every day

21. Have you ever had a family member or close friend injured or killed by a drunk driver?  
 1 yes       2 no

22. Have you been arrested for drunk driving in the last year?  
 1 yes       2 no

23. Have you been involved in a traffic accident after drinking and driving in the last year?  
 1 yes       2 no



	KNOWLEDGE			LIABILITY			PERCEPTIONS		
	Total correct	Total wrong	Total don't know	Liability police	Social liability	Total liability	Limit of drinks	Chances Stopped by Police	Results Stopped by Police
Quantity frequency wine	.12	-.17	-.11	-.17	-.12	-.19	.25	.02	.01
Quantity frequency liquor/beer	.30	-.18	-.20	-.33	-.21	-.28	.52	.03	.10
Total quantity frequency	.38	-.25	-.23	-.73	-.23	-.52	.61	.05	.12
Drunk driving (past year)	.21	-.10	-.16	-.55	-.18	-.39	.45	.01	.15
Frequency of drunk driving	.23	-.16	-.13	-.70	-.21	-.48	.59	-.01	.09
Arrested drunk driving	-.10	.01	.11	.09	-.01	.05	-.04	.00	-.16
Accidents drunk driving	-.04	.02	.02	.02	.03	.04	-.08	.05	.01

	PENALTIES						
	Fines	Loss of License	Comm. Serv.	Driving School	Counseling	Jail (1st Offense)	Jail (2nd Offense)
Quantity frequency wine	.03	.50	-.07	.03	-.03	.07	-.01
Quantity frequency liquor/beer	.02	.25	-.04	.02	.13	.13	.04
Total quantity frequency	.02	.23	-.07	.02	.11	.15	.03
Drunk driving (past year)	.01	.20	.01	.06	.07	.16	.02
Frequency of drunk driving	.04	.24	-.01	-.02	.14	.16	.07
Arrested drunk driving	.04	-.12	.01	.03	.03	-.06	.01
Accidents drunk driving	-.08	-.05	-.04	-.03	-.02	.01	.03

Underlined values denote statistical significance at .05 (.19) with N = 434,  $r > .08$

TABLE V  
CORRELATIONS BETWEEN COGNITIVE VARIABLES AND  
DRINKING/DRIVING BEHAVIOR FOR ENTIRE SAMPLE

TABLE VI  
 MEANS OF CONTROL VARIABLES ON DRINKING AND  
 DRIVING BEHAVIOR FOR EACH CATEGORY OF  
 EACH CONTROL VARIABLE

Drinking/ driving behavior	Male	Female	30 on	31-60	60 on	High School	Some College	College degree	Single	Married
Quantity frequency wine	1.85	1.85	1.79	1.79	1.96	1.54	1.85	2.00	1.98	1.74
Quantity frequency liquor/beer	2.52	1.86	1.83	1.93	2.58	1.90	2.34	2.11	2.60	1.82
Total quantity frequency	2.31	1.86	1.81	1.88	2.38	1.79	2.18	2.07	2.39	1.80
Drunk driving (past year)	1.66	1.31	1.23	1.36	1.68	1.40	1.53	1.44	1.70	1.28
Frequency of drunk driving	2.05	1.51	1.56	1.58	2.07	1.51	1.90	1.71	2.12	1.45
Arrested drunk driving	1.88	1.99	1.95	1.93	1.94	1.92	1.94	1.95	1.92	1.97
Accidents drunk driving	1.93	1.99	1.98	1.97	1.94	1.96	1.95	1.97	1.94	1.98

Drinking/ driving behavior	KNOWLEDGE			LIABILITY			PERCEPTIONS			PENALTIES						
	Total correct	Total wrong	Total don't know	Liability police	Social liability	Total liability	Limit of drinks	Chances Stopped by Police	Results Stopped by Police	Fines	Loss of License	Comm. Serv.	Driving School	Counsel- ing	Jail (1st Offense)	Jail (2nd Offense)
<b>Male</b>																
Quantity frequency wine	.14	-.12	-.05	-.17	-.11	-.18	<u>.26</u>	.01	-.03	.07	.06	-.12	.03	-.02	.02	.03
Quantity frequency liquor/beer	<u>.28</u>	<u>-.20</u>	-.14	<u>-.57</u>	<u>-.30</u>	<u>-.58</u>	<u>.59</u>	.11	.11	.05	.20	-.12	-.02	.14	.14	.08
Total quantity frequency	<u>.27</u>	<u>-.21</u>	-.12	<u>-.51</u>	<u>-.26</u>	<u>-.52</u>	<u>.56</u>	.09	.08	.07	.18	-.14	-.01	.10	.11	.07
Drunk driving (past year)	.10	-.03	-.08	<u>-.37</u>	<u>-.23</u>	<u>-.40</u>	<u>.44</u>	.01	.16	-.07	.17	-.04	.03	.10	.12	.07
Frequency of drunk driving	.10	-.08	-.04	<u>-.47</u>	<u>-.19</u>	<u>-.45</u>	<u>.53</u>	.07	.03	.00	<u>.24</u>	-.03	-.03	<u>.20</u>	.15	.12
<b>Females</b>																
Quantity frequency wine	<u>.32</u>	<u>-.25</u>	<u>-.19</u>	<u>-.25</u>	-.10	<u>-.23</u>	<u>.20</u>	.03	.07	-.03	.04	-.04	.04	-.03	.11	-.05
Quantity frequency liquor/beer	<u>.37</u>	<u>-.19</u>	<u>-.30</u>	<u>-.56</u>	<u>-.27</u>	<u>-.56</u>	<u>.59</u>	.07	.11	.00	<u>.30</u>	-.04	.02	.08	.17	.07
Total quantity frequency	<u>.41</u>	<u>-.24</u>	<u>-.30</u>	<u>-.53</u>	<u>-.24</u>	<u>-.53</u>	<u>.57</u>	.07	.12	-.01	<u>.25</u>	-.05	.02	.04	.17	.03
Drunk driving (past year)	<u>.25</u>	-.12	<u>-.20</u>	<u>-.38</u>	-.15	<u>-.34</u>	<u>.33</u>	.08	.10	.12	<u>.20</u>	.03	.07	-.06	<u>.19</u>	.05
Frequency of drunk driving	<u>.27</u>	<u>-.19</u>	-.17	<u>-.50</u>	<u>-.27</u>	<u>-.48</u>	<u>.59</u>	-.05	.09	.10	<u>.23</u>	-.02	-.05	-.01	.17	.07

Underlined values denote statistical significance with N = 201 (Male),  $r > .14$  N = 233 (Female),  $r > .12$ .

TABLE VII  
CORRELATIONS BETWEEN COGNITIVE VARIABLES AND  
DRINKING/DRIVING BEHAVIOR BY SEX

Drinking/ Driving behavior	KNOWLEDGE			LIABILITY			PERCEPTIONS		
	Total correct	Total wrong	Total don't know	Liability police	Social liability	Total liability	Limit of drinks	Chances Stopped by Police	Results Stopped by Police
<u>AGE 1 - 30</u>									
Quantity frequency wine	<u>.24</u>	-.04	<u>-.46</u>	-.14	<u>-.22</u>	<u>-.21</u>	.17	-.04	.13
Quantity frequency liquor/beer	<u>.31</u>	-.10	<u>-.35</u>	<u>-.31</u>	<u>-.31</u>	<u>-.38</u>	<u>.57</u>	<u>.31</u>	<u>.20</u>
Total quantity frequency	<u>.36</u>	-.09	<u>-.46</u>	<u>-.30</u>	<u>-.33</u>	<u>-.39</u>	<u>.52</u>	<u>.25</u>	<u>.21</u>
Drunk driving (past year)	.12	-.14	-.08	<u>-.22</u>	-.14	<u>-.23</u>	<u>.46</u>	<u>.52</u>	<u>.28</u>
Frequency of drunk driving	<u>.28</u>	<u>-.30</u>	-.12	-.15	<u>-.28</u>	<u>-.25</u>	<u>.67</u>	<u>.27</u>	.15
<u>AGE 31-40 yrs</u>									
Quantity frequency wine	<u>.22</u>	<u>.20</u>	-.09	-.14	-.07	-.15	<u>.20</u>	-.02	-.10
Quantity frequency liquor/beer	<u>.37</u>	<u>-.28</u>	<u>-.20</u>	<u>-.55</u>	-.20	<u>-.51</u>	<u>.63</u>	.02	.13
Total quantity frequency	<u>.38</u>	<u>-.30</u>	<u>-.20</u>	<u>-.50</u>	-.18	<u>-.46</u>	<u>.58</u>	.01	.08
Drunk driving (past year)	<u>.28</u>	<u>-.20</u>	-.16	<u>-.29</u>	-.15	<u>-.30</u>	<u>.37</u>	-.13	.17
Frequency of drunk driving	<u>.26</u>	<u>-.19</u>	-.15	<u>-.50</u>	<u>-.19</u>	<u>-.46</u>	<u>.53</u>	.03	.11
<u>AGE 41 on up</u>									
Quantity frequency wine	<u>.19</u>	-.16	-.01	<u>-.24</u>	-.04	<u>-.20</u>	<u>.30</u>	.09	.09
Quantity frequency liquor/beer	<u>.39</u>	<u>-.22</u>	<u>-.26</u>	<u>-.55</u>	<u>-.28</u>	<u>-.55</u>	<u>.66</u>	.03	.14
Total quantity frequency	<u>.38</u>	<u>-.24</u>	<u>-.23</u>	<u>-.51</u>	<u>-.22</u>	<u>-.50</u>	<u>.63</u>	.05	.14
Drunk driving (past year)	.16	-.05	-.15	<u>-.38</u>	-.19	<u>-.38</u>	<u>.44</u>	.07	.12
Frequency of drunk driving	<u>.17</u>	-.10	-.11	<u>-.47</u>	<u>-.19</u>	<u>-.45</u>	<u>.59</u>	-.03	.06

	PENALTIES						
	Fines	Loss of License	Comm. Serv.	Driving School	Counsel- ing	Jail (1st Offense)	Jail (2nd Offense)
	.08	-.12	-.16	-.02	-.03	-.10	-.07
	<u>-.30</u>	.11	<u>-.22</u>	.05	.13	-.04	<u>.24</u>
	<u>-.22</u>	.04	<u>-.24</u>	-.15	-.03	.03	-.04
	-.04	.07	-.11	<u>-.19</u>	-.13	<u>.23</u>	-.18
	-.12	<u>.24</u>	-.03	-.16	-.07	.13	-.16
	-.04	.01	-.03	.04	-.05	-.05	.00
	.07	<u>.26</u>	-.06	-.02	.07	.13	.01
	.04	<u>.21</u>	-.06	.00	.03	.09	.01
	-.04	.11	.03	.10	-.02	.10	.04
	-.02	<u>.21</u>	.01	-.05	.11	.12	.13
	.07	.12	-.16	.02	-.06	<u>.25</u>	-.04
	.03	<u>.25</u>	-.08	.08	<u>.25</u>	<u>.27</u>	.07
	.04	<u>.23</u>	-.12	.07	.18	<u>.30</u>	.04
	.01	<u>.21</u>	-.01	.06	.17	<u>.21</u>	.01
	.09	<u>.22</u>	-.06	.01	<u>.19</u>	<u>.24</u>	.05

Underlined values denote statistical significance with N = 183 (38 on down), r > .14; N = 133 (31 to 62), r > .16; N = 118 (61 on

TABLE VIII  
CORRELATIONS BETWEEN COGNITIVE VARIABLES AND  
DRINKING/DRIVING BEHAVIOR BY AGE

Drinking/ driving behavior	KNOWLEDGE			LIABILITY			PERCEPTIONS		
	Total correct	Total wrong	Total don't know	Liability police	Social liability	Total liability	Limit of drinks	Chances Stopped by Police	Results Stopped by Police
<u>U.S. Grad</u>									
Quantity frequency wine	.16	<u>-.21</u>	.02	<u>-.36</u>	-.14	<u>-.33</u>	<u>.35</u>	.05	-.04
Quantity frequency liquor/beer	<u>.37</u>	<u>-.32</u>	-.14	<u>-.41</u>	-.17	<u>-.37</u>	<u>-.36</u>	<u>.24</u>	-.08
Total quantity frequency	<u>.34</u>	<u>-.33</u>	-.10	<u>-.41</u>	-.15	<u>-.36</u>	<u>-.40</u>	.11	-.02
Drunk driving (past year)	<u>.28</u>	<u>-.20</u>	-.15	<u>-.21</u>	-.11	<u>-.21</u>	<u>.49</u>	-.09	-.02
Frequency of drunk driving	<u>.27</u>	-.15	<u>-.19</u>	<u>-.27</u>	-.12	<u>-.25</u>	<u>.56</u>	.02	-.15
<u>Some College</u>									
Quantity frequency wine	.16	<u>-.21</u>	<u>-.25</u>	<u>-.23</u>	<u>-.28</u>	<u>-.58</u>	<u>.31</u>	.03	.09
Quantity frequency liquor/beer	<u>.36</u>	<u>-.22</u>	<u>-.25</u>	<u>-.62</u>	<u>-.32</u>	<u>-.41</u>	<u>.61</u>	.08	-.18
Total quantity frequency	<u>.36</u>	-.10	-.12	<u>-.60</u>	-.05	<u>-.19</u>	<u>.62</u>	.18	<u>.19</u>
Drunk driving (past year)	.14	-.11	-.07	<u>-.42</u>	<u>-.24</u>	<u>-.42</u>	<u>.40</u>	.10	.17
Frequency of drunk driving	.17	<u>-.19</u>	-.03	<u>-.51</u>	<u>-.28</u>	<u>-.51</u>	<u>.57</u>	-.02	.12
<u>College grad/ other degree</u>									
Quantity frequency wine	<u>.32</u>	<u>-.22</u>	<u>-.31</u>	<u>-.48</u>	<u>-.19</u>	<u>-.51</u>	.18	.07	-.05
Quantity frequency liquor/beer	<u>.39</u>	-.18	<u>-.30</u>	<u>-.56</u>	<u>-.27</u>	<u>-.56</u>	<u>.68</u>	.00	.14
Total quantity frequency	<u>.42</u>	<u>-.21</u>	<u>-.19</u>	<u>-.51</u>	<u>-.28</u>	<u>-.18</u>	<u>.61</u>	.02	.10
Drunk driving (past year)	<u>.28</u>	-.05	<u>-.30</u>	<u>-.43</u>	-.17	<u>-.41</u>	<u>.47</u>	-.06	<u>.19</u>
Frequency of drunk driving	<u>.29</u>	-.10	<u>-.26</u>	<u>-.53</u>	<u>-.20</u>	<u>-.50</u>	<u>.61</u>	-.05	.12
<u>PENALTIES</u>									
	Fines	Loss of License	Comm. Serv.	Driving School	Counsel- ing	Jail (1st Offense)	Jail (2nd Offense)		
	<u>.27</u>	.12	-.11	.08	.11	.14	-.13		
	.09	<u>-.17</u>	.01	<u>.19</u>	.15	<u>.23</u>	-.15		
	<u>-.27</u>	<u>-.23</u>	.01	.17	.15	<u>.21</u>	-.16		
	<u>.19</u>	.06	.01	<u>.21</u>	-.08	.08	-.01		
	<u>.24</u>	.03	-.13	.08	.01	.17	-.03		
	-.01	.17	-.08	-.06	-.04	.13	-.02		
	-.04	<u>.32</u>	-.02	-.02	.17	<u>.24</u>	-.07		
	-.04	<u>.22</u>	-.05	-.04	.13	<u>.25</u>	-.07		
	.02	<u>.24</u>	.03	-.01	.13	<u>.21</u>	-.17		
	.04	<u>.28</u>	-.40	-.08	.18	.18	-.05		
	-.06	-.09	-.03	.09	-.04	.04	.04		
	-.05	<u>-.26</u>	-.06	-.04	.13	.00	<u>.24</u>		
	-.07	.17	-.06	-.01	.10	-.02	<u>.22</u>		
	-.14	<u>.19</u>	-.01	.07	.08	.14	<u>.23</u>		
	-.11	<u>.27</u>	.07	.00	.18	.11	<u>.22</u>		

Underlined values denote statistical significance with N = 81 (High School graduate), r > .22; N = 190 (Some College), r > .14; N = 157 (College Graduate/Other Degree), r > .16.

TABLE IX  
CORRELATIONS BETWEEN COGNITIVE VARIABLES AND  
DRINKING/DRIVING BEHAVIOR BY EDUCATION

Drinking/ driving behavior	KNOWLEDGE			LIABILITY			PERCEPTIONS		
	Total correct	Total wrong	Total don't know	Liability police	Social liability	Total liability	Limit of drinks	Chances Stopped by Police	Results Stopped by Police
<b>Single</b>									
Quantity frequency wine	.14	-.11	-.10	-.18	.01	-.13	<u>.29</u>	.05	.10
Quantity frequency liquor/beer	<u>.27</u>	-.10	-.23	-.58	-.26	-.55	<u>.59</u>	.03	.14
Total quantity frequency	<u>.27</u>	-.08	-.22	-.54	-.20	-.50	<u>.58</u>	.04	.15
Drunk driving (past year)	.06	.04	-.11	-.39	-.16	-.36	<u>.46</u>	.06	.14
Frequency of drunk driving	.10	-.11	-.11	-.46	-.15	-.42	<u>.58</u>	.02	.06
<b>Married</b>									
Quantity frequency wine	<u>.27</u>	-.21	-.14	-.15	-.14	-.19	<u>.19</u>	-.01	-.05
Quantity frequency liquor/beer	<u>.37</u>	-.23	-.24	-.38	-.21	-.39	<u>.61</u>	.00	.07
Total quantity frequency	<u>.39</u>	-.26	-.24	-.35	-.21	-.37	<u>.55</u>	.01	.04
Drunk driving (past year)	<u>.27</u>	-.15	-.24	-.25	-.17	-.27	<u>.32</u>	-.11	.11
Frequency of drunk driving	<u>.27</u>	-.18	-.15	-.38	-.20	-.38	<u>.54</u>	-.14	.04
<b>PENALTIES</b>									
	Fines	Loss of License	Comm. Serv.	Driving School	Counsel- ing	Jail (1st Offense)	Jail (2nd Offense)		
	.04	.10	-.11	.05	-.00	.12	.09		
	.03	<u>.32</u>	-.09	.02	<u>.19</u>	<u>.22</u>	-.16		
	.03	<u>.29</u>	-.11	.03	.16	<u>.22</u>	.09		
	.00	<u>.30</u>	-.05	.02	.05	<u>.23</u>	.00		
	.01	<u>.30</u>	-.07	.01	.16	<u>.19</u>	.05		
	-.01	-.06	-.12	.05	-.08	.01	.01		
	.01	-.15	-.12	-.05	.07	.05	.02		
	.00	-.10	-.14	-.02	.02	.05	-.02		
	.01	.04	.04	.10	.07	.08	.01		
	.05	.17	.02	-.04	.15	.10	.11		

Underlined values denote statistical significance with N = 184 (Single),  $r > .14$  N = 214 (Married),  $r > .13$ .

TABLE X

CORRELATIONS BETWEEN COGNITIVE VARIABLES  
AND DRINKING BEHAVIOR BY MARITAL STATUS

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