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A COMPARISON OF ALCOHOL INVOLVEMENT IN PEDESTRIANS AND PEDESTRIAN CASUALTIES

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FINAL REPORT

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16. Abstract

The objectives of this study were to determine the frequency of alcohol involvement in adult (14 years +) pedestrian fatalities and injuries; determine if alcohol was overrepresented; determine the causal role of alcohol; and suggest countermeasures. Pedestrian fatalities were sampled through the New Orleans, Louisiana, Coroner; non-fatal pedestrian victims were sampled through a large New Orleans hospital; and crash and control data were gathered via follow-up interviews, roadside interviews and Police files. Results showed that 50% of the pedestrian fatal and non-fatal victims had been drinking. Blood Alcohol Concentrations (BACs) were extremely high. Approximately 50% of those who had been drinking had BACs of .20% or higher. Victims were compared to three distinct control groups. The most conservative group (age and sex matched at the accident site) showed relative risk of an accident increasing dramatically at BACs of .20% or more. The least conservative (Random group) showed relative risk increasing dramatically at BACs of .10% or more. Alcohol involved pedestrians were more often middle aged males, struck at night, on weekends and exhibited a variety of social and personal problems. "Dart and Dash," "Ped Strikes Vehicle" and "Not Classifiable" accident types were common. Legal, educational, engineering and rehabilitation countermeasure approaches are discussed.

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METRIC CONVERSION FACTORS

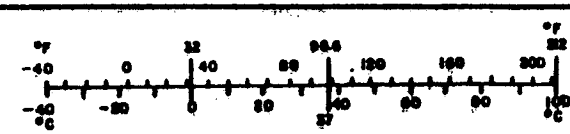
Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
		AREA		
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
		MASS (weight)		
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
		TEMPERATURE (exact)		
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
		AREA		
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
		MASS (weight)		
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
		TEMPERATURE (exact)		
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



ADDENDUM

This addendum has been prepared by NHTSA staff to place study findings in the larger perspective of the overall pedestrian problem and research and development activities, as well as to note selected findings of interest.

Major objectives of this project were to determine (1) the incidence of alcohol in adult pedestrian "victims" who are killed or injured in motor-vehicle crashes, and (2) whether alcohol is "overrepresented" in such crashes when compared to non-accident controls. The results indicated that about one-half of the adult pedestrian victims studied--both fatal and non-fatal--had been drinking prior to crash involvement and that alcohol was overrepresented in these victims, especially at elevated blood alcohol concentration (BAC) levels. Approximately one-third of the adult urban pedestrian accident victims had BAC levels greater than 0.15% (35% for the fatality group and 30% for the injury group), whereas the comparable percentages for the non-accident involved control groups ranged between 1% and 7%.

Pedestrians at BACs between .05% and .09% were 1 to 2 times as likely to be involved in an injury or fatality crash as compared to sober pedestrians at 0.0% BAC; at BACs between .10% and .14%, approximately 1-1/2 to 4-1/2 times more likely; and at .20% to .24%, approximately 5 to 37 times more likely.

Assuming that the increase in the relative risk curves (between .10% to .15% BAC) reported for adult pedestrian crashes indicates that at .10% BAC and above alcohol is a contributing factor to pedestrian/motor vehicle crashes, then approximately 46% of the fatal and 36% of the injury crashes in the study could be attributed, at least in part, to alcohol. Also, given the finding that adult pedestrians are involved in approximately 50% of the urban injury [1/] and 80% of the urban fatality pedestrian crashes[2/], and assuming that alcohol is not involved in non-adult (under 14) urban pedestrian accidents, estimates of the involvement of alcohol in urban pedestrian accidents are as follows:

1/ Source: Pedestrian Injury Causation Study (PICS) NCSA, NHTSA

2/ Source: Fatal Accident Reporting System (FARS) NCSA, NHTSA

Alcohol is involved as a contributing factor in approximately 37% (46% x 80%)* of the urban pedestrian fatalities and 18% (36% x 50%)** of the injuries.

As regards the specific accident types and behavioral errors associated with alcohol, the results indicate that one specific situation is much more common for high-BAC pedestrians than for sober pedestrians. The situation involves pedestrians who wander into the street and walk directly into moving vehicles. In addition, alcohol appears to produce an increase in errors associated with the pedestrian's selection of appropriate crossing locations, and his evaluation during the crossing maneuver of what must be done to avoid an accident. Examples of "course (crossing) location" errors include the pedestrian sitting on the curb or laying in the roadway. Examples of "evaluation" error include the pedestrian misperceiving the driver's intent, or not predicting correctly the vehicle and pedestrian path.

Finally, it should be stressed that none of the countermeasures mentioned in the report is ready for implementation at this time. The countermeasure concepts presented in the report have not been examined for feasibility or cost-effectiveness, nor have they been field tested to determine their impact on alcohol-pedestrian accidents. Additional work is needed to further define the nature of the alcohol-pedestrian problem and to use this information in the development of useful remedies.

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*46% is the percentage of fatal adult pedestrians above .10% BAC, 80% is the percentage of urban fatal accidents involving adults.

**36% is the percentage of injured adult pedestrians above .10% BAC, 50% is the percentage of urban injury accidents involving adults.

SUMMARY

The objectives of the present study were to determine the frequency of alcohol involvement in adult (14 years and older) injured pedestrians, determine whether alcohol was "overrepresented" and, if overrepresented, determine if alcohol played a unique causal role. Shortly after data collection began, the effort was modified to include determination of specific accident or collision "type," behavioral errors and alcohol histories as a function of pedestrian blood alcohol concentration (BAC). The data, collected between March 1, 1975 and April 1, 1976 in New Orleans, showed that alcohol is overrepresented as compared to accident case matched, controls and that very high BACs among crash involved pedestrians are common.

Methods Summary

The project began with a review of legal/ethical factors associated with collection and storage of BAC data obtained from injured pedestrians. It was concluded that neither blood nor breath samples could be taken for the purposes of this study without the informed consent of the pedestrian. It was further concluded that the confidentiality of any collected data was of paramount importance. Elaborate procedures were developed to safeguard the data and excise all information that could be used to identify the victim. These procedures effectively broke the "chain of evidence" so that the data collected were not of utility for possible legal actions, civil or criminal, arising from the pedestrian accidents studied.

Efforts were also undertaken early in the project to identify how a BAC measurement could be obtained from a pedestrian. In particular, it was essential to know where measurements could be taken, what bodily substance would be used and by what technique would they be analyzed. From the outset, it was clear that these questions had to be answered separately for the fatally injured, non-fatally injured and controls. It was also clear that the non-fatals would be the most difficult. It was concluded that non-fatals could best be sampled in a hospital emergency room setting. Sampling at the crash site was considered impractical, exceedingly difficult and inappropriate for the more seriously injured. Hospitals were contacted in several locations throughout the United States. The Charity Hospital of Louisiana at New Orleans was eventually selected. Charity's primary advantage was that it was a single large hospital that handled emergency cases from essentially an entire metropolitan area. Nearly all seriously injured trauma victims in New Orleans are taken to Charity since it has one of the best equipped emergency facilities in that region of Louisiana staffed by two large university medical schools (Tulane and Louisiana State). BAC determination at the Hospital was accomplished using gas chromatography of blood. Control subjects and fatally injured pedestrians were also sampled in New Orleans. Controls were approached on the street and asked to provide a breath sample for analysis. Data for fatally

injured, including BAC measurements, were provided by the Orleans Parish Coroner.

Figure 1 provides an overview of the methods and procedures used in this study. The first row of the figure shows fatals, sampled non-fatals and all adult crashes. Fatals (N = 86) were sampled for a four year period to provide a sufficient sample size for analysis. Non-fatals (N = 173) were sampled as they occurred over a 13 month period. BACs for these two groups were obtained as discussed above. Police accident reports were obtained for these crashes as well as all reported adult pedestrian crashes (N = 1,692) occurring in New Orleans from January 1, 1973 to April 1, 1976. Drivers and pedestrians from the non-fatal sample were interviewed concerning detailed crash information and pedestrians were questioned concerning their use of alcohol (Mortimer-Filkins Questionnaire, see Kerlan, et al., 1971). Arrest records were obtained for all sampled drivers and pedestrians. U.S. Weather Bureau data was obtained for sampled crashes covering time of crash and time of control sampling.

Control sampling was conducted at the same time of day, same day of week, and same location as the sampled crashes. Adult pedestrians passing these locations were approached by a uniformed New Orleans Police Officer and asked to participate in the study. Sampling lasted for one hour and adults were stopped irrespective of age and sex. Approximately 18% of the pedestrians approached refused participation in the study, typically because they were "in a hurry." Refusals were not distributed differentially as a function of sex, race, day of week, time of day or the injured pedestrian's BAC. They did, however, tend to be older. Three conceptually different control groups were formed for the purposes of making comparisons to the experimental or crash involved pedestrians. The "Age, Sex, Site Matched Group" consisted of that one control subject at each location who was the same sex as the injured pedestrian and was closest in age. The "Site Matched Group" consisted of those three control subjects at each location sampled closest in time to the accident, irrespective of age and sex. The third control group, "Population at Large," was obtained by sampling at 112 randomly selected locations throughout the city.

The first set of analyses performed were concerned with comparing New Orleans with other U.S. Cities and comparing those crashes entering the sample with those New Orleans crashes that did not enter the sample. It was found that liquor sales (case) in New Orleans were comparable to other U.S. cities. Concerning accidents, New Orleans seems to have a few more "Disabled Vehicle," "Bus Stop" and "Auto-Auto" type pedestrian crashes and a few less "Dart-out first" and vehicle turning crashes. Otherwise, New Orleans is quite comparable to other U.S. cities. Comparisons between those adult New Orleans crashes which entered the sample and those that did not, showed that the sampled crashes tended to involve greater injury severity and older pedestrians. This is not unexpected since the site of sampling was a hospital emergency room.

PEDESTRIAN CRASHES	Fatally injured adult pedestrians 3-1-72 - 4-1-76 N = 86	Non-fatal adults taken to Charity Hospital for treatment 3-1-75 - 4-1-76 N = 173	All reported New Orleans adult pedestrian crashes 1-1-73 - 4-1-76 N = 1,692
ALCOHOL CONCENTRATION	From Coroner: report on pedestrian's BAC at time of death	From Hospital: report on pedestrian's BAC at time of admission	No data, except that from Coron[illegible] or Hospital
BASIC CRASH INFORMATION	Police Report - State of Louisiana Uniform Motor Vehicle Traffic Accident Report		
DETAILED CRASH INFORMATION		Interview pedestrian and driver	
ALCOHOL HISTORY		Interview Pedestrian	
PEDESTRIAN AND DRIVER ARREST RECORD	Obtain the arrest records from Police Computer		
WEATHER INFORMATION	Obtain weather data for time of each crash from U.S. Weather Bureau		
CONTROL SUBJECT DATA	Sample pedestrians at crash location, same time of day, same day of week as crash. Obtain Control BAC and interview data		

Figure 1. Methods Overview.

Results Summary

Table 1 shows the distribution of BACs for the fatal and non-fatal sampled pedestrians for whom valid BAC measures were available. These results show that about 50% of these pedestrians had been drinking prior to their crashes and 45% of the fatals and 36% of the non-fatals had BACs of .10% or higher. Moreover, 24% of sampled pedestrians had BACs of .20% or higher. Pedestrian alcohol involvement was more common:

- among male pedestrians
- in the age range 30-59 years
- among those with a prior arrest record
- at night
- on weekends

However, a variety of other variables such as race and accident location, showed little or no relationship to pedestrian BAC.

An analysis of pre-crash behaviors showed that driver errors were more common when the pedestrian's BAC was .00%. Driver errors declined at higher pedestrian BACs. For the most part, there was little difference in the specific types of errors that pedestrians made at .00% BAC and the errors made at .10% BAC or higher. The one exception to this result occurred with the category "Ped-Course-Location" which includes "laying in road" and "high exposure location." More of these errors occurred at higher pedestrian BAC. Concerning accident type, it was found that the alcohol crashes were more often "unclassifiable," "other" and "pedestrian strikes vehicle" and less often of the defined specific situation types such as "multiple threat," "turning vehicle" and "bus stop."

The pedestrian crash victims were compared to each of the three control groups and relative risk curves were plotted. The results showed that the increased risk associated with alcohol were minimal below .10% BAC and very large at .20% and above. Estimating increased risk in the .10%-.199% range depended on the selection of the most appropriate control group. The most conservative Age and Sex-Site Matched group showed comparatively little increased risk in this range while the least conservative Population at Large group showed a large increase in risk. This implies that drinking behavior is correlated with location, age, sex, time of day or a combination of these factors.

The crash victim and site controls did not differ significantly as a function of sex or race, but the victim group was older. Weather did not vary significantly from the time of the crash as compared with the time of control sampling, suggesting that weather is not a major factor. Mortimer-Filkins score was related positively to both victim and control BAC but did not differentiate victims from controls. Also, the victims tended to be less educated and have more marital problems than controls. A descriptive model was generated using information from the police accident report to distinguish those crashes where the pedestrian had been drinking

Table 1. BAC Levels for Adult Fatal and Non-Fatal Crash Involved Pedestrians.

Blood Alcohol Concentration (% wt./vol.)	Fatal N	Fatal %	Non-Fatal N	Non-Fatal %
.000	39	49%	73	51%
.001 - .049	2	2%	13	9%
.050 - .099	3	4%	6	4% 92
.100 - .149	9	11%	8	6%
.150 - .199	6	8%	10	7%
.200 - .249	7	9%	14	10%
.25 +	14	18%	19	13%
TOTAL	80	100%	143	100%

from those where the pedestrian had not been drinking.

It was concluded that pedestrian drinking is a major factor in adult pedestrian-vehicle crashes. The problem parallels the driver alcohol problem in that it typically involves middle aged males and occurs at night and on weekends. However, the evidence suggests that the BAC's of accident involved drinking pedestrians are higher, on average, than the BAC's of drinking drivers, and the pedestrian risk curve does not begin its dramatic rise until these higher BAC's are reached. Concerning the accidents themselves, it was concluded that many alcohol involved crashes result from pedestrian risk-taking and are probably related to alcohol's effect on judgement. Others appeared to result from direct psychomotor impairment and were characterized by staggering, falling and a general loss of psychomotor control. Countermeasures and countermeasure research were recommended related to education, legal (e.g., Walking While Intoxicated laws), case finding (e.g., identification and rehabilitation), the alcohol product (e.g., lower proof of beverage) and roadway engineering.

ACKNOWLEDGEMENTS

A study of the scope and duration of the one reported herein could not have been undertaken without the support and assistance of numerous groups and individuals. Many of those who were instrumental in the data collection phase of this project have changed their affiliations since its completion. Undoubtedly, there are those who should be acknowledged but are not either because their contribution was anonymous or as a result of inadvertent oversight. The authors apologize to these persons or groups and assure them that no affront was intended.

The individuals and organizations listed below made major contributions to this effort for which the authors are deeply indebted:

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- Dr. Alfred J. Farina, Jr., initial CTM
- Dr. Stephen Benson
- Mr. Leif Myhl, Property Manager

<u>City of New Orleans</u>

- Honorable Moon Landrieu, Mayor
- Mr. Philip S. Brooks, City Attorney
- Frank Minyard, M.D., Parish Coroner

<u>New Orleans Police Department</u>

- Anthony B. Duke, Deputy Superintendent
- Captain Charles LaDell, ASAP Patrol
- Major Earl Burmaster, Supervisor, Records Division
- Captain Wayne Levet, Supervisor, Records Division
- Sergeant Alvin P. Dufrene, Records Division
- Ms. Joyce Fauria, Records Division

<u>The Charity Hospital of Louisiana at New Orleans</u>

- Harry E. Dascomb, M.D., Medical Director
- Aris Cox, M.D., Associate Medical Director
- George W. Cook, M.D., Clinical Director of Medicine
- John Cook, M.D., Clinical Director of Medicine
- John Holder, M.D., Medical Director, Alcohol Services Unit
- Monroe Samuels, M.D., Director of Pathology
- F. Carter Nance, M.D., Louisiana State University
- James B. Dowling, M.D., Tulane University
- Eve Roberson, R.N., Supervisor, Accident Room

Our site coordinator in New Orleans was Ms. Linda Buczek. She was responsible for all scheduling and on-site management of the project. Her efforts, devotion and energy were critical to the success of this project. Control sampling was conducted by off-duty New Orleans Police Department personnel from the Accident Investigation Unit: Officers Raymond Burkart, Jr., Stephen Eckhardt and Leslie Faucheux, Jr. Driver and pedestrian interviews were conducted by Mr. Dan M. Rousseve, Jr., and Ms. Joyce F. McLaurin. Legal consultation concerning the study's methods and procedures was provided by Mr. Peter Edelstein (New York) and Mr. Neville M. Landry (New Orleans).

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Finally, we would be remiss if we did not thank the people of New Orleans, particularly those who volunteered to be subjects in this study. Their faith, trust and willingness to be slightly inconvenienced for the sake of research were truly the ultimate determinants of the success of this study.

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I. INTRODUCTION

This is the final report under Contract No. DOT-HS-4-00946 from the National Highway Traffic Safety Administration (NHTSA). As originally conceived, this project was designed to answer the following research questions:

1. What is the frequency of alcohol's involvement in pedestrian fatalities and injuries?

2. Is alcohol "overrepresented" in pedestrian fatalities and/or accidents on the basis of comparison with the alcohol involvement of pedestrians similarly exposed but not struck?

3. If alcohol is overrepresented, does it have a unique causal role; i.e., does its presence occasion critical behavioral errors which are different from and/or more frequent than errors occurring in pedestrian accidents having no alcohol involvement?

The contract was subsequently modified such that information would be collected on the drinking history of involved pedestrians, and more information would be collected on the type of accident and kinds of behavioral errors associated with varying levels of BAC. The additional research questions which prompted the modification were as follows:

4. What "types"* of collisions are occurring which involve an alcohol impaired pedestrian victim? Are they different from sober pedestrian accidents?

5. What kinds of behavioral errors or information processing failures are occurring in these pedestrian alcohol involved collisions? By degree of alcohol involvement (e.g., .01-.05; .06-.09; .10-.14; .15-.20; .21+)?

6. What are the alcohol histories of these alcohol involved pedestrian collision victims? What, where, when, why do they drink? What classifications of drinkers are they? What was their trip plan, relative exposure to risk, etc.?

Together, these two sets of questions determined the required experimental plan for this effort and the analyses conducted.

The remainder of this report is divided into three sections. Chapter II details the methods and experimental design. Chapter

*As per the typology developed by Snyder and Knoblauch (1971) and refined by Knoblauch (1975).

III presents all major study results and Chapter IV discusses the relevant findings and suggests possible countermeasures. Raw data may be found in the Appendices. Relevant literature has been previously reviewed and published under this contract (see Zylman, Blomberg and Preusser, 1974).

II. METHODS

This section presents the experimental rationale and the specific procedures utilized during the conduct of this study. As discussed earlier, the original objectives of this project may be summarized as:

1. Determine the frequency of alcohol involvement in pedestrian fatalities and injuries.

2. Determine if alcohol is overrepresented.

3. If overrepresented, does alcohol lead to unique sets of critical behavioral errors.

Also as discussed earlier, the scope of this project was increased four months after the start of data collection to include information on:

4. "Accident types" for alcohol impaired and sober pedestrians.

5. Kinds of behavioral errors as a function of degree of alcohol involvement.

6. The alcohol histories (e.g., evidence of problem drinking) of pedestrians involved in collisions.

Together, these two sets of objectives determined the experimental procedures required for this project.

The first task in this effort was to develop an experimental approach which could satisfy these objectives. Tentative procedures were outlined and various city and county jurisdictions were contacted to determine whether or not they could provide the required data and were willing to participate in the study. The result of this process, discussed briefly under "A. Development of Preliminary Study Plan," was a decision to conduct the study in New Orleans with the help of Charity Hospital of Louisiana at New Orleans, the Orleans Parish Coroner and the New Orleans Police Department. The next step was to develop an overall experimental plan within the arrangements made with New Orleans officials. This overall plan is presented under "B. Experimental Design" below. Essentially, this plan called for implementing five data collection subsystems as follows:

- Accident Report Data - Obtain Police accident reports for all New Orleans pedestrian accidents

- Fatal Data - Obtain Coroner's report and related data for all pedestrian fatalities

- Injury Data - Charity Hospital sampling of injured pedestrians and testing for alcohol

- Interview Data - Conduct follow-up interviews among drivers and injured pedestrians

- Control Sampling - Conduct "roadside" testing for similarly exposed yet non-involved pedestrians

These specific data collection subsystems are discussed in sections "C.-G." below. This is followed by a discussion of data coding and the assignment of judgemental codes covering such things as accident "type" and critical behavioral errors.

A. Development of Preliminary Study Plan

1. Site Selection

The primary requirement for achieving the objectives of this study was the ability to obtain a reliable, quantitative measure of blood alcohol concentration from injured pedestrians soon after their crash. While a variety of techniques for achieving this requirement were considered, they all inevitably involved either a "chase team" approach in which project staff would go to the accident scene or an "emergency room" approach where pedestrians would be tested at one or only a few central locations. Of the two, it was felt that the "emergency room" approach was better suited to the needs of the study. Simply, this approach avoided the problems of; having "chase teams" on call 24 hours a day, 7 days a week; transportation of test equipment; and, most importantly, potential interference with on-scene emergency medical care.

The main requirement for the "emergency room" approach was to have the cooperation of one or a few hospitals whose emergency treatment facilities handled a sufficient number of injured pedestrians to provide reasonable sample sizes. In addition, the cooperating hospital(s) would have to service a geographical area suitable for the conduct of the study. For instance, it was felt desirable to avoid areas at which new or otherwise atypical pedestrian safety countermeasures had been implemented. Also, an urban area was desired as the pedestrian accident problem is more severe in urban areas. Further, any area selected could not have radically different demographic patterns as compared to the nation as a whole. Ultimately, five areas or potential study sites were singled out for preliminary contacts:

- Nassau County, New York
- Boston
- New Orleans
- Los Angeles
- Miami

Discussions were held with individuals from all five of these potential study sites. However, only in New Orleans was it definitely established that a hospital would adopt procedures whereby blood alcohol concentration could be measured and other essential data could be obtained from a sufficient sample of injured pedestrians. Also, this hospital, the Charity Hospital of Louisiana at New Orleans, provides most of the emergency treatment in the city for seriously injured pedestrians. In view of these initial contact results, detailed discussions with relevant officials in New Orleans were initiated. Meetings were held between members of the project staff and representatives of:

- Charity Hospital
- The Orleans Parish Coroner
- The New Orleans Police Department
- The Office of the Mayor
- The Office of the City Attorney

All of these agencies evidenced a willingness to cooperate with the project and to support the study. Charity Hospital agreed to test injured pedestrians, the Parish Coroner agreed to provide data for the fatally injured and the Police Department agreed to provide accident reports. In addition, the Office of the Mayor expressed support for the study and the City Attorney felt that the study procedures presented no legal impediments under City or State codes.

Thus, New Orleans was selected as the study site and negotiations with other localities were discontinued. New Orleans did not have any atypical pedestrian safety programs and was not considered to have particularly atypical demographic or transportation patterns. The population of the city (1970 U.S. Census) was 593,471 with just over one million in the New Orleans "Standard Metropolitan Statistical Area." The median education level was 10.8 years; approximately 206,000 hold jobs; and the population was 47% male, 53% female. Moreover, per capita alcohol sales in New Orleans are not atypical given the size of the city and the degree of tourism (see The Liquor Handbook, 1977).

2. Selection of Alcohol Assessment Techniques

As plans for this study developed, it became clear that blood alcohol concentration would need to be measured in three different situations:

- Fatally injured - Parish Coroner
- Non-fatally injured - Charity Hospital
- Control subjects - Similarly exposed yet non-involved pedestrians sampled on the street same time of day, day of week as the injured pedestrian

Concerning the fatally injured, quantitative assessment of blood alcohol concentration (BAC) is made by the Coroner's Office using procedures established prior to this study. Specifically, in New Orleans, BAC of fatally injured pedestrians who die within 24 hours of a crash is determined through blood analysis utilizing the same techniques described below for Charity Hospital. Alcohol assessment techniques for use by this study thus had to be selected only for the non-fatally injured and the control subjects.

Quantitative assessment of blood alcohol concentration may be accomplished through analysis of body tissue, body fluid or expired breath. Tissue analysis is appropriate only for use by the Coroner's Office and thus was not considered for the non-fatally injured or the control subjects. Among the body fluids, measurement is theoretically possible using blood, urine, saliva or sweat. Of all the possible techniques, most is known about testing blood and expired breath. After considering these alternatives, and the existing situation in New Orleans, it was decided that alcohol assessment (for the non-fatally injured) would be accomplished using a sample of venous blood drawn in the emergency room at Charity Hospital. Concerning the control subjects, it was decided that the best alternative was expired breath analyzed on-site immediately after collection.

Charity Hospital has the trained medical personnel, blood sampling equipment, storage facilities and analytical facilities for the blood tests. Further, the likelihood of obtaining an injured pedestrian's consent to a blood sample within the confines of the Hospital was judged to be good, and, in fact, was excellent. Blood samples are routinely drawn in the emergency room, and the amount of additional blood required for BAC determination is negligible.

Analysis of collected blood samples was undertaken by Charity Hospital's Pathology Department under the direct supervision of the Chief of Pathology who is also the Parish toxicologist. BAC determination in units of weight per volume (mg of alcohol per 100 ml of blood) was made utilizing a Hewlett-Packard gas chromatograph with integrator. Standards were run prior to each test and all extremely high BACs (approximately .20 and above) were repeated until the blood sample was exhausted. The hospital's equipment is modern and well maintained. Blind alcohol samples provided by several national organizations are utilized periodically to insure the accuracy of both equipment and procedures. Conditions did not permit submitting special blind alcohol samples from this project as a further test of the analytic process. However, the regular Charity Hospital procedures are sufficiently comprehensive to remove any doubt concerning the validity of BAC measurements on non-fatally injured pedestrians in this study.

While blood analysis appeared better suited for the Hospital, analysis of expired breath appeared better suited for control subjects. As discussed below, the controls were "similarly exposed" yet non-accident involved pedestrians sampled at the same time of day and day of week as the injured pedestrians typically two or three weeks following the accident. Thus, collection of a sample for alcohol assessment had to be accomplished in the field. Under these conditions, breath testing has two major advantages over other techniques. First, providing a breath sample into a collection or analytical device is of minimal inconvenience to the subject thus maximizing the likelihood that subjects will agree to participate. Second, available devices are generally quite easy to operate, and require only a modicum of technical training. Further, the correlation between BAC as measured through breath and as measured by blood is known to be high. The one disadvantage of breath testing is the effect of residual mouth alcohol, thus control subjects who recently consumed an alcoholic beverage had to wait at least 15 minutes before they could be tested. The effect of residual alcohol is to inflate the obtained BAC reading.

Of the major quantitative, on-the-spot breath testing equipment available at the time data collection began (employing gas-liquid chromatography, chromic acid/photoelectric analysis, electromechanical oxidation--"fuel cell," and infrared energy absorption), a fuel cell type device was selected for use in the field testing of control subjects. The device is called the ALCO-LIMITER and is marketed by Energetics Science in Elmsford, New York. It is compact and requires only a 20 cc heated sample of breath for analysis in the fuel cell. The heater element of the breath sample chamber requires 12 volts DC--ideally suited for running off a car battery in the field. The electronics and air pump are powered by C size dry cells. No consumables are required to conduct breath tests (except a plastic mouthpiece for each subject). The most noteworthy evidence of the accuracy and reliability of this device is the fact that the ALCO-LIMITER has passed the tests for a "mobile evidential breath tester" conducted at the DOT/Transportation Systems Center. More specifically, this was the only commercially available fuel cell device to pass all tests called for by the NHTSA "Standard for Devices to Measure Breath Alcohol" (November, 1973).

3. Legal Issues

This project offered a series of legal problems which had to be dealt with before data collection could begin. For the fatally injured, the problems were non-existent since the Coroner's reports for BAC were and are public documents. For control subjects, the problems were minimal since each subject was in a position to freely refuse to participate, names were not required and testing was not conducted during a time of crisis. However, for the non-fatal injury group, there were serious legal/ethical issues falling into four categories as follows:

- negligence or malpractice against the individual or organization actually collecting the samples from a subject

- assault or battery upon a subject by obtaining a sample without his consent, i.e., "wrongful touching" of his person

- the notion of violation of the person's property rights by utilizing a sample drawn for medical reasons for research purposes of this study

- safeguarding subjects from subsequent use of data in court

Concern over these issues was greatly reduced when the decision was made to sample non-fatal injuries in a hospital setting as opposed to any form of "chase team" approach. Obviously, if unsterile equipment or inept procedures are used in the hospital, a tort against the person or property of the patient might be created. However, this risk of negligence is constant in an emergency room and all personnel are trained to guard against it by utilizing proper procedures and equipment.

The questions of assault or battery and property rights was effectively handled in the Hospital by obtaining written and "informed" consent from the patient. This removed the chance of committing a legal wrong by touching another person. Further, in an emergency situation, consent is implied by law. Thus, when a patient is unable to give consent or his life is immediately threatened, he is assumed to have given his consent, even though this consent has not been "expressed," e.g., verbal or written.

The final problem is both legal and ethical in nature. It involves protecting a subject who volunteered for the study from the subsequent use of the collected data in a criminal or civil action, i.e., maintaining the promise of anonymity. For example, a driver being sued for damages by a pedestrian might attempt a defense which claimed the pedestrian was intoxicated. This defense would be helped considerably by a positive BAC measurement performed for this study. It could be argued that a highly (however defined) intoxicated pedestrian is likely to be responsible for his accident and should therefore not make a driver pay damages. However, this causal role of alcohol has not been widely demonstrated for pedestrians, is likely to vary case-to-case, and is, in fact, a prime focus of this study. Thus, it was important to limit the chance that study data could be useful in legal proceedings.

The easiest and best ways to ensure that data voluntarily provided by a subject are unavailable to the courts are to alter the form of the data, i.e., code it, to remove it physically from the jurisdiction in which any suit would be filed, and to break the chain of evidence. Coding, no matter how simple, destroys the meaning of the BAC measurement to all but the coder. Thus, even if the records were to be requested by a court, they would be useless as evidence in the absence of the coder. Similarly, obliterating subject names when they are no longer needed is an effective means of "coding" or "hiding" data. Concerning the chain of evidence, it is possible to store, transport and handle data (and the blood itself) such that it would be inadmissable in court. At a minimum, the refrigerator used to store the blood samples was not locked and labeling procedures were not standard, thus the chain of evidence was purposely not guaranteed by the procedures adopted by this study. As such, any resulting data would not be admissable evidence. A more complete discussion of the evidentiary value of the Hospital BAC data can be found in Appendix A.

4. Summary

As can be seen from the foregoing, alcohol assessment, legal and site selection issues were all interrelated problems. Together, they determined where the study was to be conducted, how alcohol level was to be determined and what procedures had to be employed regardless of experimental consideration. Resolution of the most difficult of these issues was found in New Orleans, through the Charity Hospital. The BAC's for fatally injured pedestrians were determined through analysis of blood as performed by the Parish Coroner. BAC for non-fatal pedestrians were determined by Charity Hospital again using blood. Control subjects were tested using breath testing equipment. And, the rights of the non-fatally injured were protected by purposely breaking the chain of evidence for any collected data and obtaining an informed consent prior to collection of the blood sample.

B. Experimental Design

The requirements of this study demanded both in-depth data on the crash, including the crash victim, and a comparison or control group capable of testing the over or under representation of alcohol. The major groups considered were the adult fatally injured pedestrians, adult non-fatally injured pedestrians taken to Charity Hospital, all pedestrian accident victims, and the control groups.

For the purposes of this study, the following definitions were adopted:

- Adult - Anyone 14 years of age or older
- Pedestrian Victim - Any person involved in a motor vehicle accident who is not in or upon a motor vehicle or non-motor vehicle and whose injuries did not result from falling from a motor or non-motor vehicle (i.e., bicyclists and passengers are excluded)
- Motor Vehicle Accident - Any accident involving a motor vehicle in transport. That is, in motion, in readiness for

motion or on a roadway, but not parked.

- Fatally Injured - Any pedestrian victim, classified as an auto fatality by the Parish Coroner, who dies within 24 hours of the crash
- Non-Fatally Injured - Any pedestrian victim who survives the crash for 24 hours or more

1. Experimental Groups

Thus, the first group of interest in this study was the adult fatally injured pedestrian victims referred to as "fatals." Each year, New Orleans experiences approximately twenty five of these adult fatals. As such, a one year period would not have provided sufficient numbers of these crashes to permit any extensive data analysis. For this reason, the fatals sampled for this project covered a four year period from 1 March 1972 through 1 April 1976. The method of obtaining the cases and handling the resulting data is covered in Section D below.

The second group of interest was the adult non-fatally injured pedestrian victims referred to as "injuries." These were all injured pedestrians taken to Charity Hospital during the period 1 March 1975 through 1 April 1976 (the 13 month study "year"). Procedures used in the Hospital to identify and obtain blood samples from these people are discussed in Section E. Also, to the extent possible, follow-up interviews were conducted with these pedestrians and with the involved driver(s). Interviewing procedures are discussed in Section F.

2. Control Groups

The third major group was the control subjects. For the most part, these were similarly exposed yet non-involved pedestrians at the same location, same time of day, same day of week as the original crash. For fatals from 1 March 1972 to 1 March 1975, this sampling was conducted during the 1 March 1975 to 1 March 1976 period on the same day of the year. Thus, if a fatal crash occurred on the third Tuesday in June, 1973, it would have been control sampled on the third Tuesday in June, 1976. For fatals and injuries occurring between 1 March 1975 and 1 April 1976, sampling was conducted two to four weeks following the crash. Each crash site was control sampled for one hour beginning one half hour prior to the time of the crash and ending one half hour after the time of the crash. In general, all adults walking by the accident scene were control sampled. Control sampling at accident locations was augmented by one-hour control sampling at 112 randomly selected locations in New Orleans spread evenly across all hours of the day and all days of the week. Specific procedures for stopping pedestrians, testing and selection of the 112 random locations are covered in Section G.

Obviously, the important comparisons in this study are between the accident victims and their respective controls. Were there, for instance, more pedestrians among the crash groups who had been drinking or more pedestrians in the control group? From an experimental viewpoint, however, determining the appropriate comparison, and in particular the appropriate subset of all control subjects to be used for the comparison, is not a trivial matter. Furthermore, there probably is no one appropriate control group for all of the questions that can and should be asked of the data. Thus, the experimental design for this project specified three theoretically different control groups varying in the amount of experimental control to be exercised over (presumably) risk-associated variables. The first group, "Age and Sex- Site Matched Controls," attempts to exercise experimental control over every risk-associated variable for which control was possible within the framework of this study. This group provides a relatively unbiased, though conservative, test of the basic research question. The second group, "Site Matched Controls," was formed by allowing age and sex to vary, while controlling for site related variables. The third group, "Random Controls," allowed age, sex and site related variables to vary thus enabling overall comparisons between the accident involved pedestrians and the total pedestrian population.

Age and Sex - Site Matched Controls. Of the three control groups constructed, this is by far the most constrained and provides the most rigorous test of alcohol's relationship to pedestrian crashes. The aim in establishing this group was to control for as many exposure-risk, etc., factors as was possible in a field situation. The sample was formed by conducting sampling on the same day of week, at the same time of day and at the same location as a previous fatal or injury crash. The following procedures were utilized:

- Time of day - Specified as to hour and minute, usually as determined from police accident report. Sampling began one half hour prior to the time of the crash and ended one half hour following the crash.

- Day of week - The exact day was utilized unless confounded by a local or national holiday. If holiday, the next weekday (Mon.-Fri.) or weekend (Sat.-Sun.) holiday was utilized as appropriate.

- Location - Insofar as possible, the sample consisted of adult pedestrians walking at the exact point where the previous crash had occurred. The objective was to sample identically or at least similarly exposed yet non-crash involved individuals. Using the police accident report, the sampling team determined the exact location of the crash. If midblock, this exact location was the projection back to the sidewalk or shoulder from which the pedestrian entered the roadway and the sample consisted of pedestrians passing that point. If the accident occurred in a marked or unmarked crosswalk, the sample consisted of pedestrians utilizing that crosswalk as opposed to pedestrians who did not cross or pedestrians who utilized different legs of the intersection. Direction of travel of the injured pedestrian (across the specified intersection leg) was used as an additional sampling criteria at those locations where pedestrian traffic density was sufficient to allow control for direction yet still produce adequate sample sizes.

The Age and Sex-Site Matched Control subject for a given pedestrian victim was that one control subject stopped and tested who was of the same sex as the victim and most closely approximated the victim in terms of age.

The purpose of the age and sex site matched control sample was to provide experimental control over all possible risk and exposure associated variables. No field research effort could possibly control for all of these possibly intervening variables, nevertheless, it was felt that the age and sex site matched group represented the most rigorous degree of control possible in a field environment. Specifically, this group provides direct control over the following variables, all or most of which probably influence pedestrian exposure to risk:

- Age
- Sex
- Time of day
- Day of week
- Location

The critical aspect of each of these variables is the manner in which they may influence exposure. Age, for instance, was controlled because older pedestrians may exhibit (and probably do exhibit) crossing behavior different from that of younger pedestrians, irrespective of alcohol. Similarly, males may exhibit different crossing behavior than females, again irrespective of alcohol. Further, crossing behavior and other pedestrian behavior may vary as a function of time of day, day of week, location, etc. Clearly, some of these variables may have no influence whatsoever on exposure to risk. Nevertheless, control over these factors is important since their relationship to risk is either not known or not fully understood and they could influence exposure.

The primary problem with the age and sex site matched controls is that they represent an extremely conservative test of the basic research question. Specifically, any real difference between the crash and non-crash group with respect to alcohol will be diminished to the extent that drinking itself is correlated with age, sex, time of day, day of week or location irrespective of any increased risk due to alcohol or the characteristics of the exposure. For instance, if the incidence of drinking correlates 100% with these control variables, it is a logical impossibility to find any crash versus non-crash differences due to alcohol based on comparisons with this control group. Each matched control subject will be found to have been drinking every time the involved pedestrian was found to have been drinking. Each matched control subject will be found not to have been drinking every time the accident involved subject was found not to have been drinking. This is true whether the increased risk due to alcohol is 0%, 10% or 1000%. Thus, there was a clear need to augment the age and sex site matched control group with additional groups more representative of the general adult pedestrian population.

Site Matched Controls. The procedures utilized in obtaining this sample were the same as for the Age and Sex-Site Matched Controls. The distinction between this group and the Age and Sex group is that all adults, regardless of age and sex, were eligible for inclusion. Also, the Site Matched group consisted of up to three control subjects per sampling location. Three per site was selected post hoc as that number of subjects which could be provided by most sites. More subjects per site would have created several sites with less than the alloted number which in turn would have produced an underrepresentation of these low pedestrian traffic locations. Fewer subjects per site would have needlessly limited the sample sizes. The three subjects selected at each location were those three sampled closest in time to the actual time of the crash. The one subject selected as the Age and Sex control may or may not have also entered the Site Matched Control Group.

The site matched control group is the analytical equivalent of the age and sex site matched controls discussed earlier except that age and sex are now dependent variables. Thus, age and sex differences by drinking incidence can be compared between the crash group and this control group. Overall comparisons on the basis of alcohol are valid between the two groups insofar as age and sex do not influence pedestrian exposure to risk at that specific location, time of day, and day of week, irrespective of "had been drinking." In other words, this crash vs. control group comparison will be biased to the extent that age and sex interact with crossing behavior. It may be, for instance, that males exhibit more dangerous crossing behavior than females irrespective of alcohol at that location and that males tend to drink more. In this situation, any effects obtained could be due to alcohol or could be due to the fact that the males at a particular location and time of day and day of week exhibit more dangerous behavior with or without alcohol.

The site matched controls are thus a potentially biased sampling group. Nevertheless, they can provide extremely valuable information concerning the crash population as a function of the total pedestrian population at the same locations, times of day, etc., and may in fact be a better estimate of the true role of alcohol in pedestrian crashes. First, concerning population comparisons they allow direct comparisons on the basis of the age and sex of the crash involved versus the non-crash involved individuals. Second, insofar as drinking is correlated with age and sex but not with age and sex exposure differences, this control group provides a <u>better</u> estimate of the extent of over-representation of alcohol (if any) in pedestrian crashes. Thus, the Site Matched Control Group is essentially a less controlled, less conservative estimator of the role played by alcohol in pedestrian crashes. While it is potentially biased to an unknown extent, it is also possibly a better estimate of the true role of alcohol.

<u>Population at Large--Random--Controls</u>. The preceding groups were defined in terms of the number of exposure and risk variables being controlled for during sampling. The population at large group was formed by drawing a random sample of adult pedestrians without regard to age, sex or the location or time of previous pedestrian crashes. The aim of this sampling, then, was to obtain a group which was representative of the total pedestrian population.

Sampling was conducted at 112 different locations for one hour at each location. Day of week was evenly distributed in that 16 locations were sampled on each day. Hour of sampling was evenly distributed, insofar as possible, across day of week and the 24 hours of the day. Thus, five locations were sampled 1:00 a.m. to 1:59 a.m.; four were sampled 2:00 a.m. to 2:59 a.m.; five from 3:00 a.m. to 3:59 a.m., etc. All data were collected during the period 1 March 1975 to 29 February 1976. Approximately nine or ten locations were done per month during this period. The actual locations utilized for sampling were generated in the following manner:

- Consecutive integers were assigned to each road segment in the City as they appear on the street index to the official Orleans Parish street map (provided by New Orleans Public Service, Inc.).
- Segments were selected randomly (with replacement) from the street index.
- Distance along each segment was randomly assigned.
- Distance was measured north to south for north-south roads and east to west for east-west roads.
- Sampling location became selected segment at specified distance. Should the specified distance

be longer than the total length of the road segment, then the (non existent) sampling location was rejected, and a new segment and distance was selected by repeating the above procedure.

Each point on each "official" road thus had an equal probability of entering the sample. This procedure produced a random sample of 112 locations throughout the city. Selected locations were randomly assigned to days and hours. Freeway/Expressway locations were excluded since sampling would have been difficult and pedestrians are forbidden, by law, from these locations.

The primary advantage of the Population at Large group is that it allows for a precise estimation of the absolute extent to which alcohol is over or under-represented in the crash population. For instance, if 4% of the Population at Large controls had been drinking to some extent as compared with 45% of the fatally injured pedestrians, then, 4% versus 45% is a direct, valid estimate of the extent of alcohol's overrepresentation in the fatal crash population as compared with the total pedestrian population.

This estimate, however, must be interpreted in a correlational sense as opposed to direct cause and effect. Specifically, this is the total over or under-representation of alcohol in crash-involved pedestrians as compared with all pedestrians. This estimate specifies the extent of the problem, if any, and specifies the target population. It does not partial any of the effects into direct causal relationships, versus contributary relationships, versus correlational only relationships. Thus, an over-representation of alcohol could be partially the direct result of alcohol impairment and partially the result of correlations between crossing behavior and drinking irrespective of impairment. For instance, it could be that pedestrians at downtown locations tend to drink more <u>and</u> exhibit more dangerous crossing behavior with or without alcohol.

3. <u>Summary</u>

The plan for this study called for a group of fatally injured pedestrians over the period 1 March 1972 through 1 April 1976, and a group of non-fatally injured pedestrians over the period 1 March 1975 through 1 April 1976. Also, as discussed in the next section, police accident report data was obtained for every reported pedestrian crash for the period 1 January 1973 to 1 April 1976. In addition, three conceptually different control groups were established. The first group, Age and Sex Site Matched Controls, were drawn using procedures which controlled for as many risk-exposure variables as possible. These subjects were matched, one to one, with the crash victims in terms of age, sex, time of day, day of week and location. This group allows for the most rigorous test of alcohol's effects. The second group, Site Matched Controls, were drawn by allowing age and sex to vary while controlling for time of day, day of week and location. This group allows for age and sex comparisons and provides a better overall estimate, including possible correlated effects, of the total over or under-representation of alcohol in pedestrian crashes. The third group, Population at Large, allows comparisons between the crash victims and the total adult pedestrian population.

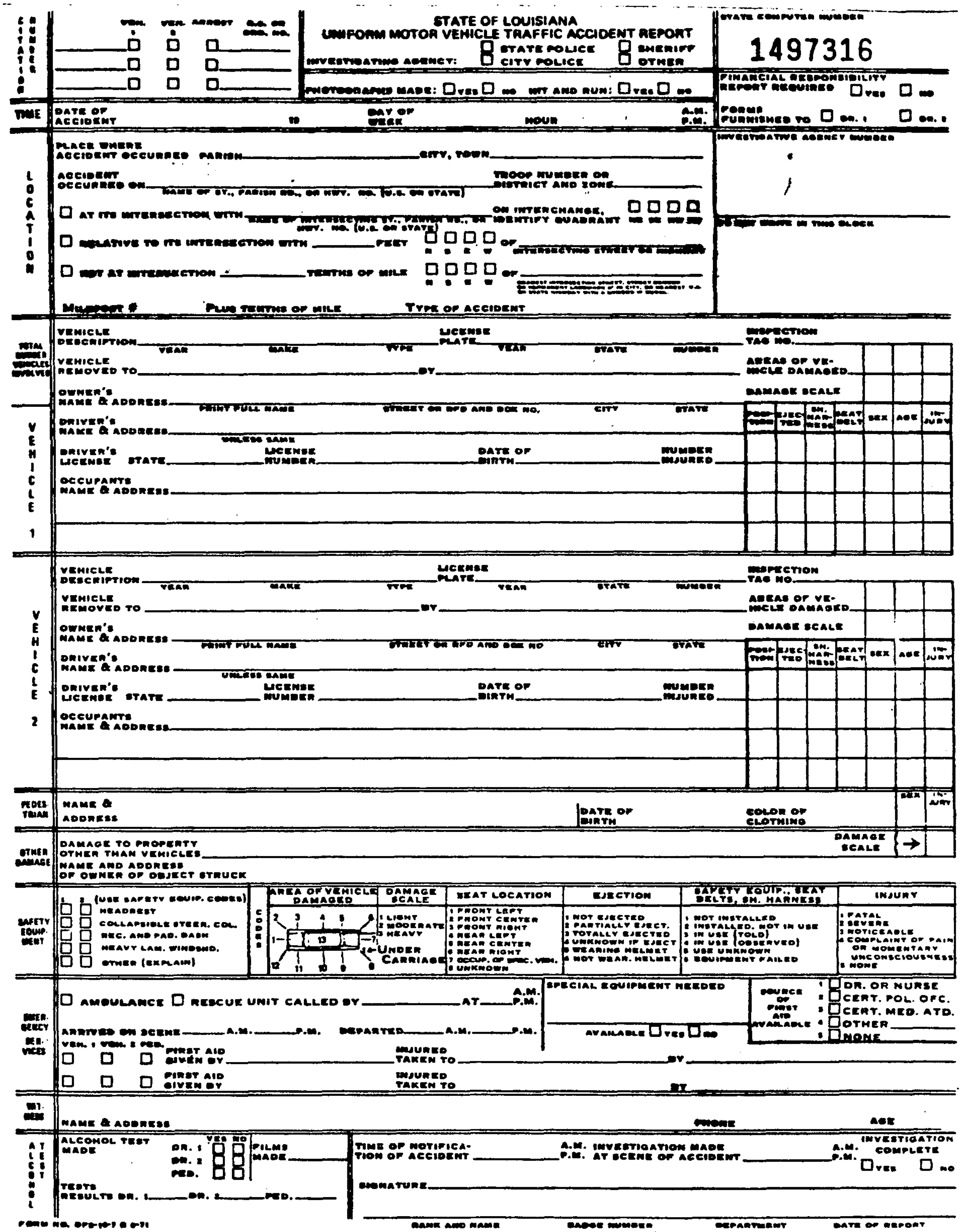
The Age and Sex-Site Matched Controls provide the most rigorous estimate of the causal role played by alcohol and the population at large group provides the best estimate of the overall correlation between alcohol usage and crashes. The Site Matched group has some of the advantages of both. Fewer risk-exposure variables are controlled than in the Age and Sex-Site Matched group, yet is not totally uncontrolled as is the Population at Large Group.

C. Accident Report Data

This and succeeding sections describe specific procedures utilized and specific data items collected. The purpose is to acquaint the reader with what data items were available and where and how each data item was acquired. The simplest, yet largest, single source of data were the Police Accident Reports for pedestrian crashes. Working through the New Orleans Police Department, the project acquired a copy of all reported pedestrian crashes in New Orleans for the period 1 January 1973 through 1 April 1976. The accident report form, labeled "State of Louisiana Uniform Motor Vehicle Traffic Accident Report," is shown in Figure 2.

Police accident reports were utilized in two ways on this project. First, the full set of reports, 1 January 1973 to 1 April 1976, provided a baseline measure of the total crash population. Of particular interest was the comparison between those injured pedestrians taken to Charity Hospital as opposed to those not taken to Charity. Any systematic differences between the Charity sample and the total crash population would have limited the generalizability of any study findings. Second, police accident reports were matched to the individual fatal and injury cases sampled and provided basic descriptive data for each crash. From each accident report, whether for the total crash population or for a sampled case, the following data were coded for analysis:

- Month and year of crash
- Day of week (Sun., Mon., etc.)
- Time of crash
- Intersection (yes - no)
- Model year of striking vehicle
- Vehicle type (car, bus, truck, etc.)
- Area of vehicle damaged
- Driver residence (New Orleans, New Orleans suburb, other Louisiana, other State, etc.)
- Driver sex
- Driver age
- Driver injury (fatal, severe, noticeable, etc.)



STATE OF LOUISIANA
UNIFORM MOTOR VEHICLE TRAFFIC ACCIDENT REPORT

INVESTIGATING AGENCY: ☐ STATE POLICE ☐ SHERIFF ☐ CITY POLICE ☐ OTHER

STATE COMPUTER NUMBER 1497316

PHOTOGRAPHS MADE: ☐ YES ☐ NO HIT AND RUN: ☐ YES ☐ NO

FINANCIAL RESPONSIBILITY REPORT REQUIRED ☐ YES ☐ NO

TIME: DATE OF ACCIDENT 19 DAY OF WEEK HOUR A.M. P.M.

FORMS FURNISHED TO ☐ DR. 1 ☐ DR. 2

INVESTIGATIVE AGENCY NUMBER

LOCATION: PLACE WHERE ACCIDENT OCCURRED PARISH CITY, TOWN

ACCIDENT OCCURRED ON (NAME OF ST., PARISH RD., OR HWY. NO. (U.S. OR STATE)) TROOP NUMBER OR DISTRICT AND ZONE

☐ AT ITS INTERSECTION WITH (NAME OF INTERSECTING ST., PARISH RD., OR HWY. NO. (U.S. OR STATE)) ON INTERCHANGE, IDENTIFY QUADRANT

☐ RELATIVE TO ITS INTERSECTION WITH FEET ☐ ☐ ☐ ☐ N S E W OF INTERSECTING STREET OR HIGHWAY

☐ NOT AT INTERSECTION TENTHS OF MILE ☐ ☐ ☐ ☐ N S E W OF

MILEPOST # PLUS TENTHS OF MILE TYPE OF ACCIDENT

VEHICLE 1 / VEHICLE 2: VEHICLE DESCRIPTION (YEAR, MAKE, TYPE) LICENSE PLATE (YEAR, STATE, NUMBER) INSPECTION TAG NO.

VEHICLE REMOVED TO BY AREAS OF VEHICLE DAMAGED

OWNER'S NAME & ADDRESS (PRINT FULL NAME, STREET OR RFD AND BOX NO., CITY, STATE) DAMAGE SCALE

DRIVER'S NAME & ADDRESS (UNLESS SAME) POSITION, EJECTED, SH. HARNESS, SEAT BELT, SEX, AGE, INJURY

DRIVER'S LICENSE STATE LICENSE NUMBER DATE OF BIRTH NUMBER INJURED

OCCUPANTS NAME & ADDRESS

PEDESTRIAN: NAME & ADDRESS DATE OF BIRTH COLOR OF CLOTHING SEX INJURY

OTHER DAMAGE: DAMAGE TO PROPERTY OTHER THAN VEHICLES NAME AND ADDRESS OF OWNER OF OBJECT STRUCK DAMAGE SCALE

SAFETY EQUIPMENT: 1 2 (USE SAFETY EQUIP. CODES) HEADREST, COLLAPSIBLE STEER. COL., REC. AND PAD. DASH, HEAVY LAM. WINDSHD., OTHER (EXPLAIN)

AREA OF VEHICLE DAMAGED (CODES 1–14; 14 UNDER CARRIAGE)

DAMAGE SCALE: 1 LIGHT 2 MODERATE 3 HEAVY

SEAT LOCATION: 1 FRONT LEFT 2 FRONT CENTER 3 FRONT RIGHT 4 REAR LEFT 5 REAR CENTER 6 REAR RIGHT 7 OCCUP. OF SPEC. VEH. 8 UNKNOWN

EJECTION: 1 NOT EJECTED 2 PARTIALLY EJECT. 3 TOTALLY EJECTED 4 UNKNOWN IF EJECT 5 WEARING HELMET 6 NOT WEAR. HELMET

SAFETY EQUIP., SEAT BELTS, SH. HARNESS: 1 NOT INSTALLED 2 INSTALLED, NOT IN USE 3 IN USE (TOLD) 4 IN USE (OBSERVED) 5 USE UNKNOWN 6 EQUIPMENT FAILED

INJURY: 1 FATAL 2 SEVERE 3 NOTICEABLE 4 COMPLAINT OF PAIN OR MOMENTARY UNCONSCIOUSNESS 5 NONE

EMERGENCY SERVICES: ☐ AMBULANCE ☐ RESCUE UNIT CALLED BY AT A.M. P.M. SPECIAL EQUIPMENT NEEDED AVAILABLE ☐ YES ☐ NO

SOURCE OF FIRST AID AVAILABLE: 1 ☐ DR. OR NURSE 2 ☐ CERT. POL. OFC. 3 ☐ CERT. MED. ATD. 4 ☐ OTHER 5 ☐ NONE

ARRIVED ON SCENE A.M. P.M. DEPARTED A.M. P.M.

VEH. 1 VEH. 2 PED. FIRST AID GIVEN BY INJURED TAKEN TO BY

WITNESS: NAME & ADDRESS PHONE AGE

ALCOHOL TEST MADE DR. 1 DR. 2 PED. YES NO FILMS MADE TESTS RESULTS DR. 1 DR. 2 PED.

TIME OF NOTIFICATION OF ACCIDENT A.M. P.M. INVESTIGATION MADE AT SCENE OF ACCIDENT A.M. P.M. INVESTIGATION COMPLETE ☐ YES ☐ NO

SIGNATURE

RANK AND NAME BADGE NUMBER DEPARTMENT DATE OF REPORT

FORM NO. DPS-10-7 8-71

Figure 2. State of Louisiana Uniform Motor Vehicle Traffic Accident Report.

ALIGNMENT

- A ☐ Straight-level
- B ☐ Curve-level
- C ☐ On grade-straight
- D ☐ On grade-curve
- E ☐ Hillcrest-straight
- F ☐ Hillcrest-curve
- G ☐ Dip, hump-straight
- H ☐ Dip, hump-curve
- I ☐ Other

TYPE OF ROADWAY

- A ☐ One way road or street
- B ☐ Two-way undivided road or street
- C ☐ Expressway
- D ☐ Other divided road or street
- E ☐ Other

KIND OF LOCATION

- A ☐ Manufacturing or industrial
- B ☐ Business continuous
- C ☐ Business, mixed residential
- D ☐ Residential district
- E ☐ Residential scattered
- F ☐ School or playground
- G ☐ Open country
- H ☐ Other

ROAD SURFACE

- A ☐ Dry
- B ☐ Wet
- C ☐ Muddy
- D ☐ Snowy, icy
- E ☐ Other

- A ☐ Concrete
- B ☐ Blacktop
- C ☐ Brick
- D ☐ Gravel
- E ☐ Dirt
- F ☐ Other

ROADWAY CONDITION

- A ☐ Defective shoulders
- B ☐ Holes
- C ☐ Deep ruts
- D ☐ Bumps
- E ☐ Loose surface material
- F ☐ Construction, repair
- G ☐ Overhead clearance limited
- H ☐ Construction-no warning
- I ☐ Previous accident
- J ☐ Flooding
- K ☐ Water on roadway
- L ☐ Orthogonal fault in road surface
- M ☐ Parallel fault in road surface
- N ☐ Other defects
- O ☐ No defects

LIGHTING

- A ☐ Daylight
- B ☐ Dark-no street lights
- C ☐ Dusk or dawn
- D ☐ Dark-continuous street light
- E ☐ Dark-street lights at intersection only

TRAFFIC CONTROL

1 2

- A ☐ ☐ Stop sign
- B ☐ ☐ Yield sign
- C ☐ ☐ Red signal on
- D ☐ ☐ Yellow signal on
- E ☐ ☐ Green signal on
- F ☐ ☐ Green turn arrow on
- G ☐ ☐ Right turn on red
- H ☐ ☐ Light phase unknown
- I ☐ ☐ Flashing yellow
- J ☐ ☐ Flashing red
- K ☐ ☐ Officer, watchman
- L ☐ ☐ RR crossing, sign
- M ☐ ☐ RR crossing, signal
- N ☐ ☐ RR crossing, no control
- O ☐ ☐ Warning sign (school, etc.)
- P ☐ ☐ School flashing speed sign
- Q ☐ ☐ Yellow no passing line
- R ☐ ☐ White dashed line
- S ☐ ☐ No control
- T ☐ ☐ Other

TRAFFIC CONTROL CONDITIONS

1 2

- A ☐ ☐ Controls functioning
- B ☐ ☐ Controls not functioning
- C ☐ ☐ Control obscured
- D ☐ ☐ Lane marking unclear or defective

WEATHER

- A ☐ Clear
- B ☐ Cloudy
- C ☐ Raining
- D ☐ Snowing/sleeting
- E ☐ Fog
- F ☐ Smoke
- G ☐ Dust

LOCATION OF ACCIDENT– POINT OF IMPACT

- A ☐ ☐ Main travel lane
- B ☐ ☐ Improved shoulder-left (including parking strip)
- C ☐ ☐ Improved shoulder-right (including parking strip)
- D ☐ ☐ Off roadway-left (beyond shoulder, including sidewalk)
- E ☐ ☐ Off roadway-right (beyond shoulder, including sidewalk)
- F ☐ ☐ Off roadway straight ahead (T-intersection)
- G ☐ ☐ Off roadway, direction unknown
- H ☐ ☐ Marked pedestrian crosswalk
- I ☐ ☐ Left turn lane, non-freeways
- J ☐ ☐ Right turn lane, non-freeways
- K ☐ ☐ Median opening
- L ☐ ☐ Ramp nose
- M ☐ ☐ Curb return
- N ☐ ☐ Traffic island
- O ☐ ☐ Off ramp taper or deceleration lane
- P ☐ ☐ Off ramp roadway
- Q ☐ ☐ Off ramp terminal
- R ☐ ☐ On ramp taper or acceleration lane
- S ☐ ☐ On ramp roadway
- T ☐ ☐ Auxiliary lane or collector road
- U ☐ ☐ Freeway-to-freeway connection
- V ☐ ☐ Service road
- W ☐ ☐ Within construction zone
- X ☐ ☐ Other

VISION OBSCUREMENTS

1 2

- A ☐ ☐ Rain, snow, etc., on windshield
- B ☐ ☐ Windshield otherwise obscured
- C ☐ ☐ Vision obscured by load
- D ☐ ☐ Trees, bushes, etc.
- E ☐ ☐ Building
- F ☐ ☐ Embankment
- G ☐ ☐ Sign boards
- H ☐ ☐ Hillcrest
- I ☐ ☐ Parked vehicles
- J ☐ ☐ Moving vehicles
- K ☐ ☐ Blinded by headlights
- L ☐ ☐ Blinded by sunglare
- M ☐ ☐ Distracted by neon lights in field of view
- N ☐ ☐ Other obscurements
- O ☐ ☐ No obscurements

CONDITION OF DRIVERS AND PEDESTRIAN

1 2 Ped.

- A ☐ ☐ ☐ Apparently asleep
- B ☐ ☐ ☐ Inattentive or distracted
- C ☐ ☐ ☐ Illness
- D ☐ ☐ ☐ Eyesight defect
- E ☐ ☐ ☐ Fainting, blackout, etc.
- F ☐ ☐ ☐ Hearing defect
- G ☐ ☐ ☐ Fatigued
- H ☐ ☐ ☐ Other body defects
- I ☐ ☐ ☐ Had been drinking
- J ☐ ☐ ☐ Condition unknown
- K ☐ ☐ ☐ Normal

PEDESTRIAN ACTIONS

- A ☐ Crossing, entering road at intersection
- B ☐ Crossing, entering road not at intersection
- C ☐ Walking in road with traffic
- D ☐ Walking in road against traffic
- E ☐ Sleeping in roadway
- F ☐ Standing in roadway
- G ☐ Getting on or off other vehicle
- H ☐ Pushing, working on vehicle in road
- I ☐ Other working in roadway
- J ☐ Playing in roadway
- K ☐ Other in roadway
- L ☐ Not in roadway-explain

VEHICLE CONDITION

1 2

- A ☐ ☐ Defective brakes
- B ☐ ☐ Defective headlights
- C ☐ ☐ Defective rear lights
- D ☐ ☐ Defective signal lights
- E ☐ ☐ All lights out
- F ☐ ☐ Defective steering
- G ☐ ☐ Tire failure
- H ☐ ☐ Worn or smooth tires
- I ☐ ☐ Engine failure
- J ☐ ☐ No defects observed
- K ☐ ☐ Other defects

MOVEMENT PRIOR TO ACCIDENT

1 2

- A ☐ ☐ Stopped
- B ☐ ☐ Proceeding straight ahead
- C ☐ ☐ Traveling wrong way
- D ☐ ☐ Backing
- E ☐ ☐ Crossed median into opposing lane
- F ☐ ☐ Crossed center line into opposing lane
- G ☐ ☐ Ran off road (not while making turn at intersection)
- H ☐ ☐ Changing lanes on multi-lane road
- I ☐ ☐ Making left turn
- J ☐ ☐ Making right turn
- K ☐ ☐ Making U-turn
- L ☐ ☐ Making turn, direction unknown
- M ☐ ☐ Stopped, preparing to turn left
- N ☐ ☐ Stopped, preparing to turn right
- O ☐ ☐ Stopped, preparing to U-turn
- P ☐ ☐ Slowing to make left turn
- Q ☐ ☐ Slowing to make right turn
- R ☐ ☐ Slowing to stop
- S ☐ ☐ Parked
- T ☐ ☐ Parking maneuver
- U ☐ ☐ Entering traffic from shoulder
- V ☐ ☐ Entering traffic from median
- W ☐ ☐ Entering traffic from parking lane
- X ☐ ☐ Entering traffic from private drive
- Y ☐ ☐ Entering freeway from on ramp
- Z ☐ ☐ Leaving freeway on off ramp
- & ☐ ☐ Other

REASON FOR MOVEMENT

1 2

- A ☐ ☐ To avoid other vehicle
- B ☐ ☐ To avoid pedestrian
- C ☐ ☐ To avoid animal
- D ☐ ☐ To avoid other object
- E ☐ ☐ Passing
- F ☐ ☐ Vehicle out of control, not passing
- G ☐ ☐ Vehicle out of control, passing
- H ☐ ☐ For traffic control
- I ☐ ☐ Due to congestion
- J ☐ ☐ Due to prior accident (collision)
- K ☐ ☐ Due to driver condition
- L ☐ ☐ Due to driver violation
- M ☐ ☐ Due to vehicle condition (failure)
- N ☐ ☐ Due to pavement condition
- O ☐ ☐ High wind
- P ☐ ☐ Normal movement
- Q ☐ ☐ Reason unknown
- R ☐ ☐ Other

VIOLATIONS

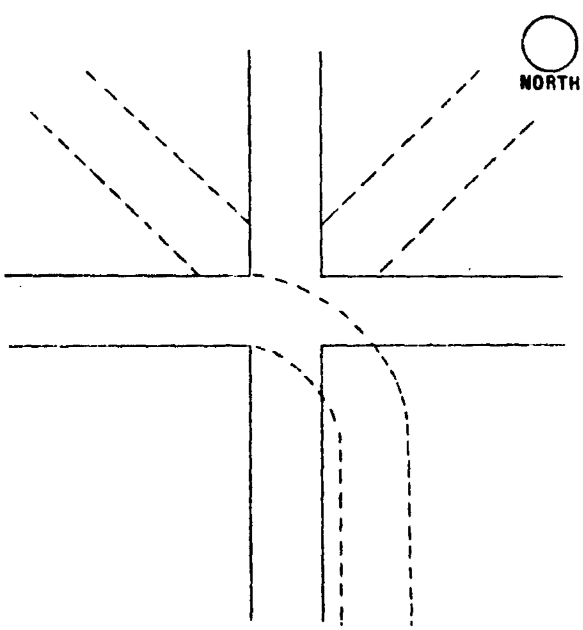
1 2

- A ☐ ☐ Exceeding stated speed limit
- B ☐ ☐ Exceeding safe speed limit
- C ☐ ☐ Failure to yield
- D ☐ ☐ Following too closely
- E ☐ ☐ Driving left of center
- F ☐ ☐ Cutting in, improper passing
- G ☐ ☐ Failure to signal
- H ☐ ☐ Made wide right turn
- I ☐ ☐ Cut corner on left turn
- J ☐ ☐ Turned from wrong lane
- K ☐ ☐ Other improper turning
- L ☐ ☐ Disregarded traffic control
- M ☐ ☐ Improper starting
- N ☐ ☐ Improper parking
- O ☐ ☐ Failed to set out flags, flares
- P ☐ ☐ Failed to dim headlights
- Q ☐ ☐ Vehicle condition
- R ☐ ☐ Driver condition
- S ☐ ☐ Other violations (hazardous)
- T ☐ ☐ No violation

CONTRIBUTING FACTORS
Use more than 1, if necessary

- A ☐ Violations
- B ☐ Movement prior to accident
- C ☐ Vision obscurements
- D ☐ Condition of drivers and pedestrians
- E ☐ Pedestrian actions
- F ☐ Vehicle conditions
- G ☐ Road surface
- H ☐ Roadway condition
- I ☐ Lighting
- J ☐ Weather
- K ☐ Traffic control
- L ☐ Kind of location

Locate by tape measurement to two permanent reference points the point of impact, two corners of each vehicle in its *final position and each end of all skid* marks. Accurately show the shape and length of all skid marks. Identify all vehicles and roadways.



VEH	DIRECTION BEFORE ACCIDENT		OBJECT STRUCK (NOT VEHICLE)		FINAL LOCATION OF VEHICLES	DISTANCE TRAVELED AFTER IMPACT	SPEED		SKIDMARK DATA			
	HEADED	ON STREET OR HIGHWAY	1ST	2ND			EST.	POSTED	FR	FL	RR	RL
1												
2												

Describe accident scene, factual data, statements, officer's opinion, conclusions and recommendations. Give indirect and direct factors contributing to the accident. *(Refer to each vehicle by number).*

Figure 2 (Continued). State of Louisiana Uniform Motor Vehicle Traffic Accident Report.

- Number of vehicles involved (if more than one vehicle, vehicle #2 model year, type, etc.)
- Pedestrian residence (New Orleans, New Orleans suburb, etc.)
- Pedestrian age
- Pedestrian sex
- Pedestrian injury (fatal, severe, noticeable, etc.)
- Number of pedestrians involved (if more than one, pedestrian #2 residence, age, sex and injury)
- Driver BAC (if taken)
- Each of the objective codes shown on the second page of the report (Figure 2, Continued), "Alignment," "Type of road," "Kind of location," etc.

One senior member of the project team then read all of the reports and assigned an "accident type" classification code to each. Accident typing or classifying is a method for grouping accidents with similar behavioral and/or situational characteristics. The classification scheme used was that of Snyder and Knoblauch (1971) as modified by Knoblauch (1975). The categories and the corresponding accident type definitions are shown in Table 2. Each police accident report was read and classified based on the information in the report alone whether from the total crash population only or a sampled case at Charity Hospital.

D. Fatal Data

As mentioned above, a fatally injured pedestrian victim was anyone who did not survive a pedestrian/vehicle crash for more than 24 hours. The BAC's for fatally injured adult (14 years and older) pedestrians are routinely determined by the New Orleans Parish Coroner. At the inception of the project, a project staff member accessed the Coroner's files for all pedestrian fatalities from 1 March 1972 to the beginning of this study. Fatalities occurring between 1 March 1975 (project beginning) and 1 April 1976 were accessed on a continuing basis. In general, all adult pedestrian fatalities entered the sample, even those few cases where no BAC information was available (e.g., subject survived the crash several hours making BAC determination at time of death irrelevant to the crash). The only crashes specifically excluded were those occurring during Mardi Gras. In New Orleans, this yearly celebration produces very atypical pedestrian and vehicle movement patterns and control sampling would have been very difficult. The Mardi Gras period was also specifically excluded from the Charity Hospital sample of injured pedestrians.

The Coroner's files contain autopsy information and the results for BAC determination. However, the only data coded from these files were:

- Time of death
- BAC
- Race

Table 2. Accident Type Definitions*

Symbol	Code #	Definition
DO1	01	DART-OUT, FIRST HALF: Midblock, short time exposure, crossed less than halfway
DO2	02	DART-OUT, SECOND HALF: Same as 01 except, crossed more than halfway
ID	03	INTERSECTION DASH: At intersection, short time exposure or running
VTM	04	VEHICLE TURN MERGE WITH ATTENTION CONFLICT: Driver turning and attending to traffic, not pedestrian
PStV	05	PED STRIKES VEHICLE: Ped walked or ran into vehicle and not other type
MT	06	MULTIPLE THREAT: Ped struck by vehicle traveling in same direction as other cars that had stopped for ped
Bus	07	BUS STOP RELATED: Ped struck while crossing in front of bus standing at a bus stop
Bk	08	BACKING-UP: Ped struck by backing-up vehicle but ped not clearly aware of the vehicle movement
Vend	09	VENDOR--ICE CREAM TRUCK: Ped struck going to or from a vendor in a vehicle on the street

*From Knoblauch, R.L., 1975.

Table 2. Accident Type Definitions (Continued).

Symbol	Code #	Definition
Weird	10	WEIRD: Unusual circumstances, not countermeasure corrective
DisV	11	DISABLED VEHICLE RELATED: Ped struck while working on or next to a disabled vehicle
A-A	12	RESULT OF AN AUTO-AUTO CRASH: Ped struck by vehicle(s) as a result of an auto-auto accident
Mid	13	MIDBLOCK DASH: Not at intersection, ped running but not short-time exposure (i.e., not 01)
Trap	14	TRAPPED: At signalized intersection, ped hit when light changed and traffic started moving (not 06)
TurnV	15	TURNING VEHICLE: Ped, not running (i.e., not 03), struck by turning vehicle
PNR	16	PED NOT IN ROADWAY: Ped struck while not in roadway, includes cases where vehicle went out of control, (not 08, 11, 12)
Other**	17	OTHER UNIQUE OR UNDEFINED CATEGORY: (e.g., freeway crossing)
NC**	18	NOT CLASSIFIABLE: Insufficient data to permit a classification

** Added to Knoblauch (1975) for this study.

E. Injury Data

The Charity Hospital of Louisiana at New Orleans was the site at which BAC measurements on non-fatally injured pedestrians were made. Charity Hospital has, perhaps, the largest out-patient department in the United States, handling over 1 million patients per year. Of these, almost 100,000 are trauma victims who are treated in a special "Accident Room" within the emergency room. Moreover, Charity is the main trauma center for New Orleans and environs. The New Orleans Police and the Hospital staff estimate that 90 percent or more of the seriously injured traffic accident victims (including pedestrians) in New Orleans who seek medical aid are treated at Charity. Thus, by striving to sample all of the adult pedestrian victims treated in Charity's Accident Room, the study should have obtained virtually a complete sample of all seriously injured adult pedestrian victims in New Orleans who sought emergency treatment.

The identification of study subjects (pedestrian victims aged 14 and over) began upon entry to the Hospital. Case workers at the admitting station or "Long Desk" placed a bright sticker on the "Report of Admission" for each pedestrian accident victim. In addition, all Accident Room personnel were aware of the study and trained to identify any subjects who may have been overlooked at the Long Desk. While identification was sometimes difficult, most pedestrian victims were identified.

Once a subject had been identified, the next step within the Hospital was to obtain the patient's consent to the extraction and analysis of a sample of his blood. Conscious victims were approached by a member of the medical staff in the Accident Room, informed of the purpose of the study, offered a synopsis to read, and asked to sign a consent for blood analysis. The consent language used is shown in Figure 3. The wording of the consent form was jointly created by the Dunlap project staff, Dunlap's house counsel, Charity's counsel and a New Orleans consulting attorney. It was designed to safeguard all parties, assure "informed" consent, permit a broad spectrum toxicological examination of the specimen and inform the subject that the resulting data would be held anonymous and not made part of his medical record. If the victim refused the blood test, he was asked to provide a breath sample for blood alcohol determination on an Alco-Limiter. Breath testing in the Hospital was utilized too infrequently to be relevent to resulting study data. Once consent was obtained, the blood sample was drawn using a non-alcohol (povidone iodine) swab and a specially marked evacuated test tube. The tubes were stored in the Accident Room refrigerator and periodically transferred to Pathology for analysis.

Unconscious victims required a somewhat different procedure. Fortunately, blood samples are always drawn from unconscious victims as part of a routine treatment. Thus, it was relatively simple to draw and store the slight additional blood required for BAC determination. Subsequently, if the victim regained

THE CHARITY HOSPITAL OF LOUISIANA AT NEW ORLEANS

In Cooperation with the

U.S. Department of Transportation
National Highway Traffic Safety Administration
and
Dunlap and Associates, Inc.

PEDESTRIAN SAFETY PROJECT

Consent Form

I hereby authorize the Charity Hospital of Louisiana at New Orleans to collect a sample of my blood (breath) for analysis as part of a scientific research project sponsored by the United States Department of Transportation, National Highway Traffic Safety Administration, under Contract Number DOT-HS-4-00946, with Dunlap and Associates, Inc. I understand that this analysis is in addition to any diagnostic tests deemed necessary for the treatment of my case by the medical staff of the Charity Hospital. I further understand that any results of this analysis will not be made part of my medical record, will be utilized solely for research purposes and will remain confidential and anonymous. I also acknowledge that a printed synopsis of the purposes and procedures of the study has been made available to me.

____
Date

____
Signature

____
Witness

CASE DATA

Medical Records # ____ Date __/__/__ Sex M F Patient # ______

Reasons for Refusal: ____________

Consent Deferred for Follow-Up: ☐

	Breath Test First	Breath Test Repeat
Breath BAC	____	____
Time	____ AM PM	____ AM PM
Initials	____	____

Figure 3. Pedestrian Consent Form.

consciousness, he was approached and asked to sign the consent form. If any victim had refused, their blood sample would have been destroyed. If the victim expired, blood analysis was authorized by the Parish Coroner under prevailing statutes.

The major data item obtained from the Hospital was a toxicology report from the Pathology Department indicating the subject's BAC. However, additional summary and identification data were needed to correlate the Hospital data with data obtained from the Police Accident Reports. These identifiers were purged from the study files as soon as a complete case record had been assembled. Also, the Hospital records are the best source of injury severity measures. Specifically, the following data items were taken or derived from the Hospital records and coded for analysis:

- Pedestrian race
- Pedestrian religion
- Came by (ambulance, private car, etc.)
- Disposition (admitted, treated/released, etc.)
- AIS (abbreviated injury severity scale of the American Medical Association)
- Reason for refusal of test (if any)
- Time blood was drawn from subject
- BAC

F. Interview Data

As referenced above, data collection for this project began on 1 March 1975. However, the original project was subsequently modified to include more in-depth information on the behaviors leading to the crash and the drinking histories of pedestrians and controls. This modification required face-to-face interviewing of the crash victims as well as interviewing the involved drivers. Interviewing commenced on 7 July 1975. The sample of pedestrians to be interviewed was all injured pedestrians from Charity Hospital beginning in July, 1975. The drivers were each of the drivers involved in each of the injured pedestrians' crashes. In some cases where it was not possible to contact a driver (e.g., hit and run), an attempt was made to interview a witness to the crash.

Drivers were contacted by telephone, where possible, or by traveling to their residence. The interview format is shown in Appendix B. The interview itself may be considered as semistructured. Each of the questions had to be addressed but the interviewer was given some lattitude in terms of the specific phrasing of the questions and in terms of additional data items. For instance, one question asks "when did you (the driver) first see the pedestrian?" However, the driver may have already stated, perhaps in response to another question, that he saw the pedestrian on the sidewalk several seconds before the accident. Obviously, in this situation, the interviewer had to rephrase this question. He might, for instance, ask "Then you first saw the pedestrian when he was on the sidewalk and you were just starting down the block?" In general, the interview was designed to elicit, from the driver, the entire sequence of events leading to the crash.

For the most part, the driver interviews were used as input to the assessment of behavioral and environmental factors leading to the crash. This process, described in Section H below, considered the Driver Interview as well as all other data. Thus, most of the specific Driver responses were not individually coded for analysis. The specifically coded data items were as follows:

- Going to (where driver was going, e.g., work, home, shopping, etc.)
- Coming from (where driver was coming from, e.g., work, home, shopping, etc.)
- Purpose of trip (e.g., for work, visit friend, shopping, etc.)
- Frequency (how often driver uses the street on which accident occurred)
- Speed (prior to impact)
- Driver's occupation
- Years of driving experience
- Driver's opinion as to whether accident could have been avoided (yes - no)

The pedestrian interviews were all conducted face-to-face. The interviewer contacted the injured pedestrian (typically by telephoning his/her residence) and arranged for a convenient time and place to conduct the interview. Most interviews were conducted at the home of the pedestrian during the evening. The interview form is shown in Appendix C. This was a semi-structured interview similar to the driver interview discussed above. The primary purpose of the interview form was to lead the pedestrian through the events and situational circumstances producing the crash. As with the driver interview, the primary use for the resulting data was as input to the coding process discussed in Section H below. Each participating pedestrian was paid $10.00 for his/her participation. Specifically coded data items from the interview were as follows:

- Walking from (where pedestrian was coming from, e.g., work, home, shopping, etc.)
- Walking to (where the pedestrian was going, e.g., work, home, shopping, etc.)

- Purpose of trip (e.g., for work, visit friend, shopping, etc.)

- Frequency (how often the pedestrian walks on the street on which accident occurred)

- Actions prior to crash (crossing street directly, crossing diagonally, waiting to cross, working in roadway, etc.)

- Movement prior to crash (running, walking rapidly, not moving, etc.)

- Pedestrian's opinion as to whether accident could have been avoided (yes - no)

The pedestrian was also asked to complete the Mortimer-Filkins problem drinking screening questionnaire. This is a self-administered screening instrument designed to identify individuals who have or may have a drinking problem.* The actual questionnaire is shown in Appendix D. Items 1-58 in Part I are identical to the original Mortimer-Filkins Part I items except that the pronoun "I" has been changed to "you." Items 1-34 in Part II contain many of the Mortimer-Filkins interview items as well as additional items included specifically for this project. The interviewer handed this entire questionnaire (Questionnaire Part I and Part II shown in Appendix D) to the injured pedestrian at the conclusion of the pedestrian interview. The pedestrian was instructed to read each question and check each appropriate response. The interviewer answered any questions the pedestrian may have had and assisted the pedestrian in reading any item. The completed questionnaire was returned to the interviewer at the conclusion of the interview.

Each of the 92 items on the Mortimer-Filkins was coded directly for subsequent analysis. While individual data items will not be listed here, the following categories of information were available from this Questionnaire:

- Marital status and current living arrangements
- Smoking habits
- Variety of personality/adjustment/adaptation to stress/affective items
- Education
- Employment status and occupation
- Income
- Driving experience
- Arrest history
- Drinking history, habits, perceptions

*See Kerlan, M.W., Mortimer, R.G., Madge, B., & Filkins, L.D., 1971.

G. Control Sampling

Previous sections discussed the control groups to be established including selection of sampling locations. This section will discuss the procedures utilized at the sites for stopping and testing control subjects and the collection of other site related data. In general, control sampling was conducted at two different kinds of sites; the random or Population at Large sites and sites of previous fatal or injury crashes. Control subjects were stopped and tested in the same manner at both kinds of sites. However, at the sites of previous crashes, there was the additional requirement to obtain information on specific site characteristics such as street width, traffic density, parking patterns, etc. The control sampling team consisted of three off-duty New Orleans Police Department Officers, two of whom worked at each site. One officer, in uniform, requested passing pedestrians to participate in the study; the second worked inside a Chevrolet Sportvan conducting the breath test and brief interview. The officers sampled at each site for one hour.

Officers were assigned to sampling locations using the Site Assignment Form shown in Figure 4. The form was generated by local project personnel who filled in the "Site No.," "Day of the Week," "Time of Day," "Personnel Assigned" (i.e., which two of the three officers), "Date of Sampling" and "Location" (in detail, typically accompanied by a map drawn on the reverse side of the form). The box marked "Random" was checked for Population at Large sites; "Crash" was checked for sites of previous crashes. If for a crash, "Side of street...," "Direction ...," and "Special Circumstances" (i.e., pedestrian victim left building and went directly across) were also filled in. The sampling team arrived at the specified location fifteen minutes prior to the scheduled sampling time. The van was parked such that subjects could be moved safely and quickly from the sampling location to the side door of the van and back to the sidewalk. Sampling was never conducted on both sides of the street so as to avoid the problem of having subjects crossing the street.

The objective of crash site sampling was to provide a sufficient sample size and to insure that these subjects were as representative as possible of pedestrians using the same streets as the crash victims. In some situations, it was possible to utilize "Direction ..." and "Special circumstances" to obtain a more representative sample. Specifically, the sampling team could stop only those pedestrians walking in the specified direction. Or, the team could stop only those pedestrians exhibiting the unique movement specified under "Special circumstances." However, it was more typical to sample all pedestrians using the specified side of the street or the specified intersection corner.

The first control subject stopped was the first adult pedestrian passing the sampling location during the one-hour sampling period. The uniformed officer approached the prospective subject and said:

Site No. ____________________ Personnel Assigned ____________________

Day of the Week ____________________ Date of Sampling ____________________

Time of Day ____________________

Location ____

☐ Random Count ____________

☐ Crash

Side of street or leg of intersection where injured pedestrian was walking
North _____ South _____ East _____ West _____ Unknown _____

Direction in which pedestrian was walking
North _____ South _____ East _____ West _____ Unknown _____

Special Circumstances ____

Sampling Conducted 1) Both legs (at intersection) _____ 1 leg only _____
2) All directions of travel _____ 1 direction only _____

Pedestrians Stopped	Time Stopped	Approximate Age	Sex	Race	If refusal give Reason
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Figure 4. Site Assignment Form.

"Could we please have a minute of your time for our technician to ask you a few questions as part of an important pedestrian research project."

Subjects agreeing to participate were escorted to the van, and the appropriate time, age, sex and race entries were made on the Site Assignment Form. If the subject refused, the same entries were made plus the subject's reason for refusal. The next subject stopped was the next adult pedestrian passing the sampling location immediately following the last subject's exit from the van. Subjects obviously walking together were taken together for testing. Excluded from sampling were:

- Uniformed Policemen, Firemen, Ambulance Attendants and Sanitation workers who were obviously on duty
- Individuals in wheel chairs or on crutches
- Individuals who had already passed the sampling location <u>and</u> had become interested "bystanders"

Upon entering the van, each subject was informed that this was a pedestrian research project and was offered a study synopsis to take with him. The first question to the subject was:

"How long has it been since you last had a drink of beer, wine, liquor or another alcoholic beverage?"

The answer to this question was entered on the Control Subject Data Collection Form shown in Figure 5. (This form became effective 7 July 1975; prior to then the question "How often do you walk by this location?" was not included.) Subjects responding less than 15 minutes were asked to wait until a full 15 minute period had been achieved. This was necessary to ensure that any residual mouth alcohol had dissipated prior to breath testing. The first breath test was then administered. The remaining questions on the form were asked (smoking, age, occupation, trip origin, trip destination and frequency) followed by a second breath test.

This was the conclusion of the subject's participation prior to the 7 July 1975 modification. From 7 July 1975 to 1 April 1976, subjects were also asked to take with them a copy of the Mortimer-Filkins Questionnaire, Parts I and II (shown in Appendix D). This was to be filled out and returned by business reply mail. Subjects returning the Questionnaire were paid $5.00 or could direct that the money be sent to a charity. Questionnaires and Control Subject Data Collection Forms were pre-numbered so that each returned Questionnaire could be matched to BAC and the other data collected in the van.

Also, after 7 July 1975, the control sampling team completed a "Crash Location Characteristic Data" form for each crash site.

Seq. # ________

Dunlap and Associates, Inc. - Project 104

CONTROL SUBJECT DATA COLLECTION FORM

Subject No. ________ Date ________________

Site No. ____________ Operator ________________

How long has it been since you last had a drink of beer, wine, liquor or another alcoholic beverage? ________________

Do you smoke cigarettes? Yes ____ No ____
cigars? Yes ____ No ____
pipe? Yes ____ No ____

(Conduct Breath Test #1)

How old are you? ________(years)

What is your current occupation? ______________________________

Where were you walking from? ______________________________

Where are gou going? ______________________________

How often do you walk by this location?

____Once a day or more
____2-3 times per week
____Once a week
____2-3 times per month
____Once a month
____Less than once per month
____Never (prior to today)

(Conduct Breath Test #2)

Breath Test #1

Time ____________________

BAC ____________________

Breath Test #2

Time ____________________

BAC ____________________

Subject's sex (observe, do not ask) Male____ Female ____

Subject's race (observe, do not ask) W____ B____ S____ O____ Other____

Was subject part of a group processed at the same time? Yes____ No____

If yes, show other subject No.'s ______________________________

Comments:

Figure 5. Control Subject Data Collection Form.

This form, shown in Figure 6, was designed to obtain detailed information concerning crash sites. The items on the form are self-explanatory. All of the data items from this form, the Control Subject form, the Questionnaire and the Site Assignment form were directly coded for subsequent analysis.

H. Other Data and Coding

Previous sections discussed the overall design of this study and data acquisition procedures. This section discusses two additional sources of supplementary information, arrest data and weather data and presents post coding procedures used to summarize behavioral and situational information into specific pedestrian errors, driver errors and accident predisposing factors.

1. Arrest Data

Criminal information in New Orleans is computerized, and it is possible to search these files by name. Arrest and conviction data are held, by charge, for felonies, misdemeanors, city violations and traffic violations. The name of each fatal pedestrian victim and non-fatal from Charity Hospital and the name of each involved driver was submitted to this computerized file for cross referencing. The result, for each pedestrian and driver, was the total number of prior arrests and prior convictions for approximately a three year period. In addition, separate tallies were made for "Disturbing the Peace," which is typically alcohol related, and for "Driving While Intoxicated."

2. Weather Data

Information on the weather conditions prevailing both at the time of the crash and at the time of control sampling was obtained through the National Oceanic and Atmospheric Administration. The following information was tabulated for the hour of the crash and the hour of control sampling:

- Temperature
- Relative humidity
- Wind speed
- Amount of rainfall
- Weather description

3. Accident Type and Behavioral Errors

The final step prior to data analysis was the assignment of descriptive codes describing the accident, pedestrian and driver behavioral errors and environmental/situational factors that contributed to the crash. All codes were assigned by two senior project staff members working together and using all of the information available for each crash. Thus, it was a group process of assigning the codes and assignment could best be described as a judgmental process.

CRASH LOCATION CHARACTERISTIC DATA

______ (date) ______ (site no.)

1. Width (in feet) of roadway at pedestrian's attempted crossing _____(feet).

2. Distance to the nearest proper pedestrian crossing _____(feet) (enter 0 if at marked or unmarked crosswalk).

3. Driver traffic control at accident scene (direction driver was coming from):

____none
____yield sign
____stop sign
____flashing amber
____flashing red
____red-green-amber (only)
____red-green-amber with left turn arrow
____red-green-amber with right turn arrow
____red-green-amber with right and left turn arrows
____other (specify)

4. Pedestrian walk signal? ____Yes ____No

5. Traffic control facing pedestrian at accident scene (traffic control in direction pedestrian was walking):

____none
____yield sign
____stop sign
____flashing amber
____flashing red
____red-green-amber (only)
____red-green-amber with left turn arrow
____red-green-amber with right turn arrow
____red-green-amber with right and left turn arrows
____other (specify)

6. Parking regulations, for 20 feet from point on street where pedestrian began crossing (in direction from which striking vehicle came).

____diagonal parking permitted
____parallel parking permitted
____standing only permitted
____no parking or standing

7. Speed limit in effect at accident scene: _____ mph

8. Estimated average traffic density:

Number of vehicles counted:	Count
Three minute sample prior to site time	_____
Three minute sample after site time	_____

NOTE: *All information other than count is as of midpoint of sampling period (e.g., if sampling period is 11:45 p.m. to 12:45 a.m., then record traffic control, parking regulations and speed in effect as they apply at 12:15 a.m.).*

Figure 6. Crash Location Characteristic Data Collection Form.

The first judgment concerning each crash was to determine the "Accident Type." The codes utilized and the definition of each Accident Type was shown earlier in Table 2. Thus, each sampled crash was coded twice, first as part of the universe of all crashes using the police report alone, then as part of the study sample using all available information.

The second judgment made involved the Primary Precipitating Factor(s) for the crash. These factors can be thought of as pedestrian or driver errors leading to crash occurrence. They were developed by Snyder and Knoblauch (1971) as part of their "Crash Avoidance Sequence Model." Essentially, this model states that either the driver or the pedestrian must correctly perform a sequence of behaviors to avoid a crash. The elements of the sequence are as follows:

- Course (selection and negotiation)
- Search (drivers looking for pedestrians; pedestrians looking for vehicles)
- Detection ("seeing" the threat)
- Evaluation (understanding what must be done to avoid a crash)
- Action (performing the required crash avoidance action)

Drivers or pedestrians could make any one or more of several specific errors within any of the above categories. The specific error codes utilized are shown in Table 3. Up to three errors could be coded for a single crash, with the first error coded considered to be the most serious and so on.

The Snyder and Knoblauch (1971) Model also allows for coding of environmental or situational factors that make crash occurrence more likely. Things such as parked cars, vehicle defects, pedestrian or driver disabilities, weather induced visibility problems, etc., can all contribute to crash occurrence yet are not behavioral errors. Things such as these are referred to as "Predisposing Factors." The specific factors and their codes are shown in Table 4. Again, up to three Predisposing Factors could have been coded for each crash with the first factor considered the most important and so on.

A judgment was also made concerning who, driver or pedestrian, was "culpable" for the crash. Culpability was not determined on legal grounds, but rather in behavioral terms. It was defined as:

> "The commission of a behavioral error, the elimination of which would likely have resulted in crash avoidance."

Judged culpability could have been assigned to the pedestrian, the driver, both or (in rare instances) neither.

As mentioned above, judgemental coding was done by two members of the project staff working together. Occasionally, differences of opinion were submitted to a third staff member for resolution. Judgmental codes and all other information about the crash were keypunched and verified, case by case, and input for computer analysis. Critical items of information, such as subject BAC, were additionally verified by hand. Analysis was conducted in several steps and/or stages, the results of which are presented in the next section of this report.

Table 3. Primary Precipitating Factors

Pedestrian Error (Unsure of Category)

01 Course/search
02 Search/detection
03 Detect/evaluation
04 Evaluation/action

Pedestrian Course

11 Crossing against light
12 Back to traffic
13 Unexpected, unusual location
14 Poor location (laying in road, sitting on curb, etc.)
15 High exposure location
16 Running
17 Walking too slowly
18 Short-time exposure (poor target)
19 Other

Pedestrian Search

20 Search overload (too many things to look for)
21 Inattention to traffic
22 Inadequate (or incomplete) search

Pedestrian was distracted by;

23 Traffic signal
24 Object in 1st half of roadway
25 Object in 2nd half of roadway
26 Hostile person or object
27 Work activity
28 Other distraction

29 Other search failure

Pedestrian Detection

30 Adequate search - detection failure not explainable
31 Interference - parked vehicles
32 Interference - stopped bus
33 Interference - standing vehicles
34 Interference - moving traffic
35 Interference - posts, poles, signs, mailboxes
36 Interference - buildings
37 Interference - glare from the sun
38 Interference - other

Table 3. Primary Precipitating Factors (Continued)

Pedestrian Evaluation and Action

40 Evaluation - misperceive driver's intent
41 Evaluation - poor prediction of veh./ped. path
42 Evaluation - other
43 Action - environmental problem
44 Action - self-limits
45 Action - other

Driver Error (Unsure of Category)

46 Course/search
47 Search/detect
48 Detect/evaluation
49 Evaluation/detection

Driver Course

50 Attempt to beat light
51 Ran red light
52 Ran stop sign or yield sign
53 Wrong side of road
54 Traveling too fast
55 Other

Driver Search

61 Overload (too much to look out for)
62 Distraction
63 Inattention
64 Search inadequate
65 Other

Driver Detection

70 Adequate search - detection failure not explainable
71 Interference - stopped bus
72 Interference - parked vehicles
73 Interference - standing traffic
74 Interference - moving traffic
75 Interference - signs, posts or mailboxes
76 Interference - trees, shurbs, other plants
77 Interference - buildings
78 Interference - glare from the sun
79 Interference - glare from headlights
80 Interference - water, ice or snow on your windshield
81 Interference - poor street lighting
82 Interference - other

Table 3. Primary Precipitating Factors (Continued)

Driver Evaluation and Action

90 Evaluation - misperceived pedestrian's intent
91 Evaluation - poor prediction of pedestrian/vehicle path
92 Evaluation - other
93 Action - vehicle defect
94 Action - driver lost control of vehicle
95 Action - driver self-limits, unable to perform
96 Action - environment made action impossible
97 Action - driver-pedestrian actions failed to match
98 Action - other

Table 4. Predisposing Factors

Pedestrian Factors

11 Old age
12 Alcohol (did alcohol of ped make crash more likely)
13 Narcotics or drugs
14 Specific disability (crutches, braces, wheel chair, etc.)
19 Other

Driver Factors

21 Old age
22 Alcohol
23 Narcotics or drugs
24 Specific disability
29 Other

Environmental Factors

31 Weather - visibility
32 Weather - slippery
33 Animals (control of domestic, etc.)
34 Parked cars
39 Other

Vehicle Factors

41 Vehicle projection limiting search (e.g., windshield posts)
42 Vehicle design (not further specified)
43 Vehicle condition (brakes)
49 Other

Exposure Factors

51 Inducement to risk taking; signal timing
52 Heavy exposure - high risk; traffic control
53 Heavy exposure - high risk; vehicle turns
54 Heavy exposure - high risk; safety zone design
55 Heavy exposure - high risk; working on auto

Other

90 Other

III. RESULTS

This chapter presents the results of this project. It begins (Section A) with a discussion of all New Orleans pedestrian/vehicle crashes from 1 January 1973 to 1 April 1976. The sample of fatal and injury crashes studied in this project is then described as a subset of this total crash population. Next, in Section B, the obtained BAC data is presented along with any limitations or sources of bias for these data. The alcohol crashes are described including descriptive analyses distinguishing alcohol and non-alcohol involved events. Section C introduces the Control Groups, their size, composition, similarities and differences. The Control Groups are compared to the Experimental, or study sample, Group in Section D. Section E examines crash related behaviors and situational factors as they apply to alcohol and non-alcohol events.

A. All New Orleans Crashes and Study Sample

Table 5 shows the distribution of all reported pedestrian/vehicle crashes in New Orleans for each of the years 1973 through 1975 by Accident Type. The distributions show little year to year variation in types of accidents or in the total number of accidents. Also shown, for purposes of comparison, are data from other U.S. cities. The data from Los Angeles (see Dunlap and Associates, Interim Report, 1977) and Washington are part of on-going Dunlap projects and coding for these crashes was conducted in a similar manner to the New Orleans coding. The data shown under NHTSA/FHWA are from Knoblauch and Knoblauch (1976) and represent a mixture of reports from Akron, Toledo, Columbus (Ohio), San Diego, Miami, Washington, D.C. and New York (City). Compared to these other cities, it would appear that New Orleans has a few more Intersection Dash, Disabled Vehicle, Bus Stop and Auto-Auto accidents, and somewhat fewer Dart-out First, Vehicle Turn/Merge, Turning Vehicle and Vendor accidents. However, there is no evidence that New Orleans is particularly atypical or is otherwise considerably different from other U.S. cities studied to date. Rather, the city appears to have a "typical" pattern of crashes when compared to other urban areas.

It should be noted that not all New Orleans crashes were studied as part of this project. Crashes occurring during Mardi Gras were excluded because Mardi Gras behavior is atypical, control sampling would have been difficult and the New Orleans Police Officers would not have been able to conduct the control sampling due to their heavy work loads during this period. Also, crashes where the only pedestrian(s) was less than 14 years of age were excluded. More importantly, the sample did not include non-fatal pedestrians who were not taken to Charity Hospital. Table 6 outlines those cases entering the sample versus those cases not entering the sample as a function of accident type. The first two columns show "not in sample" versus "in sample" for non-fatal pedestrian victims, 14 years of age or older, during

Table 5. New Orleans Crashes by Type as Compared with Other Cities.

Accident Type	New Orleans 1973	1974	1975	Total	Los* Angeles '73-75	Wash-* ington '76	NHTSA/ FHWA** data '73-75
Darts and Dashes							
Dart-out First	16.3%	14.1%	14.8%	15.1%	16.2%	22.9%	19.3%
Dart-out Second	9.6	6.9	7.7	8.1	7.6	8.0	8.6
Midblock Dash	8.1	6.8	7.0	7.3	4.2	6.5	7.3
Intersection Dash	17.4	16.6	14.5	16.2	10.3	7.3	16.5
Specific Situations							
Vehicle Turn/Merge	1.3	1.4	1.1	1.3	6.6	2.8	2.3
Turning Vehicle	3.9	4.5	4.5	4.3	8.2	5.9	7.0
Multiple Threat	3.7	3.4	3.0	3.4	7.7	1.4	1.6
Backing	3.5	4.8	5.1	4.5	4.8	4.4	2.4
Vendor	0.6	0.3	0.0	0.3	2.3	0.8	1.5
Trapped	0.5	0.5	0.2	0.4	0.9	0.2	0.7
Disabled Vehicle	2.3	3.1	1.8	2.4	0.7	0.8	1.4
Bus Stop	2.9	3.5	1.8	2.7	0.5	1.1	1.1
Auto-Auto	3.2	3.6	4.7	3.8	0.1	2.7	2.6
Ped Not In Road	4.3	5.1	5.5	5.0	7.6	5.7	4.2
Other	7.2	11.2	11.7	10.1	10.5	9.6	N.A.***
Other Crashes							
Ped Strikes Vehicle	4.0	4.0	4.4	4.1	1.1	2.2	4.7
Weird	1.4	1.3	1.5	1.4	1.6	0.8	3.0
Not Classifiable	9.9	8.8	10.6	9.8	9.1	16.9	N.A.***
N	875	910	870	2655	7922	1316	5913
%	100%	100%	100%	100%	100%	100%	100%

* Complete police accident reports for year(s) indicated from related Dunlap projects
** From Knoblauch and Knoblauch, 1976, mixed reports from seven U.S. cities
*** N.A. - no comparable code, however, other plus not classifiable summed to 15.9%

Table 6. New Orleans Crashes by Type, Sampled Versus Not Sampled (Pedestrian Age 14 or Older Only).

Accident Type	Non-Fatal 1 March 1975-1 April 1976: Not in Sample	In Sample		Fatal Sample 1973 to 1 April 1976		Total Cases in Study	All Crashes 1973 to 1 April 1976
Darts and Dashes							
Dart-out First	4.3%	7.2%	+	11.0%	=	8.3%	6.3%
Dart-out Second	2.2	7.2	+	4.1	=	6.3	4.2
Midblock Dash	3.2	3.3	+	0.0	=	2.4	3.0
Intersection Dash	10.5	18.9	+	26.0	=	20.9	13.8
Specific Situations							
Vehicle Turn/Merge	1.3	0.6	+	0.0	=	0.4	1.8
Turning Vehicle	5.4	5.6	+	0.0	=	4.0	5.7
Multiple Threat	1.9	3.9	+	6.8	=	4.7	3.7
Backing	9.4	2.8	+	0.0	=	2.0	6.4
Vendor	0.0	0.0	+	0.0	=	0.0	0.0
Trapped	0.5	0.0	+	0.0	=	0.0	0.5
Disabled Vehicle	3.5	2.2	+	1.4	=	2.0	3.8
Bus Stop	1.9	4.4	+	0.0	=	3.2	3.0
Auto-Auto	8.6	2.8	+	4.1	=	3.2	6.0
Ped Not In Road	10.2	2.2	+	5.5	=	3.2	6.9
Other	15.6	9.4	+	21.9	=	13.0	13.8
Other Crashes							
Ped Strikes Vehicle	4.9	8.9	+	1.4	=	6.7	5.3
Weird	1.9	1.7	+	1.4	=	1.6	1.7
Not Classifiable	14.6	18.9	+	16.4	=	18.2	14.0
N	371	180	+	73*	=	253*	1692
%	100%	100%		100%		100%	100%

* Does not include 13 fatals from 1972.

the 1 March 1975 to 1 April 1976 study period. Coding for Accident Type on this table was from the police accident report alone, involved one coder working alone, and at the time of coding the coder did not know which crashes were or were not in the sample. Thus, the "not in sample" versus "in sample" comparison is appropriate as coding procedures were identical for both groups. The comparison did show that the two distributions were significantly different ($\chi^2 = 55.54$, $p<.001$ with 16 d.f.).

Column three of Table 6 shows the accident type distribution for the fatal crashes studied in this project. Column four of the table shows the combined accident type distribution for all of the fatal and non-fatal crashes studied and column five shows the distribution for all crashes, studied or not, involving adult pedestrians. Column four, "Total cases in study," was compared to column five, "All crashes" (after subtracting studied crashes from all crashes) and the results showed a statistically significant difference ($\chi^2 = 50.33$, $p<.001$ with 16 d.f.). In other words, the accident type distribution for the studied cases was different from the accident type distribution of all New Orleans crashes involving adult pedestrians. In particular, the studied cases have an overrepresentation of Dart-out first-half, Dart-out second-half and Intersection Dash crashes. Accidents such as Backing, Auto-Auto, Pedestrian Not In Roadway and the turning crashes (Vehicle Turn/Merge and Turning Vehicle) were underrepresented.

It is felt that most of this difference can be explained in terms of injury severity. During the study period, 1 March 1975 to 1 April 1976, 77% of "severe" adult pedestrian injured were taken to Charity Hospital as indicated on the police accident reports. For "Noticeable" injured, only 55% went to Charity, 30% for "Complaint of pain" and 13% for no injury. Thus, the more severely injured pedestrians were more likely to be taken to Charity Hospital and thus more likely to enter the sample. In addition, fatals entered the sample regardless of whether or not they went to Charity Hospital. The relationship between injury severity and accident type is shown in Table 7. The overrepresented accident types, Dart-out First, Dart-out Second and Intersection Dash, all tend to have greater injury severity. Under "Complaint of pain (only)" and "no injury," these accident types had only 40%, 30% and 30%, respectively, as compared with 44% overall. The underrepresented accident types, Vehicle Turn/Merge, Turning Vehicle, Backing, Disabled Vehicle, Auto-Auto and Pedestrian Not In Roadway all tended to have lower injury severity. Under "Complaint of pain (only)" and "no injury," these accident types had 53%, 67%, 62%, 42%, 56% and 55%, respectively, as compared with 44% overall. Thus, greater injury severity, which is associated with specific accident types, makes it more likely that the pedestrian will be taken to Charity Hospital or be fatally injured. As such, pedestrians involved in these higher severity crashes were more likely to enter the sample of cases studied.

Several additional comparisons were run to determine the full extent to which the study sample did or did not reflect all New

Table 7. Pedestrian Injury Severity by Accident Type for All Crashes 1973 to 1 April 1976 (Includes 14 Years and Older Only).

Accident Type	Fatal and Severe N	Fatal and Severe %	Noticeable N	Noticeable %	Complaint of pain/ no injury N	Complaint of pain/ no injury %
Darts and Dashes						
Dart-out First	17	16%	44	42%	43	41%
Dart-out Second	8	11%	41	59%	21	30%
Midblock Dash	4	8%	24	49%	21	43%
Intersection Dash	37	16%	120	53%	70	31%
Specific Situations						
Vehicle Turn/Merge	1	3%	13	43%	16	53%
Turning Vehicle	1	1%	30	31%	65	68%
Multiple Threat	7	11%	38	60%	18	29%
Backing	4	4%	37	34%	68	62%
Vendor	--	--	--	--	--	--
Trapped	1	12%	3	38%	4	50%
Disabled Vehicle	3	5%	34	53%	27	42%
Bus Stop	1	2%	29	59%	19	39%
Auto-Auto	5	5%	39	39%	57	56%
Ped Not In Road	9	8%	39	35%	64	57%
Other (Specific Situation)	30	13%	88	38%	111	48%
Other Crashes						
Ped Strikes Vehicle	2	2%	37	42%	50	56%
Weird	2	7%	9	33%	16	59%
Not Classifiable	26	11%	121	52%	85	37%
Total*	158	10%	746	45%	755	46%

*Does not include 34 cases, injury unknown.

Orleans adult crashes. Each item on the police accident report was compared for those cases entering the sample versus all other reported adult crashes from 1973 through March, 1976 (1,441 crashes). The following items, as determined by the Chi-square test, did not differ significantly between the sampled and non-sampled crashes:

- month
- day of week
- hour of day
- intersection - yes, no
- striking vehicle type
- driver residence
- pedestrian residence
- driver sex
- pedestrian sex
- driver age
- driver injury
- location (business, residential)
- road dry or wet
- lighting (day, night)
- driver had been drinking?
- pedestrian had been drinking?
- vehicle condition (e.g., defects)

A statistically significant difference was found with respect to pedestrian age in that the sampled cases tended to be older. This difference was due to the fatal cases which involved a large number of older people. Significant differences were also found with respect to "alignment" (straight road, curve, hill, etc.), type of road, traffic control, pedestrian action (crossing at intersection, crossing not at intersection, not crossing), location of point of impact (in road, shoulder, etc.) and vehicle movement (going straight, turning, etc.). For each of these variables, the difference appeared largely due to the fact that the sampled crashes contained fewer lower injury severity accident types, particularly the off-road types such as Backing and Pedestrian Not In Roadway. A significant difference was also found with respect to weather conditions at the time of the crash. However, the difference was small and difficult to interpret. More sampled crashes were listed as "raining," more non-sampled crashes were listed as "cloudy" and about the same number in each group were listed as "clear." The one surprising significant difference occurred with respect to driver violations. One or more driver violations were noted by the Investigating Officer for 42% of the non-sampled cases as compared with only 30% of the sampled cases. There is no readily apparent explanation for this result. Perhaps the Investigating Officer is more concerned with the welfare of the victim in the cases going to the hospital and is, therefore, less likely to issue a citation to the driver. The raw data utilized to make all of these sampled versus non-sample comparisons may be found in Appendix E.

B. Description of Studied Cases

This section presents the results relative to the cases sampled in this project. Blood alcohol data are shown, sources of bias are discussed and the alcohol and non-alcohol cases are described.

1. Fatal and Non-Fatal BAC's

In all, 266 crashes were sampled as part of this project. Of these, 86 were fatals (defined as an adult pedestrian victim surviving less than 24 hours) and 180 were non-fatal (adult surviving more than 24 hours sampled at Charity Hospital). For the fatals, 80 of the 86 had quantitative BAC measures as determined by the Parish Coroner. Two of the six cases for which a quantitative BAC was not available were listed as "positive" with no additional information. The remaining four cases were all situations where the BAC was not taken, typically because the pedestrian survived for several hours after the crash. Among the non-fatally injured pedestrians, BAC measures were obtained for 143 of the 180 cases in the study sample. Of the 37 instances where no BACs were obtained, eight resulted from individuals who refused to participate in the study. The remaining 29 (16%) cases involved pedestrians who were identified by Charity Hospital, but for some reason, their blood samples were not drawn, could not be drawn or were not analyzed.

Initially, it was felt that the time interval from the crash to death for fatals and from the crash to Hospital testing for non-fatals would be a critical variable in this study. Clearly, the longer the interval, the less accurately the BAC reading would reflect actual BAC at the time of the crash. Fortunately, the final data set included very few cases for which this time interval was excessive. Overall, 85% of the BAC measures (fatal and non-fatal) were taken within two hours of the crash, 90% within three hours and 95% within four hours. The remaining 5% (12 cases) had BAC measures taken in excess of four hours following the crash. These 12 cases were distributed: 8 at zero BAC, and four at .10% BAC or above. The probable effect of these longer time intervals is to depress the total BAC distribution. However, the effect is probably small since the great majority of cases were measured soon after the crash, and the longer intervals did produce some BAC data in the higher ranges.

Table 8 shows the BAC distribution for the fatal and non-fatal samples. The first, and perhaps most remarkable, finding is that approximately half of these adult pedestrians had been drinking. Second, the BAC levels tend to be very high. For fatals, 45% of all cases were at .10% or above, and 88% of those who had been drinking were at .10% or above (36 of 41 cases). For non-fatals, 36% of all cases were at .10% or above, and 73% of those who had been drinking were at .10% or above (57 of 70 cases). Further, 18 cases (6 fatals and 12 non-fatals) were measured at .30% or above. Clearly, drinking and drinking to very elevated levels was

Table 8. BAC Levels for Adult Fatal and Non-Fatal Crash Involved Pedestrians.

	Fatal		Non-Fatal	
BAC (% wt./vol.)	N	%	N	%
.000	39	49%	73	51%
.001 - .049	2	2%	13	9%
.050 - .099	3	4%	6	4%
.100 - .149	9	11%	8	6%
.150 - .199	6	8%	10	7%
.200 - .249	7	9%	14	10%
.25 +	14	18%	19	13%
TOTAL	80	100%	143	100%

$\chi^2 = 6.24$, N.S. with 6 d.f.

common among both fatal and non-fatal pedestrian victims.

It has been known that fatally injured pedestrians often exhibit elevated BAC's (see e.g., Zylman, et al., 1975). What is new in these findings is that the BAC's for the non-fatal sample parallel the BAC's for the fatals. In fact, the comparison between the fatal and non-fatal BAC distributions was not statistically significant (χ^2 = 6.24, N.S. with 6 d.f.). This is not to say that there is no difference between fatals and non-fatals in terms of BAC (the null hypothesis is unprovable), but it does suggest that any differences that may exist are not major. Thus, many of the analyses which follow show collapsed data across the fatal and non-fatal samples. The fatal versus non-fatal similarity is not totally unexpected since, if for no other reason, the present non-fatal sample is weighted toward more seriously injured pedestrians.

2. Victim Description by BAC

The police accident report, in particular, provides descriptive information on the age, sex, etc., of the pedestrian and the driver as well as the characteristics of the crash. While this information does not provide inferential data concerning the causative role of alcohol in pedestrian crashes, it does provide the basic descriptive parameters for the alcohol ard non-alcohol events. Descriptive data are presented below for the pedestrian victim, the involved driver, the time of the crash and the characteristics of the crash location. Data are shown as a function of the pedestrian's BAC.

Table 9 shows a variety of descriptive information concerning the pedestrian victim. The first two lines of the Table show pedestrian sex by BAC. First, overall, there were more male victims (65%) than female victims (35%) in the study sample. Also, males were more often found to have positive (i.e., non-zero) BAC's and were more often found to have high BAC's. The comparison for sex by BAC excluding "Refused" and "Missing" was statistically significant (χ^2 = 19.08, p<.001 with 3 d.f.). Table 9 next shows pedestrian age as a function of BAC. The median age for pedestrians was approximately 44 years. The Age by BAC distribution excluding "Refused" and "Missing" was significant (χ^2 = 37.87, p<.001 with 9 d.f.) indicating that alcohol involvement varies as a function of age. In particular, young and old adult pedestrian victims are less likely to have been drinking than middle-aged pedestrians and appear less likely to have been drinking to the very high BAC levels. The next distribution shown in Table 9 is for pedestrian race. Here, the Race by BAC comparison, excluding "Refused" and "Missing," was not statistically significant (χ^2 = 6.41, N.S. with 3 d.f.). Overall, the sample was distributed 33% white, 50% black and 17% other and unknown. Pedestrian arrest record as found in New Orleans files is also shown in Table 9. Included here are felony arrests, misdemeanors, violation of City Ordinances and traffic cases resulting in an arrest. As shown in the table, the major-

Table 9. Description of Involved Pedestrians by BAC.

	N	Refused/ Missing	BAC .000%	BAC .001-.099%	BAC .100-.199%	BAC .200% +	Total
Pedestrian Sex							
Male	173	16%	35%	8%	16%	26%	100%
Female	93	17%	56%	11%	6%	10%	100%
Pedestrian Age							
14-19	31	26%	55%	16%	0%	3%	100%
20-29	48	21%	38%	12%	12%	17%	100%
30-59	107	18%	27%	8%	14%	33%	100%
60 +	80	8%	60%	5%	15%	12%	100%
Pedestrian Race							
White	89	7%	49%	5%	18%	21%	100%
Black	132	8%	45%	14%	11%	23%	100%
Other/Unknown	45	60%	20%	4%	4%	11%	100%
Total Prior Pedestrian Arrests							
zero	194	16%	46%	8%	12%	18%	100%
one - three	41	15%	41%	10%	7%	27%	100%
four or more	31	16%	16%	16%	23%	29%	100%
Ped Had Been Drinking (Officer's Opinion)							
Yes	50	16%	2%	8%	24%	50%	100%
No/Unknown	216	16%	51%	9%	10%	13%	100%

ity of pedestrians (73%) had no prior arrest record. Nevertheless, the comparison for prior arrest by BAC, excluding "Refused" and "Missing," was statistically significant ($\chi^2 = 14.13$, $p<.05$ with 6 d.f.) in the direction that those with prior arrests, and particularly those with four or more prior arrests, were more likely to have been drinking. The last two lines in Table 9 show BAC by Police Officer's judgment of "Had Been Drinking." These results clearly show that when "Had Been Drinking" is checked by the Officer, it is very likely that the subject will have a positive BAC and this BAC will be .10% or higher. However, when the box is not checked, it cannot be assumed either that the pedestrian is sober or that the BAC will be low. In other words, the Officers rarely provide "false positives" but frequently give "false negatives."

Of course, Table 9 does not show all of the descriptive information available for the pedestrian. Pedestrian injury severity, for instance, was distributed 32% fatal, 5% "severe," 39% "noticeable" and 24% "complaint of pain (only)." Further, 13 (5%) of the 266 cases studied involved a second pedestrian. This second pedestrian was either under age, not sampled at Charity Hospital or not the first pedestrian hit. Only one pedestrian was sampled per crash. Concerning residence, 91% of the pedestrians listed New Orleans as their home, 3% listed a New Orleans suburb and the remainder were other U.S. or unknown. Additional information concerning the pedestrians' occupations, income, marital status, drinking history, etc., was available from the pedestrian interviews and will be presented later along with the same information from the Control group.

3. Driver and Vehicle Description

Table 10 provides a description of the involved drivers in terms of sex, age and prior arrests. Overall, 256 (96%) of the crashes involved only one driver. For nine crashes, there were two drivers involved and one crash involved four drivers. Only one driver, the driver of the striking (i.e., striking the pedestrian) vehicle was tabulated for each crash. Concerning driver sex, the large majority of drivers were males (76%) with females accounting for only 17% and the remainder, 8%, unknown (typically hit and run with no driver description). The comparison, Driver Sex by Pedestrian BAC, excluding sex unknown and "Refused" and "Missing" was significant ($\chi^2 = 9.02$, $p<.05$ with 3 d.f.). The direction of the difference was that male drivers were more likely to have been involved in the higher pedestrian BAC crashes (.10 - .19% and .20% +) than female drivers. The next set of data shown is for driver age. The median driver age was approximately 34 years, which means that drivers were somewhat younger than the pedestrians. The distribution, driver age by pedestrian BAC excluding age or BAC unknown, was not statistically significant ($\chi^2 = 4.62$, N.S. with 6 d.f.). This implies that there are no major differences in pedestrian alcohol involvement as a function of driver age, though small differences are apparent in the Table. The final set of data shown in Table 10 is for driver

Table 10. Description of Involved Drivers by Pedestrian BAC.

	N	Refused/ Missing	BAC (of pedestrian) .000%	.001-.099%	.100-.199%	.200% +	Total
Driver Sex							
Male	201	16%	40%	8%	14%	22%	100%
Female	44	11%	57%	16%	5%	11%	100%
Unknown	21	24%	33%	5%	14%	24%	100%
Driver Age							
14-24	69	17%	41%	12%	9%	22%	100%
25-49	106	18%	42%	6%	13%	21%	100%
50 +	62	6%	48%	13%	16%	16%	100%
Unknown	29	28%	31%	7%	10%	24%	100%
Total Prior Driver Arrests							
zero	174	13%	42%	11%	13%	21%	100%
one - three	41	20%	49%	2%	12%	17%	100%
four or more	22	18%	45%	9%	14%	14%	100%
Driver Unknown	29	28%	31%	7%	10%	24%	100%

27% had prior

prior arrests. Again, this distribution was not significantly related to pedestrian BAC (χ^2 = 2.82, N.S. with 3 d.f., excludes driver unknown and pedestrian BAC unknown and collapses arrest data to zero versus one or more).

Descriptive data was also available concerning the residence or home address of these drivers. The results showed that 69% lived in New Orleans, 15% in a New Orleans suburb, 6% other U.S. and 11% hit and run with no address available. Some information was also available concerning driver BAC in those few cases where the Investigating Officer arrested the driver for Driving While Intoxicated. In all, 15 arrests were made across all 266 crashes. Two of the these drivers had no measurable blood alcohol, one had a BAC below the .10% legal limit and the remainder had BAC's ranging from .10% to .24%. Few drivers reported any injury to themselves.

The vehicles involved in these crashes were most often cars (74%), followed by trucks (12%), buses (3%) and taxis (2%). "Other" vehicle types, including motorcycles, accounted for 5% and type "unknown" was 5%. There were no major differences across vehicle type as a function of pedestrian BAC. Vehicle damage was most often reported for the front of the vehicle (53%), less often for right side (8%) and less still for the left side (4%). Other areas of the vehicle (e.g., rear) accounted for (3%) and vehicle damage for the remaining cases (33%) was either unknown, unreported or the vehicle was not damaged. "Area of vehicle damaged" did not appear to be related to pedestrian BAC. In 6% of the cases, the Investigating Officer noted mechanical defects in the vehicle, typically defective brakes (2%) or worn tires (1%).

4. Crash Description

Table 11 shows when the crashes occurred in terms of day of week and time of day. Concerning day of week, it is apparent that the crashes were spread relatively evenly across all days. Sunday was the lowest frequency day (12% of all crashes); Friday was the highest (17% of all crashes). Also shown in the table are totals for weekdays, Monday to Friday and weekend days, Saturday and Sunday. Here, a difference between weekends and weekdays is readily apparent with respect to pedestrian BAC. For weekdays, 48% of the pedestrians (55% of those who were tested) had not been drinking whereas for weekends, the comparable figure was only 29% (35% of those who were tested). The comparison, weekend versus weekday by pedestrian BAC, excluding "Refused" and "Missing," was statistically significant (χ^2 = 8.28, p<.05 with 3 d.f.). Also shown in Table 11 are the data for time of day in eight hour intervals. These results clearly show that alcohol involvement is greatest during the period from eight in the evening until four in the morning. Here, only 19% of the pedestrians had not been drinking (24% of those who were tested). The comparison, pedestrian BAC excluding "Refused" and "Missing" by time was statistically significant (χ^2 = 44.45, p<.001 with 6 d.f.).

Table 11. Day of Week and Time of Day by Pedestrian BAC.

	N	Refused/ Missing	BAC (of pedestrian) .000%	.001- .099%	.100- .199%	.200% +	Total
Day of Week							
Sunday	31	13%	23%	3%	23%	39%	100%
Monday	36	19%	36%	6%	14%	25%	100%
Tuesday	38	11%	61%	8%	13%	8%	100%
Wednesday	40	18%	60%	5%	5%	12%	100%
Thursday	39	5%	41%	10%	21%	23%	100%
Friday	44	25%	36%	16%	5%	18%	100%
Saturday	38	21%	34%	13%	11%	21%	100%
Weekday Vs. Weekend							
Mon.-Fri.	197	16%	48%	9%	11%	17%	100%
Sat.-Sun.	69	17%	29%	9%	16%	29%	100%
Time of Day							
0400 - 1159	63	17%	62%	8%	2%	11%	100%
1200 - 1959	122	11%	48%	12%	15%	14%	100%
2000 - 0359	81	22%	19%	5%	17%	37%	100%

Several comparisons were also made concerning weather conditions at the time of the crash. Little difference was found in weather conditions as a function of pedestrian BAC. From the police reports, it was learned that 85% of the crashes for pedestrians who had not been drinking and 88% of the crashes involving pedestrians who had been drinking occurred on dry pavement. The U.S. Weather Bureau (New Orleans) reported rain or a trace of rain at the time of crash for 14% of the cases with no apparent difference between the alcohol and non-alcohol involved crashes. The mean temperature in New Orleans at the time of the crash for crashes involving pedestrians who had not been drinking was 71.3°F. The mean temperature for crashes in which the pedestrian had been drinking was 67.2°F, which probably only reflects the fact that the alcohol crashes more often occur at night. Relative humidity (77% overall) and wind speed (7.8 knots overall) also did not vary across the alcohol and non-alcohol crashes.

Police accident reports also provide a great deal of information concerning the crash location itself. Some of this information, again as a function of pedestrian BAC, is summarized in Table 12. The first two lines of this table separate intersection from non-intersection crashes. Overall, 54% of the studied crashes occurred at intersections and 46% were at non-intersection locations as judged by the Investigating Officers. The comparison, intersection - non-intersection by pedestrian BAC excluding "Refused" and "Missing" BAC was statistically significant ($\chi^2 = 8.07$, $p<.05$ with 3 d.f.). However, the magnitude of this effect is not large and it is coming almost entirely from the middle BAC ranges. Simply, the percentage of pedestrians who had not been drinking and the percentage drinking at .20% or more is virtually identical for the intersection and non-intersection crashes. However, the non-intersection crashes have an overrepresentation in the .001-.099% category and the intersection crashes have an overrepresentation in the .100-.199% category. There is no readily apparent explanation for this finding and it may simply represent a statistical artifact or a correlate of locations at which drinking to various degrees occurs.

The next set of data shown in Table 12 is for "Type of Road." The majority of crashes (56%) occurred on two-way divided roadways (but not expressways) followed by one-way streets (18%), two-way streets (17%) and expressways (6%). The comparison, "Type of Road" excluding expressway and other by pedestrian BAC excluding "Refused" and "Missing," was not statistically significant ($\chi^2 = 7.74$, N.S. with 6 d.f.). Also shown in Table 12 are data for the "locale" or neighborhood of the crash. Overall, the crashes were divided 70% business (including manufacturing and mixed business and residential neighborhoods) versus 24% residential with 6% "other," including open areas. No statistically significant differences in pedestrian BAC were found as a function of "locale" ($\chi^2 = 0.77$, N.S. with 3 d.f., excludes "Refused," "Missing" and locale equals "other"). The last set of data shown in Table 12 is for Traffic Control. The majority of crashes, 69%, occurred with no traffic controls present except perhaps

Table 12. Crash Location Descriptors by Pedestrian BAC.

	N	Refused/ Missing	BAC (of pedestrian) .000%	.001-.099%	.100-.199%	.200% +	Total
At Intersection							
Yes	144	18%	42%	5%	15%	19%	100%
No	122	14%	42%	14%	9%	21%	100%
Type of Road							
One-way	49	14%	37%	12%	18%	18%	100%
Two-way	45	18%	33%	13%	11%	24%	100%
Two-way (divided)	148	18%	47%	6%	9%	20%	100%
Expressway	17	6%	41%	12%	24%	18%	100%
Other	7	14%	43%	14%	14%	14%	100%
Locale							
Business	186	17%	41%	10%	12%	20%	100%
Residential	65	17%	43%	6%	12%	22%	100%
Other	15	7%	53%	13%	13%	13%	100%
Traffic Control							
Red-Green-Amber Signal	61	21%	51%	10%	8%	10%	100%
No Control	183	15%	38%	10%	13%	24%	100%
Other/Unknown	22	14%	50%	0%	18%	18%	100%

painted lines on the street. Red-Green-Amber signals were present for 23% of the crashes and the remainder, 8%, were either other (includes stop signs) or unknown. The comparison, Traffic Control (excluding other) by pedestrian BAC, excluding "Refused" and "Missing," was not statistically significant (χ^2 = 7.24, N.S. with 3 d.f.). However, the effect was close to reaching statistical significance and the data do show a trend toward the higher BAC crashes occurring with no Traffic Control present.

The police accident report also provides information concerning pedestrian and vehicle movement prior to the crash. In general, as shown in Table 13, pedestrians were attempting to cross the street prior to their crashes. These attempted crossings occurred more often at intersections (45% of all crashes) and somewhat less often at non-intersection locations (31% of all crashes). Only 14% of the pedestrians were in the road for some other reason such as working on a vehicle or walking in the road. The comparison, pedestrian movement excluding "not in road, unknown" by pedestrian BAC, excluding "Refused" and "Missing," was not statistically significant (χ^2 = 9.61, N.S. with 6 d.f.). The data in Table 13 also show vehicle movement by pedestrian BAC. The categories on the police report cover virtually every conceivable vehicle action, however, the category "Going Straight" was selected overwhelmingly (82% of all crashes) by the Officers and thus the only data shown is for "Going Straight" versus all other categories. The comparison, vehicle movement by pedestrian BAC, excluding "Refused" and "Missing," was not statistically significant (χ^2 = 4.42, N.S. with 3 d.f.).

Additional data concerning the crash scene was collected by the Control Sampling Team using the "Crash Location Characteristic Data" form shown earlier in Figure 6. The form was part of the 7 July 1975 modification, thus crash sites sampled prior to this date do not have this information. Nevertheless, information for the majority of crash locations is available and will be presented here. Table 14 shows the results for two items from this form, "Width of (the pedestrian's) Attempted Crossing" and "Speed Limit at Crash Site." Concerning width of crossing, it was found that the median crossing width was approximately 95 feet. The comparison, width of crossing excluding "Unknown" by pedestrian BAC excluding "Refused" and "Missing" was not statistically significant (χ^2 = 5.26, N.S. with 3 d.f.). The median speed limit at these crash sites was approximately 35 miles per hour. The comparison, speed limit excluding "Unknown" by pedestrian BAC excluding "Refused" and "Missing" was not statistically significant (χ^2 = 1.47, N.S. with 3 d.f.).

The remaining items on the "Crash Location Characteristic Data" form were also examined to determine whether they were related to pedestrian BAC. In particular, did any of these variables differentiate between the alcohol and non-alcohol involved crashes? Non-intersection crashes were examined in terms "Distance to the Nearest Proper Crossing" and no statistically significant difference was found between the alcohol and non-alcohol crashes. "Pe-

Table 13. Pedestrian and Vehicle Movement by Pedestrian BAC.

	N	Refused/ Missing	BAC (of pedestrian) .000%	.001-.099%	.100-.199%	.200% +	Total
Pedestrian Movement							
Crossing - Intersection	121	15%	49%	6%	12%	19%	100%
Crossing - Non-Intersection	83	13%	33%	14%	13%	27%	100%
Other in Road	36	25%	33%	8%	17%	17%	100%
Not in Road, Unknown	26	19%	54%	8%	8%	12%	100%
Vehicle Movement							
Going Straight	219	17%	39%	10%	12%	21%	100%
All Other	47	13%	55%	4%	13%	15%	100%

Table 14. Street Width and Speed Limit by Pedestrian BAC.

	N	Refused/ Missing	BAC (of pedestrian) .000%	.001- .099%	.100- .199%	.200% +	Total
Width of Attempted Crossing							
1 - 79 ft.	53	17%	36%	13%	11%	23%	100%
80 ft. +	103	21%	49%	5%	8%	17%	100%
Unknown, Not Crossing*	110	11%	39%	11%	17%	22%	100%
Speed Limit at Crash Site							
30 mph or less	47	19%	38%	6%	15%	21%	100%
31 mph or more	128	18%	47%	7%	10%	18%	100%
Unknown, Not Applicable*	91	12%	37%	13%	14%	23%	100%

* Includes cases sampled prior to 7 July 1975, i.e., prior to the modification calling for this and other additional data.

destrian Walk Signals" were examined and it was found that they were present in only 5% of crashes which was not sufficient to support statistical analysis. The data for "Parking Regulations" indicated that 74% of the pedestrians crossed at a location where "No Parking" was in effect immediately to their left (mostly intersection crossings). There was no apparent relationship between pedestrian BAC and parking regulations. The "Traffic Count" data showed that an average of 48.85 vehicles passed these crash locations per three minute period. The standard deviation, 38.56, was extremely high, and there was no major difference between the alcohol and non-alcohol crashes although the alcohol crashes were somewhat lower in traffic density ("Refused/Missing" = 56.97 vehicles per 3 min.; .000% BAC = 48.52 vehicles; positive BAC = 44.04 vehicles).

In summary, this section has attempted to describe the study sample and determine the distinguishing characteristics for the alcohol involved crashes versus the non-alcohol crashes.* The results parallel much of what is already known concerning driver alcohol involvement. The alcohol involved pedestrian crash is more likely to occur at night and on weekends than the non-alcohol crash. Males are overrepresented as are the middle-aged from 30 to 59 years. Pedestrians who had been drinking are also more likely to have some form of prior arrest record. The other potentially interesting finding was that male drivers accounted for 82% of the involved drivers overall and even a higher proportion of the drivers in the alcohol crashes. A host of variables related to weather, vehicles (type and movement), street characteristics, location, etc., were not significantly related to pedestrian BAC. In other words, demographic information, time of day and day of week appear to be more salient than the characteristics of the crash itself. These factors are traditionally associated with alcohol consumption.

C. Description of Control Groups

This section discusses the subjects that comprised the Control Groups. The sample is introduced and refusal rates are presented. The control groups are then described in terms of obtained BAC data. Data are presented first for those control subjects sampled at the sites of previous crashes, followed by a brief discussion of the Random or Population at Large Controls.

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*For reasons discussed earlier, this section did not discuss separate fatal versus non-fatal crash comparisons. Data for these comparisons may be seen in Appendix F. In general, the fatal crashes occurred somewhat more often at night, involve higher speed roadway types, e.g., freeways, and older pedestrians. Otherwise, the fatal and non-fatal crashes in the current sample were generally similar.

1. Control Accept/Refuse Rates

As mentioned earlier, 266 crashes were studied as part of this project each of which should have had associated control sampling. In fact, control sampling was conducted for 241 cases. The remaining 25 (9%) were not sampled for a variety of reasons. Occasionally, for certain off-road crashes, it was decided that no suitable or representative sample could be found. More often, the problem was clerical in that the correct accident report could not be matched within a reasonable time frame to an obtained hospital BAC report. Aliases and misspelled names, for instance, could not be uncovered until all accident reports and all hospital reports had been received and cross-referenced. Both the hospital report and the accident report had to be present before control sampling could be undertaken.

Non-fatal crashes and fatal crashes occurring during the study year were sampled on the same day of week as soon after the crash as possible. Fatals from prior years were sampled on the same "day" (e.g., third Tuesday in May) during the study year. The median delay from time of crash to time of sampling across all crashes was approximately 28 days. In all, 1,469 pedestrians were approached at sites of previous crashes and asked to participate in the study. Of these, 1,208 (82%) agreed to participate and provide a breath sample for alcohol measurement. The remainder, 261 (18%), refused to participate, typically because they were "in a hurry." The average number accepting per site was 5.0 with a standard deviation of 4.5. Approximately 93% of the sites produced at least one accepting control subject, 78% at least two and 63% at least three.

The refusal rate was examined in terms of the sex, race and age of the subjects. Each of these data items was provided by the officer working outside of the control sampling van. Thus, "age" is the officer's estimate of the subject's age and not the exact age reported by the subject inside the van.* The data are shown in Table 15. Concerning sex, no statistically significant difference was found between males and females with respect to their agreeing to participate (Yates corrected $\chi^2 = 0.65$, N.S. with 1 d.f.). Overall, 83% of the males and 81% of the females approached agreed to participate. There was also no significant difference with respect to race ($\chi^2 = 4.87$, N.S. with 2 d.f.). Whites agreed to participate at the rate of 84%, Blacks at the rate of 81%. However, a statistically significant difference was found with respect to age ($\chi^2 = 30.51$, $p<.001$ with 6 d.f.). Young potential subjects aged 29 or less agreed at the rate of 87%, whereas the rate for older groups varied from 73% to 83%. Thus, the total control group contains a slight overrepresentation of

*It should be noted that the officer's age estimate matched closely the actual age as reported by the subject inside the van. The Contingency Coefficient comparing the outside estimate to inside reported age for participating subjects was .83.

Table 15. Sex, Race and Age of Control Subjects Accepting and Refusing Participation in the Study.

	N	Accept	Refuse	Total
Subject Sex				
Male	863	83%	17%	100%
Female	606	81%	19%	100%
Subject Race				
White	570	84%	16%	100%
Black	863	81%	19%	100%
Other	36	72%	28%	100%
Estimated Age				
19 or less	243	87%	13%	100%
20 - 24	253	86%	14%	100%
25 - 29	258	87%	13%	100%
30 - 39	246	83%	17%	100%
40 - 49	173	73%	27%	100%
50 - 59	179	78%	22%	100%
60 or more	117	73%	27%	100%

younger subjects. Obviously, it is not known how many of the refusals had been drinking.

Refusal rates were also examined with respect to day of week and hour of sampling. Concerning day of week, there was no statistically significant difference across the days in terms of refusal rate (χ^2 = 4.81, N.S. with 6 d.f.). The days varied from 19% refuse on Monday and Friday to 14% refuse on Thursday. Concerning hour, the data were examined in eight hour intervals defined as 2000-0359, 0400-1159 and 1200-1959 hours. Refusal rates ranged from 16% during the first and third interval to 20% during the middle interval, 0400-1159. These rates were not significantly different (χ^2 = 2.84 with 2 d.f.). An additional calculation was made comparing those crash sites where the pedestrian victim had a positive or non-zero BAC to those where the pedestrian's BAC was zero to those where BAC data was "Missing" or "Refused." The respective refusal rates were 20%, 15% and 20% and were not significantly different (χ^2 = 5.78, N.S. with 2 d.f.).

In summary, crash site control sampling was conducted at 241 locations. There were 1,208 subjects who agreed to participate <u>and</u> provided a breath sample for alcohol measurement. There were 261 subjects who refused to participate for a refusal rate of 18%. Refusal rate did not vary significantly as a function of sex, race, time of day, day of week or the BAC of the pedestrian victim whose crash site was being sampled. Refusal rate did vary as a function of control subject age with older potential subjects (generally 40 years and older) more likely to refuse. While not covered in this section, it should be noted that the 112 random sampling sites produced 80 subjects agreeing to participate and 14 refusals for a refusal rate of 15%. These data were not sufficient to support statistical comparisons of refusal rate by age, sex, etc.

2. Control Descriptive Data by Control BAC

This section examines the crash site controls as a function of their breath alcohol measurement. Subjects who refused to participate are not considered since their alcohol level was not determined. As discussed earlier, control subject alcohol assessment was accomplished using the Alco-Limiter, a breath testing device. The Alco-Limiter is an extremely accurate device utilizing an electro-chemical fuel cell to detect ethyl alcohol (ethanol) in a sample of alveolar (deep lung) air. It has a rapid test-retest cycle, i.e., the alcohol in the cell dissipates quickly after a test. It is easily calibrated with a known gaseous standard. The two devices in the control sampling van were calibrated by utilizing a .10% reference standard at least twice prior to commencing data collection at each site.

One drawback of the technology of the Alco-Limiter is its propensity to read a trace of ethanol, e.g., .01%, for a sample of alveolar air devoid of the substance. Hydrocarbons in the breath will be oxidized by the fuel cell <u>in the absence of ethanol</u>.

When ethanol is present, the cell is selective for it, and, therefore, the effect of expired hydrocarbons is not additive. The magnitude of these slight false positive readings is influenced by smoking (hence, the questions on smoking on the Control Subject Data Collection Form - Figure 5) and the type of material smoked. Heavy smokers of mentholated cigarettes appeared to produce the highest false positive readings, i.e., in the range of .025% to .040%. Operationally, then, the Alco-Limiter cannot reliably distinguish very low BAC levels from negative (.00%) BACs. Thus, the data in this section groups low BAC with zero into one .000-.049% category. The control descriptive data items presented here were all taken from the Control Subject Data Collection Form shown earlier as Figure 5.

Table 16 shows the sex, race and age of the control subjects and their respective breath alcohol concentrations. Overall, 59% of the subjects were males and 41% were females. Males accounted for most of the highest BAC readings and the comparison male versus female by BAC was statistically significant (χ^2 = 64.71, $p<.001$ with 3 d.f.). Concerning race, the control group was composed of 40% white, 57% black and 2% other or unknown. The comparison, white versus black by BAC was not statistically significant (χ^2 = 3.75, N.S., with 3 d.f.). The last set of data shown in the table is for control subject age. The results clearly show that age is related to BAC. Younger pedestrians and pedestrians 60 years and older are overrepresented in the zero and low BAC category. Middle aged pedestrians, particularly in the 40-59 year old range were more often found to have been drinking. The comparison for age by BAC (where BAC was a two-category variable .000-.049% and .050% or more) was statistically significant (χ^2 = 86.55, $p<.001$ with 6 d.f.).

Table 17 shows the distribution of responses to the questions "Where are you going?" and "Where are you walking from?" The results showed that 27% of the respondents were going to their homes and 19% were coming from their homes. Work, school, etc., accounted for 11% (going) and 13% (coming)from). Shopping or personal business such as stores and banks accounted for 15% and 16% of the "to" and "from" responses, respectively. Surprisingly, "Bus Stop" was mentioned quite frequently accounting for 11% "going to" and 13% "walking from." Restaurant or bar accounted for 9% of the "going to" responses and 14% of the coming "from" responses. For the most part, where the subject was coming from or where he was going to was not related to BAC. The major exception to this is in reference to Restaurant/Bar. While only 9% of the subjects said they were going to a restaurant or bar, this 9% accounted for 26% of the .10% or higher BACs. Further, only 14% of the subjects reported walking from a restaurant or bar, yet this 14% accounted for 50% of the .10% or higher BACs. The comparison, Restaurant/Bar versus all other responses by BAC was statistically significant both for "going to" and "walking from" (χ^2 = 44.78, $p<.001$ with 3 d.f. and χ^2 = 148.77, $p<.001$ with 3 d.f., respectively).

Table 16. Control Sex, Race and Age by Control BAC.

	N*	Control Subject BAC .000-.049%	.050-.099%	.100-.199%	.200% +	Total
Sex						
Male	712	80%	7%	9%	5%	100%
Female	492	96%	2%	2%	0%	100%
Race						
White	487	88%	3%	5%	3%	100%
Black	693	85%	6%	6%	3%	100%
Other/Unknown	28	96%	0%	0%	4%	100%
Age						
19 or less	238	99%	1%	0%	0%	100%
20 - 24	267	91%	5%	3%	1%	100%
25 - 29	156	86%	5%	8%	1%	100%
30 - 39	173	82%	4%	9%	6%	100%
40 - 49	140	71%	8%	11%	9%	100%
50 - 59	133	74%	7%	13%	6%	100%
60 or more	100	92%	6%	2%	0%	100%

*Does not include four cases where sex was unknown and one case where age was unknown.

Table 17. Control Going to and Walking from by Control BAC.

	N	Control Subject BAC .000-.049%	.050-.099%	.100-.199%	.200% +	Total
Where are you going?						
Home	331	81%	6%	9%	4%	100%
Work/School	130	93%	3%	1%	3%	100%
Store/Bank, etc.	183	92%	4%	3%	1%	100%
Restaurant/ Bar	106	67%	8%	17%	8%	100%
Bus Stop	129	93%	2%	4%	2%	100%
Other	327	90%	4%	4%	2%	100%
Where were you walking from?						
Home	223	89%	5%	4%	2%	100%
Work/School	156	94%	4%	2%	1%	100%
Store/Bank, etc.	188	93%	2%	4%	1%	100%
Restaurant/ Bar	165	58%	10%	19%	12%	100%
Bus Stop	154	88%	6%	5%	1%	100%
Other	319	92%	2%	4%	2%	100%

Table 18 shows how often the control subjects walk by the sampling location and control subject occupation. The data for "how often" indicate that the control subjects are familiar with the location at which they were sampled. In fact, 49% of the subjects reported walking by the sampling location at least once a day. The comparison, "How often" by BAC, was not statistically significant (χ^2 = 10.26, N.S. with 6 d.f.). Data for control subject occupation indicate that the higher BAC measurements were obtained from the unemployed, craft or skilled workers and from "other workers" including laborers. The comparison for control subject occupation by BAC, where BAC was a two-level variable (.000-.049% and .05%+), was statistically significant (χ^2 = 68.59, $p<.001$ with 8 d.f.).

The Control Subject Data Collection Form also provided information on the subject's reported "Time Since Last Drink" and the subject's smoking habits. Not surprisingly, "Time Since Last Drink" was highly related to BAC. With only three exceptions, every subject who had a BAC of .05% or higher also reported drinking within the last 24 hours. Cigarette smoking was also related to control BAC. Overall, 54% of the subjects reported that they did smoke cigarettes. These cigarette smokers accounted for 79% of .05% or higher BACs. Only 6% reported that they smoked cigars, and these cigar smokers accounted for 9% of .05% or higher BACs. Pipe smoking was reported by 3% of the subjects accounting for 2% of .05% or higher BACs. A positive correlation between alcohol use and cigarette smoking is not surprising and has been previously demonstrated (see for example, Cahalan, et al., 1969, pp. 148-149).

In summary, this section presented descriptive information relative to the crash site control subjects and their breath alcohol concentrations. It was found that higher BAC readings were obtained from males, the middle aged, persons going to or coming from a restaurant or bar, skilled-unskilled or unemployed workers and cigarette smokers. Control subject race and frequency of walking by the sampling location was apparently not related to BAC. Similar comparisons for the Random or Population at Large controls were not possible due to the small sample size.

3. Constructing Site Matched, Age/Sex Site Matched and Random Control Groups

The total control group is not the most appropriate group upon which to base control versus pedestrian victim comparisons. As discussed in Chapter II, subgroups of this total sample were selected for these comparisons. The first such group was the Site Matched Controls. These controls were selected on the basis of the exact time of the crash. The group consisted of those three control subjects at each crash site whose time of first breath test was closest to the actual time of the crash. Since 241 crash sites were sampled, this group could have consisted of as many as 723 control subjects (3 times 241) if each of the 241 sites had produced three or more control subjects. In fact, this group contained 559 subjects or 77% of the possible

Table 18. Control Frequency on Street and Occupation by Control BAC.

	N	Control Subject BAC .000-.049%	.050-.099%	.100-.199%	.200% +	Total
How often do you walk by this location?*						
once per day or more	354	88%	3%	6%	4%	100%
several times per month	181	85%	8%	6%	2%	100%
once per month or less	185	90%	5%	4%	1%	100%
What is your current occupation?						
Professional/ Technical/Manager	158	94%	3%	3%	--	100%
Sales/Clerical	121	93%	3%	2%	1%	100%
Craft	198	79%	7%	9%	6%	100%
Other Worker	267	78%	9%	10%	5%	100%
Housewife	68	93%	3%	3%	1%	100%
Student	195	97%	2%	1%	1%	100%
Retired	49	82%	10%	6%	2%	100%
Unemployed	121	85%	1%	9%	5%	100%
Other/Unknown	31	87%	--	10%	3%	100%

* This question was added to Control Form after 7 July 1975, subjects sampled prior to that time are excluded.

maximum. Three control subjects were selected per site since it appeared to be that number of subjects which produced the largest sample size with an acceptable deviation from the possible maximum. Fewer subjects per site would have unnecessarily limited the sample size, and more would have created a larger deviation.

The second group constructed was the Age and Sex Site-Matched Controls. This group consisted of that one control subject who was of the same sex as the pedestrian victim and was closest to the victim in terms of age. Since there were 241 sites, this group could have consisted of as many as 241 subjects. In fact, this group consisted of 190 subjects or 79% of its possible maximum. These subjects may or may not have also been included in the Site Matched group discussed above since time of sampling was not a factor in selecting the Age and Sex Site-Matched Group.

The third group used in this study for comparison with pedestrian victims was the Random or Population at Large controls. This group consisted of all pedestrians sampled at the 112 random sampling sites. These sites, selected at random throughout New Orleans, produced 80 subjects for whom breath alcohol measurements were available. Thus, these random sites produced an average of .71 subjects per site as compared with 5.0 subjects per site at the crash locations, despite the fact that all sampling was conducted for one hour at every site (crash or random).

As discussed in Chapter II, the Age and Sex Site-Matched group provides the most conservative basis for any victim versus control comparisons. This group attempts to control for both demographic and site related variables. It is the most appropriate comparison group to the extent that crossing behavior and associated risk are correlated with age, sex, time of day, day of week and location. However, this group will underestimate any true effects to the extent that age, sex, time of day, etc., are correlated with BAC irrespective of risk. The Site Matched Group is somewhat less conservative. It is the most appropriate comparison group to the extent that crossing behavior and associated risk is correlated with time of day, day of week and location but not with age and sex. However, it too may underestimate any true effects to the extent that time of day, day of week and location are correlated with BAC, irrespective of risk. Finally, the Random controls are not at all conservative. They provide an estimate of the total pedestrian population irrespective of any variables which may or may not be associated with risk. This group solves the underestimation problem but leaves open the possibility that correlated effects from age, sex, time of day, day of week and location could bias any comparison.

D. Control/Experimental Comparisons

This section compares the control groups to the accident victims. The first comparison will be in terms of alcohol. Relative risk curves as a function of alcohol are generated. This is followed by a discussion of demographic and situational comparisons between the groups. Finally, data from the Mortimer-Filkens Questionnaire are shown. The results clearly show that the higher BACs are overrepresented in the crash group.

1. Relative Risk Related to Alcohol

Relative risk calculations are one method for comparing crash and control samples and quantifying any increased risk related to BAC level. The basic input data for these calculations are the BAC distributions for the crash and control groups. The equation used for relative risk at each specified BAC level was as follows (after Clayton, et al., 1977).

$$\text{Relative Risk (at specified BAC level)} = \frac{\dfrac{\%\text{ accident sample at specified BAC level}}{\%\text{ control sample at same BAC level}}}{\dfrac{\%\text{ accident sample at .00\% BAC}}{\%\text{ control sample at .00\% BAC}}}$$

This equation has the effect of setting relative risk at .00% BAC equal to one. Relative risk can be interpreted as a factor specifying the amount, if any, of increased risk of accident involvement associated with a specified BAC relative to .00% BAC. Thus, for example, a relative risk of 10.00 implies that pedestrians with that specified BAC level are ten times more likely to be involved in an accident than pedestrians at .00% BAC.

The input data for the relative risk calculations are shown in Table 19. These are not the same BAC distributions for the control subjects as reported in earlier sections. Control data had to be modified in two different ways. First, BAC measures were not available for all of the crash victims since some "Refused" and some data was listed as "Missing." When comparing control BAC to crash victim BAC, it would be inappropriate to include crash site controls from those sites where there was no measure of victim BAC. Therefore, control subjects from these sites were deleted from these analyses. Second, there still remained the problem that not all crash sites produced the desired number of controls. Each site, for instance, should have produced one Age and Sex Site-Matched control subject yet, as discussed earlier, several sites did not produce the required subject. This problem was complicated by the fact that there was a positive correlation between victim BAC and control BAC for those controls sampled at that victim's crash location. Thus a weighting procedure was adopted which had the effect of equalizing any missing data or underrepresentation in the crash site control groups as a function of victim BAC. This procedure had little overall effect on the control distributions, but did permit more appropriate comparisons.

Table 19. Experimental BAC and Control BAC (Weighted Data).

Group	N	BAC .00-.049%	.05-.099%	.10-.149%	.15-.199%	.20-.249%	.25% +
Experimental (crash victims)	198*	58.6%	4.5%	7.1%	5.6%	9.6%	14.6%
Site #1**	181	83.4%	7.6%	3.9%	1.6%	2.3%	1.0%
Site #1 - 3	449	85.0%	6.3%	3.7%	1.6%	1.5%	1.9%
Age/Sex match	155	84.0%	3.1%	5.9%	3.8%	2.6%	0.6%
All Site Controls	967	86.5%	4.6%	4.0%	1.8%	1.4%	1.6%
Random Controls	80	92.5%	3.8%	2.5%	0.0%	0.0%	1.2%

*Experimental N includes only these pedestrian victims whose BAC was known <u>and</u> for whom control sampling was conducted.

**Site #1 consists of that one control subject sampled closest in time to the crash. Site #1 - 3 are the three subjects closest in time. Control Group N's for the site controls are based only on those sites for which the pedestrian victim's BAC was known.

The Relative Risk factors obtained from the above formula using the data from Table 19 are shown in Table 20. Factors for the three primary control groups, Age/Sex Match, Site #1-3 and Random are plotted in Figure 7. The factors and the graph of the factors indicate that the risk of accident involvement is extreme at the very high BAC levels. However, below .10% BAC, any increased risk appears to be minimal with the factors generally ranging between one (no increased risk) and two (twice as likely to be involved in a crash). In the middle BAC ranges, defined here as .10% to .199%, interpretation of the results depends entirely on one's selection of the most appropriate control group. The more conservative Age/Sex group does not show a sharp increase in risk until BACs of .20% or higher. However, when pedestrian victims are compared to the somewhat less conservative Site #1-3 group, there is a substantial increase in risk at .15%. The least conservative Random or Population at Large group shows risk increasing substantially as early as the .10%-.149% range. In summary, these data suggest that:

- Increased risk (if any) is minimal at BACs below .10%

- Increased risk is substantial at BACs above .20%

- Risk appears to be increased in the .10% to .199% range, but the amount of the increase depends on the selection of the control group and is thus subject to interpretation

2. Demographic, Weather and Trip Purpose Comparisons

The most important comparison between the victim or experimental group and the control groups is in terms of BAC. However, much additional information is available for these groups and thus other comparisons are also possible. Table 21, for instance, shows the age, sex and race distributions for the primary groups. Concerning age, there is no question that the experimentals are much older than any of the control groups. The experimental group is even significantly older than the Age/Sex Match group ($\chi^2 = 24.19$, $p<.001$ with 6 d.f.). In other words, it was not possible to produce an adequate age match for the crash victims from the control sample. The control sample simply did not contain a sufficient number of subjects over 60 years of age. Matching was relatively good, however, in the middle age ranges which also tend to have more alcohol involvement. The younger age groups, particularly 20-29 years, were overrepresented among the controls.

The comparison for age between the experimentals and the Site #1-3 group provides one measure of the overrepresentation of older pedestrians in the crash group. This comparison, which was statistically significant ($\chi^2 = 82.71$, $p<.001$, with

Table 20. Calculated Relative Risk from All Control Groups.

	Relative Risk at BAC					
	.00-.049%	.05-.099%	.10-.149%	.15-.199%	.20-.249%	.25% +
From Site #1	1.00	.85	2.56	4.80	5.87	20.06
From Site #1 - 3	1.00	1.04	2.79	5.11	9.04	11.25
From Age/Sex Match	1.00	2.08	1.72	2.12	5.19	37.86
From All Site Controls	1.00	1.45	2.58	4.46	10.35	13.19
From Random Controls	1.00	1.91	4.47		37.66*	

* Calculation is for .15% and higher, insufficient data for further breakdown.

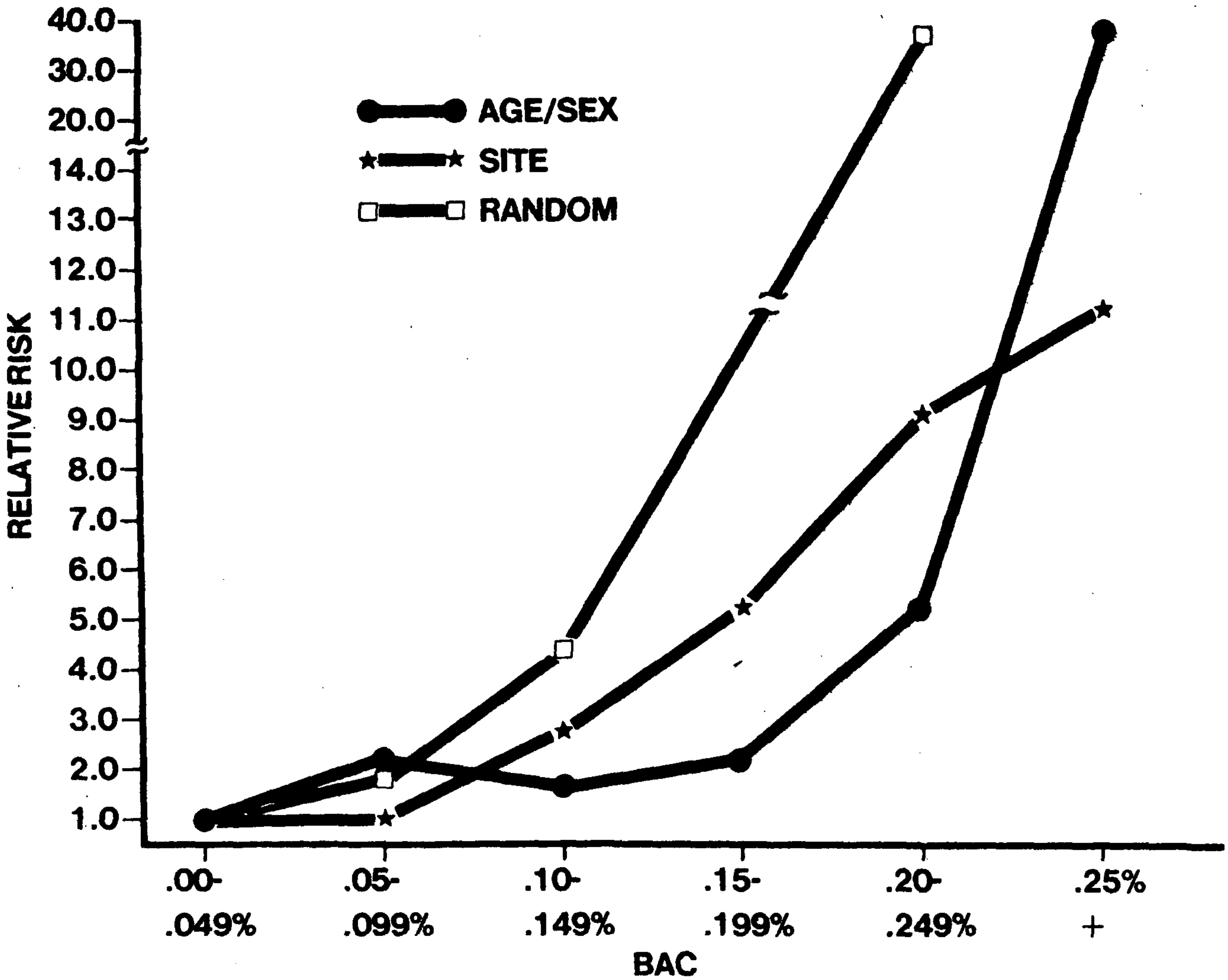

Figure 7. Relative risk of accident involvement by BAC as determined by the three control groups.

Table 21. Age, Sex and Race of Experimentals and Controls.

		Age						
	N	19 or less	20-29	30-39	40-49	50-59	60-69	70+
Experimental	241	13%	17%	13%	15%	11%	14%	17%
Control -								
Age/Sex	190	14%	31%	14%	13%	13%	8%	6%
Site #1-3	559*	20%	32%	14%	13%	11%	7%	3%
Random	81**	26%	31%	14%	4%	13%	11%	1%

		Sex	
	N	Male	Female
Experimental	241	64%	36%
Control -			
Age/Sex	190	67%	33%
Site #1-3	556	63%	37%
Random	81	65%	35%

		Race (White vs. Black Only)	
	N	White	Black
Experimental	198	40%	60%
Control -			
Age/Sex	188	34%	66%
Site #1-3	544	38%	62%
Random	76	46%	54%

*Site #1-3 and Random are weighted to correct for bias from differential refusal rate.

**Includes one subject who agreed to participate yet subsequently refused the breath test.

6 d.f.) shows that this control group had more young pedestrians and fewer older pedestrians than the crash group. Similarly, the comparison for age between the experimentals and the Random Controls was significant ($\chi^2 = 33.17$, $p<.001$ with 6 d.f.). Part of this affect can be explained by the differential refusal rates by age among the controls. As discussed earlier, young potential subjects were more likely to agree to participate than older subjects. A weighting procedure was utilized to correct the Site #1-3 and Random age distributions for any bias introduced by differential refusal rates. The results were again compared to the crash sample and again both were statistically significant ($\chi^2 = 70.72$, $p<.001$ with 6 d.f. and $\chi^2 = 29.73$, $p<.001$ with 6 d.f., respectively). Thus, the present data suggest that older pedestrians (approximately 60 years and older) are more likely to be involved in fatal and serious injury crashes of the type sampled in this study than similarly exposed pedestrians of other ages. Conversely, the present data suggest that younger adult pedestrians (approximately 14-29 years) are less likely to be involved in these crashes.

The next set of data shown in Table 21 is for pedestrian sex. Comparisons were made between the experimental group and each of the control groups and none were statistically significant ($\chi^2 < 1.00$, N.S. with 1 d.f. for each). The last set of data is for pedestrian race and again none of the comparisons were statistically significant ($\chi^2 < 1.50$, N.S. with 1 d.f. for each). In other words, neither males nor females nor whites nor blacks were overrepresented or underrepresented in the crash sample.

The experimental and control samples can also be compared on the basis of the weather conditions which prevailed in New Orleans at the time of the crash versus the time of control sampling. These data, shown in Table 22, indicate that there was essentially no difference between the two times in terms of weather. Mean temperature was approximately 69°F both for the crash times and the sampling times. Mean relative humidity was approximately 77% or the crashes and 79% for the control times. Mean wind speed was approximately 7.8 and 7.2 knots, repsectively, and as the table shows, rainfall conditions did not vary substantiallyy between crash and sampling times. These data can be interpreted to mean that weather was not a major factor in the fatal and serious injury crashes studied. Differences in weather conditions between crash times and control sampling times should have emerged if weather was related to crash occurrence.

Additional comparisons are also possible using data from the pedestrian interview form shown in Appendix C, and the Control Subject Data Collection Form shown earlier as Figure 5. Asked on both of these forms were the questions concerning "Where are you going?" "Where were you walking from?" and frequency of walking by the crash location. Data for these questions was available from, essentially, all of the control subjects. However, the pedestrian interview was only completed by 52 of the crash victims. It will be remembered that the interviewing pro-

Table 22. Weather at Time of Crash vs. Time of Sampling

		At Time of Crash	At Time of Sampling
Temperature	N	266	241
	$\overline{X}$	69.39°F	69.34°F
	SD	12.64	12.65
Humidity	N	266	241
	$\overline{X}$	77.08%	79.07%
	SD	15.60	14.88
Wind Speed	N	257	228
	$\overline{X}$	7.84 knots	7.21 knots
	SD	3.93	3.56
Rainfall	N	266	241
% with "trace" amount of rain		7.5%	10.4%
% with "rain"		6.4%	5%

cedure did not begin until 7 July and interviewing was possible only for the non-fatal victim group. The comparisons for walking from, walking to and frequency for all site controls by all interviewed non-fatal victims were not statisticslly significant. In other words, though based on limited data, it appears that there were no major differences between experimentals and controls in terms of where they were coming from, going to or how often they passed that location.

3. Analysis of Mortimer-Filkins Data

It will be remembered that after 7 July of the study year, control subjects were asked to complete and mail back the questionnaire shown in Appendix D. At the same time, interviewing of the non-fatal crash victims was begun and also included completion of the questionnaire. Completed questionnaires were received from 371 control subjects and from 49 victims. This section compares the results obtained from the controls to the results obtained for the non-fatal victims.

The first step in this process was to examine the return rate for the control questionnaires to determine if any important biases were present. In all, 736 control subjects were asked to complete the questionnaire and returns were received from 371 (50%). Analysis of the return rate showed that it varied significantly as a function of control subject BAC, age, sex and race. Concerning BAC, returned questionnaires were received from 53% of those subjects in the range of .000%-.049% BAC as compared with only 34% of those with higher BACs ($\chi^2 = 14.25$, $p<.01$ with 3 d.f. across the BAC categories .000-.049%; .05-.099%; .10-.199%; .20% plus). Concerning age, questionnaires were received from 56% of the under 40 age group and only 30% of the over 40 age group ($\chi^2 = 26.74$, $p<.001$ with 5 d.f. across the age categories 19 or less; 20-29; 30-39; 40-49; 50-59; 60 plus). Concerning sex, questionnaires were received from 43% of the males and 63% of the females ($\chi^2 = 27.96$, $p<.001$ with 1 d.f.). Lastly, relative to race, questionnaires were received from 60% of white subjects and 43% of black subjects. Thus, it appears that the group for which questionnaire data is available contains an over-representation of the young, whites, females and subjects who had not been drinking or who had otherwise very low BACs.

Similar comparisons were conducted relative to the victim group. First, questionnaires were completed by 49 victims which represents only 27% of the 180 non-fatal victims. However, an attempt to get a completed questionnaire was made only for 109 victims since for some their crash was prior to 7 July and others entered the non-fatal sample only after extensive cross-referencing of Hospital and Police records. Thus, the actual completion rate was 45% (49 of 109). While some pedestrians did refuse the pedestrian interview and questionnaire, the majority of non-completions resulted from an inability to find the victim. Comparisons were made in terms of age, race, sex and BAC for those victims who completed the questionnaire versus all other non-fatal victims.

The results for age were not statistically significant (χ^2 = 12.20, N.S. with 7 d.f.), however, there was a clear tendency for a higher completion rate among younger victims. No significant difference was found with respect to race (χ^2 = 1.03, N.S. with 1 d.f.) or sex (χ^2 = 0.01, N.S. with 1 d.f.). Similarly, there was no significant difference as a function of victim BAC (χ^2 = 2.12, N.S. with 2 d.f. where BAC was a three level variable Refused-Missing, .000%, .001% or higher). Therefore, it appears that questionnaires may have been completed by somewhat more young victims. However, the group that completed the questionnaire and those that did not were similar in terms of race, sex and BAC.

The questionnaire shown in Appendix D has two parts. Part I, consisting of the first 58 questions, is the original Mortimer-Filkins. The instrument produces three scores, one for "Scale 1" which is the primary scale of interest, one for "Scale 2" which provides a correction factor for Scale 1 results and a combined score. The higher the combined score is, the more likely that individual is to be a "problem drinker" as defined and validated in the original research on this instrument (see e.g., Filkins et al., 1974). As a reference, it is of interest to note that Filkins et al., 1974, reported the following mean scores for Part 1 (combined Scale 1 and Scale 2):

N	$\bar{X}$	SD	Sample Description
304	13.6	7.9	DWI defendants, Fairfax County, Va.
200	13.9	7.2	DWI arrestees, New Orleans, La.
205	14.5	7.3	DWI arrestees, San Antonio, Texas

The mean Part 1 scores in the current study were very similar to those reported earlier for DWI (Driving While Intoxicated) drivers. Overall, as shown in Table 23, the mean for pedestrian victims was 14.6 and the mean for all controls was 13.1. Also shown in Table 23 are the data for the Age/Sex Controls (mean 14.2) and the Site #1-3 Controls (mean 13.7). Here, the Age/Sex Controls were formed by picking that one control subject who was the same sex as the victim and was closest in age <u>and</u> returned a questionnaire (i.e., some of these subjects were not part of the original Age/Sex Group). The Site #1-3 group consisted of those Site #1-3 subjects who returned a questionnaire. Comparisons were made between the mean score for the victim group and the mean score for each of the control groups. The results showed no significant difference between victims and the Age/Sex Controls (t = .80, N.S. with d.f. = 142). The comparison for victims versus Site #1-3 controls was barely significant (t = 1.98, $p<.05$ d.f. = 219) and for victims versus all controls it was significant (t = 3.53, $p<.001$ d.f. = 418). However, it is felt that only the victim versus Age/Sex comparison is meaningful because of the biases reported earlier concerning the overall control questionnaire return rates. Thus, the only conclusion

Table 23. Distribution of Mortimer-Filkins Scores, Part 1 for Experimentals and Controls.

Group	N	Part 1 Score: 11 or less	12-15	16-19	20-23	24 or more	$\bar{X}$	SD	t
Experimental	49	39%	24%	10%	10%	16%	14.6	7.8	
Age/Sex Control	95	41%	17%	20%	6%	16%	14.2	8.4	.80
Site #1-3	172	45%	18%	14%	10%	13%	13.7	8.2	1.98
All Site Controls	371	49%	16%	15%	9%	11%	13.1	8.1	3.53

from these results is that the victim group does not differ significantly from the Age/Sex controls along the dimensions covered by the Mortimer-Filkins score.

Despite the above results, however, the present data do show that these scores are related to BAC. Table 24 shows the mean score for various BAC ranges for victims and all controls. As can be seen in the table, mean score doubles for both experimentals and controls from the lowest to the highest BAC ranges. This pattern of results is somewhat surprising. On the one hand, BAC is related to crashes and more high BAC's are found in the experimental group. Further, Mortimer-Filkins score obviously correlates positively with BAC. But, while BAC differs between experimental and control groups, Mortimer-Filkins score apparently does not differ.

Questionnaire data was also analyzed on an item by item basis. Several of the specific questions can be used to further describe the experimental and control samples. For the most part, these analyses were based on the victim versus Age/Sex Control comparisons. The Age/Sex group, because of the matching procedure, is relatively free of the response biases arising from differential return rates. For instance, the victim group was 60% male, the Age/Sex group was 64% male. More importantly, the Age/Sex group was divided 54% under 30 years old, 22% 30-49 years and 24% 50 years or older. The victim group was divided 52%, 19% and 29% across the same age categories, respectively. The complete set of victim versus Age/Sex comparisons for all Part 1 and Part 2 items is shown in Appendix G. The paragraphs below will simply present some of the more relevant results.

Question #1 of the Mortimer-Filkins concerns marital status. The categories considered were married, never married and "other" where other consisted of separated, divorced, widowed and common law. For the victim group, 43% fell in this "other" category as compared with only 18% of the Age/Sex controls (χ^2 = 11.13, $p<.001$ with 2 d.f.). Thus, it appears that the victims were more prone to marital problems. Question #6 concerned current employment and the results showed a trend (not statistically significant) toward more unemployed among the victims. Question #7 concerned smoking and there was a trend (not statistically significant) toward more smokers among the victims. Concerning the alcohol related questions from Part 1, only Question #56 "Would you say that 4-5 drinks affect your driving?" was of some interest. Here, 59% of the victims said "No" as compared with 39% of the controls (Yates corrected χ^2 = 6.84, $p<.01$ with 1 d.f.).

Question #3 of Part 2 concerned education level. For the victims, 18% had at least some college, 18% graduated from High School (only) and 63% had less than a High School diploma. For Age/Sex controls, the comparable figures were 38% at least some college, 32% High School and 30% less than High School. These two distributions were significantly different (χ^2 = 14.25, $p<.001$ with 2 d.f.) and these results clearly show that the victim

Table 24. Mortimer-Filkins Part 1 Scores by BAC for Experimentals and Controls.

BAC	Experimental N*	Experimental $\overline{X}$	All Site Controls N	All Site Controls $\overline{X}$
Refused, Missing	11	18.3	N.A.	
.000 - .049%	21	9.1	338	12.4
.05 - .199%	6	16.8	27	19.0
.20 + %	14	18.0	5	26.6

*includes 3 experimentals for whom control sampling was not done.

group had less formal education. This education difference was reflected in certain trends arising in items having to do with income and employment. Surprisingly, the alcohol related questions showed little differentiation between the victim and Age/Sex group.

In summary, it is apparent that Mortimer-Filkins score (Part 1) is related to BAC at time of crash for the victims and at time of control sampling for controls. However, it is unlikely that this "score" differs in any major respects between the victims and the controls. Concerning individual items, it appears that the victims have experienced more marital problems and have less formal education than the Age/Sex controls. Items related to alcohol and alcohol consumption showed little discriminatory power between the victim and Age/Sex control groups.

E. Accident Analysis

Previous sections of this report have described the crashes, the victims and the controls and have presented experimental-control comparisons. This section takes a more analytical look at the crashes themselves, the causative elements in these crashes and the relationships between descriptive parameters. The first set of results presented are for crash behaviors as identified through predisposing factors, primary precipitating factors and accident type. This is followed by a crash location analysis and a descriptive model. The purpose of the descriptive model is to discriminate the alcohol involved crashes from the non-alcohol crashes.

1. Behavioral Analysis

Predisposing Factors

Each crash studied as part of this project was reviewed by two staff members and together they arrived at a judgement concerning the predisposing factors (if any) for the crash, precipitating factors and accident type. Judgements were made after reviewing all available case information including information related to the pedestrian's BAC. The first set of data reported here concerns predisposing factors determined by the project staff. A predisposing factor can be thought of as a situational, environmental or personal factor which made crash occurrence more likely. The specific factors which could have been coded for a given crash were shown earlier in Table 4. Analysis of factors was largely concerned with the broad factor categories of pedestrian related factors, driver factors, vehicle factors and factors related to weather, the environment (e.g., parked cars) and exposure (e.g., high speed roadways). Also, these analyses were concerned with distinguishing the alcohol from the non-alcohol crashes. Thus, cases for which BAC was "Refused" or "Missing" are not considered here although they were examined. It should also be noted that in 11 cases for which BAC was known, there was not sufficient information about the crash to adequately assess predisposing factors, precipitating factors or accident type.

There were 212 crashes for which BAC was known and for which there was sufficient information to judge predisposing factors. Zero, one, two or three factors could have been coded for any given crash. The total number of factors coded for these 212 crashes was 222. Table 25 shows the distribution of factors by pedestrian BAC. These results suggest that there are differences between those crashes where the pedestrian had been drinking versus those crashes where the pedestrian had not been drinking. First, from line 1 of the Table, it can be seen that 18% of the non-alcohol involved crashes involved the pedestrian factor of old age as compared with only 5% of the BAC .10% or above crashes. Line 2 of the Table shows the results for the factor "pedestrian alcohol." This factor was coded for 88% of the .10% and above cases. In other words, for 88% of these crashes, it was judged that the impairment due to alcohol made crash occurrence more likely, whereas in the remaining 12% of these crashes, the alcohol level of the pedestrian was not judged as predisposing. Typically, alcohol was not judged as predisposing, despite the fact that the pedestrian was at .10% or more, in cases where the pedestrian had no control over the crash. The vehicle, for instance, may have left the road and hit the pedestrian on the sidewalk.

In general, few factors were coded related to the driver, the vehicle or the weather. Environmental factors were coded somewhat more often, but there was little difference between the .00% BAC cases and the positive BAC cases. Exposure factors were coded for 16% of the .00% BAC cases and only 1% of the .10% or more cases. Exposure refers to inherently dangerous locations such as high speed roadways, confusing or high traffic density situations, etc. One way of interpreting these results is that exposure factors can cause accidents with or without pedestrian impairment.

Precipitating Factors

A precipitating factor can be thought of as a failure in the function-event sequence on the part of the driver or the pedestrian. For the most part, these are driver or pedestrian behavioral errors. The function-event sequence for both drivers and pedestrians can be thought of as follows:

- Course - location
  - negotiation
- Search (looking for ped; looking for vehicles)
- Detection (seeing ped; seeing vehicle)
- Evaluation (of threat situation)
- Action (performing required evasive maneuver)

Table 25. Distribution of Predisposing Factors by Pedestrian BAC.

	Pedestrian BAC					
	.000%		.001- .099%		.10% +	
Number of Cases	N=109	%	N=22	%	N=81	%
Pedestrian Factors						
Old Age	20	18%*	2	9%	4	5%
Alcohol	0	0%	3	14%	71	88%
Other	7	6%	1	5%	11	14%
Driver Factors	7	6%	1	5%	8	10%
Vehicle Factors	4	4%	0	0%	9	11%
Weather	7	6%	2	9%	8	10%
Environment	16	15%	6	27%	10	12%
Exposure	17	16%	5	23%	1	1%
Other Factors	0	0%	1	5%	1	1%
Total Factors Identified	78		21		123	

*Entry is % of cases at given BAC, e.g., 18% of the 109 cases at .00% BAC had pedestrian old age judged as a predisposing factor in the crash. Up to 3 factors could be cited for an individual case.

Specific function-event failures or errors could have been coded within each of the above general categories for both drivers and pedestrians. These specific codes were shown earlier in Table 3 up to three specific factors could have been coded for each of the 212 crashes. The first factor coded was judged to be the most important or most critical error in the crash, the second factor second, etc.

A total of 485 factors were coded across the 212 crashes. Of these, 205 were "first" factors. Table 26 shows the distribution of these factors as a function of pedestrian BAC. The first three columns show the distribution of "first" factors and the second three columns shows the distribution for all factors. The most frequently cited factor grouping was Pedestrian Course - Negotiation which includes such things as "running" and "short time exposure." The second most frequently cited category was Pedestrian Search followed by Pedestrian Course - Location (covers "unexpected," "unusual," "poor" and "high exposure" locations). Driver factors (Driver Course, Driver Search, etc.) were listed as a first factor for 20% of the cases.

These data for precipitating factors provide two indications that there may be behavioral differences between the alcohol and non-alcohol crashes. First, driver errors or factors were more likely to be cited for crashes involving pedestrians at .000% BAC than for crashes involving pedestrians who had been drinking ($\chi^2 = 9.97$, $p<.01$ with 1 d.f. for the two by two table driver factor first yes, no vs. pedestrian had been drinking yes, no). This difference occurs both with respect to the first factor and with respect to all factors combined. It implies that pedestrian errors are more prevalent and more important in those crashes where the pedestrian had been drinking.

The second indication that there may be behavioral differences between the alcohol and non-alcohol involved crashes comes in the category Pedestrian Course - Location. This is a hybrid category not specifically identified by Snyder and Knoblauch (1971) in their original development of this model. It was separated from the overall Pedestrian Course category because the preliminary analysis of these data suggested that "location" errors might discriminate alcohol from non-alcohol crashes. The specific codes or errors included in this category were:

13. Unexpected, unusual location - cited three times as a first factor, 10 times overall

14. Poor location (laying in road, sitting on curb, etc.) - cited nine times as a first factor, 13 times overall

15. High exposure location - cited 10 times as a first factor, 12 times overall

Table 26. Distribution of Precipitating Factors by Pedestrian BAC.

	First Factor			All Factors		
Ped BAC	.000%	.001-.099%	.10% +	.000%	.001-.099%	.10% +
Number of Cases	109	22	81	109	22	81
Ped Course - Location	4%*	18%	17%	9%	23%	25%
Ped Course - Negotiation	48%	41%	40%	79%	73%	70%
Ped Search	13%	14%	14%	32%	23%	26%
Ped Detection	2%	5%	1%	9%	14%	4%
Ped Evaluation	1%	5%	6%	5%	18%	10%
Ped Action	2%	0%	0%	3%	0%	0%
Ped Factor (Not Specified)	2%	0%	5%	25%	18%	31%
All Driver Factors	29%	18%	10%	75%	68%	51%
No First Factor	0%	0%	7%			
Total	100%	100%	100%	237%	237%	217%

*Entry is percent of cases with that factor, e.g., 4% of the 109 cases in which pedestrian BAC was .000% had Ped Course - Location coded as a first factor.

The remaining Pedestrian Course errors (see Table 3) all deal with how the pedestrian crossed the street, not where. Pedestrian Course - Location was coded as a first factor for only 4% of the crashes where the pedestrian's BAC was .000% and 17% of the crashes where the pedestrian was .10% or higher ($\chi^2 = 10.85$, $p<.001$ with 1 d.f.). As a first, second or third factor, it was coded for 9% of the .000% crashes and 25% of the .10% or higher crashes. These results, despite the post hoc nature of the analysis, imply that location of crossing or location in the road (e.g., sleeping at the curb) is more relevant to the alcohol than the non-alcohol crashes.

Thus, the results for precipitating factors show that pedestrian errors predominate over driver errors, particularly in the alcohol involved crashes. Pedestrian Course - Location errors account for much of this difference. However, little difference can be seen with respect to any other type or category of error. In fact, the alcohol and non-alcohol distributions are more striking in their similarities than in their differences. This is true despite the fact that "had been drinking" pedestrians are overrepresented in the crash population. This overrepresentation may be coming from more errors or the same number of errors each committed to a greater degree but is probably not coming from different errors. In other words, the findings from Pedestrian Course - Location alone do not explain the magnitude of alcohol overrepresentation in the crash population reported earlier.

Accident Type

Predisposing and Precipitating factors can be thought of as specific descriptors of the crash causation mechanism. Another, more global, technique for describing what happened in the crash is accident type. The specific accident types and their definitions were presented earlier in Table 2. Each crash was typed or classified according to accident type at two different times during the analysis process. First, it was classified using the police accident report alone as part of the larger set of all New Orleans crashes. Data using this procedure were presented earlier when describing the study sample as a subset of all crashes. Second, the crash was classified by two staff members working together and arriving at a single decision using all available information concerning the crash. Data using this procedure will be presented below. In general, there was substantial agreement between the two procedures, though the second procedure is based on more information and a more thorough review.

Table 27 shows the distribution of accident types by BAC. This table clearly shows that accident type does vary as a function of pedestrian BAC. The first grouping of accident types is for the Darts and Dashes. These crashes are characterized by the sudden appearance of the pedestrian in the roadway. The results showed that 44% of the crashes in which the pedestrian had a BAC of .000% were of these types and 46% of the .10% and higher crashes were also of these types. The next grouping is for

Table 27. Accident Type (Group Judgement) by Pedestrian BAC.*

	Pedestrian BAC						
Accident Type	.000% N=109	%	.001-.099% N=22	%	.10% + N=81	%	
Darts and Dashes							
Dart-out First	15	14%	3	14%	6	7%	
Dart-out Second	6	6%	1	4%	8	10%	
Midblock Dash	3	3%	1	4%	1	1%	
Intersection Dash	24	22%	2	9%	22	27%	(23%)
(Total)	(48)	(44%)	(7)	(32%)	(37)	(46%)	
Specific Situations							
Vehicle Turn/Merge	2	2%	1	4%	--	--	
Turning Vehicle	6	6%	--	--	2	2%	
Multiple Threat	11	10%	--	--	1	1%	
Backing	4	4%	--	--	1	1%	
Vendor	--	--	--	--	--	--	
Trapped	2	2%	2	9%	--	--	
Disabled Vehicle	1	1%	2	9%	1	1%	
Bus Stop	5	5%	1	4%	--	--	
Auto-Auto	5	5%	--	--	1	1%	
Ped Not In Road	5	5%	1	4%	1	1%	
Other (Specific Situation)	11	10%	6	27%	13	16%	(18.4%)
(Total)	(52)	(48%)	(13)	(59%)	(20)	(25%)	
Other Crashes							
Ped Strikes Vehicle	2	2%	--	--	11	14%	11%
Weird	--	--	--	--	3	4%	
Not Classifiable	7	6%	2	9%	10	12%	11.6%
(Total)	(9)	(8%)	(2)	(9%)	(24)	(30%)	

*Based on all available information on each case.

specific situations. These crashes generally have well defined situational characteristics which contribute to crash occurrence. The results showed that 48% of the .000% BAC crashes versus only 25% of the .10% or higher crashes were of these types. The last grouping is for "other" crashes which includes accidents which were judged as not classifiable. Here, 8% of the .000% crashes were of these types as compared with 30% of the .10% or higher crashes. The results were compared for pedestrian BAC, .000% versus .10% or higher, across the three accident type groupings. This comparison showed that the differences discussed above were statistically significant ($\chi^2 = 18.74$, $p<.001$ with 2 d.f.).

Several hypotheses could be offered as to why sober pedestrians are more involved in the specific situation crashes and the .10% or higher pedestrians are more often involved in "other," "weird" and "not classifiable." Part of the explanation probably lies in the fact that the pedestrian is typically at a disadvantage in these specific situations. Sometimes, as in Vehicle Turn/Merge, Turning Vehicle, Bus Stop and Multiple Threat crashes, the disadvantage arises from the fact that the situation is inherently complicated and inherently dangerous. Anyone, drunk or sober, can make a mistake in these high threat situations and become involved in a crash. In other words, the pedestrian need not be impaired. Other specific situations place the pedestrian at a disadvantage by not giving the pedestrian a chance to react (e.g., Auto-Auto) and/or by providing a very unexpected threat (e.g., Backing). Again, the pedestrian need not be impaired to become crash involved. In the "Other Crashes" category, the pedestrian is not necessarily at a disádvantage. Drivers, for instance, are at a disadvantage in "Pedestrian Strikes Vehicle" crashes since here the pedestrian has literally walked into the vehicle and the driver typically has little opportunity to avoid the crash.

It should also be noted that as part of the accident analysis process, a judgement was made as to who was "culpable" for the accident. Culpability, as discussed earlier, was defined as the commission of a behavioral error the elimination of which would likely have resulted in crash avoidance. Judged culpability was assigned to the pedestrian, the driver, both or (in rare cases) to neither. The results indicated that drivers were more often judged as culpable when the pedestrian had not been drinking as compared with when the pedestrian had a BAC of .10% or higher (23% driver culpable versus 7%). Conversely, the pedestrian was less often judged as culpable when he/she had not been drinking than when he/she had a BAC of .10% or higher (61% pedestrian culpable versus 72%). While these results are potentially interesting, it should be noted that the culpability judgements were made with knowledge of the pedestrian's BAC.

2. Crash Locations

Several analyses were conducted attempting to identify where, throughout New Orleans, the alcohol and non-alcohol crashes were occurring. Pin maps were constructed covering each of the following situations:

- Random sampling sites
- Sites of all crashes
- Sites of all fatal crashes
- Sites where pedestrian BAC was:
  - .000%
  - .001% or higher
  - .100 - .199%
  - .200% or higher

The results from these analyses did not provide any clear indications that the alcohol crashes were restricted to any one area of the city such as the French Quarter, or the docks. The only finding was that the Random sites were spread across the city to a greater extent than the crash sites. As expected, crashes were more prevalent in the downtown area and along the major commercial arteries. This was true both for the alcohol and non-alcohol involved events.

3. Descriptive Model

Data throughout this report has been presented in a bivariate format. Variables such as age, sex, race, accident type, etc., have been compared individually to, for the most part, pedestrian BAC. The analyses described in this section were performed to integrate the many bivariate findings into joint statements. The dependent variable was pedestrian BAC categorized as .000%, .001-.099% and .100% or higher. The independent or predictor variables were groups of the many variables shown earlier in this report as bivariates against pedestrian BAC. The crashes entering these analyses were those crashes for which pedestrian BAC was known and in which the pedestrian was 18 years of age or older. Pedestrians under 18 were excluded since few had been drinking prior to their crash and their inclusion could have unnecessarily obscured the results. In all, 211 cases entered the analyses divided as follows:

.000% BAC	N = 102	48.3%
.001-.099% BAC	N = 22	10.4%
.10% + BAC	N = 87	41.2%

The technique utilized was the THAID interaction detector program followed by Multi-Nominal Analysis referred to as MNA. THAID and MNA were both available through the OSIRIS software package.* A description of the THAID program may be found in Morgan and Messenger (1973) and a description of the MNA program may be found in Andrews and Messenger (1973). The THAID program attempts to predict the dependent variable by successively grouping cases as a function of the most predictive independent variable, second most, etc., where each succeeding step is dependent upon previous steps. The primary purpose for using THAID here was to determine if any subgroup of predictors interacted such that the interaction had predictive ability beyond the additive components of the subgroup itself. Finding interactions is necessary prior to running MNA since interactions must be specified in advance for the program to make use of them. MNA is the logical equivalent of discriminant function analysis where the predictor variables may be drawn from interval, ordinal and/or nominal scales. It provides prediction equations similar in concept to discriminant functions. The programs, as modified for this study, output case by case predictions (i.e., in which BAC group does an individual case most probably belong), an estimate of the amount of variance accounted for by each predictor variable, an estimate of the total amount of variance accounted for by the full set of predictor variables and the percentage of the total number of cases correctly classified.

Several runs of the THAID program were required to sort through the many variables for which sufficient data were available to support these analyses. In general, the variables screened by the THAID program were from the Police Accident Report (e.g., pedestrian age and sex, road type, locale, traffic control, weather, condition of pedestrian, lighting and accident type as determined from the police report alone) and from the assigned judgemental codes (e.g., primary precipitating factors, predisposing factors and accident type as determined from the entire case file). The THAID results indicated those variables which were related to BAC, those that while related were redundant or highly correlated with other variables (e.g., time of day and "lighting" both of which separate day versus night) and suggested two possible BAC related interactions.

The first interaction involved pedestrian sex, age and race. For males, the greatest discrimination of BAC was achieved by separating the young and the middle aged (18-59 years) from the old (60 years and older) where the young and middle aged group was most likely to have been drinking. For females, the greatest discrimination was not by age but by race, where white females were less likely to have been drinking than other races. The second interaction involved intersection (yes, no), locale (residential, commercial, etc.) and traffic control. Intersection crashes were best discriminated in terms of BAC by the variable traffic control while non-intersection crashes were best discriminated by locale. Neither of these interactions were particularly powerful and neither were of the cross-over interaction type.

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*Survey Research Center, University of Michigan. OSIRIS III. Ann Arbor, 1973.

Several different analyses were conducted using the MNA program with different sets of predictor variables. Variables shown not to be related and redundant variables were not included. The more interesting MNA results are shown in Table 28. The first set of results examine only the age, sex and race of the pedestrian in what is referred to as a demographic model. The results showed that pedestrian age was the strongest predictor (8.5% of the variance across the .000%, .001-.099% and .100% or higher BAC categories) followed by sex (6.7%) followed by race (0.9%). Together, these three variables accounted for 14.9% of the variance. They correctly classified 58.8% of the cases as compared with the 48.3% correct classification which could have been achieved by simply assigning every case to the .000% BAC category. Demographic variables related to the driver were not included in this analysis since the THAID analyses showed that driver age and driver sex were not related to any meaningful extent to pedestrian BAC.

The second set of results are for an MNA run which examined situational variables related to when and where the crash occurred. The results showed that "lighting" which is really a day-dusk-night, etc., variable was most predictive of BAC (13.5% of variance) followed by day of week (7.8%) and the location interaction discussed above (6.4%). The other variables in this analysis were traffic control (3.9%), locale (2.9%) and intersection (0.6%). The total model accounted for 27.0% of the variance and correctly classified 68.2% of the cases.

The third set of results examined the two judgemental codes which THAID had shown to be most related to BAC. These were first primary precipitating factor which accounted for 15.4% of the variance and accident type (as determined from all information) which accounted for 10.5% of the variance. This total model accounted for 22.0% of the variance and correctly classified 65.4% of the cases.

The fourth set of results shown in Table 28 cover all of the important variables which were derived from the police accident report. In other words, this model represents the prediction which would be possible if only the police accident report were available. The most predictive variable in this model was the "pedestrian condition" checkbox on the police accident report shown in the table as "Police estimate, ped drinking." This accounted for 22.3% of the variance and provided correct classification for 65.4% of the cases. The second most predictive variable was lighting (13.5%) followed by pedestrian age (8.5%). Together, the nine variables entering the model accounted for 47.0% of the variance and permitted correct classification of 78.2% of the cases.

Each of the above models may be used as a means of summarizing and quantifying the many bivariate results presented in earlier sections of this report. Pedestrian age, for instance, was found to be "significantly" related to pedestrian BAC at the time of the crash. These results help to quantify these "signifi-

Table 28. Results from Multi-Nominal Analysis (MNA) Predicting Pedestrian BAC.

Predictor Variables	Estimated % Variance Accounted For	% of Cases Correctly Classified***
Pedestrian Age	8.5%	58.3%
Pedestrian Sex	6.7%	56.9%
Pedestrian Race	0.9%	48.3%
Total Demographic Model	14.9%	58.8%
Day of Week	7.8%	56.9%
Intersection (Yes - No)	0.6%	48.3%
Lighting (day - night)	13.5%	64.0%
Traffic Control	3.9%	52.1%
Locale (bus. - resid.)	2.9%	49.8%
Location Interaction (see text)	6.4%*	57.4%
Total Situational Model	27.0%	68.2%
First Primary Precipitating Factor	15.4%	62.6%
Accident Type (group code using all information)	10.5%	57.4%
Total Judgemental Code Model	22.0%	65.4%
Pedestrian Age	8.5%	58.3%
Pedestrian Race	0.9%	48.3%
Sex with Age/Sex/Race Interaction	10.4%**	59.7%
Police estimate, ped drinking	22.3%	65.4%
Day of Week	7.8%	56.9%
Lighting (day - night)	13.5%	64.0%
Traffic Control	3.9%	52.1%
Location Interaction	6.4%*	57.4%
Accident Type (from police report only)	7.9%	55.4%
Total Police Report Model	47.0%	78.2%

*includes the effect of "intersection" (.6%) and the specified interaction (5.8%).

**includes both the effect of "sex" (6.7%) and the specified interaction (3.7%).

***N.B. by chance alone, 48.3% of the cases could be correctly classified simply by always guessing the largest single category, i.e., .000% BAC. Thus, data must be interpreted as deviations from 48.3%.

cant" relationships and suggest how the various crash parameters interact in their relation to pedestrian BAC. It is felt that the most important model is the one based on the police report alone. This model can be used without any of the other information collected as part of this project, and the predictive power of the model is relatively good. The complete police model with the actual prediction equations may be seen in Appendix H.

The Police Accident Report Model, because of its potential future utility, was subjected to validation with additional data. The additional data came from a continuation of the data collection effort beyond the original project year. Data for fatal crashes were provided by the Coroner on a continuing basis and Charity Hospital continued to sample injured pedestrians. Interviewing, control sampling and arrest data collection were discontinued at the close of the project year. Thus, the available data for these additional crashes included the pedestrian BAC, and of course, the police accident report. The total number of crashes covered in this continuation was 122. The time period covered was approximately the next 15 months following the study year. In other words, the continuation of data collection provided an additional 122 cases beyond the cases utilized to develop the Police Model. These cases, each with known BAC, were used to validate the model. The prediction equations shown in Appendix H were applied to these new data. The results showed that 63.1% of the cases were correctly classified. While this is lower than the 78.2% of the cases correctly classified using the original data, it still suggests that the Model is a valid predictor of pedestrian BAC.

IV. DISCUSSION

The previous sections of this report have presented the objectives, method and quantitative results of this study in considerable detail. This section will discuss the study and its implications for countermeasures and future research efforts.

A. Approach

The background review of the literature performed at the outset of this study and reported elsewhere (see Zylman, Blomberg and Preusser, 1974) clearly identified an absence of information on the frequency of alcohol in non-fatally injured pedestrians. The present study appears to fill that void. Likewise, the study has produced an apparently clear picture of the overrepresentation of alcohol in fatal and non-fatal pedestrian crashes. This picture is particularly complete and useful because it is based on three different control groups.

The definition of the effects of alcohol on pedestrian behavioral errors leading to accidents was not accomplished with the same precision as the specification of alcohol's frequency and overrepresentation. It is believed that this was due to three main factors. First, the sample size of in-depth interviews with pedestrians, witnesses and drivers was small. The interviewing procedure was part of the modified study design and was therefore only attempted for nine of the 13 months of sampling. In addition, it was extremely difficult to locate subjects. Some of the names and addresses provided to the police and hospital personnel proved to be false and some were incomplete.

A second reason for an incomplete behavioral picture of the alcohol involved pedestrian accident concerns the very nature of the event. It tends to be a late night phenomenon involving a highly intoxicated, solitary pedestrian. In at least 11 percent of the cases, the pedestrian is struck by a driver who leaves the scene (hit and run). In most cases, no witnesses were present. These factors all lead to an absence of information concerning the crash. Without some narrative description of driver and pedestrian pre-crash actions, it is not possible to infer behavioral errors.

The third problem which hindered the complete identification of the behavioral effects of alcohol concerned the accident generation model and typology adopted for this study. This model and typology were originated by Synder and Knoblauch (1971) and later refined by Knoblauch (1975). They are based on all urban pedestrian crashes which include approximately a 40 percent representation of child victims under the age of 14. This group was not sampled during this study and is not considered to be within the population at risk for an alcohol involved pedestrian accident. The typology also included cases for which there was inadequate information to determine a type. It would appear that many of these cases could have been alcohol involved and therefore the main focus of the current study.

It must also be noted that the causal model proposed by Snyder and Knoblauch (1971) as the basis for their typology assumes some degree of rationality and lucidity on the part of the pedestrian and/or some purposefulness to his behavior. This assumption does not appear to be valid for the pedestrian at extremely high BACs who may have no conception of his location, destination, or in fact, that he is making a street entry. Hence, the high BAC pedestrian may never consciously enter the "Crash Avoidence Sequence" postulated by Synder and Knoblauch (1971) and discussed in Chapter II of this report.

The model itself may still be valid for the driver and the environment or situation. Even if the pedestrian is assumed to have totally failed in his performance of the crash avoidance functions, the driver can still prevent an accident by successfully completing all of his functions. Also, by reducing or eliminating factors which predispose driver failures, an accident reduction can be expected. This suggests that countermeasure efforts might profitably focus on driver precipitating factors and crash predisposing factors as well as on the errors committed by the high BAC pedestrian.

Overall, it has been concluded that this study achieved its purpose of improving available knowledge on the role of alcohol in pedestrian crashes. The methods adopted appear to have been the most appropriate for achieving the study objectives. The results are compelling with respect to the frequency and overrepresentation of alcohol and highly suggestive regarding the behavioral effects of alcohol and potential countermeasure approaches. Additional research and development needs to supplement this study are clearly suggested and will be discussed below.

B. Methods and Results

The methods and procedures employed by this study are noteworthy not only because they accomplished most of the study's objectives, but also because many of them were novel, and to some degree, extensions of the state-of-the-art. It is also essential to understand the power and the limitations of the study design when interpreting its results.

1. The Site

New Orleans was selected as the sampling site for this effort for a variety of reasons relating to data quality and accessibility and degree of cooperation. Within the limitations of the sample as described in Chapter III, Section A, the study appears to have produced a valid representation of the role of alcohol in pedestrian crashes which involved a victim 14 years of age or older ("adult") in New Orleans. However, the maximum utility of this study will only be realizable if its results can be generalized beyond the City of New Orleans.

It is never possible to prove conclusively that one city is representative of the entire U.S., or even the urban U.S. Therefore, it is not possible to conclude that this study's results are generalizable. However, if New Orleans is not grossly atypical of the urban U.S. on the salient variables related to this study, one can project the results nationwide with a minimum likelihood of major error.

Within the context of this effort, it was possible to compare New Orleans with other urban areas in terms of census data, liquor case sales, the distribution of pedestrian accident types and the incidence of alcohol in fatally injured pedestrian victims. None of these comparisons showed New Orleans to be unusual to any significant degree. The New Orleans population is similar to that in other southern U.S. cities. Moreover, the study showed that age and sex were the only major demographic variables related to alcohol incidence. Race, the item most likely to vary from city to city, was not significantly related to the BAC of accident victims.

Per capita liquor sales for New Orleans were not atypical for cities of its size despite the popular image of New Orleans as a "drinking town." Further, an unusually high rate of alcohol consumption would only influence the findings of this study with respect to the frequency of alcohol in pedestrian victims and/or their BAC levels. Measures of overrepresentation and the behavioral role of alcohol would not necessarily be disturbed because both the control groups and the victim would be equally influenced.

The fact that the pedestrian alcohol situation in New Orleans is not atypical is also indicated by the comparability of the distribution of BACs for fatalities to those reported by other post-mortem studies (see Zylman, Blomberg and Preusser, 1974 for a detailed discussion of these studies). If New Orleans were a "drinking town," one would anticipate finding an unusually high incidence of alcohol in fatal accident victims.

Finally, New Orleans could have been atypical with respect to the types of pedestrian accidents which are occurring or on the basis of an overrepresentation of tourists in the accident-involved population. Neither of these factors materialized. Table 5 presented earlier clearly illustrates that the distribution of accident types in New Orleans is not markedly different from that found in other urban U.S. areas which have been studied. Tourists were clearly not a major factor in the accidents studied as 94 percent of the victims and 84 percent of the drivers who struck them were from New Orleans or its suburbs.

In light of the foregoing considerations, it is believed that New Orleans was a suitable site for this study. Further, there do not appear to be any major problems with the extension of the findings of this study to other urban areas in the United States.

2. Experimental Subjects

Analyses presented in Chapter III compared the pedestrian accident victims sampled by this study to all pedestrian victims in New Orleans. In general, no differences capable of introducing a strong bias into the results were uncovered. Even the tendency of the sampled victims to have been more seriously injured than those not sampled does not present a major problem. The study clearly showed that the distribution of BACs for fatals and non-fatally injured victims was not significantly different. This tends to indicate that the sample was drawn from a continuum of injury severities and blood alcohol concentrations.

The comparability of the fatal and injury samples is, itself, an interesting peripheral finding of this study. Based on previous research on alcohol involvement among drivers in accidents, one would have anticipated a difference between fatalities and non-fatal injury victims. The fact that this difference did not materialize suggests one way in which the pedestrian alcohol problem differs from the driver alcohol situation.

Another apparent difference between the pedestrian and driver situation can be found in the BACs themselves. Pedestrian victims appear to display somewhat higher BACs than drivers involved in accidents. Moreover, even though the risk curves for pedestrians, as shown in Figure 7, are strikingly similar to those for drivers produced by Borkenstein, et al. (1964), they appear to be displaced to the right. That is, the risk of an accident for a pedestrian does not begin upward until a higher BAC level is achieved. This is not surprising when the relative complexity of the driving versus walking tasks is considered. It should be expected that an individual could negotiate successfully as a pedestrian while at a level of impairment due to alcohol which would make driving extremely hazardous.

The alcohol involved pedestrian victims are, themselves, an extraordinary group whose detailed description was a major result of this study. In particular, there are indications that the people involved in the alcohol crashes are not the same people as in the non-alcohol crashes or in the control groups. The first finding was that the alcohol events more often involve middle aged males. Further, the alcohol events more often involved pedestrians with one or more prior arrests. However, the most important single result rests in the BAC data. Simply, the median BAC among those who had been drinking was approximately .20%. This clearly implies that many of the alcohol involved pedestrian victims are experienced users of alcohol, since BAC levels above .20% are rarely achieved by occasional drinkers.

A closer examination of the BAC distributions suggests that many of these people can only be described as truly extraordinary drinkers. One individual had a BAC of .55% and another had a BAC of .53%. Four other individuals had BACs ranging from .35% to .399%, 12 others were in the range from .30% to .349% and 15 others were in the range from .25% to .299%. Overall, approximately 50% of those who had been drinking were at or above .20% BAC and 30% were at or above .25% BAC. By any measure, these are extraordinary alcohol levels which could not be readily achieved by someone unfamiliar with drinking. Such levels are likely indicative of personal, emotional or physical difficulties which probably existed for months or years prior to the crash. The pre-identification and treatment of these individuals may provide a basis for developing countermeasures against these crashes as well as helping these individuals avoid other personal difficulties.

The descriptive statistical model presented in Chapter III and Appendix H is indicative of the relatively homogeneous nature of the alcohol involved pedestrian crash with respect to information on a police accident report. In particular, this model appears to point to the relationship between pedestrian alcohol crashes and the excessive use of alcohol. The variables within the model which account for significant proportions of the variance tend to be those generally associated with a high probability of excessive drinking. Middle-aged males in the late night hours, particularly on weekends, have been shown by numerous studies to display an overrepresentation of abusive drinking (c.f., Cahalan, Cisin and Crossley, 1969). Since these same individuals and situations appear with extraordinarily high frequency in the alcohol involved accidents, it would seem safe to conclude that increased risk of involvement in a pedestrian accident is another of the manifestations of aberrant drinking behavior.

3. Control Subjects

This study was innovative in that it employed three separate control groups in order to develop the broadest possible picture of any overrepresentation of alcohol in pedestrian accidents which might be uncovered. It was reasoned that a pure measure of the absolute overrepresentation of alcohol was needed and could be calculated from a randomly sampled control group. The Random Control group utilized in this effort successfully provided this measure. The procedures utilized to assemble the Random group were novel and yielded control subjects who were apparently drawn from a truly random sample of street locations. It is unfortunate that time and resources only permitted sampling at 112 locations which yielded a total of 80 subjects. This limited the sensitivity of comparisons with respect to the Random group and did not permit its analysis by relevant subgroups, e.g., by sex.

The Age/Sex and Site Matched control groups were assembled to provide varying degrees of control over variables postulated to be related to drinking behavior. A priori, it was assumed that drinking behavior would be related fairly strongly to age and sex, and to some degree to location. This postulate was clearly upheld by the study findings which showed the most alcohol in the Age/Sex group and the least alcohol in the Random group with the Site Matched group in between. The descriptive model results further emphasize the role of age and sex in high BAC pedestrian accidents. The positive correlation between victim and control BACs points to a role of specific location in the determination of degree of alcohol involvement. Hence, the decision to utilize multiple control groups appears to have been wise and a major factor in the strength of this study's findings.

The extremely low rate of refusals (18%) across all control groups and the comparison of the characteristics of subjects accepting and refusing to participate in the study leave little chance for major biases as the result of the sample selection process. Therefore, it has been concluded that the various control groups are adequate representations of the populations they were designed to emulate and form sound bases for comparisons with the accident victims.

C. Potential Countermeasure Areas

The results of this study did not immediately suggest countermeasures which could be mounted to produce a rapid reduction in pedestrian crashes related to alcohol consumption. However, by utilizing the collected data as input to a creative countermeasure enumeration process, ten promising approaches were identified. The process itself and the individuals who participated in it are fully described in Appendix I. The ten countermeasure approaches are:

- Community Mental Health--the overall problem of alcoholism and the need for an approach aimed at curing the alcoholic or, if that cannot be accomplished, protecting him from hurting himself and others on the highway.

- Adjudication --the threat of legal sanctions, for example, enacting per se laws for pedestrians that would make them automatically culpable in an accident if their BAC's are above a specified level.

- Economics--making the cost of drinking more expensive through taxation, for example, or by making it more difficult to buy a drink by not permitting use of credit cards for liquor purchases, by requiring exact change for liquor purchases, or making each successive drink more expensive.

- Product--making some change in the product itself, for example, reducing the proof of alcoholic beverages or adding a substance to alcohol that would have an unpleasant effect (e.g., profuse sweating) but not a deleterious one in terms of psychomotor performance at a certain BAC level.

- Case Finding/Detection--locating the high BAC pedestrian and removing him from the roadway, for example, picking up pedestrians who meet the profile of the high risk drinker and giving them free rides home.

- Symptoms--employing the symptoms of high BACs, such as decreased visual acuity or poor motor coordination, as a preventive measure. For example, developing and installing in bars a strobe light that wouldn't bother sober people but would be so visually disorienting to people at high BAC levels that they couldn't walk.

- Engineering--redesign of the sidewalk or roadway or redefinition of ordinances that affect motor vehicle and pedestrian traffic, such as reducing the speed of traffic at night, creating pedestrian malls at night in high risk areas, or adding "life-lines" along the sides of buildings.

- Education--Youth/School--starting the alcohol pedestrian education process at the school level. For example, having teachers, coaches and driver education instructors use their influence to promote responsible drinking behavior.

- Education--Mass Media--using newspapers, television, radio, magazines, advertisements, etc., to educate the public to the pedestrian alcohol problem. For example, having a prominent sports figure appear on television and relate an actual experience of being hit by a car while at a high BAC level and appeal for responsible drinking behavior.

- Education--Public Responsibility--urging the public and all its segments (clergy, parents, industry, social workers, physicians, bartenders, police, lawyers, librarians--in fact all citizens) to use their influence to promote responsible drinking behavior. For example, encouraging industry to set up group therapy sessions for employees who drink, encouraging lawyers to promote adequate pedestrian intoxication laws and urging parents to teach their children responsible drinking behavior.

A complete enumeration of the individual ideas within each category is also contained in Appendix I.

It must be stressed that these approaches and the individual countermeasure ideas are merely initial thoughts which have been subjected to neither detailed development nor critical evaluation. Significant additional research efforts would be needed before any of the approaches could be utilized against the identified problem. In some cases, e.g., for various educational approaches, pretesting and field testing would be needed prior to implementation. For others, such as changes in the product, more basic research would have to be undertaken before specific countermeasures could be developed. However, the fact that there are numerous countermeasure ideas suggests that the pedestrian-alcohol problem can be countered in spite of the apparently incorrigible nature of the victims themselves.

It also must be stressed that pedestrian alcohol countermeasures cannot be considered in isolation. The abusive use of alcohol has been implicated in numerous other safety and health problems. Countermeasures to the pedestrian problem must not be counterproductive to similar efforts in other areas. There is the possibility for counterproductivity because of the extremely high BACs at which pedestrian accident risk begins to elevate. The data clearly indicate only a marginal risk increase at BACs between .10% and .15%. These BACs are, however, associated with a high risk level for drivers, and likely, for other tasks. Thus, care would have to be exercised in any pedestrian accident countermeasure program to avoid the implication of condoning achieving these relatively high BACs on a regular basis.

D. Conclusions

The results of this study clearly lead to the conclusion that alcohol is a causal factor in many pedestrian-vehicle crashes. Approximately half of the adult crashes studied involved a pedestrian who had been drinking, and nearly 25% of all adult crashes involved a pedestrian who was at .20% BAC or higher. Relative risk curves comparing the pedestrian victim's BAC with the control group clearly support the conclusion that the risk of being in an accident increases dramatically as BAC rises. There is no question from these data that BACs of .20% or higher lead to dramatically increased risk and BACs in the range of .10% to .199% are a problem. The risk curves are similar to the curves obtained in driver alcohol research (see, for example, Borkenstein, et al., 1964), though it would appear that greatly increased accident risk among pedestrians is occurring at somewhat higher BAC levels.

The extent of the problem related to alcohol use by pedestrians as documented by this study must be viewed in the context of the parameters of the experimental design and the limitations imposed by the sample size. These considerations include:

- The pedestrians studied herein were all 14 years of age or older. This was the group considered to be the population-at-risk for an alcohol related pedestrian accident. This group accounts for approximately 61 percent of all New Orleans pedestrian crashes. Therefore, they are estimated to represent a similar proportion of the total pedestrian safety problem in the urban U.S. It is also possible that some crashes involving those under 14 years of age involved alcohol. In essence, however, at least 30 percent of all (including children) pedestrian crashes involve a pedestrian with a positive BAC. Further, 15 percent of all pedestrian crashes involve a victim whose BAC was at .20% or higher.

- The true determination of the causal role of alcohol involves judgments concerning acceptable levels of risk and the likely behavior of the accident involved individual in the abaence of alcohol or at a reduced BAC. BAC comparisons alone are not a totally valid and reliable measure of causality even at the extraordinary levels measured by this study. A few high BAC victims in the study were likely not at all culpable for their accidents, e.g., they were struck while on the sidewalk. Other victims at relatively low BACs may have been inexperienced drinkers and therefore highly impaired at the time of their crash.

- The sampled cases involved adult pedestrians who were on average slightly older than the typical pedestrian victim. The study showed that victim BAC was related to victim age, with pedestrians in the middle years (30-59) having the highest BACs. Thus, the sampling procedure may have introduced a bias in the victim BAC distribution, and hence, the specification of the problem. It is believed this bias, if it exists at all, is small and in the direction of causing a slight understatement of the problem.

It is concluded that the primary findings from this study may be summarized as follows:

- Adult pedestrians, both fatal and non-fatal, were found to have been drinking prior to their crash in about 50% of the studied cases.

- Alcohol is overrepresented among victims as compared to non-accident involved controls. Overrepresentation is greatest when comparisons are made to the Population at Large controls, least when compared to the very conservative Age and Sex Site-Matched controls. In all cases, risk is greatly elevated when the BAC of the pedestrian is .20% or higher.

- BACs of the victims were extremely high.

- Alcohol, and particularly, high BACs were most common among middle aged (30-59) males, at night and on weekends.

- Alcohol was more common among people with prior arrests (all kinds) and higher Mortimer-Filkins scores.

- Alcohol crashes were spread throughout New Orleans with little regard to type of neighborhood or street location.

- Analysis of crash precipitating behavioral errors showed drivers made more errors when the pedestrian had not been drinking than when the pedestrian had been drinking. In other words, driver errors contributed more to the non-alcohol than the alcohol crashes.

- Concerning pedestrians, it was found that the alcohol crashes more often involved the pedestrian error of "Ped-Course Location" which includes lying in the roadway and crossing at a high exposure location.

- Concerning accident type, the alcohol crashes were more often classified as "other," "ped strikes vehicle" and "not classifiable" and less often classified as a specific situation type such as "bus stop," "multiple threat" or "vehicle turn/merge."

- A statistical model was developed using information from the police accident report that was capable of reliably discriminating between the alcohol and no-alcohol crashes.

The primary objective in data analysis was to identify and quantify all of the parameters that differed between the alcohol and non-alcohol involved crashes and all of the parameters that differed between crash and control groups. These comparisons were just as interesting in their similarities as they were in their differences. In many ways, the alcohol involved pedestrian appeared to be making many of the same errors as the non-alcohol involved pedestrian. The errors may have been more common under alcohol and/or more "serious" (i.e., more difficult to recover from) but they were very often the same errors and often in similar traffic situations.

1. Alcohol Specific Accident Types

This pattern of results would seem to preclude the development of any new accident type categories for specifically alcohol related events. If one type did emerge, it would probably be related to lying in the roadway which is currently classified under "other - non pedestrian activity in roadway." However, this one added type would account for less than 10% of the cases and probably would contribute little to the explanatory power of the data. Nevertheless, from the narrative descriptions of the crashes and from interviewer's comments, it appeared that alcohol was influencing crash occurrence in two different ways:

- Psychomotor Impairment (inability to negotiate in traffic)

- Risk Taking (diminished judgement)

The first category, Psychomotor Impairment, was judged to account for approximately one quarter of the studied cases for which the pedestrian's BAC was .05% or higher. It was characterized by a breakdown in motor ability and motor coordination to the point where the pedestrian had little control over where he was or where he was going. Mean BAC for these crashes was nearly .25%. The typical case involved a pedestrian who literally staggered into a motor vehicle. The vehicle may have been in full view and possibly even stopped in traffic.

The second category, Risk Taking, was judged to account for nearly half of the cases for which the pedestrian's BAC was .05% or higher. It was characterized by an adult taking unwarranted and unusual chances in the traffic environment. Often, the crashes were caused by behaviors which are more typically found among young children. Mean BAC was approximately .20% in these Risk Taking events. The typical case was a straightforward dart-out or intersection dash in which it was felt that the dart-out behavior would have been less likely were it not for the judgement impairing effects of alcohol.

Neither Psychomotor Impairment nor Risk Taking constitute new accident types. Rather, they should be viewed as descriptions of the mechanism by which alcohol influenced crash occurrence. For Psychomotor Impairment, the mechanism is a breakdown of the individual's ability to perform perceputal, cognitive and motor functions. For Risk Taking, the mechanism involves diminished capacity to make wise judgements concerning safety. Perceputal and motor functions are apparently intact. As descriptive concepts only, these two mechanism descriptions proved very useful in reading and understanding the crash narratives.

2. <u>Research Implications</u>

It is concluded that this study has highlighted three priority areas for future research. First, it is clear that the causal effect of alcohol typically becomes a factor at extremely high BACs. There is little information in the literature on the performance characteristics and capabilities of individuals at these blood alcohol levels when the individual is capable of achieving them on a regular basis. Controlled research is needed to examine both psychomotor skills and risk taking behavior at the high BACs found by this study. This research might also compare the experienced drinker's performance at high BACs (say .25% and above) to the performance of the inexperienced drinker at moderate BACs (.06% to .10%). Likewise, it would be beneficial to determine if countermeasures can be applied to these groups while they are at an elevated BAC.

A second area of investigation involves the relatively large proportion of crashes of the "not classifiable" type when the pedestrian had been drinking. Research is needed to examine the possibility of developing alternative or additional sources of information for the late night, unwitnessed crash. New methods of interviewing victims and drivers and better means of crash reconstruction are possibilities for overcoming the part of the "not classifiable" problem relating to an information deficiency.

Approximately half (10) of the "not classifiable" accidents studied involved relatively complete information. They did not, by definition, involve behaviors and/or situations which fit any of the pre-defined accident types. Moreover, they did not appear to cluster into any new types which could be associated with alcohol. However, there were too few of these cases in the data to permit the conclusion that no new types are likely to be forthcoming. Therefore, it would seem productive to examine a large number of "not classifiable," high BAC crashes in an attempt to define new accident types. If it were too costly to sample BACs for these victims, the degree of alcohol involvement could be estimated utilizing a statistical model such as the one developed by this study.

Countermeasure research represents the third area of potential benefit. The ideas contained in Appendix I could form the basis for a detailed investigation of pedestrian alcohol countermeasures in terms of:

- Acceptability of various approaches to the public, legislators, police, judges, etc.
- Viability with respect to reducing pedestrian accidents
- Feasibility given existing or contemplated resources and technologies
- Compatability with other highway safety, alcohol and community mental health countermeasures

This research may or may not result in finished solutions. It can, however, reasonably be expected to provide one or more clear directions to follow in the pursuit of a reduction in the serious pedestrian alcohol problem.

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APPENDIX A

Legal opinion concerning the admissibility into evidence of collected blood alcohol data.

M E M O R A N D U M

TO: Dunlap and Associates, Inc.
Attention: Richard Blomberg

FROM: Rockwood, Edelstein & Shaw

DATE: June 24, 1975

SUBJECT: Admissibility into Evidence of Blood-Alcohol Test Analysis - Project No. DOT-HS-4-00946

You have requested our opinion as to the evidentiary value of the test procedures utilized by you in your performance of the subject contract.

This memorandum addresses itself to a general survey and summary of New York law and practice on the criteria required to introduce into evidence results of a blood-alcohol test before a court of law. The discussion focuses on the chain of events which the proponent of the evidence must ordinarily establish to lay a proper foundation for such admission.

For the purpose of this memorandum, no distinction will be drawn between criteria necessary for admissibility in criminal versus civil cases, since the fundamental prerequisites are virtually identical. The major distinction being that in the latter cases, the foundation laid for introduction of such evidence need not preclude every possibility of doubt as to the identity of the sample or the possibility of a change in its condition.

In determining whether or not a proper foundation has been established, the court looks to such things as identification of the blood sample and its custody from initial withdrawal through completion of testing. Such inquiries as, Who took the sample? - What did he do with it? - Where was it kept? How was it transported? - How was it delivered? - Was its location unknown at any time?[1] are typically required to be satisfactorily established before the court will allow the results to be introduced into evidence.

The first link of the chain of evidence is identification, i.e., establishing that the particular sample was in fact extracted from the person when intoxication is at issue.[2] Generally, the withdrawer of the sample must testify as to his having taken the sample. However, in some cases, an eyewitness can afford such testimony, provided the vial is sealed and properly labeled. Crucial to establishing identification is labeling. The labeling must clearly identify the blood sample as that of the particular person. Statewide legislation on labeling procedures is rare; however, often health agencies within the state promulgate rules and regulations for withdrawal and handling of bodily substances.(3) Usually, the person labeling the vial must testify to his handling it and method of labeling.

The next link in the chain is to establish that the sample was not contaminated or tampered with. Proof of sealing is required. "Where there is no proof of adequate sealing, chemical tests will not be admitted."(4) Also, refrigeration of the sample is frequently required, (but not universally) to establish this link.

Following identification and sealing, the next link is to establish the whereabouts of the sample at all times prior to analysis - i.e., chain of custody. It is essential that the entire chain of possession be traced and that the evidence produced must show that the sample has remained unchanged from time of withdrawal to time of testing. The more persons who have potential access to the sample, the more difficult it is to establish this link. In one New York case(5), this link was found not to be established since the sample was left for 12 days in an unlocked refrigerator which was accessible to hospital personnel and unauthorized personnel. Proof of the means of transportation (e.g., personal delivery, mailing, etc.) and the identity and action of each person who participated in the transportation are also essential. Ordinarily, if there is no definite proof as to how the vial got from the place of extraction to the place of analysis, the results are inadmissible.(6) Surprisingly enough, however, one New York case(7) has held that:

> the fact of the existence of the blood in a sealed bottle and sent by registered mail in a sealed container and received in the same state at a place of its destination presents reasonable grounds for belief that it was not tampered with in the interval.

The Court reasoned that proof of the handling of the parcel by post office employees would manifestly be difficult and add little to the validity of the inference that the sample was unchanged.

The final link in the chain is proving receipt of the sample and its continuous custody until actual testing occurs. Failure to introduce evidence as to when, how, by whom, and in what condition the sample was received and its keeping and handling at the place of testing until analysis generally does not constitute sufficient proof.(8)

If satisfactory proof of each link is offered by the proponent, the next areas of conern involve the qualifications of the tester and whether the testing procedures employed were generally recognized and/or reliable. Since these issues are directed to the weight of evidence (e.g., "expert opinion") as opposed to admissibility, they are not discussed herein.

It is readily apparent that in each case where a question of admissibility of such analysis arises, all facts must be considered and each case decided on its own strengths. Different requirements of proof for each link must be expected depending upon the nature of the case. The more uncertainties or gaps which are discovered, the less likely such evidence will be held admissible. The burden of proof remains with the proponent of the evidence.

Our research indicates that the value of evidence is affected by many factors and that no single rule can be laid down. Based upon our research, we are of the opinion that the procedures to be followed by Dunlap and Associates in its execution of the subject project have questionable, if any, evidenciary value.

(1) Erwin, Defense of Drunk Driving Cases, 3rd edition, Criminal/Civil, Chapter 27, p. 27-1.

(2) Ibid, at p. 27-10

(3) Ibid, at p. 27-20

(4) Ibid, at p. 27-23

(5) People v. Pfendler, 29 Misc.2d 339, 212 NYS2d 927 (Oneida Co. Ct., 1961)

(6) Erwin, Defense of Drunk Driving Cases, 3rd edition, Criminal/Civil, Chapter 27, p. 27-26

(7) People v. Goedkoop, 29 Misc.2d 86, 212 NYS2d 498 (West. Co. Ct., 1960)

(8) Erwin, Defense of Drunk Driving Cases, 3rd edition, Criminal/Civil, Chapter 27, p. 27-29.

APPENDIX B

Driver Interview Form

No. ______

DRIVER DATA

Introduce yourself to the driver. State that you would like to ask him (her) a few questions about his (her) recent accident, that the answers will be kept confidential and that this is part of a highway research project sponsored by the National Highway Traffic Safety Administration of the U.S. Department of Transportation. Answer any questions the driver may have.

Recapitulate the crash location, direction of travel and accident resultant as stated on the accident report then ask the driver:

1. Is that information correct? ____ Yes ____ No

   (If No) Explain: ______________________________

2. Where were you driving to? ______________________________

3. Where were you driving from? ______________________________

4. What was the purpose of your trip? ______________________________

   ____

5. Prior to the accident, how often did you drive on the street where the accident occurred?

   ____Once a day or more
   ____2-3 times per week
   ____Once a week
   ____2-3 times per month
   ____Once a month
   ____Less than once per month
   ____Never (before the accident)

6. How fast were you traveling prior to the accident, that is prior to taking any evasive action? ____mph

7. Exactly where on the street was your vehicle and where were you headed prior to the crash? ______________________________

   Which traffic lane? ______________________________

   Traffic controls present? ______________________________

   Color of any lights? ______________________________

   Maneuvers (turning, passing, going straight)? ______________

   ____

Summary Driver Course Selection and Negotiation:

Driver course was a factor? ____ *Yes* ____ *No*

If Yes, check all that apply:

Attempt to beat light ____
Ran red light ____
Ran stop sign or yield sign ____
Wrong side of road ____
Traveling too fast ____
Other (specify) ____________________

8. What were you looking at just prior to the accident before you thought you might have an accident:

(First response) ____________________

____

Anything else? ____________________

Explain ____________________

9. When did you first see the pedestrian (explain)? ____________________

____

10. Exactly where was the pedestrian and where did he (she) appear to be headed when you first saw him? ____________________

____

11. When do you think the pedestrian first saw your vehicle? ____________________

____

12. What did the pedestrian do or try to do after he (she) saw your vehicle? ____________________

Summary Driver Search:

Driver search was a factor? ____ *Yes* ____ *No*

If Yes, check all that apply:

Overload (too much to look out for) ____
Distraction ____
Inattention ____
Search inadequate ____
Other (specify) ____________________

13. Did any of the following things interfere with, or disrupt, your line of sight such that it was difficult for you to see the pedestrian?

	Yes	No
Stopped bus?	___	___
Parked vehicles?	___	___
Standing traffic?	___	___
Moving traffic?	___	___
Signs, posts or mailboxes?	___	___
Trees, shrubs, other plants?	___	___
Buildings?	___	___
Glare from the sun?	___	___
Glare from headlights?	___	___
Water, ice or snow on your windshield?	___	___
Poor street lighting?	___	___
Anything else? (specify) ____________________		

____

Summary Driver Detection and Recognition:

Did the driver detect the pedestrian in time? ____ *Yes* ____ *No*

If Yes, skip to No. 14

Did any item checked "yes" in No. 13 cause the detection failure?
____ *Yes* ____ *No*

If Yes, skip to No. 14

Should the driver have detected the pedestrian in time given the search he conducted and his course selection and his course negotiation?
____ *Yes* ____ *No*

14. What did you do or try to do after you saw the pedestrian?

____

Why didn't it work? ____

____

Summary Driver Evaluation and Driver Action:

Driver evaluation was a factor? ____ *Yes* ____ *No*

If Yes, check all that apply:

Misperceived pedestrian's intent ____
Poor prediction of pedestrian/vehicle path ____
Other (specify) ____

Could accident have been avoided by appropriate driver action?

____ *Yes* ____ *No*

If Yes, check all that apply:

Vehicle defective ____
Driver lost control of vehicle ____
Driver unable to perform action ____
Environment made action impossible ____
Driver-pedestrian actions failed to match ____
Other (specify) ____

14a. In your opinion, could this accident have been avoided?
____ Yes ____ No

If Yes, how? ____

15. What is your current occupation? ______________________________

16. How many years have you been driving? ________(years)

17. How old are you? _______(years)

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APPENDIX C

Pedestrian Interview Form

No. ________

PEDESTRIAN DATA

Introduce yourself to the pedestrian. State that you would like to ask him (her) several questions concerning the recent accident, that the answers will be kept confidential and that this is part of a highway research project sponsored by the National Highway Traffic Safety Administration of the U.S. Department of Transportation. Answer any questions the pedestrian may have and inform the pedestrian that you will be giving him (her) a check for $10.00.

1. How old are you? _____(years)

Interviewer: "Now I would like to ask you about your accident."

2. Where were you walking from? ____________________

3. Where were you going? ____________________

4. Why were you making this trip? ____________________

5. Prior to the accident, how often did you walk on the street of the accident scene?

   _____Once a day or more
   _____2-3 times per week
   _____Once a week
   _____2-3 times per month
   _____Once a month
   _____Less than once per month
   _____Never (prior to the accident)

6. Please examine this diagram, check to see that the street names are correct, and tell me exactly where you were just prior to the accident and which way you were going.

7. Were there any traffic lights or pedestrian walk signals?
   _____ Yes _____ No

   (If Yes) Show the light(s) on the diagram.
   What was the color of the light (and/or walk signal) just prior to the accident? (Explain and show on diagram)
   ____

8. Were there any stop signs or yield signs? ____ Yes ____ No

(If Yes) Show the sign(s) on the diagram.

9. On the diagram, please indicate where the vehicle that struck you was coming from. Also indicate the exact spot where the crash occurred, and the orientation of the vehicle when it hit you.

10. On the diagram, please indicate parked vehicles, standing traffic and any other moving traffic near the accident location (note with vehicle symbols).

11. What were you doing just prior to the accident? ________________

(If necessary) What were your actions:

_____Crossing the street directly
_____Crossing diagonally
_____Waiting to cross
_____Waiting for a bus, taxi, whatever
_____Fixing a vehicle
_____Hitchhiking
_____Exiting a vehicle
_____Other (specify) ________________________________

12. Just prior to the accident, before you realized that an accident might occur, would you say that you were:

_____Running
_____Walking rapidly
_____Walking normally
_____Walking slowly
_____Not moving
_____Other (specify, e.g., laying down, stumbling, sitting on the curb) ________________________________

Summary Pedestrian Course Selection and Negoitation:

Pedestrian course was a factor: ____ *Yes* ____ *No*

If Yes, check all that apply:

Crossing against light	____
Back to traffic	____
Unexpected, unusual location	____
Poor location (laying in road, sitting on curb, etc.)	____
High exposure location	____
Running	____
Walking too slowly	____
Short-time exposure (poor target)	____
Other (specify) ________________________________	

13. Just prior to the accident, before you realized an accident might occur, what were you looking at?

(First response) ____________________

Anything else? ____________________

(If appropriate) Did you look for cars that might be coming?
____ Yes ____ No

Explain ____________________

14. When did you first see or hear the vehicle that hit you?

____

Summary Pedestrian Search:

Pedestrian search was a factor: ____ *Yes* ____ *No*

If Yes, check all that apply:

Search overload (too many things to look for) ____
Inattention to traffic ____
Inadequate (or incomplete) search ____
Pedestrian was distracted by;
Traffic signal ____
Object in 1st half of roadway ____
Object in 2nd half of roadway ____
Hostile person or object ____
Work activity ____
Other distraction (specify) ____________________
Other search failure (specify) ____________________

15. Prior to the crash, did any of the following things obstruct your line of sight and make it difficult for you to see the vehicle that hit you? (check all that apply)

____ Parked vehicles?
____ Stopped bus?
____ Standing vehicles?
____ Moving traffic?
____ Posts, poles, signs, mailboxes?
____ Buildings?
____ Glare from the sun?
____ Something else? (specify) ____________________

Summary Pedestrian Detection and Recognition:

Did pedestrian detect vehicle in time: ____ *Yes* ____ *No*

If Yes, skip to No. 16.

Did any item checked "yes" in No. 15 cause the detection failure?
____ *Yes*   ____ *No*

If Yes, skip to No. 16.

Should the pedestrian have detected the vehicle in time given the search he conducted and his course selection and his course negotiation?
____ *Yes*   ____ *No*

16. **Using the diagram, please show me exactly where you first realized that some form of evasive action was necessary. In other words, where did you first realize that you might be hit? (Indicate on** diagram)

    What did you try to do? ____________________

    Why didn't it work? ____________________

Summary Pedestrian Evaluation and Action:

Was pedestrian evaluation a factor: ____ *Yes*   ____ *No*

If Yes, check all that apply:

Misperceive driver's intent ____
Poor prediction of veh./ped. path ____
Other evaluation failure (specify) ____________________

Was pedestrian action a factor: ____ *Yes*   ____ *No*

If Yes, check all that apply:

Environmental problem ____
Self limits (i.e., unable to execute) ____
Other (specify) ____________________

17. In your opinion, could this accident have been avoided?

    ____ Yes   ____ No

    If Yes, how? ____________________

    ____

Dunlap and Associates, Inc. - Project 104

APPENDIX D

Mortimer-Filkins Questionnaire

QUESTIONNAIRE--PART I

Instructions

In answering each of the items in this part, do not spend too much time on any one question. We would like your first impressions, so try to answer with the first thing that comes to mind. Answer each question in the order in which it appears. Use a check (✓) to mark the TRUE (yes)/FALSE (no) questions. Where you are asked to answer with a number (how many), please put the number in the space provided. If a given item does not apply to you, mark it with a zero.

There are no right or wrong answers. Give the answer which seems most appropriate. PLEASE REST ASSURED THAT YOUR ANSWERS TO BOTH PARTS OF THIS QUESTIONNAIRE WILL BE KEPT STRICTLY ANONYMOUS.

1. What is your present marital status? (check one)

   ( ) never married
   ( ) separated
   ( ) divorced
   ( ) widowed
   ( ) common law
   ( ) married

2. With whom do you live? (check all which apply)

   ( ) alone
   ( ) with friend(s)
   ( ) with other relative(s)
   ( ) with wife (husband)
   ( ) with ex-wife (ex-husband)

IF YOU HAVE NEVER BEEN MARRIED, SKIP TO QUESTION NUMBER 6.*

	TRUE (yes)	FALSE (no)
3. How many times have you and your wife (husband) seriously considered divorce in the last two years?......................	(#	)
4. Does (did) your wife (husband) often threaten you with divorce?...............	( )	( )
5. Would you say that your wife's (husband's) general health is (was) very good?........	( )	( )

		TRUE (yes)	FALSE (no)
*6.	Are you employed now?....................	( )	( )
7.	Do you smoke?............................	( )	( )
8.	About how many packs of cigarettes do you smoke per week?..........................	(#	)
9.	Were you ever arrested?..................	( )	( )
10.	Are your relatives upset with the way you live?..................................	( )	( )
11.	Is your income sufficient for your basic needs?.................................	( )	( )
12.	Are you bothered by nervousness (irritable, fidgety or tense)?......................	( )	( )
13.	Your judgment is better than it ever was..	( )	( )
14.	Have you recently undergone a great stress (such as something concerning your job, your health, your finances, your family, or a loved one)?...........................	( )	( )
15.	You are apt to take disappointments so badly that you cannot put them out of your mind....................................	( )	( )
16.	You have long periods of such great restlessness that you cannot sit long in a chair..	( )	( )
17.	Are you often sad or down in the dumps?...	( )	( )
18.	You have had periods in which you carried on activities without knowing later what you had been doing......................	( )	( )

	TRUE (yes)	FALSE (no)
19. Do you have a lot of worries?.............	( )	( )
20. You have trouble sleeping.................	( )	( )
21. You are moderate in all your habits.......	( )	( )
22. Do you feel that you have abnormal problems?................................	( )	( )
23. You have lived the right kind of life.....	( )	( )
24. Your home life is as happy as it should be.....................................	( )	( )
25. Does drinking help you make friends?......	( )	( )
26. Much of the time you feel as if you have done something wrong or evil..............	( )	( )
27. Do you think that creditors are much too quick to bother you for payments?.........	( )	( )
28. You wish you could be as happy as others seem to be..............................	( )	( )
29. You sometimes feel that you are about to go to pieces.............................	( )	( )
30. Do you usually perspire at night?.........	( )	( )
31. You often feel uncomfortable and down in the dumps................................	( )	( )
32. About <u>how many</u> years has it been since your last out-of-town vacation? (If you have never taken one, write "9")..........	(#	)

	TRUE (yes)	FALSE (no)
33. You are a high-strung person.............	( )	( )
34. You are satisfied with the way you live...	( )	( )
35. Have you ever had your driver's license suspended or revoked?....................	( )	( )
36. About how many times have you asked for help for your problems (personal, marriage, money or emotional)?....................	(#	)
37. Is there a history of alcoholism in your family?................................	( )	( )
38. Do you have a relative who is an excessive drinker?...............................	( )	( )
39. Are you often depressed and moody?........	( )	( )
40. You often feel as if you were not yourself...............................	( )	( )
41. You are often afraid you will not be able to sleep...............................	( )	( )
42. Do you often feel afraid to face the future?................................	( )	( )
43. Drinking seems to ease personal problems..	( )	( )
44. How many drinks can you handle and still drive well?........................	(#	)
45. In the last year, how many times have you drunk more than you could handle, but still been a good driver when you got behind the wheel?.............................	(#	)
46. You wish people would stop telling you how to live your life.......................	( )	( )

		TRUE (yes)	FALSE (no)
47.	You often are afraid without knowing why you are afraid........................	( )	( )
48.	At times you think you are no good at all....................................	( )	( )
49.	Do you feel sinful or immoral?............	( )	( )
50.	A drink or two gives you energy to get started..................................	( )	( )
51.	Does drinking help you work better?.......	( )	( )
52.	Your daily life is full of things that keep you interested.......................	( )	( )
53.	You often have feelings of vague restlessness....................................	( )	( )
54.	Your friends are much happier than yourself.....................................	( )	( )
55.	You often pity yourself..................	(✓)	( )
56.	Would you say that 4 or 5 drinks affect your driving?............................	( )	( )
57.	You feel tense and anxious most of the time.....................................	( )	( )
58.	Are you often bored and restless?.........	( )	( )

QUESTIONNAIRE--PART II

Instructions

In this section of the questionnaire, please check (wherever items are listed) and/or write in (wherever space is provided) the appropriate answer for each question. Only select one answer for each multiple choice question unless otherwise directed.

1. Where do you live? City ___________________, State __________

2. How would you describe your place of residence?

( ) Core of city
( ) Outskirts of city
( ) Suburb of large city
( ) Rural
( ) Other ____

3. How far have you gone in school?

( ) Graduage school (or degree)
( ) Four year college graduate
( ) Two year college graduate
( ) Some college
( ) High school graduage
( ) Some high school education
( ) Junior high or grammar school graduate
( ) Less than 7 years of education

4. Are you retired?

( ) Yes
( ) No

*IF YOU ARE CURRENTLY EMPLOYED, SKIP TO QUESTION NUMBER 7.**

5. If you are unemployed, how long have you been unemployed?
____ Years ____ Months

6. If you are unemployed, why are you unemployed?

( ) Laid off previous job
( ) Fired
( ) Strike
( ) Illness
( ) Quit
( ) Other ____

*7. What is your current work status?

( ) Holding a full-time job
( ) Housewife
( ) Student

8. What kind of a job do you normally hold? ______________________

9. What is your current occupation? ____________________

10. What is your main source of support?

( ) Salary
( ) Income other than salary
( ) Family/friend
( ) Savings, pensions
( ) Disability benefits, social security
( ) Unemployment insurance
( ) Public assistance
( ) Other ____________________

11. About how much was your personal income (gross) last year?

____

12. About how much was your total family income (gross) in the past year? ____________

13. How many children and adults are living on the total family income?

Children __________, Adults (18+) __________

14. Which of the following conditions have you had? (check all that apply)

( ) Fatty liver
( ) Cirrhosis
( ) Pain and/or weakness of legs
( ) Anemia
( ) Convulsions or epilepsy
( ) Diabetes
( ) Ulcers or stomach problems
( ) Mental or emotional illness
( ) Any severe bleeding problems
( ) Pancreatitis
( ) Other serious conditions ____________________

15. Have you ever held a valid driver's license?

( ) Yes
( ) No

16. Do you have a valid driver's license now?

( ) Yes
( ) No

17. For how long have you driven an automobile? ____ yrs. ____ months

18. Have you ever been arrested for driving under the influence of liquor, for impaired driving, or any drinking driving offense?

( ) Yes, how many times? _____
( ) No

19. Have you ever been arrested for being drunk and disorderly or for public intoxication?

( ) Yes, how many times? _____
( ) No

20. Have you ever been convicted of reckless driving?

( ) Yes, how many times? _____
( ) No

21. How often do you drink?

( ) Daily
( ) 4-5 times/week
( ) 2-3 times/week
( ) Once/week
( ) 2-3 times/month
( ) Once/month
( ) 2-3 times/year
( ) Once/year (special occasions)
( ) Never (abstainer)

22. During a typical drinking period, how much time elapses from starting your first drink to finishing your last drink?

( ) __________ (hours)
( ) No time (abstainer)

23. About how many drinks do you normally consume during your typical drinking period?

( ) __________ (drinks)
( ) No drinks (abstainer)

24. What alcoholic beverage do you usually drink?

( ) None (abstainer)
( ) Beer
( ) Wine
( ) Whiskey, Scotch
( ) Other ______________________

25. On what days do you usually drink?

( ) Fri., Sat., Sun.
( ) Mon. - Thurs.
( ) Daily
( ) No specific day, but not daily
( ) Special occasions only
( ) Not applicable - abstainer

26. During what time of day do you usually drink?

( ) Late evening (8 p.m. - 12 a.m.)
( ) Late evening and early morning (8 p.m. - 3 a.m.)
( ) Early evening (4 p.m. - 8 p.m.)
( ) Afternoon (12 p.m. - 4 p.m.)
( ) Morning (8 a.m. - 12 p.m.)
( ) Early morning (3 a.m. - 8 a.m.)
( ) All through the day
( ) No specific times, but not all through day
( ) Not applicable (abstainer)

27. With whom do you usually drink?

( ) Spouse
( ) Other relatives
( ) Friend(s)
( ) Alone
( ) All of the above (no preference)
( ) No one (abstainer)

28. How do you get to where you do most of your drinking?

( ) Drive a car
( ) Passenger in a car
( ) Taxi
( ) Mass transit (bus, streetcar, etc.)
( ) Walk
( ) Not applicable (drink at home)
( ) Not applicable (abstainer)

29. Where do you do most of your drinking?

( ) Home
( ) Tavern/Bar/Nightclub
( ) Parties
( ) Family or friend's home
( ) Restaurant
( ) Recreation (golf, football games, fishing)
( ) Other ______________________
( ) Nowhere (abstainer)

30. For what main reason(s) do you usually drink? (check up to two)

( ) To relax or calm nerves
( ) To be sociable or polite
( ) Because friends drink
( ) To celebrate special occasions
( ) To forget troubles
( ) To feel good, get high
( ) For the taste
( ) To help sleep
( ) Other ______________________
( ) Not applicable (abstainer)

31. Do you feel that drinking is causing any problems in your life?

( ) Yes, what? ______________________
( ) No

32. Have you ever been treated for a drinking problem?

( ) Yes, when? ______________________
( ) No

33. Has drinking ever caused you to lose your job?

( ) Yes
( ) No

34. Do you feel that you are a problem drinker?

( ) Yes
( ) No

NOTE: Please do not review or change any of your answers. Print or type the address to which you would like the $5.00 check mailed on the small letter size envelope. After you have done this, place the letter size envelope and the completed questionnaire in the large, pre-addressed envelope provided and mail it at your earliest opportunity. No postage is required. We sincerely thank you for your valuable assistance in this research to improve pedestrian safety.

Pedestrian Research Project 104

DUNLAP AND ASSOCIATES, INC.
One Parkland Drive
Darien, Connecticut 06820

APPENDIX E

All New Orleans Crashes 1973-March, 1975
for Pedestrians 14 years and Older

Key:

Injury Sample - injured pedestrians sampled at Charity Hospital

Univ. Injury Non-Sam. - all injured adult pedestrians not sampled at Charity Hospital 1973-April 1, 1976

Univ. Injury Sam. Per. - all injured adult pedestrians during study period (March 1, 1975 to April 1, 1976) sampled or not sampled

Fatal Sample - all fatal crashes studied

RAW - actual frequency

RPR - frequency as percent of row total

RPC - frequency as percent of column total

N.B. - statistics presented at the bottom of each table are not necessarily appropriate since cell size requirements are not always met in the tables. Also, rows and/or columns labeled "N/A," "other" and "X" do not enter statistical computations. Statistics here were calculated on the first two rows only.

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = MONTH OF CRASH

	1	2	3	4	5	6	7	8	9	10	11	12	ROW SUMS	KEY
INJURY SAMPLE	11	14	29	15	17	12	14	17	12	16	10	13	180	RAW
	6.111	7.778	16.111	8.333	9.444	6.567	7.778	9.444	6.667	8.889	5.556	7.222	100.000	RPR
UNIV INJURY NON-SAM	137	168	168	125	115	107	97	96	101	114	99	110	1437	RAW
	9.534	11.691	11.691	8.699	8.003	7.446	6.750	6.681	7.029	7.933	6.889	7.655	100.000	RPR
UNIV INJURY SAM PER	31	44	48	30	26	23	24	32	20	26	30	37	371	RAW
	8.356	11.860	12.938	8.086	7.008	6.199	6.469	8.625	5.391	7.008	8.086	9.973	100.000	RPR
FATAL SAMPLE	11	7	12	5	7	2	8	7	8	9	4	6	86	RAW
	12.791	8.140	13.953	5.814	8.140	2.326	9.302	8.140	9.302	10.465	4.651	6.977	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .100208 E 02
DEGREES OF FREEDOM = 11

CONT COEF = .784790 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = DAY OF WEEK

	SUN	MON	TUES	WED	THURS	FRI	SAT	ROW SUMS	KEY
INJURY SAMPLE	22	24	27	28	26	27	26	180	RAW
	12.222	13.333	15.000	15.556	14.444	15.000	14.444	100.000	RPR
UNIV INJURY NON-SAM	177	197	231	185	202	241	204	1437	RAW
	12.317	13.709	16.075	12.874	14.057	16.771	14.196	100.000	RPR
UNIV INJURY SAM PER	37	45	64	49	54	62	60	371	RAW
	9.973	12.129	17.251	13.208	14.555	16.712	16.173	100.000	RPR
FATAL SAMPLE	9	12	11	12	13	17	12	86	RAW
	10.465	13.953	12.791	13.953	15.116	19.767	13.953	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .133347 E 01
DEGREES OF FREEDOM = 6

CONT COEF = .287050 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = HOUR OF CRASH

	MID-NIGHT	1	2	3	4	5	6	7	8	9	10	11	KEY
INJURY SAMPLE	8	6	2	1			5	6	5	5	9	8	RAW
	4.444	3.333	1.111	0.556			2.778	3.333	2.778	2.778	5.000	4.444	RPR
UNIV INJURY NON-SAM	31	19	22	16	6	9	26	45	62	53	50	84	RAW
	2.157	1.322	1.531	1.113	0.418	0.626	1.809	3.132	4.315	3.688	3.470	5.846	RPR
UNIV INJURY SAM PER	6	5	5	4	3	1	8	10	18	13	12	19	RAW
	1.617	1.348	1.348	1.078	0.809	0.270	2.156	2.695	4.852	3.504	3.235	5.121	RPR
FATAL SAMPLE	5		2	1		3	5	2	4	3	4	4	RAW
	5.814		2.326	1.163		3.488	5.814	2.326	4.651	3.488	4.651	4.651	RPR

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = HOUR OF CRASH

	12	13	14	15	16	17	18	19	20	21	22	23	ROW SUMS	KEY
INJURY SAMPLE	6	10	14	10	18	19	13	9	9	7	7	3	180	RAW
	3.333	5.556	7.778	5.556	10.000	10.556	7.222	5.000	5.000	3.889	3.889	1.667	100.000	RPR
UNIV INJURY NON-SAM	76	76	86	133	113	100	84	95	76	68	62	45	1437	RAW
	5.289	5.289	5.985	9.255	7.864	6.959	5.846	6.611	5.289	4.732	4.315	3.132	100.000	RPR
UNIV INJURY SAM PER	22	23	29	36	30	25	16	20	17	15	23	11	371	RAW
	5.930	6.199	7.817	9.704	8.086	6.739	4.313	5.391	4.582	4.043	6.199	2.965	100.000	RPR
FATAL SAMPLE		5	1	3	3	5	2	4	9	10	6	5	86	RAW
		5.814	1.163	3.488	3.488	5.814	2.326	4.651	10.465	11.628	6.977	5.814	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .247407 E 02
DEGREES OF FREEDOM = 23

CONT COEF = .122759

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = CRASH AT INTERSECTION?

	YES	NO	ROW SUMS	KEY
INJURY SAMPLE	104	76	180	RAW
	57.778	42.222	100.000	RPR
UNIV INJURY NON-SAM	744	693	1437	RAW
	51.775	48.225	100.000	RPR
UNIV INJURY SAM PER	195	176	371	RAW
	52.561	47.439	100.000	RPR
FATAL SAMPLE	40	46	86	RAW
	46.512	53.488	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .231148 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .207704 E 01

CONT COEF = .377815 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = TYPE OF STRIKING VEHICLE 1

	CAR	TAXI	BUS	TRUCK	OTHER SPEC	N/A	ROW SUMS	KEY
INJURY SAMPLE	135	4	7	18	7	9	180	RAW
	75.000	2.222	3.889	10.000	3.889	5.000	100.000	RPR
UNIV INJURY NON-SAM	1035	10	77	148	86	81	1437	RAW
	72.025	0.696	5.358	10.299	5.985	5.637	100.000	RPR
UNIV INJURY SAM PER	272	3	18	38	22	18	371	RAW
	73.315	0.809	4.852	10.243	5.930	4.852	100.000	RPR
FATAL SAMPLE	62	1	1	14	5	3	86	RAW
	72.093	1.163	1.163	16.279	5.814	3.488	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .636027 E 01
DEGREES OF FREEDOM = 4

CONT COEF = .644044 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = DRIVER 1 RESIDENCE

	NEW ORLEANS	NEW ORLEANS SUBURB	OTHER LA.	OTHER U.S.	OTHER/ UNK	HIT AND RUN	N/A	ROW SUMS	KEY
INJURY SAMPLE	127	18	7	5		23		180	RAW
	70.556	10.000	3.889	2.778		12.778		100.000	RPR
UNIV INJURY NON-SAM	913	199	27	32	9	250	7	1437	RAW
	63.535	13.848	1.879	2.227	0.626	17.397	0.487	100.000	RPR
UNIV INJURY SAM PER	225	34	8	15	3	83	3	371	RAW
	60.647	9.164	2.156	4.043	0.809	22.372	0.809	100.000	RPR
FATAL SAMPLE	56	21	1	2		6		86	RAW
	65.116	24.419	1.163	2.326		6.977		100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .938653 E 01
DEGREES OF FREEDOM = 5

CONT COEF = .761337 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = PEDESTRIAN 1 RESIDENCE

	NEW ORLEANS	NEW ORLEANS SUBURB	OTHER LA.	OTHER U.S.	FOREIGN	OTHER/UNK	HIT AND RUN	N/A	ROW SUMS	KEY
INJURY SAMPLE	168	3		7	1	1			180	RAW
	93.333	1.667		3.889	0.556	0.556			100.000	RPR
UNIV INJURY NON-SAM	1230	100	17	53	2	21	2	12	1437	RAW
	85.595	6.959	1.183	3.688	0.139	1.461	0.139	0.835	100.000	RPR
UNIV INJURY SAM PER	316	36	3	11		5			371	RAW
	85.175	9.704	0.809	2.965		1.348			100.000	RPR
FATAL SAMPLE	73	5	1	4		3			86	RAW
	84.884	5.814	1.163	4.651		3.488			100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .129028 E 02 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 6

CONT COEF = .893029 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = DRIVER 1 SEX

	MALE	FEMALE	N/A	ROW SUMS	KEY
INJURY SAMPLE	130	35	15	180	RAW
	72.222	19.444	8.333	100.000	RPR
UNIV INJURY NON-SAM	1056	276	105	1437	RAW
	73.486	19.207	7.307	100.000	RPR
UNIV INJURY SAM PER	255	82	34	371	RAW
	68.733	22.102	9.164	100.000	RPR
FATAL SAMPLE	71	9	6	86	RAW
	82.558	10.465	6.977	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .215399 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .202934 E -02

CONT COEF = .379318 E -02

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = PEDESTRIAN 1 SEX

	MALE	FEMALE	N/A	ROW SUMS	KEY
INJURY SAMPLE	111	69		180	RAW
	61.667	38.333		100.000	RPR
UNIV INJURY NON-SAM	934	497	6	1437	RAW
	64.997	34.586	0.418	100.000	RPR
UNIV INJURY SAM PER	248	123		371	RAW
	66.846	33.154		100.000	RPR
FATAL SAMPLE	62	24		86	RAW
	72.093	27.907		100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .910444
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .759235

CONT COEF = .237660 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR
OLDER

ROWS = SAMPLE STATUS   COLUMNS = DRIVER 1
AGE

	5-9	10-14	15-19	20-24	25-29	30-39	40-49	50-59	60-69	70+	N/A	ROW SUMS	KEY
INJURY SAMPLE			7	34	24	29	19	32	9	3	23	180	RAW
			3.889	18.889	13.333	16.111	10.556	17.778	5.000	1.667	12.778	100.000	RPR
UNIV INJURY NON-SAM	1	3	122	217	197	231	173	145	66	28	254	1437	RAW
	0.070	0.209	8.490	15.101	13.709	16.075	12.039	10.090	4.593	1.949	17.676	100.000	RPR
UNIV INJURY SAM PER		1	27	55	45	49	40	47	19	6	82	371	RAW
		0.270	7.278	14.825	12.129	13.208	10.782	12.668	5.121	1.617	22.102	100.000	RPR
FATAL SAMPLE			13	15	7	8	19	7	5	6	6	86	RAW
			15.116	17.442	8.140	9.302	22.093	8.140	5.814	6.977	6.977	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .141868 E 02
DEGREES OF FREEDOM = 9

CONT COEF = .102354

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR
OLDER

ROWS = SAMPLE STATUS   COLUMNS = PEDESTRIAN 1
AGE

	10-14	15-19	20-24	25-29	30-39	40-49	50-59	60-69	70+	ROW SUMS	KEY
INJURY SAMPLE	2	23	23	20	27	27	21	18	19	180	RAW
	1.111	12.778	12.778	11.111	15.000	15.000	11.667	10.000	10.556	100.000	RPR
UNIV INJURY NON-SAM	36	201	223	162	237	165	176	119	118	1437	RAW
	2.505	13.987	15.518	11.273	16.493	11.482	12.248	8.281	8.212	100.000	RPR
UNIV INJURY SAM PER	8	44	67	49	58	35	47	27	36	371	RAW
	2.156	11.860	18.059	13.208	15.633	9.434	12.668	7.278	9.704	100.000	RPR
FATAL SAMPLE	1	5	2	3	10	13	9	18	25	86	RAW
	1.163	5.814	2.326	3.488	11.628	15.116	10.465	20.930	29.070	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .581032 E 01
DEGREES OF FREEDOM = 8

CONT COEF = .598365 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = DRIVER 1 DEGREE OF INJURY

	SEVERE	NOTICE-ABLE	COMPL-AINED OF PAIN	NONE	N/A	ROW SUMS	KEY
INJURY SAMPLE		2	4	151	23	180	RAW
		1.111	2.222	83.889	12.778	100.000	RPR
UNIV INJURY NON-SAM	1	39	39	1102	255	1437	RAW
	0.070	2.714	2.714	76.688	17.815	100.000	RPR
UNIV INJURY SAM PER		8	9	272	82	371	RAW
		2.156	2.426	73.315	22.102	100.000	RPR
FATAL SAMPLE	2	4	2	71	7	86	RAW
	2.326	4.651	2.326	82.558	8.140	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .236070 E 01
DEGREES OF FREEDOM = 3

CONT COEF = .419679 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = PEDESTRIAN 1 DEGREE OF INJURY

	FATAL	SEVERE	NOTICE-ABLE	COMPL-AINED OF PAIN	NONE	N/A	ROW SUMS	KEY
INJURY SAMPLE		12	104	64			180	RAW
		6.667	57.778	35.556			100.000	RPR
UNIV INJURY NON-SAM		69	643	656	35	34	1437	RAW
		4.802	44.746	45.651	2.436	2.366	100.000	RPR
UNIV INJURY SAM PER		10	137	204	15	5	371	RAW
		2.695	36.927	54.987	4.043	1.348	100.000	RPR
FATAL SAMPLE	86						86	RAW
	100.000						100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .146703 E 02 (SIGNIFICANT AT .01 LEVEL)
DEGREES OF FREEDOM = 3

CONT COEF = .958242 E -01

***** TABLE TOTALS *****
RAW= 2076

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = ALIGNMENT

	STRAIGT LEVEL	CURVE LEVEL	ON GRADE STRAIGT	ON GRADE CURVE	HILL-CREST STRAIGT	DIP, HUMP-STRAIGT	DIP, HUMP-CURVE	OTHER	N/A	ROW SUMS	KEY
INJURY SAMPLE	172	5	1					1	1	180	RAW
	95.556	2.778	0.556					0.556	0.556	100.000	RPR
UNIV INJURY NON-SAM	1325	43	14	3	5	5	2	30	9	1437	RAW
	92.206	2.992	0.974	0.209	0.418	0.348	0.139	2.088	0.626	100.000	RPR
UNIV INJURY SAM PER	343	10	2		2	1	1	11	1	371	RAW
	92.453	2.695	0.539		0.539	0.270	0.270	2.965	0.270	100.000	RPR
FATAL SAMPLE	85		1							86	RAW
	98.837		1.163							100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .448123 E 01
DEGREES OF FREEDOM = 7

CONT COEF = .527334 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = TYPE OF ROADWAY

	ONE WAY	TWO WAY NOT DIVIDED	EXPRESS -WAY	OTHER DIVIDED	OTHER	N/A	ROW SUMS	KEY
INJURY SAMPLE	37	38	5	95	4	1	180	RAW
	20.556	21.111	2.778	52.778	2.222	0.556	100.000	RPR
UNIV INJURY NON-SAM	326	296	33	647	128	7	1437	RAW
	22.686	20.598	2.296	45.024	8.907	0.487	100.000	RPR
UNIV INJURY SAM PER	96	73	6	148	47	1	371	RAW
	25.876	19.677	1.617	39.892	12.668	0.270	100.000	RPR
FATAL SAMPLE	12	7	12	53	2		86	RAW
	13.953	8.140	13.953	61.628	2.326		100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .113608 E 02 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 4

CONT COEF = .837332 E -01

***** TABLE TOTALS *****
RAW= 2076

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = KIND OF LOCATION

	MANUF OR INDUST	BUSI-NESS CONT.	BUSI-NESS MIXED	RESID-ENTIAL	RESI-DENTIAL SCATTER	SCHOOL OR PLYGRND	OPEN COUNTRY	OTHER	N/A	ROW SUMS	KEY
INJURY	1	37	85	47	4	3		2	1	180	RAW
SAMPLE	0.556	20.556	47.222	26.111	2.222	1.667		1.111	0.556	100.000	RPR
UNIV	13	302	755	269	16	16	23	28	15	1437	RAW
INJURY	0.905	21.016	52.540	18.720	1.113	1.113	1.601	1.949	1.044	100.000	RPR
NON-SAM											
UNIV	2	103	173	70	2	6	5	8	2	371	RAW
INJURY	0.539	27.763	46.631	18.868	0.539	1.617	1.348	2.156	0.539	100.000	RPR
SAM PER											
FATAL	2	11	50	12	2	1	4	3	1	86	RAW
SAMPLE	2.326	12.791	58.140	13.953	2.326	1.163	4.651	3.488	1.163	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .110304 E 02
DEGREES OF FREEDOM = 7

CONT COEF = .827197 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = ROAD SURFACE CONDITION

	DRY	WET	MUDDY	OTHER	N/A	ROW SUMS	KEY
INJURY SAMPLE	152	28				180	RAW
	84.444	15.556				100.000	RPR
UNIV INJURY NON-SAM	1253	171	3	1	9	1437	RAW
	87.196	11.900	0.209	0.070	0.626	100.000	RPR
UNIV INJURY SAM PER	338	31		1	1	371	RAW
	91.105	8.356		0.270	0.270	100.000	RPR
FATAL SAMPLE	78	8				86	RAW
	90.698	9.302				100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .235966 E 01
DEGREES OF FREEDOM = 3

CONT COEF = .382792 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = ROAD SURFACE TYPE

	CONC-RETE	BLACK-TOP	BRICK	GRAVEL	DIRT	OTHER	N/A	ROW SUMS	KEY
INJURY SAMPLE	31	145	2			1	1	180	RAW
	17.222	80.556	1.111			0.556	0.556	100.000	RPR
UNIV INJURY NON-SAM	275	1089	9	6	2	10	46	1437	RAW
	19.137	75.783	0.626	0.418	0.139	0.696	3.201	100.000	RPR
UNIV INJURY SAM PER	78	279	1	2	1	3	7	371	RAW
	21.024	75.202	0.270	0.539	0.270	0.809	1.887	100.000	RPR
FATAL SAMPLE	15	66					5	86	RAW
	17.442	76.744					5.814	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .222618 E 01
DEGREES OF FREEDOM = 5

CONT COEF = .376290 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR
OLDER

ROWS = SAMPLE STATUS   COLUMNS = ROADWAY CONDITION

	DEFECT SHOULDR	HOLES	DEEP RUTS	BUMPS	LOOSE SURFACE MTLS	CONSTR REPAIR	DWND CLEAR. LTD	FLOOD-ING	WATER ON ROAD	OTHER DEFECTS	NO DEFECTS	N/A	ROW SUMS	KEY
INJURY SAMPLE	1			2		1			6	4	164	2	180	RAW
	0.556			1.111		0.556			3.333	2.222	91.111	1.111	100.000	RPR
UNIV INJURY NON-SAM	6	9	2	14	6	9	1	1	40	6	1330	13	1437	RAW
	0.418	0.626	0.139	0.974	0.418	0.626	0.070	0.070	2.784	0.418	92.554	0.905	100.000	RPR
UNIV INJURY SAM PERI	1	1	1	4	2	4			9	1	345	3	371	RAW
	0.270	0.270	0.270	1.078	0.539	1.078			2.426	0.270	92.992	0.809	100.000	RPR
FATAL SAMPLE						2			1	1	81	1	86	RAW
						2.326			1.163	1.163	94.186	1.163	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .111412 E 02
DEGREES OF FREEDOM = 10

CONT COEF = .831055 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = LIGHTING

	DAY-LIGHT	DARK NO LIGHTS	DUSK OR DAWN	DARK CONTIN LIGHTS	DARK INTER LIGHTS	N/A	ROW SUMS	KEY
INJURY SAMPLE	117	1	2	48	11	1	180	RAW
	65.000	0.556	1.111	26.667	6.111	0.556	100.000	RPR
UNIV INJURY NON-SAM	934	17	37	388	49	12	1437	RAW
	64.997	1.183	2.575	27.001	3.410	0.835	100.000	RPR
UNIV INJURY SAM PER	249	7	5	92	13	5	371	RAW
	67.116	1.887	1.348	24.798	3.504	1.348	100.000	RPR
FATAL SAMPLE	33	4	6	41	1	1	86	RAW
	38.372	4.651	6.977	47.674	1.163	1.163	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .512639 E 01
DEGREES OF FREEDOM = 4

CONT COEF = .564430 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = TRAFFIC CONTROL

	STOP SIGN	YIELD SIGN	RED SIGNAL ON	YELLOW SIGNAL ON	GREEN SIGNAL ON	GREEN ARROW ON	RT TURN ON RED	LIGHT PHASE UNK	FLASH-ING YELLOW	OFFICER	YELLOW NO PASSING	WHITE DASHED LINE	KEY
INJURY SAMPLE	10		3	2	28	1		5			2	38	RAW
	5.556		1.667	1.111	15.556	0.556		2.778			1.111	21.111	RPR
UNIV INJURY NON-SAM	85	3	37	7	218	8	1	14	2	7	9	208	RAW
	5.915	0.209	2.575	0.487	15.170	0.557	0.070	0.974	0.139	0.487	0.626	14.475	RPR
UNIV INJURY SAM PER	26		9	3	57	1		1		3	2	58	RAW
	7.008		2.426	0.809	15.364	0.270		0.270		0.809	0.539	15.633	RPR
FATAL SAMPLE	1		1	1	15			3				26	RAW
	1.163		1.163	1.163	17.442			3.488				30.233	RPR

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = TRAFFIC CONTROL

	NO CONTROL	OTHER	N/A	ROW SUMS	KEY
INJURY SAMPLE	83	6	2	180	RAW
	46.111	3.333	1.111	100.000	RPR
UNIV INJURY NON-SAM	757	55	26	1437	RAW
	52.679	3.827	1.809	100.000	RPR
UNIV INJURY SAM PER	189	20	2	371	RAW
	50.943	5.391	0.539	100.000	RPR
FATAL SAMPLE	36	1	2	86	RAW
	41.860	1.163	2.326	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .142884 E 02
DEGREES OF FREEDOM = 13

CONT COEF = .944031 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS

COLUMNS = TRAFFIC CONTROL CONDITIONS

	FUNCT-IONING	NOT FUNCT-IONING	CONTROL OBSCUR-ED	LANE MK UNCLEAR DEFECT	N/A	ROW SUMS	KEY
INJURY SAMPLE	97	1			82	180	RAW
	53.889	0.556			45.556	100.000	RPR
UNIV INJURY NON-SAM	707	6	1	3	720	1437	RAW
	49.200	0.418	0.070	0.209	50.104	100.000	RPR
UNIV INJURY SAM PERI	196	1		1	173	371	RAW
	52.830	0.270		0.270	46.631	100.000	RPR
FATAL SAMPLE	49				37	86	RAW
	56.977				43.023	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .581770
DEGREES OF FREEDOM = 3

CONT COEF = .267082 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = WEATHER

	CLEAR	CLOUDY	RAINING	SNOWING SLEET-ING	FOG	DUST	N/A	ROW SUMS	KEY
INJURY SAMPLE	130	23	24		1		2	180	RAW
	72.222	12.778	13.333		0.556		1.111	100.000	RPR
UNIV INJURY NON-SAM	1015	288	112	3	6	1	12	1437	RAW
	70.633	20.042	7.794	0.209	0.418	0.070	0.835	100.000	RPR
UNIV INJURY SAM PERB	286	57	24		2	1	1	371	RAW
	77.089	15.364	6.469		0.539	0.270	0.270	100.000	RPR
FATAL SAMPLE	63	12	8		1		2	86	RAW
	73.256	13.953	9.302		1.163		2.326	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .108751 E 02
DEGREES OF FREEDOM = 5

CONT COEF = .820884 E -01

***** TABLE TOTALS *****
RAW= 2076

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = LOCATION OF IMPACT

	MAIN TRAVEL LANE	IMP SHLDR LEFT	IMP SHLDR RIGHT	OFF ROAD LEFT	OFF ROAD RIGHT	OFF ROAD STRAIGT	MKED PED XWALK	LEFT TURN LANE	RIGHT TURN LANE	MEDIAN OPENING	CURB RETURN	TRAFFIC ISLAND	KEY
INJURY SAMPLE	162	3	6	2	1		1						RAW
	90.000	1.667	3.333	1.111	0.556		0.556						RPR
UNIV INJURY NON-SAM	1092	33	95	19	44	1	7	2	2	6	4	6	RAW
	75.992	2.296	6.611	1.322	3.062	0.070	0.487	0.139	0.139	0.418	0.278	0.418	RPR
UNIV INJURY SAM PERS	260	7	32	9	13	1	2		1	1	1	2	RAW
	70.081	1.887	8.625	2.426	3.504	0.270	0.539		0.270	0.270	0.270	0.539	RPR
FATAL SAMPLE	77	1	2		2		1						RAW
	89.535	1.163	2.326		2.326		1.163						RPR

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = LOCATION OF IMPACT

	OFF RAMP TAPER	OFF RAMP ROAD	ON RAMP ROAD	AUX LANE	SERVICE ROAD	OTHER	N/A	ROW SUMS	KEY
INJURY SAMPLE				1 0.556		2 1.111	2 1.111	180 100.000	RAW RPR
UNIV INJURY NON-SAM	1 0.070	1 0.070	1 0.070	1 0.070	3 0.209	106 7.376	13 0.905	1437 100.000	RAW RPR
UNIV INJURY SAM PER					1 0.270	40 10.782	1 0.270	371 100.000	RAW RPR
FATAL SAMPLE	1 1.163					2 2.326		86 100.000	RAW RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .266452 E 02
DEGREES OF FREEDOM = 17

CONT COEF = .127908

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = VISION OBSCUREMENTS

	RAIN SNOW WNDSHLD	WNDSHLD OBSCU-RED	LOAD	TREES BUSHES ETC	SIGN BOARD	HILL-CREST	PARKED VEHICLE	MOVING VEHICLE	BLINDED BY HEAD LIGHTS	BLINDED BY SUN	OTHER	NONE	N/A
INJURY SAMPLE	8 4.444			1 0.556			12 6.667	9 5.000			5 2.778	144 80.000	1 0.556
UNIV INJURY NON-SAM	47 3.271	1 0.070	3 0.209	5 0.348	1 0.070	1 0.070	50 3.479	22 1.531	2 0.139	7 0.487	36 2.505	1220 84.899	42 2.923
UNIV INJURY SAN PER	7 1.887	1 0.270	1 0.270	1 0.270			11 2.965	4 1.078		1 0.270	12 3.235	325 87.601	8 2.156
FATAL SAMPLE	4 4.651						1 1.163	3 3.488			5 5.814	73 84.884	

ROW SUMSKEY

180RAW
100.000RPR

1437RAW
100.000RPR

371RAW
100.000RPR

86RAW
100.000RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .170708 E 02
DEGREES OF FREEDOM = 11

CONT COEF = .103600

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = CONDITION OF DRIVER

	ASLEEP	INATT/ DISTR	ILLNESS	FAINT-ING	OTHER BODY DEFECTS	HAD BEEN DRINKNG	COND UNK	NORMAL	N/A	ROW SUMS	KEY
INJURY SAMPLE		9			1	4	17	141	8	180	RAW
		5.000			0.556	2.222	9.444	78.333	4.444	100.000	RPR
UNIV INJURY NON-SAM	3	53	4	3	3	47	204	1062	58	1437	RAW
	0.209	3.688	0.278	0.209	0.209	3.271	14.196	73.904	4.036	100.000	RPR
UNIV INJURY SAM PER	2	21	1	1	3	12	62	257	12	371	RAW
	0.539	5.660	0.270	0.270	0.809	3.235	16.712	69.272	3.235	100.000	RPR
FATAL SAMPLE						8	13	64	1	86	RAW
						9.302	15.116	74.419	1.163	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .638863 E 01
DEGREES OF FREEDOM = 7

CONT COEF = .640479 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = CONDITION OF PEDESTRIAN

	ASLEEP	INATT/ DISTR	ILLNESS	EYE-SIGHT DEFECT	HEARING DEFECT	FAT-IGUED	OTHER BODY DEFECTS	HAD BEEN DRINKNG	COND UNK	NORMAL	N/A	ROW SUMS	KEY
INJURY SAMPLE		22	1			1		38	12	97	9	180	RAW
		12.222	0.556			0.556		21.111	6.667	53.889	5.000	100.000	RPR
UNIV INJURY NON-SAM	1	140	2	5	1	1	7	210	75	826	169	1437	RAW
	0.070	9.743	0.139	0.348	0.070	0.070	0.487	14.614	5.219	57.481	11.761	100.000	RPR
UNIV INJURY SAM PERI	1	41	1	1			2	46	15	199	65	371	RAW
	0.270	11.051	0.270	0.270			0.539	12.399	4.043	53.639	17.520	100.000	RPR
FATAL SAMPLE		5					1	12	31	16	21	86	RAW
		5.814					1.163	13.953	36.047	18.605	24.419	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .111956 E 02
DEGREES OF FREEDOM = 9

CONT COEF = .070640 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR
OLDER

ROWS = SAMPLE STATUS   COLUMNS = PEDESTRIAN ACTIONS

	XING/ ENTERST INTER	XING NOT AT INTER	WALK IN ROAD W/TRAFF	WALK IN ROAD AG/TRAF	SLEEPNG IN ROAD	STANDNG IN ROAD	GETTING ON/OFF VEHICLE	PUSHING WORKING ON VEH	OTHER WORK IN ROAD	PLAYING IN ROAD	OTHER IN ROAD	NOT IN ROAD	N/A	ROW SUMS	KEY
INJURY SAMPLE	86	59	3			4	3	3	1	2	6	6	7	180	RAW
	47.778	32.778	1.667			2.222	1.667	1.667	0.556	1.111	3.333	3.333	3.889	100.000	RPR
UNIV INJURY NON-SAM	456	332	38	12	5	71	25	28	34	27	86	156	167	1437	RAW
	31.733	23.104	2.644	0.835	0.348	4.941	1.740	1.949	2.366	1.879	5.985	10.856	11.621	100.000	RPR
UNIV INJURY SAM PER	109	75	16	2	1	17	8	7	12	7	24	52	41	371	RAW
	29.380	20.216	4.313	0.539	0.270	4.582	2.156	1.887	3.235	1.887	6.469	14.016	11.051	100.000	RPR
FATAL SAMPLE	35	24	2			1		1	1	1	8	6	7	86	RAW
	40.698	27.907	2.326			1.163		1.163	1.163	1.163	9.302	6.977	8.140	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .344250 E 02   (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 11

CONT COEF = .152646

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = VEHICLE CONDITION

	DEF BRAKES	DEF HEAD-LIGHTS	DEF STEERNG	TIRE FAILURE	WORN/ SMOOTH TIRES	ENGINE FAILURE	NO DEFECTS OBS	OTHER DEF	N/A	ROW SUMS	KEY
INJURY	2						166	6	6	180	RAW
SAMPLE	1.111						92.222	3.333	3.333	100.000	RPR
UNIV	15	7	4	1	4	2	1274	46	84	1437	RAW
INJURY	1.044	0.487	0.278	0.070	0.278	0.139	88.657	3.201	5.846	100.000	RPR
NON-SAM											
UNIV	5	1	2		2		323	12	26	371	RAW
INJURY	1.348	0.270	0.539		0.539		87.062	3.235	7.008	100.000	RPR
SAM PER											
FATAL	3	1			3		76	1	2	86	RAW
SAMPLE	3.488	1.163			3.488		88.372	1.163	2.326	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .234340 E 01
DEGREES OF FREEDOM = 7

CONT COEF = .391445 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR
OLDER

ROWS = SAMPLE STATUS   COLUMNS = MOVEMENT PRIOR TO ACCIDENT

	STOPPED	GOING STRAIGT	WRONG WAY	BACKING	CROSSED MEDIAN	RAN OFF ROAD	CHGING LANES	MAKING LEFT TURN	MAKING RIGHT TURN	MAKING U-TURN	STOPPED FOR LT TURN	STOPPED FOR RT TURN	KEY
INJURY SAMPLE	6	145	1	6			3	2	7	2		1	RAW
	3.333	80.556	0.556	3.333			1.667	1.111	3.889	1.111		0.556	RPR
UNIV INJURY NON-SAM	73	1001	5	111	3	10	5	57	77	1	1	2	RAW
	5.080	69.659	0.348	7.724	0.209	0.696	0.348	3.967	5.358	0.070	0.070	0.139	RPR
UNIV INJURY SAM PER	20	244	3	38		2	1	9	21	1			RAW
	5.391	65.768	0.809	10.243		0.539	0.270	2.426	5.660	0.270			RPR
FATAL SAMPLE		74	1			1	1	1	1				RAW
		86.047	1.163			1.163	1.163	1.163	1.163				RPR

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = MOVEMENT PRIOR TO ACCIDENT

	SLOW FOR LT TURN	SLOW FOR RT TURN	SLOW TO STOP	PARKED	PARKING MANUE-VER	ENTERNG TRAFFIC SHLDR	ENTERNG TRAFFIC PKING	ENTERNG TRAFFIC DRIVWAY	ENTERNG FREEWAY FR/RAMP	LEAVNG FREEWAY OFFRAMP	N/A	ROW SUMS	KEY
INJURY SAMPLE			3	1							3	180	RAW
			1.667	0.556							1.667	100.000	RPR
UNIV INJURY NON-SAM	8	1	15	10	5	2	8	5	2		35	1437	RAW
	0.557	0.070	1.044	0.696	0.348	0.139	0.557	0.348	0.139		2.436	100.000	RPR
UNIV INJURY SAM PERI	1		9	3	4		1	1	1		12	371	RAW
	0.270		2.426	0.809	1.078		0.270	0.270	0.270		3.235	100.000	RPR
FATAL SAMPLE	1		1					1		1	3	86	RAW
	1.163		1.163					1.163		1.163	3.488	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .348550 E 02   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 20

CONT COEF = .144960

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = REASON FOR MOVEMENT

	AVOID VEHICLE	AVOID PED	AVOID OTHER OBJECT	PASSING	OUT OF CONTROL	FOR TRAFFIC CONTROL	DUE TO CONGEST -ION	DUE TO PRIOR ACCID	DUE TO DRIVER COND	DUE TO DRIVER VIOL	DUE TO VEHICLE COND	DUE TO PAVEMNT COND	KEY
INJURY SAMPLE	2	2					1		2	25			RAW
	1.111	1.111					0.556		1.111	13.889			RPR
UNIV INJURY NON-SAM	16	41	2	2	11	3	3	3	12	263	12	1	RAW
	1.113	2.853	0.139	0.139	0.765	0.209	0.209	0.209	0.835	18.302	0.835	0.070	RPR
UNIV INJURY SAM PER	2	5		2	3	2	1	1	2	88	3	1	RAW
	0.539	1.348		0.539	0.809	0.539	0.270	0.270	0.539	23.720	0.809	0.270	RPR
FATAL SAMPLE	1	3			1				4	9			RAW
	1.163	3.488			1.163				4.651	10.465			RPR

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = REASON FOR MOVEMENT

	HIGH WIND	NORMAL	REASON UNK	OTHER	N/A	ROW SUMS	KEY
INJURY SAMPLE		127	15	4	2	180	RAW
		70.556	8.333	2.222	1.111	100.000	RPR
UNIV INJURY NON-SAM	2	838	130	48	50	1437	RAW
	0.139	58.316	9.047	3.340	3.479	100.000	RPR
UNIV INJURY SAM PER		191	41	15	14	371	RAW
		51.482	11.051	4.043	3.774	100.000	RPR
FATAL SAMPLE		55	7	3	3	86	RAW
		63.953	8.140	3.488	3.488	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .133841 E 02
DEGREES OF FREEDOM = 15

CONT COEF = .920847 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS COLUMNS = DRIVER VIOLATION

	NONE	YES	ROW SUMS	KEY
INJURY SAMPLE	127	53	180	RAW
	70.556	29.444	100.000	RPR
UNIV INJURY NON-SAM	827	610	1437	RAW
	57.550	42.450	100.000	RPR
UNIV INJURY SAM PER	200	171	371	RAW
	53.908	46.092	100.000	RPR
FATAL SAMPLE	60	26	86	RAW
	69.767	30.233	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .111842 E 02 (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .106530 E 02 (SIGNIFICANT AT .01 LEVEL)

CONT COEF = .828801 E -01

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = FIRST CONTRIBUTING FACTORS

	VIOL-ATIONS	MOVE-MENT PRIOR	VISION OBSC	PED/ DRIV COND	PED ACTIONS	VEHICLE COND	ROAD SURFACE	ROAD COND	LIGHT-ING	WEATHER	TRAFFIC CONTROL	KIND OF LOC-ATION	N/A	ROW SUMS	KEY
INJURY SAMPLE	58 32.222	8 4.444	6 3.333	9 5.000	90 50.000	1 0.556	1 0.556					2 1.111	5 2.778	180 100.000	RAW RPR
UNIV INJURY NON-SAM	554 38.553	140 9.743	46 3.201	77 5.358	521 36.256	15 1.044	3 0.209	3 0.209	3 0.209	3 0.209	1 0.070	9 0.626	62 4.315	1437 100.000	RAW RPR
UNIV INJURY SAM PER	163 43.935	35 9.434	11 2.965	21 5.660	114 30.728	1 0.270	1 0.270	1 0.270		3 0.809		3 0.809	18 4.852	371 100.000	RAW RPR
FATAL SAMPLE	25 29.070	7 8.140	1 1.163	5 5.814	43 50.000				1 1.163	1 1.163			3 3.488	86 100.000	RAW RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .173569 E 02
DEGREES OF FREEDOM = 11

CONT COEF = .105232

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = SECOND CONTRIBUTING FACTORS

	MOVE-MENT PRIOR	VISION OBSC	PED/ DRIV COND	PED ACTIONS	VEHICLE COND	ROAD SURFACE	ROAD COND	LIGHT-ING	WEATHER	TRAFFIC CONTROL	KIND OF LOC-ATION	N/A	ROW SUMS	KEY
INJURY SAMPLE	6	1	7	23	3		1		2	1		136	180	RAW
	3.333	0.556	3.889	12.778	1.667		0.556		1.111	0.556		75.556	100.000	RPR
UNIV INJURY NON-SAM	63	8	42	167	13	2	6	3	13	1	17	1102	1437	RAW
	4.384	0.557	2.923	11.621	0.905	0.139	0.418	0.209	0.905	0.070	1.183	76.688	100.000	RPR
UNIV INJURY SAM PER	26	3	9	44	3	1	2		5		1	277	371	RAW
	7.008	0.809	2.426	11.860	0.809	0.270	0.539		1.348		0.270	74.663	100.000	RPR
FATAL SAMPLE	3		3	16					1		1	62	86	RAW
	3.488		3.488	18.605					1.163		1.163	72.093	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .760990 E 01
DEGREES OF FREEDOM = 10

CONT COEF = .140298

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = THIRD CONTRIBUTING FACTORS

	PED/ DRIV COND	PED ACTIONS	VEHICLE COND	ROAD SURFACE	LIGHT-ING	WEATHER	TRAFFIC CONTROL	KIND OF LOC-ATION	N/A	ROW SUMS	KEY
INJURY SAMPLE		8		2		1		1	168	180	RAW
		4.444		1.111		0.556		0.556	93.333	100.000	RPR
UNIV INJURY NON-SAM	6	29	3	6	8	6	1	21	1357	1437	RAW
	0.418	2.018	0.209	0.418	0.557	0.418	0.070	1.461	94.433	100.000	RPR
UNIV INJURY SAM PER	1	6	1		4			5	354	371	RAW
	0.270	1.617	0.270		1.078			1.348	95.418	100.000	RPR
FATAL SAMPLE	1				1				84	86	RAW
	1.163				1.163				97.674	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .751906 E 01
DEGREES OF FREEDOM = 7

CONT COEF = .274871

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = ACCIDENT TYPE REPORT ONLY

	DART-OUT 1ST	DART-OUT 2ND	INTER DASH	VTM	PED STRIKES VEHICLE	MULT THREAT	BUS STOP	BACKING	WEIRD	DIS. VEHICLE	AUTO-AUTO	MID-BLOCK DASH	KEY
INJURY SAMPLE	13	13	34	1	16	7	8	5	3	4	5	6	RAW
	7.222	7.222	18.889	0.556	8.889	3.889	4.444	2.778	1.667	2.222	2.778	3.333	RPR
UNIV INJURY NON-SAM	86	55	181	29	72	51	43	103	25	60	93	44	RAW
	5.985	3.827	12.596	2.018	5.010	3.549	2.992	7.168	1.740	4.175	6.472	3.062	RPR
UNIV INJURY SAM PER	16	8	39	5	18	7	7	35	7	13	32	12	RAW
	4.313	2.156	10.512	1.348	4.852	1.887	1.887	9.434	1.887	3.504	8.625	3.235	RPR
FATAL SAMPLE	8	3	19		1	5			1	1	3		RAW
	9.302	3.488	22.093		1.163	5.814			1.163	1.163	3.488		RPR

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = ACCIDENT TYPE REPORT ONLY

	TRAPPED	TURNING VEHICLE	PED NOT IN ROAD	OTHER UNIQUE	NOT CLASS	N/A	ROW SUMS	KEY
INJURY SAMPLE		10	4	17	34		180	RAW
		5.556	2.222	9.444	18.889		100.000	RPR
UNIV INJURY NON-SAM	7	87	109	200	191	1	1437	RAW
	0.487	6.054	7.585	13.918	13.292	0.070	100.000	RPR
UNIV INJURY SAM PER	2	20	38	58	54		371	RAW
	0.539	5.391	10.243	15.633	14.555		100.000	RPR
FATAL SAMPLE			4	16	12	13	86	RAW
			4.651	18.605	13.953	15.115	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .402293 E 02   (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 16

CONT COEF = .155851

***** TABLE TOTALS *****
RAW= 2074

STATISTICS ON FIRST 2 ROWS ONLY

AGE SCREEN = 14 OR OLDER

ROWS = SAMPLE STATUS   COLUMNS = SECOND ACCIDENT TYPE REPORT ONLY

	NON PED ACTIV IN ROAD	FREEWAY EXIT	FREEWAY CROSS	PED EXIT	PED WALK IN ROAD	PROB NON-ACCID	ROAD WORK SITE	RTR RIGHT	N/A	ROW SUMS	KEY
INJURY SAMPLE	12	1	1	1	1	4	1		159	180	RAW
	6.667	0.556	0.556	0.556	0.556	2.222	0.556		88.333	100.000	RPR
UNIV INJURY NON-SAM	108	17	4	33	44	45	9	2	1175	1437	RAW
	7.516	1.188	0.278	2.296	3.062	3.132	0.626	0.139	81.768	100.000	RPR
UNIV INJURY SAM PER	34		1	5	18	12	2	1	298	371	RAW
	9.164		0.270	1.348	4.852	3.235	0.539	0.270	80.323	100.000	RPR
FATAL SAMPLE	6	2	5	1					72	86	RAW
	6.977	2.326	5.814	1.163					83.721	100.000	RPR

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .546468 E 01
DEGREES OF FREEDOM = 7

CONT COEF = .137637

***** TABLE TOTALS *****
RAW= 2074

APPENDIX F

Fatal versus Non-Fatal Comparisons

for Studied Cases

Key:

Fatal - Cases where pedestrian died within 24 hours of the crash

Injury - Cases where pedestrian survived at least 24 hours

RAW - Actual frequency

RPR - Frequency as percent of row total

RPC - Frequency as percent of column total

N.B. - Statistics presented at the bottom of each table are not necessarily appropriate since all size requirements are not always met in the tables. Also, rows and/or columns labeled "N/A," "other" and "x" do not enter statistical computations.

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = EXPERIMENTAL BAC COMPLETE

	REFUS-ED	MISSING	POSI-TIVE	000	001-009	010-049	050-099	100-149	150-199	200-249	250-299	300-349	KEY
FATAL		4	2	39	1	1	3	9	6	7	8	5	RAW
		4.651	2.326	45.349	1.163	1.163	3.488	10.465	6.977	8.140	9.302	5.814	RPR
		12.121	100.000	34.821	11.111	16.667	33.333	52.941	37.500	33.333	53.333	41.667	RPC
INJURY	8	29		73	8	5	6	8	10	14	7	7	RAW
	4.444	16.111		40.556	4.444	2.778	3.333	4.444	5.556	7.778	3.889	3.889	RPR
	100.000	87.879		65.179	88.889	33.333	66.667	47.059	62.500	66.667	46.667	58.333	RPC
COLUMN SUMS	8	33	2	112	9	6	9	17	16	21	15	12	RAW
	3.008	12.406	0.752	42.105	3.383	2.256	3.383	6.391	6.015	7.895	5.639	4.511	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = EXPERIMENTAL BAC COMPLETE

	350+	ROW SUMS	KEY
FATAL	1	86	RAW
	1.163	100.000	RPR
	16.667	32.331	RPC
INJURY	5	180	RAW
	2.778	100.000	RPR
	83.333	67.669	RPC
COLUMN SUMS	6	266	RAW
	2.256	100.000	RPR
	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .246968 E 02 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 12

CONT COEF = .291475

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = DAY OF WEEK

	SUN	MON	TUES	WED	THURS	FRI	SAT	ROW SUMS	KEY
FATAL	9	12	11	12	13	17	12	86	RAW
	10.465	13.953	17.791	13.953	15.116	19.767	13.953	100.000	RPR
	29.032	33.333	28.947	30.000	33.333	38.636	31.579	32.331	RPC
INJURY	22	24	27	28	26	27	26	180	RAW
	12.222	13.333	15.000	15.556	14.444	15.000	14.444	100.000	RPR
	70.968	66.667	71.053	70.000	66.667	61.364	68.421	67.669	RPC
COLUMN SUMS	31	36	38	40	39	44	38	266	RAW
	11.654	13.534	14.286	15.038	14.662	16.541	14.286	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .129624 E 01
DEGREES OF FREEDOM = 6

CONT COEF = .696379 E -01

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT F ILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = HOUR OF CRASH

	MID-NIGHT	1	2	3	5	6	7	8	9	10	11	12	KEY
FATAL	5		2	1	3	5	2	4	3	4	4		RAW
	5.814		2.326	1.163	3.488	5.814	2.326	4.651	3.488	4.651	4.651		RPR
	38.462		50.000	50.000	100.000	50.000	25.000	44.444	37.500	30.769	33.333		RPC
INJURY	8	6	2	1		5	6	5	5	9	8	6	RAW
	4.444	3.333	1.111	0.556		2.778	3.333	2.778	2.778	5.000	4.444	3.333	RPR
	61.538	100.000	50.000	50.000		50.000	75.000	55.556	62.500	69.231	66.667	100.000	RPC
COLUMN SUMS	13	6	4	2	3	10	8	9	8	13	12	6	RAW
	4.887	2.256	1.504	0.752	1.128	3.759	3.008	3.383	3.008	4.887	4.511	2.256	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = HOUR OF CRASH

	13	14	15	16	17	18	19	20	21	22	23	ROW SUMS	KEY
FATAL	5	1	3	3	5	2	4	9	10	6	5	86	RAW
	5.814	1.163	3.488	3.488	5.814	2.326	4.651	10.465	11.628	6.977	5.814	100.000	RPR
	33.333	6.667	23.077	14.286	20.833	13.333	30.769	50.000	58.824	46.154	62.500	32.331	RPC
INJURY	10	14	10	18	19	13	9	9	7	7	3	180	RAW
	5.556	7.778	5.556	10.000	10.556	7.222	5.000	5.000	3.889	3.889	1.667	100.000	RPR
	66.667	93.333	76.923	85.714	79.167	86.667	69.231	50.000	41.176	53.846	37.500	67.669	RPC
COLUMN SUMS	15	15	13	21	24	15	13	18	17	13	8	266	RAW
	5.639	5.639	4.887	7.895	9.023	5.639	4.887	6.767	6.391	4.887	3.008	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .400189 E 02 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 22

CONT COEF = .361625

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = CRASH AT INTERSECTION?

	YES	NO	ROW SUMS	KEY
FATAL	40	46	86	RAW
	46.512	53.488	100.000	RPR
	27.778	37.705	32.331	RPC
INJURY	104	76	180	RAW
	57.778	42.222	100.000	RPR
	72.222	62.295	67.669	RPC
COLUMN SUMS	144	122	266	RAW
	54.135	45.865	100.000	RPR
	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .297496 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .253851 E 01

CONT COEF = .105168

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = DRIVER 1 SEX

	MALE	FEMALE	N/A	ROW SUMS	KEY
FATAL	71	9	6	86	RAW
	82.558	10.465	6.977	100.000	RPR
	35.323	20.455	28.571	32.331	RPC
INJURY	130	35	15	180	RAW
	72.222	19.444	8.333	100.000	RPR
	64.677	79.545	71.429	67.669	RPC
COLUMN SUMS	201	44	21	266	RAW
	75.564	16.541	7.895	100.000	RPR
	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .362906 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .298442 E 01

CONT COEF = .120815

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = PEDESTRIAN 1 SEX

	MALE	FEMALE	ROW SUMS	KEY
FATAL	62	24	86	RAW
	72.093	27.907	100.000	RPR
	35.838	25.806	32.331	RPC
INJURY	111	69	180	RAW
	61.667	38.333	100.000	RPR
	64.162	74.194	67.669	RPC
COLUMN SUMS	173	93	266	RAW
	65.038	34.962	100.000	RPR
	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .278220 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .234256 E 01

CONT COEF = .101741

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT CATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = DRIVER 1 AGE

	14-19	20-24	25-29	30-39	40-49	50-59	60-69	70+	N/A	ROW SUMS	KEY
FATAL	13	15	7	8	19	7	5	6	6	86	RAW
	15.116	17.442	8.140	9.302	22.093	8.140	5.814	6.977	6.977	100.000	RPR
	65.000	30.612	22.581	21.622	50.000	17.949	35.714	66.667	20.690	32.331	RPC
INJURY	7	34	24	29	19	32	9	3	23	180	RAW
	3.889	18.889	13.333	16.111	10.556	17.778	5.000	1.667	12.778	100.000	RPR
	35.000	69.388	77.419	78.378	50.000	82.051	64.286	33.333	79.310	67.669	RPC
COLUMN SUMS	20	49	31	37	38	39	14	9	29	266	RAW
	7.519	18.421	11.654	13.910	14.286	14.662	5.263	3.383	10.902	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .263409 E 02 (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 7

CONT COEF = .316269

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = PEDESTRIAN 1 AGE

	14-19	20-24	25-29	30-39	40-49	50-59	60-69	70+	ROW SUMS	KEY
FATAL	6	2	3	10	13	9	18	25	86	RAW
	6.977	2.326	3.488	11.628	15.116	10.465	20.930	29.070	100.000	RPR
	19.355	8.000	13.043	27.027	32.500	30.000	50.000	56.818	32.331	RPC
INJURY	25	23	20	27	27	21	18	19	180	RAW
	13.889	12.778	11.111	15.000	15.000	11.667	10.000	10.556	100.000	RPR
	80.645	92.000	86.957	72.973	67.500	70.000	50.000	43.182	67.669	RPC
COLUMN SUMS	31	25	23	37	40	30	36	44	266	RAW
	11.654	9.398	8.647	13.910	15.038	11.278	13.534	16.541	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .308087 E 02 (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 7

CONT COEF = .322180

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = TYPE OF ROADWAY

	ONE WAY	TWO WAY NOT DIVIDED	EXPRESS -WAY	OTHER DIVIDED	OTHER	N/A	ROW SUMS	KEY
FATAL	12	7	12	53	2		86	RAW
	13.953	8.140	13.953	61.628	2.326		100.000	RPR
	24.490	15.556	70.588	35.811	33.333		32.331	RPC
INJURY	37	38	5	95	4	1	180	RAW
	20.556	21.111	2.778	52.778	2.222	0.556	100.000	RPR
	75.510	84.444	29.412	64.189	66.667	100.000	67.669	RPC
COLUMN SUMS	49	45	17	148	6	1	266	RAW
	18.421	16.917	6.391	55.639	2.256	0.376	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .193204 E 02 (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 4

CONT COEF = .260678

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = KIND OF LOCATION

	MANUF OR INDUST	BUSI-NESS CONT.	BUSI-NESS MIXED	RESID-ENTIAL	RESI-DENTIAL SCATTER	SCHOOL OR PLYGRND	OPEN COUNTRY	OTHER	N/A	ROW SUMS	KEY
FATAL	2	11	50	12	2	1	4	3	1	86	RAW
	2.326	12.791	58.140	13.953	2.326	1.163	4.651	3.488	1.163	100.000	RPR
	66.667	22.917	37.037	20.339	33.333	25.000	100.000	60.000	50.000	32.331	RPC
INJURY	1	37	85	47	4	3		2	1	180	RAW
	0.556	20.556	47.222	26.111	2.222	1.667		1.111	0.556	100.000	RPR
	33.333	77.083	62.963	79.661	66.667	75.000		40.000	50.000	67.669	RPC
COLUMN SUMS	3	48	135	59	6	4	4	5	2	266	RAW
	1.128	18.045	50.752	22.180	2.256	1.504	1.504	1.880	0.752	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .190678 E 02 (SIGNIFICANT AT .01 LEVEL)
DEGREES OF FREEDOM = 7

CONT COEF = .259541

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = ROAD SURFACE CONDITION

	DRY	WET	ROW SUMS	KEY
FATAL	78	8	86	RAW
	90.698	9.302	100.000	RPR
	33.913	22.222	32.331	RPC
INJURY	152	28	180	RAW
	84.444	15.556	100.000	RPR
	66.087	77.778	67.669	RPC
COLUMN SUMS	230	36	266	RAW
	86.466	13.534	100.000	RPR
	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .194460 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .144695 E 01

CONT COEF = .851908 E -01

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = LIGHTING

	DAY-LIGHT	DARK NO LIGHTS	DUSK OR DAWN	DARK CONTIN LIGHTS	DARK INTER LIGHTS	N/A	ROW SUMS	KEY
FATAL	33	4	6	41	1	1	86	RAW
	38.372	4.651	6.977	47.674	1.163	1.163	100.000	RPR
	22.000	80.000	75.000	46.067	8.333	50.000	32.331	RPC
INJURY	117	1	2	48	11	1	180	RAW
	65.000	0.556	1.111	26.667	6.111	0.556	100.000	RPR
	78.000	20.000	25.000	53.933	91.667	50.000	67.669	RPC
COLUMN SUMS	150	5	8	89	12	2	266	RAW
	56.391	1.880	3.008	33.459	4.511	0.752	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .300659 E 02 (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 4

CONT COEF = .319753

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = CONDITION OF DRIVER

	INATT/ DISTR	OTHER BODY DEFECTS	HAD BEEN DRINKNG	COND UNK	NORMAL	N/A	ROW SUMS	KEY
FATAL			8	13	64	1	86	RAW
			9.302	15.116	74.419	1.163	100.000	RPR
			66.667	43.333	31.220	11.111	32.331	RPC
INJURY	9	1	4	17	141	8	180	RAW
	5.000	0.556	2.222	9.444	78.333	4.444	100.000	RPR
	100.000	100.000	33.333	56.667	68.780	88.889	67.669	RPC
COLUMN SUMS	9	1	12	30	205	9	266	RAW
	3.383	0.376	4.511	11.278	77.068	3.383	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .128046 E 02 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 4

CONT CCEF = .217851

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = CONDITION OF PEDESTRIAN

	INATT/ DISTR	ILLNESS	FAT- IGUED	OTHER BODY DEFECTS	HAD BEEN DRINKNG	COND UNK	NORMAL	N/A	ROW SUMS	KEY
FATAL	5			1	12	31	16	21	86	RAW
	5.814			1.163	13.953	36.047	18.605	24.419	100.000	RPR
	18.519			100.000	24.000	72.093	14.159	70.000	32.331	RPC
INJURY	22	1	1		38	12	97	9	180	RAW
	12.222	0.556	0.556		21.111	6.667	53.889	5.000	100.000	RPR
	81.481	100.000	100.000		76.000	27.907	85.841	30.000	67.669	RPC
COLUMN SUMS	27	1	1	1	50	43	113	30	266	RAW
	10.150	0.376	0.376	0.376	18.797	16.165	42.481	11.278	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .577139 E 02 (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 6

CONT COEF = .443280

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = ACCIDENT TYPE REPORT ONLY

	DART-OUT 1ST	DART-OUT 2ND	INTER DASH	VTM	PED STRIKES VEHICLE	MULT THREAT	BUS STOP	BACKING	WEIRD	DIS. VEHICLE	AUTO-AUTO	MID-BLOCK DASH	KEY
FATAL	8	3	19		1	5			1	1	3		RAW
	9.302	3.488	22.093		1.163	5.814			1.163	1.163	3.488		RPR
	38.095	18.750	35.849		5.882	41.667			25.000	20.000	37.500		RPC
INJURY	13	13	34	1	16	7	8	5	3	4	5	6	RAW
	7.222	7.222	18.889	0.556	8.889	3.889	4.444	2.778	1.667	2.222	2.778	3.333	RPR
	61.905	81.250	64.151	100.000	94.118	58.333	100.000	100.000	75.000	80.000	62.500	100.000	RPC
COLUMN SUMS	21	16	53	1	17	12	8	5	4	5	8	6	RAW
	7.895	6.015	19.925	0.376	6.391	4.511	3.008	1.880	1.504	1.880	3.008	2.256	RPR
	100.000	100.000	100.000	100.000	100.000	100.300	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = ACCIDENT TYPE REPORT ONLY

	TURNING VEHICLE	PED NOT IN ROAD	OTHER UNIQUE	NOT CLASS	N/A	ROW SUMS	KEY
FATAL		4	16	12	13	86	RAW
		4.651	18.605	13.953	15.116	100.000	RPR
		50.000	48.485	26.087	100.000	32.331	RPC
INJURY	10	4	17	34		180	RAW
	5.556	2.222	9.444	18.889		100.000	RPR
	100.000	50.000	51.515	73.913		67.669	RPC
COLUMN SUMS	10	8	33	46	13	266	RAW
	3.759	3.008	12.406	17.293	4.887	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .290494 E 02 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 15

CONT COEF = .320927

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = PED RACE

	WHITE	BLACK	N/A X	ROW SUMS	KEY
FATAL	51	31	4	86	RAW
	59.302	36.047	4.651	100.000	RPR
	57.303	23.485	8.889	32.331	RPC
INJURY	38	101	41	180	RAW
	21.111	56.111	22.778	100.000	RPR
	42.697	76.515	91.111	67.669	RPC
COLUMN SUMS	89	132	45	266	RAW
	33.459	49.624	16.917	100.000	RPR
	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .260517 E 02 (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .246227 E 02 (SIGNIFICANT AT .001 LEVEL)

CONT COEF = .324731

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = SPEED LIMIT AT CRASH SITE

	NOT ATTEMPT -ED X	1-15	21-25	26-30	31-35	36+	N/A X	ROW SUMS	KEY
FATAL	29		6		44	2	5	86	RAW
	33.721		6.977		51.163	2.326	5.814	100.000	RPR
	34.118		17.647		35.484	50.000	83.333	32.331	RPC
INJURY	56	2	28	11	80	2	1	180	RAW
	31.111	1.111	15.556	6.111	44.444	1.111	0.556	100.000	RPR
	65.882	100.000	82.353	100.000	64.516	50.000	16.667	67.669	RPC
COLUMN SUMS	85	2	34	11	124	4	6	266	RAW
	31.955	0.752	12.782	4.135	46.617	1.504	2.256	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .106311 E 02 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 4

CONT COEF = .239312

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = CULPABILITY

	DRIVER	PED	BOTH	NEITHER	N/A X	ROW SUMS	KEY
FATAL	12	56	12	1	5	86	RAW
	13.953	65.116	13.953	1.163	5.814	100.000	RPR
	30.000	35.443	26.667	100.000	22.727	32.331	RPC
INJURY	28	102	33		17	180	RAW
	15.556	56.667	18.333		9.444	100.000	RPR
	70.000	64.557	73.333		77.273	67.669	RPC
COLUMN SUMS	40	158	45	1	22	266	RAW
	15.038	59.398	16.917	0.376	8.271	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .342144 E 01
DEGREES OF FREEDOM = 3

CONT COEF = .117594

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = ACCIDENT TYPE
CASE DETERMINATION

	DART-OUT 1ST	DART-OUT 2ND	INTER DASH	VTN	PED STRIKES VEHICLE	MULT THREAT	BUS STOP	BACKING	WEIRD	DIS. VEHICLE	AUTO-AUTO	MID-BLOCK DASH	KEY
FATAL	8	6	19		4	7			2	3	3		RAW
	9.302	6.977	22.093		4.651	8.140			2.326	3.488	3.488		RPR
	28.571	37.500	33.333		23.529	50.000			66.667	42.857	33.333		RPC
INJURY	20	10	38	3	13	7	8	5	1	4	6	5	RAW
	11.111	5.556	21.111	1.667	7.222	3.889	4.444	2.778	0.556	2.222	3.333	2.778	RPR
	71.429	62.500	66.667	100.000	76.471	50.000	100.000	100.000	33.333	57.143	66.667	100.000	RPC
COLUMN SUMS	28	16	57	3	17	14	8	5	3	7	9	5	RAW
	10.526	6.015	21.429	1.128	6.391	5.263	3.008	1.880	1.128	2.632	3.383	1.880	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = ACCIDENT TYPE
CASE DETERMINATION

	TRAPPED	TURNING VEHICLE	PED NOT IN ROAD	OTHER UNIQUE	NOT CLASS	ROW SUMS	KEY
FATAL	1	1	4	16	12	86	RAW
	1.163	1.163	4.651	18.605	13.953	100.000	RPR
	25.000	10.000	50.000	45.714	32.432	32.331	RPC
INJURY	3	9	4	19	25	180	RAW
	1.667	5.000	2.222	10.556	13.889	100.000	RPR
	75.000	90.000	50.000	54.286	67.568	67.669	RPC
COLUMN SUMS	4	10	8	35	37	266	RAW
	1.504	3.759	3.008	13.158	13.910	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .213956 E 02
DEGREES OF FREEDOM = 16

CONT COEF = .272849

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = SECOND ACCIDENT TYPE CASE DETERMINATION

	NON PED ACTIV IN ROAD	FREEWAY EXIT	FREEWAY CROSS	PED EXIT	PED WALK IN ROAD	PROB NON-ACCID	ROAD WORK SITE	N/A	ROW SUMS	KEY
FATAL	4	4	8	1				69	86	RAW
	4.651	4.651	9.302	1.163				80.233	100.000	RPR
	28.571	80.000	88.889	33.333				30.263	32.331	RPC
INJURY	10	1	1	2	1	5	1	159	180	RAW
	5.556	0.556	0.556	1.111	0.556	2.778	0.556	88.333	100.000	RPR
	71.429	20.000	11.111	66.667	100.000	100.000	100.000	69.737	67.669	RPC
COLUMN SUMS	14	5	9	3	1	5	1	228	266	RAW
	5.263	1.880	3.383	1.128	0.376	1.880	0.376	85.714	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .169156 E 02 (SIGNIFICANT AT .01 LEVEL)
DEGREES OF FREEDOM = 6

CONT COEF = .555003

***** TABLE TOTALS *****
RAW= 266

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PRIMARY PRECIPITATING FACTOR

	NOT ENOUGH DATA X	1	2	4	11	12	13	14	15	16	17	18	KEY
FATAL	3	1	24	3	13	5	4	9	9	7	1	35	RAW
	1.508	0.503	12.060	1.508	6.533	2.513	2.010	4.523	4.523	3.518	0.503	17.588	RPR
	18.750	33.333	47.059	75.000	40.625	50.000	40.000	60.000	56.250	16.667	100.000	40.230	RPC
INJURY	13	2	27	1	19	5	6	6	7	35		52	RAW
	3.299	0.508	6.853	0.254	4.822	1.269	1.523	1.523	1.777	8.883		13.198	RPR
	81.250	66.667	52.941	25.000	59.375	50.000	60.000	40.000	43.750	83.333		59.770	RPC
COLUMN SUMS	16	3	51	4	32	10	10	15	16	42	1	87	RAW
	2.698	0.506	8.600	0.675	5.396	1.686	1.686	2.530	2.698	7.083	0.169	14.671	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PRIMARY PRECIPITATING FACTOR

	19	21	22	23	25	26	28	29	30	31	32	33	KEY
FATAL	6	11	2		1	1	2					1	RAW
	3.015	5.528	1.005		0.503	0.503	1.005					0.503	RPR
	54.545	26.829	11.111		100.000	100.000	18.182					25.000	RPC
INJURY	5	30	16	3			9	2	5	5	2	3	RAW
	1.269	7.614	4.061	0.761			2.284	0.508	1.269	1.269	0.508	0.761	RPR
	45.455	73.171	88.889	100.000			81.818	100.000	100.000	100.000	100.000	75.000	RPC
COLUMN SUMS	11	41	18	3	1	1	11	2	5	5	2	4	RAW
	1.855	6.914	3.035	0.506	0.169	0.169	1.855	0.337	0.843	0.843	0.337	0.675	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PRIMARY PRECIPITATING FACTOR

	34	37	38	40	41	42	44	45	46	47	49	50	KEY
FATAL				2	2	1	1	1	1	8	1		RAW
				1.005	1.005	0.503	0.503	0.503	0.503	4.020	0.503		RPR
				28.571	18.182	50.000	50.000	100.000	25.000	38.095	33.333		RPC
INJURY	2	1	3	5	9	1	1		3	13	2	2	RAW
	0.508	0.254	0.761	1.269	2.284	0.254	0.254		0.761	3.299	0.508	0.508	RPR
	100.000	100.000	100.000	71.429	81.818	50.000	50.000		75.000	61.905	66.667	100.000	RPC
COLUMN SUMS	2	1	3	7	11	2	2	1	4	21	3	2	RAW
	0.337	0.169	0.506	1.180	1.855	0.337	0.337	0.169	0.675	3.541	0.506	0.337	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PRIMARY PRECIPITATING FACTOR

	51	52	54	55	61	62	63	64	71	72	73	74	RE
FATAL	2	1	6	1					2	3	2	7	RA
	1.005	0.503	3.015	0.503					1.005	1.508	1.005	3.518	AF
	40.000	25.000	46.154	16.667					22.222	21.429	22.222	41.176	RF
INJURY	3	3	7	5	1	10	1	3	7	11	7	10	RA
	0.761	0.761	1.777	1.269	0.254	2.538	0.254	0.761	1.777	2.792	1.777	2.538	RF
	60.000	75.000	53.846	83.333	100.000	100.000	100.000	100.000	77.778	78.571	77.778	58.824	RF
COLUMN SUMS	5	4	13	6	1	10	1	3	9	14	9	17	RA
	0.843	0.675	2.192	1.012	0.169	1.686	0.169	0.506	1.518	2.361	1.518	2.867	RF
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RF

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PRIMARY PRECIPITATING FACTOR

	75	76	80	81	82	90	91	93	94	95	96	97	KEY
FATAL	1		1	1	3	4	1	1	4	2		2	RAW
	0.503		0.503	0.503	1.508	2.010	0.503	0.503	2.010	1.005		1.005	RPR
	50.000		20.000	100.000	60.000	23.529	50.000	33.333	50.000	100.000		50.000	RPC
INJURY	1	1	4		2	13	1	2	4		1	2	RAW
	0.254	0.254	1.015		0.508	3.299	0.254	0.508	1.015		0.254	0.508	RPR
	50.000	100.000	80.000		40.000	76.471	50.000	66.667	50.000		100.000	50.000	RPC
COLUMN SUMS	2	1	5	1	5	17	2	3	8	2	1	4	RAW
	0.337	0.169	0.843	0.169	0.843	2.867	0.337	0.506	1.349	0.337	0.169	0.675	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PRIMARY PRECIPITATING FACTOR

	ROW SUMS	KEY
FATAL	199	RAW
	100.000	RPR
	33.558	RPC
INJURY	394	RAW
	100.000	RPR
	66.442	RPC
COLUMN SUMS	593	RAW
	100.000	RPR
	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .788667 E 02
DEGREES OF FREEDOM = 58
STANDARDIZED CHI SQUARE = .193742 E 01 (SIGNIFICANT AT .05 LEVEL)

CONT COEF = .346768

***** TABLE TOTALS *****
RAW= 593

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PREDISPOSING FACTOR

	NOT ENOUGH DATA X	PED OLD AGE	PED ALCOHOL	PED DRUGS	PED SPEC DISAB	PED OTHER DKCLTHS	DRIVER OLD AGE	DRIVER ALCOHOL	DRIVER SPEC DISAB	DRIVER OTHER	WEATHER VISIBI-LITY	WEATHER SLIPP-ERY	KEY
FATAL	3	17	35	1	2	10	1	7		1	2	2	RAW
	2.913	16.505	33.981	0.971	1.942	9.709	0.971	6.796		0.971	1.942	1.942	RPR
	18.750	65.385	43.210	100.000	22.222	90.909	50.000	53.846		33.333	16.667	28.571	RPC
INJURY	13	9	46		7	1	1	6	1	2	10	5	RAW
	7.784	5.389	27.545		4.192	0.599	0.599	3.593	0.599	1.198	5.988	2.994	RPR
	81.250	34.615	56.790		77.778	9.091	50.000	46.154	100.000	66.667	83.333	71.429	RPC
COLUMN SUMS	16	26	81	1	9	11	2	13	1	3	12	7	RAW
	5.926	9.630	30.000	0.370	3.333	4.074	0.741	4.815	0.370	1.111	4.444	2.593	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PREDISPOSING FACTOR

		PARKED CARS	ENVIRON-MENT OTHER	VEHICLE PROBLEM SEARCH	VEHICLE DESIGN NFS	VEHICLE COND. NFS	VEHICLE COND. BRAKES	VEHICLE OTHER	SIGNAL TIMING	HEAVY EXPTRAF CONTROL	HEAVY EXPWORK ON AUTO	EXPO-SURE OTHER	OTHER FACTOR	KEY
FATAL		3	4	1		3	4				2	3	2	RAW
		2.913	3.883	0.971		2.913	3.883				1.942	2.913	1.942	RPR
		13.636	21.053	100.000		75.000	66.667				40.000	13.636	100.000	RPC
INJURY		19	15		1	1	2	1	4	1	3	19		RAW
		11.377	8.982		0.599	0.599	1.198	0.599	2.395	0.599	1.796	11.377		RPR
		86.364	78.947		100.000	25.000	33.333	100.000	100.000	100.000	60.000	86.364		RPC
COLUMN SUMS		22	19	1	1	4	6	1	4	1	5	22	2	RAW
		8.148	7.037	0.370	0.370	1.481	2.222	0.370	1.481	0.370	1.852	8.148	0.741	RPR
		100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

EXPERIMENTALS ONLY = ALL

ROWS = SAMPLE INJURY STATUS COLUMNS = COMPOSITE PREDISPOSING FACTOR

	ROW SUMS	KEY
FATAL	103	RAW
	100.000	RPR
	38.148	RPC
INJURY	167	RAW
	100.000	RPR
	61.852	RPC
COLUMN SUMS	270	RAW
	100.000	RPR
	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .556697 E 02 (SIGNIFICANT AT .001 LEVEL)
DEGREES OF FREEDOM = 22

CONT COEF = .423994

***** TABLE TOTALS *****
RAW= 270

APPENDIX G

Pedestrian Victim versus the Best Age/Sex Control Subject (who returned a questionnaire) for Mortimer-Filkins Data Part 1 and Part 2

Key:

Experimental - the pedestrian victims studied in this project

Best Age/Sex W/Q - best age, sex matched control subject who returned a questionnaire

RAW - actual frequency

RPR - frequency as percent of row total

RPC - frequency as percent of column total

N.B. - Statistics presented at the bottom of each table are not necessarily appropriate since all size requirements are not always met in the tables. Also, rows and/or columns labeled "N/A," "other" and "x" do not enter statistical computations.

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F MARITAL STATUS

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NEVER MARRIED	SEPAR- ATED	DIVOR- CED	WIDOWED	COMMON LAW	MARRIED	ROW SUMS	KEY
EXPERI-MENTAL	135	57	20	10	6	2	3	8	241	RAW
	56.017	23.651	8.299	4.149	2.490	0.830	1.245	3.320	100.000	RPR
	100.000	100.000	29.412	62.500	60.000	25.000	75.000	21.053	71.726	RPC
BEST AGE/SEX W/O			48	6	4	6	1	30	95	RAW
			50.526	6.316	4.211	6.316	1.053	31.579	100.000	RPR
			70.588	37.500	40.000	75.000	25.000	78.947	28.274	RPC
COLUMN SUMS	135	57	68	16	10	8	4	38	336	RAW
	40.179	16.964	20.238	4.762	2.976	2.381	1.190	11.310	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .155596 E 02   (SIGNIFICANT AT .01 LEVEL)
DEGREES OF FREEDOM = 5

CONT COEF = .312275

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F WHO DO YOU LIVE WITH?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	ALONE	WITH FRIEND	WITH OTHER RELAT.	WITH WIFE/ HUSBAND	WITH EX-WIFE HUSBAND	N/A X	ROW SUMS	KEY
EXPERI-MENTAL	135	57	9	7	22	10		1	241	RAW
	56.017	23.651	3.734	2.905	9.129	4.149		0.415	100.000	RPR
	100.000	100.000	30.000	38.889	40.000	27.027		33.333	71.726	RPC
BEST AGE/SEX W/O			21	11	33	27	1	2	95	RAW
			22.105	11.579	34.737	28.421	1.053	2.105	100.000	RPR
			70.000	61.111	60.000	72.973	100.000	66.667	28.274	RPC
COLUMN SUMS	135	57	30	18	55	37	1	3	336	RAW
	40.179	16.964	8.929	5.357	16.369	11.012	0.298	0.893	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .260314 E 01
DEGREES OF FREEDOM = 4

CONT COEF = .134630

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F HOW MANY TIMES DIVORCE CONSIDERED IN PAST 2 YEARS?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	0	1	2	3	ROW SUMS	KEY
EXPERI-	135	57	37	6	3	3		241	RAW
MENTAL	56.017	23.651	15.353	2.490	1.245	1.245		100.000	RPR
	100.000	100.000	37.755	17.143	75.000	50.000		71.726	RPC
BEST				61	29	1	3	1	95	RAW
AGE/SEX				64.211	30.526	1.053	3.158	1.053	100.000	RPR
W/Q				62.245	82.857	25.000	50.000	100.000	28.274	RPC
COLUMN	135	57	98	35	4	6	1	336	RAW
SUMS	40.179	16.964	29.167	10.417	1.190	1.786	0.298	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .854768 E 01 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 3

CONT COEF = .395855

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F ARE YOU OFTEN THREATENED W/DIVORCE

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	37		12	241	RAW
MENTAL	56.017	23.651	15.353		4.979	100.000	RPR
	100.000	100.000	38.542		26.667	71.726	RPC
BEST			59	3	33	95	RAW
AGE/SEX			62.105	3.158	34.737	100.000	RPR
W/Q			61.458	100.000	73.333	28.274	RPC
COLUMN	135	57	96	3	45	336	RAW
SUMS	40.179	16.964	28.571	0.893	13.393	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .106667 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .118518

CONT COEF = .147442

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE COLUMNS = M-F WIFE/HUSBAND HEALTH GOOD

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	35	12	2	241	RAW
MENTAL	56.017	23.651	14.523	4.979	0.830	100.000	RPR
	100.000	100.000	38.043	28.571	20.000	71.726	RPC
BEST			57	30	8	95	RAW
AGE/SEX			60.000	31.579	8.421	100.000	RPR
W/O			61.957	71.429	80.000	28.274	RPC
COLUMN	135	57	92	42	10	336	RAW
SUMS	40.179	16.964	27.381	12.500	2.976	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .301611
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .232725 E -01

CONT COEF = .759392 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE COLUMNS = M-F CURRENTLY EMPLOYED?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57		19	30	241	RAW
MENTAL	56.017	23.651		7.884	12.448	100.000	RPR
	100.000	100.000		26.389	42.857	71.726	RPC
BEST			2	53	40	95	RAW
AGE/SEX			2.105	55.789	42.105	100.000	RPR
W/O			100.000	73.611	57.143	28.274	RPC
COLUMN	135	57	2	72	70	336	RAW
SUMS	40.179	16.964	0.595	21.429	20.833	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .425927 E 01 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .356174 E 01

CONT COEF = .170650

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE — COLUMNS = ~~M-F~~ DO YOU SMOKE?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57		34	15	241	RAW
MENTAL	56.017	23.651		14.108	6.224	100.000	RPR
	100.000	100.000		40.564	25.000	71.726	RPC
BEST			1	49	45	95	RAW
AGE/SEX			1.053	51.579	47.368	100.000	RPR
W/O			100.000	59.036	75.000	28.274	RPC
COLUMN	135	57	1	83	60	336	RAW
SUMS	40.179	16.964	0.298	24.702	17.857	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .394019 E 01 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .326332 E 01

CONT COEF = .163753

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = H-F NUMBER OF PACKS SMOKED PER WEEK

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	0	1	2	3	4	5	6	6+	ROW SUMS	KEY
EXPERI- MENTAL	135	57	1	16	8	4	4	2	3	3	8	241	RAW
	56.017	23.651	0.415	6.639	3.320	1.660	1.660	0.830	1.245	1.245	3.320	100.000	RPR
	100.000	100.000	14.286	26.230	66.667	36.364	57.143	50.000	50.000	75.000	25.000	71.726	RPC
BEST AGE/SEX W/O			6	45	4	7	3	2	3	1	24	95	RAW
			6.316	47.368	4.211	7.368	3.158	2.105	3.158	1.053	25.263	100.000	RPR
			85.714	73.770	33.333	63.636	42.857	50.000	50.000	25.000	75.000	28.274	RPC
COLUMN SUMS	135	57	7	61	12	11	7	4	6	4	32	336	RAW
	40.179	16.964	2.083	18.155	3.571	3.274	2.083	1.190	1.786	1.190	9.524	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .155445 E 02   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 8

CONT COEF = .212138

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F EVER ARRESTED?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	21	28	241	RAW
MENTAL	56.017	23.651	8.714	11.618	100.000	RPR
	100.000	100.000	42.000	29.787	71.726	RPC
BEST			29	66	95	RAW
AGE/SEX			30.526	69.474	100.000	RPR
W/Q			58.000	70.213	28.274	RPC
COLUMN	135	57	50	94	336	RAW
SUMS	40.179	16.964	14.881	27.976	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	RPC

42.8%

30.5%

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .216855 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .165864 E 01

CONT COEF = .121803

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F RELATIVES UPSET WITH WAY YOU LIVE?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	6	43	241	RAW
MENTAL	56.017	23.651	2.490	17.842	100.000	RPR
	100.000	100.000	22.222	36.752	71.726	RPC
BEST			21	74	95	RAW
AGE/SEX			22.105	77.895	100.000	RPR
W/Q			77.778	63.248	28.274	RPC
COLUMN	135	57	27	117	336	RAW
SUMS	40.179	16.964	8.036	34.821	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .206309 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .146661 E 01

CONT COEF = .118847

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F INCOME SUFFICIENT?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	26	22	241	RAW
MENTAL	56.017	23.651	0.415	10.788	9.129	100.000	RPR
	100.000	100.000	100.000	35.135	31.884	71.726	RPC
BEST				48	47	95	RAW
AGE/SEX				50.526	49.474	100.000	RPR
W/Q				64.865	68.116	28.274	RPC
COLUMN	135	57	1	74	69	336	RAW
SUMS	40.179	16.964	0.298	22.024	20.536	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .169241
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .548471 E -01

CONT COEF = .343818 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F BOTHERED BY NERVOUSNESS?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	11	37	241	RAW
MENTAL	56.017	23.651	0.415	4.564	15.353	100.000	RPR
	100.000	100.000	100.000	25.581	37.000	71.726	RPC
BEST				32	63	95	RAW
AGE/SEX				33.684	66.316	100.000	RPR
W/Q				74.419	63.000	28.274	RPC
COLUMN	135	57	1	43	100	336	RAW
SUMS	40.179	16.964	0.298	12.798	29.762	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .175819 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .128341 E 01

CONT COEF = .110207

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F JUDGMENT IS BETTER THAN EVER?

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57		33	16	241	RAW
	56.017	23.651		13.693	6.639	100.000	RPR
	100.000	100.000		33.673	35.556	71.726	RPC
BEST AGE/SEX W/O			1	65	29	95	RAW
			1.053	68.421	30.526	100.000	RPR
			100.000	66.327	64.444	28.274	RPC
COLUMN SUMS	135	57	1	98	45	336	RAW
	40.179	16.964	0.298	29.167	13.393	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .484986 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .931041 E -03

CONT COEF = .184129 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F RECENTLY UNDERGONE GREAT STRESS?

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57		17	32	241	RAW
	56.017	23.651		7.054	13.278	100.000	RPR
	100.000	100.000		27.419	39.506	71.726	RPC
BEST AGE/SEX W/O			1	45	49	95	RAW
			1.053	47.368	51.579	100.000	RPR
			100.000	72.581	60.494	28.274	RPC
COLUMN SUMS	135	57	1	62	81	336	RAW
	40.179	16.964	0.298	18.452	24.107	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .227778 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .177278 E 01

CONT COEF = .125215

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F TAKE DISAPPOINTMENTS BADLY?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57		15	34	241	RAW
MENTAL	56.017	23.651		6.224	14.108	100.000	RPR
	100.000	100.000		34.884	34.000	71.726	RPC
BEST			1	28	66	95	RAW
AGE/SEX			1.053	29.474	69.474	100.000	RPR
W/O			100.000	65.116	66.000	28.274	RPC
COLUMN	135	57	1	43	100	336	RAW
SUMS	40.179	16.964	0.298	12.798	29.762	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .104258 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .810276 E -02

CONT COEF = .853830 E -02

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F HAVE LONG PERIODS OF RESTLESSNESS?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	8	41	241	RAW
MENTAL	56.017	23.651	3.320	17.012	100.000	RPR
	100.000	100.000	22.222	37.963	71.726	RPC
BEST			28	67	95	RAW
AGE/SEX			29.474	70.526	100.000	RPR
W/O			77.778	62.037	28.274	RPC
COLUMN	135	57	36	108	336	RAW
SUMS	40.179	16.964	10.714	32.143	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .298002 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .232008 E 01

CONT COEF = .142390

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F OFTEN SAD?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	11	37	241	RAW
MENTAL	56.017	23.651	0.415	4.564	15.353	100.000	RPR
	100.000	100.000	50.000	30.556	34.906	71.726	RPC
BEST			1	25	69	95	RAW
AGE/SEX			1.053	26.316	72.632	100.000	RPR
W/O			50.000	69.444	65.094	28.274	RPC
COLUMN	135	57	2	36	106	336	RAW
SUMS	40.179	16.964	0.595	10.714	31.548	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .227262
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .744317 E -01

CONT COEF = .399735 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F CARRIED ON ACTIVITY WITHOUT REMEMBERING?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	5	44	241	RAW
MENTAL	56.017	23.651	2.075	18.257	100.000	RPR
	100.000	100.000	35.714	33.846	71.726	RPC
BEST			9	86	95	RAW
AGE/SEX			9.474	90.526	100.000	RPR
W/O			64.286	66.154	28.274	RPC
COLUMN	135	57	14	130	336	RAW
SUMS	40.179	16.964	4.167	38.690	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .156485 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .245436 E -01

CONT COEF = .116803 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F HAVE A LOT OF WORRIES?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI- MENTAL	135	57	1	9	39	241	RAW
	56.017	23.651	0.415	3.734	16.183	100.000	RPR
	100.000	100.000	100.000	27.273	35.455	71.726	RPC
BEST AGE/SEX W/Q				24	71	95	RAW
				25.263	74.737	100.000	RPR
				72.727	64.545	28.274	RPC
COLUMN SUMS	135	57	1	33	110	336	RAW
	40.179	16.964	0.298	9.821	32.738	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .762039
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .439296

CONT COEF = .728059 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F HAVE TROUBLE SLEEPING?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI- MENTAL	135	57	1	9	39	241	RAW
	56.017	23.651	0.415	3.734	16.183	100.000	RPR
	100.000	100.000	50.000	31.034	34.513	71.726	RPC
BEST AGE/SEX W/Q			1	20	74	95	RAW
			1.053	21.053	77.895	100.000	RPR
			50.000	68.966	65.487	28.274	RPC
COLUMN SUMS	135	57	2	29	113	336	RAW
	40.179	16.964	0.595	8.631	33.631	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .124811
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .177574 E -01

CONT COEF = .296341 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F MODERATE IN ALL YOUR HABITS?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	28	20	241	RAW
MENTAL	56.017	23.651	0.415	11.618	8.299	100.000	RPR
	100.000	100.000	33.333	28.571	46.512	71.726	RPC
BEST			2	70	23	95	RAW
AGE/SEX			2.105	73.684	24.211	100.000	RPR
W/O			66.667	71.429	53.488	28.274	RPC
COLUMN	135	57	3	98	43	336	RAW
SUMS	40.179	16.964	0.893	29.167	12.798	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .428394 E 01   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .352221 E 01

CONT COEF = .171717

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F HAVE ABNORMAL PROBLEMS?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	3	45	241	RAW
MENTAL	56.017	23.651	0.415	1.245	18.672	100.000	RPR
	100.000	100.000	50.000	15.000	36.885	71.726	RPC
BEST			1	17	77	95	RAW
AGE/SEX			1.053	17.895	81.053	100.000	RPR
W/O			50.000	85.000	63.115	28.274	RPC
COLUMN	135	57	2	20	122	336	RAW
SUMS	40.179	16.964	0.595	5.952	36.310	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .367800 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .276497 E 01

CONT COEF = .158895

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F LIVED THE RIGHT KIND OF LIFE?

	NOT ATTEMPT -ED X	NOT COMPLE-TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	37	11	241	RAW
MENTAL	56.017	23.651	0.415	15.353	4.564	100.000	RPR
	100.000	100.000	33.333	35.238	30.556	71.726	RPC
BEST			2	68	25	95	RAW
AGE/SEX			2.105	71.579	26.316	100.000	RPR
W/O			66.667	64.762	69.444	28.274	RPC
COLUMN	135	57	3	105	36	336	RAW
SUMS	40.179	16.964	0.893	31.250	10.714	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .261788
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .947767 E -01

CONT COEF = .430489 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F HOME IS AS HAPPY AS IT SHOULD BE?

	NOT ATTEMPT -ED X	NOT COMPLE-TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	34	14	241	RAW
MENTAL	56.017	23.651	0.415	14.108	5.809	100.000	RPR
	100.000	100.000	100.000	38.636	25.455	71.726	RPC
BEST				54	41	95	RAW
AGE/SEX				56.842	43.158	100.000	RPR
W/O				61.364	74.545	28.274	RPC
COLUMN	135	57	1	88	55	336	RAW
SUMS	40.179	16.964	0.298	26.190	16.369	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .263734 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .207934 E 01

CONT COEF = .134570

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F DOES DRINKING HELP YOU MAKE FRIENDS?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	6	42	241	RAW
MENTAL	56.017	23.651	0.415	2.490	17.427	100.000	RPR
	100.000	100.000	33.333	26.087	35.593	71.726	RPC
BEST			2	17	76	95	RAW
AGE/SEX			2.105	17.895	80.000	100.000	RPR
W/O			66.667	73.913	64.407	28.274	RPC
COLUMN	135	57	3	23	118	336	RAW
SUMS	40.179	16.964	0.893	6.845	35.119	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .774684
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .409155

CONT COEF = .739201 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F MUCH OF TIME YOU FEEL EVIL?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	3	45	241	RAW
MENTAL	56.017	23.651	0.415	1.245	18.672	100.000	RPR
	100.000	100.000	100.000	16.667	36.000	71.726	RPC
BEST				15	80	95	RAW
AGE/SEX				15.789	84.211	100.000	RPR
W/O				83.333	64.000	28.274	RPC
COLUMN	135	57	1	18	125	336	RAW
SUMS	40.179	16.964	0.298	5.357	37.202	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .269734 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .184161 E 01

CONT COEF = .134570

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F CREDITORS ARE TOO QUICK TO BOTHER?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	4	12	33	241	RAW
	56.017	23.651	1.660	4.979	13.693	100.000	RPR
	100.000	100.000	44.444	40.000	31.429	71.726	RPC
BEST AGE/SEX W/O			5	18	72	95	RAW
			5.263	18.947	75.789	100.000	RPR
			55.556	60.000	68.571	28.274	RPC
COLUMN SUMS	135	57	9	30	105	336	RAW
	40.179	16.964	2.679	8.929	31.250	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .771429
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .433929

CONT COEF = .753778 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F WISH YOU COULD BE AS HAPPY AS OTHERS?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	22	25	241	RAW
	56.017	23.651	0.830	9.129	10.373	100.000	RPR
	100.000	100.000	100.000	34.921	31.646	71.726	RPC
BEST AGE/SEX W/O				41	54	95	RAW
				43.158	56.842	100.000	RPR
				65.079	68.354	28.274	RPC
COLUMN SUMS	135	57	2	63	79	336	RAW
	40.179	16.964	0.595	18.750	23.512	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .169775
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .540847 E -01

CONT COEF = .345568 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE COLUMNS = M-F SOMETIMES FEEL ABOUT TO GO TO PIECES?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	12	36	241	RAW
MENTAL	56.017	23.651	0.415	4.979	14.938	100.000	RPR
	100.000	100.000	100.000	30.000	34.951	71.726	RPC
BEST				28	67	95	RAW
AGE/SEX				29.474	70.526	100.000	RPR
W/Q				70.000	65.049	28.274	RPC
COLUMN	135	57	1	40	103	336	RAW
SUMS	40.179	16.964	0.298	11.905	30.655	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .316763
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .133631

CONT COEF = .470131 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE COLUMNS = M-F PERSPIRE AT NIGHT?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	10	38	241	RAW
MENTAL	56.017	23.651	0.415	4.149	15.768	100.000	RPR
	100.000	100.000	50.000	30.303	34.862	71.726	RPC
BEST			1	23	71	95	RAW
AGE/SEX			1.053	24.211	74.737	100.000	RPR
W/Q			50.000	69.697	65.138	28.274	RPC
COLUMN	135	57	2	33	109	336	RAW
SUMS	40.179	16.964	0.595	9.821	32.440	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .235324
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .756736 E -01

CONT COEF = .406752 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F OFTEN FEEL UNCOMFORTABLE?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	1	9	39	241	RAW
MENTAL	56.017	23.651	0.415	3.734	16.183	100.000	RPR
	100.000	100.000	50.000	26.471	36.111	71.726	RPC
BEST			1	25	69	95	RAW
AGE/SEX			1.053	26.316	72.632	100.000	RPR
W/O			50.000	73.529	63.889	28.274	RPC
COLUMN	135	57	2	34	108	336	RAW
SUMS	40.179	16.964	0.595	10.119	32.143	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .107405 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .686419

CONT COEF = .866424 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = N-F YEARS SINCE LAST VACATION

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	0	1	2	3	4	6-8	9+ OR NEVER	ROW SUMS	KEY
EXPERI-MENTAL	135	57	3		16	6	6	2	1	15	241	RAW
	56.017	23.651	1.245		6.639	2.490	2.490	0.830	0.415	6.224	100.000	RPR
	100.000	100.000	37.500		29.091	37.500	60.000	40.000	14.286	45.455	71.726	RPC
BEST AGE/SEX W/Q			5	10	39	10	4	3	6	18	95	RAW
			5.263	10.526	41.053	10.526	4.211	3.158	6.316	18.947	100.000	RPR
			62.500	100.000	70.909	62.500	40.000	60.000	85.714	54.545	28.274	RPC
COLUMN SUMS	135	57	8	10	55	16	10	5	7	33	336	RAW
	40.179	16.964	2.381	2.976	16.369	4.762	2.976	1.488	2.083	9.821	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .120928 E 02
DEGREES OF FREEDOM = 6

CONT COEF = .285797

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F YOU ARE HIGH STRUNG?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	2	10	37	241	RAW
MENTAL	56.017	23.651	0.830	4.149	15.353	100.000	RPR
	100.000	100.000	28.571	23.256	39.362	71.726	RPC
BEST			5	33	57	95	RAW
AGE/SEX			5.263	34.737	60.000	100.000	RPR
W/O			71.429	76.744	60.638	28.274	RPC
COLUMN	135	57	7	43	94	336	RAW
SUMS	40.179	16.964	2.083	12.798	27.976	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .339583 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .271879 E 01

CONT COEF = .155523

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F YOU ARE SATISFIED WITH YOUR LIFE?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	2	33	14	241	RAW
MENTAL	56.017	23.651	0.830	13.693	5.809	100.000	RPR
	100.000	100.000	66.667	33.673	32.558	71.726	RPC
BEST			1	65	29	95	RAW
AGE/SEX			1.053	68.421	30.526	100.000	RPR
W/O			33.333	66.327	67.442	28.274	RPC
COLUMN	135	57	3	98	43	336	RAW
SUMS	40.179	16.964	0.893	29.167	12.798	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .167299 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .418248 E -02

CONT COEF = .108921 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F EVER HAD LICENSE SUSPENDED OR REVOKED

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI- MENTAL	135	57	2	1	46	241	RAW
	56.017	23.651	0.830	0.415	19.087	100.000	RPR
	100.000	100.000	18.182	11.111	37.097	71.726	RPC
BEST AGE/SEX W/O			9	8	78	95	RAW
			9.474	8.421	82.105	100.000	RPR
			81.818	88.889	62.903	28.274	RPC
COLUMN SUMS	135	57	11	9	124	336	RAW
	40.179	16.964	3.274	2.679	36.905	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

2.2% s/r exper

9.3% control

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .247963 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .147281 E 01

CONT COEF = .135287

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F NUMBER OF TIMES ASKED FOR HELP FOR YOUR PROBLEMS

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	0	1	2	3	4	5	6-10	11+	ROW SUMS	KEY
EXPERI-	135	57	6	22	5	5	5	1		3	2	241	RAW
MENTAL	56.017	23.651	2.490	9.129	2.075	2.075	2.075	0.415		1.245	0.830	100.000	RPR
	100.000	100.000	46.154	26.829	31.250	62.500	55.556	33.333		75.000	25.000	71.726	RPC
BEST			7	60	11	3	4	2	1	1	6	95	RAW
AGE/SEX			7.368	63.158	11.579	3.158	4.211	2.105	1.053	1.053	6.316	100.000	RPR
W/O			53.846	73.171	68.750	37.500	44.444	66.667	100.000	25.000	75.000	28.274	RPC
COLUMN	135	57	13	82	16	8	9	3	1	4	8	336	RAW
SUMS	40.179	16.964	3.869	24.405	4.762	2.381	2.679	0.893	0.298	1.190	2.381	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .105966 E 02
DEGREES OF FREEDOM = 7

CONT COEF = .273562

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F FAMILY HISTORY OF ALCOHOLISM?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	2	8	39	241	RAW
MENTAL	56.017	23.651	0.830	3.320	16.183	100.000	RPR
	100.000	100.000	66.667	26.667	35.135	71.726	RPC
BEST			1	22	72	95	RAW
AGE/SEX			1.053	23.158	75.789	100.000	RPR
W/O			33.333	73.333	64.865	28.274	RPC
COLUMN	135	57	3	30	111	336	RAW
SUMS	40.179	16.964	0.893	8.929	33.036	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .762162
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .428716

CONT COEF = .733235 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F HAVE RELATIVE WHO IS EXCESSIVE DRINKER

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	2	15	32	241	RAW
MENTAL	56.017	23.651	0.830	6.224	13.278	100.000	RPR
	100.000	100.000	100.000	27.778	36.364	71.726	RPC
BEST				39	56	95	RAW
AGE/SEX				41.053	58.947	100.000	RPR
W/O				72.222	63.636	28.274	RPC
COLUMN	135	57	2	54	88	336	RAW
SUMS	40.179	16.964	0.595	16.071	26.190	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .111406 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .760064

CONT COEF = .882255 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F OFTEN DEPRESSED OR MOODY?

	NOT ATTEMPT -ED %	NOT COMPLE- TED %	NO ANS %	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	8	39	241	RAW
	56.017	23.651	0.830	3.320	16.183	100.000	RPR
	100.000	100.000	66.667	22.857	36.792	71.726	RPC
BEST AGE/SEX W/O			1	27	67	95	RAW
			1.053	28.421	70.526	100.000	RPR
			33.333	77.143	63.208	28.274	RPC
COLUMN SUMS	135	57	3	35	106	336	RAW
	40.179	16.964	0.893	10.417	31.548	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .229932 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .171499 E 01

CONT COEF = .126671

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F OFTEN FEEL AS IF YOU ARE NOT YOURSELF

	NOT ATTEMPT -ED %	NOT COMPLE- TED %	NO ANS %	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	7	40	241	RAW
	56.017	23.651	0.830	2.905	16.598	100.000	RPR
	100.000	100.000	66.667	24.138	35.714	71.726	RPC
BEST AGE/SEX W/O			1	22	72	95	RAW
			1.053	23.158	75.789	100.000	RPR
			33.333	75.862	64.286	28.274	RPC
COLUMN SUMS	135	57	3	29	112	336	RAW
	40.179	16.964	0.893	8.631	33.333	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .138916 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .917064

CONT COEF = .987729 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F AFRAID OF NOT SLEEPING?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	2	7	40	241	RAW
MENTAL	56.017	23.651	0.830	2.905	16.598	100.000	RPR
	100.000	100.000	100.000	36.842	32.520	71.726	RPC
BEST				12	83	95	RAW
AGE/SEX				12.632	87.368	100.000	RPR
W/O				63.158	67.480	28.274	RPC
COLUMN	135	57	2	19	123	336	RAW
SUMS	40.179	16.964	0.595	5.655	36.607	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .138820
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .122476 E -01

CONT COEF = .312513 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F OFTEN AFRAID TO FACE FUTURE?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	N/A X	ROW SUMS	KEY
EXPERI-	135	57	2	2	45		241	RAW
MENTAL	56.017	23.651	0.830	0.830	18.672		100.000	RPR
	100.000	100.000	100.000	10.000	37.190		71.726	RPC
BEST				18	76	1	95	RAW
AGE/SEX				18.947	80.000	1.053	100.000	RPR
W/O				90.000	62.810	100.000	28.274	RPC
COLUMN	135	57	2	20	121	1	336	RAW
SUMS	40.179	16.964	0.595	5.952	36.012	0.298	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .570991 E 01   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .455191 E 01   (SIGNIFICANT AT .05 LEVEL)

CONT COEF = .197281

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F DRINKING SEEMS TO EASE PROBLEMS

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	3	7	39	241	RAW
	56.017	23.651	1.245	2.905	16.183	100.000	RPR
	100.000	100.000	33.333	30.435	34.821	71.726	RPC
BEST AGE/SEX W/O			6	16	73	95	RAW
			6.316	16.842	76.842	100.000	RPR
			66.667	69.565	65.179	28.274	RPC
COLUMN SUMS	135	57	9	23	112	336	RAW
	40.179	16.964	2.679	6.845	33.333	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .163454
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .265010 E -01

CONT COEF = .347751 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F NUMBER OF DRINKS AND STILL DRIVE WELL

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	0	1	2	3	4	5	6	7-10	10-20	KEY
EXPERI-	135	57	2	1	1	1	5		1	2	4	1	RAW
MENTAL	56.017	23.651	0.830	0.415	0.415	0.415	2.075		0.415	0.830	1.660	0.415	RPR
	100.000	100.000	28.571	8.333	20.000	10.000	33.333		20.000	20.000	50.000	50.000	RPC
BEST			5	11	4	9	10	8	4	8	4	1	RAW
AGE/SEX			5.263	11.575	4.211	5.474	10.526	8.421	4.211	8.421	4.211	1.053	RPR
W/Q			71.429	91.667	80.000	90.000	66.667	100.000	60.000	80.000	50.000	50.000	RPC
COLUMN	135	57	7	12	5	10	15	8	5	10	8	2	RAW
SUMS	40.179	16.964	2.083	3.571	1.488	2.976	4.464	2.381	1.488	2.976	2.381	0.595	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F NUMBER OF DRINKS AND STILL DRIVE WELL

	20+	DON'T KNOW	RARELY	DON'T DRINK	DON'T DRIVE	ROW SUMS	KEY
EXPERI-MENTAL	1	2	1	16	11	241	RAW
	0.415	0.830	0.415	6.639	4.564	100.000	RPR
	100.000	33.333	100.000	64.000	37.931	71.726	RPC
BEST AGE/SEX W/O		4		9	18	95	RAW
		4.211		9.474	18.947	100.000	RPR
		66.667		36.000	62.069	28.274	RPC
COLUMN SUMS	1	6	1	25	29	336	RAW
	0.298	1.786	0.298	7.440	8.631	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .270885 E 02   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 13

~~CONT COEF = .406307~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = H-F TIMES DRUNK TOO MUCH BUT STILL BEEN GOOD DRIVER

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	0	1	2	3	4	5	10-20	DON'T KNOW	RARELY	KEY
EXPERI- MENTAL	135	57	4	6	3	3		2	1		3	1	RAW
	56.017	23.651	1.660	2.490	1.245	1.245		0.830	0.415		1.245	0.415	RPR
	100.000	100.000	44.444	11.538	60.000	42.857		66.667	50.000		75.000	100.000	RPC
BEST AGE/SEX W/O			5	46	7	4	6	1	1	1	1		RAW
			5.263	48.421	2.105	4.211	6.316	1.053	1.053	1.053	1.053		RPR
			55.556	88.462	40.000	57.143	100.000	33.333	50.000	100.000	25.000		RPC
COLUMN SUMS	135	57	9	52	5	7	6	3	2	1	4	1	RAW
	40.179	16.964	2.679	15.476	1.488	2.083	1.786	0.893	0.595	0.298	1.190	0.298	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F TIMES DRUNK TOO MUCH BUT STILL BEEN GOOD DRIVER

		OFTEN	DON'T DRINK	DON'T DRIVE	ROW SUMS	KEY
EXPERI-MENTAL			8	18	241	RAW
			3.320	7.469	100.000	RPR
			47.059	50.000	71.726	RPC
BEST AGE/SEX W/O		1	9	18	95	RAW
		1.053	9.474	18.947	100.000	RPR
		100.000	52.941	50.000	28.274	RPC
COLUMN SUMS		1	17	36	336	RAW
		0.298	5.060	10.714	100.000	RPR
		100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .298173 E 02 (SIGNIFICANT AT .01 LEVEL)
DEGREES OF FREEDOM = 11

~~CONT COEF = .425336~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F WISH PEOPLE STOP TELLING...LIVE LIFE?

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	17	30	241	RAW
	56.017	23.651	0.830	7.054	12.448	100.000	RPR
	100.000	100.000	33.333	25.758	41.667	71.726	RPC
BEST AGE/SEX W/O			4	49	42	95	RAW
			4.211	51.579	44.211	100.000	RPR
			66.667	74.242	58.333	28.274	RPC
COLUMN SUMS	135	57	6	66	72	336	RAW
	40.179	16.964	1.786	19.643	21.429	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .388067 E 01 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .320462 E 01

CONT COEF = .165383

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F OFTEN AFRAID W/O KNOWING WHY?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	6	41	241	RAW
	56.017	23.651	0.830	2.490	17.012	100.000	RPR
	100.000	100.000	66.667	30.000	33.884	71.726	RPC
BEST AGE/SEX W/Q			1	14	80	95	RAW
			1.053	14.737	84.211	100.000	RPR
			33.333	70.000	66.116	28.274	RPC
COLUMN SUMS	135	57	3	20	121	336	RAW
	40.179	16.964	0.893	5.952	36.012	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .116529
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .728304 E -02

CONT COEF = .287361 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F TIMES YOU THINK YOU ARE NO GOOD

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	9	38	241	RAW
	56.017	23.651	0.830	3.734	15.768	100.000	RPR
	100.000	100.000	100.000	27.273	34.862	71.726	RPC
BEST AGE/SEX W/Q				24	71	95	RAW
				25.263	74.737	100.000	RPR
				72.727	65.138	28.274	RPC
COLUMN SUMS	135	57	2	33	109	336	RAW
	40.179	16.964	0.595	9.821	32.440	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .658949
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .360769

CONT COEF = .679635 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F FEEL SINFUL OR IMMORAL?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	2	6	41	241	RAW
MENTAL	56.017	23.651	0.830	2.490	17.012	100.000	RPR
	100.000	100.000	66.667	33.333	33.333	71.726	RPC
BEST			1	12	82	95	RAW
AGE/SEX			1.053	12.632	86.316	100.000	RPR
W/O			33.333	66.667	66.667	28.274	RPC
COLUMN	135	57	3	18	123	336	RAW
SUMS	40.179	16.964	0.893	5.357	36.607	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

VARIABLES ARE INDEPENDENT IN PLANE. CHI SQUARE AND LAMBDAS ARE ZERO.

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-F DRINK GIVES ENERGY TO GET STARTED?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	2	6	41	241	RAW
MENTAL	56.017	23.651	0.830	2.490	17.012	100.000	RPR
	100.000	100.000	33.333	25.000	35.965	71.726	RPC
BEST			4	18	73	95	RAW
AGE/SEX			4.211	18.947	76.842	100.000	RPR
W/O			66.667	75.000	64.035	28.274	RPC
COLUMN	135	57	6	24	114	336	RAW
SUMS	40.179	16.964	1.786	7.143	33.929	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .106137 E 01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .629285

CONT COEF = .873633 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F DRINKING HELPS YOU WORK BETTER?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI- MENTAL	135	57	2	3	44	241	RAW
	56.017	23.651	0.830	1.245	18.257	100.000	RPR
	100.000	100.000	25.000	33.333	34.646	71.726	RPC
BEST AGE/SEX W/O			6	6	83	95	RAW
			6.316	6.316	87.368	100.000	RPR
			75.000	66.667	65.354	28.274	RPC
COLUMN SUMS	135	57	8	9	127	336	RAW
	40.179	16.964	2.381	2.679	37.798	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .640010 E -02
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .799017 E -01

CONT COEF = .685983 E -02

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F DAILY LIFE INTERESTING?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI- MENTAL	135	57	2	35	12	241	RAW
	56.017	23.651	0.830	14.523	4.979	100.000	RPR
	100.000	100.000	100.000	32.407	35.294	71.726	RPC
BEST AGE/SEX W/O				73	22	95	RAW
				76.842	23.158	100.000	RPR
				67.593	64.706	28.274	RPC
COLUMN SUMS	135	57	2	108	34	336	RAW
	40.179	16.964	0.595	32.143	10.119	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .973141 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .106096 E -01

CONT COEF = .261695 E -01

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F OFTEN HAVE FEELINGS OF RESTLESSNESS?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	10	37	241	RAW
	56.017	23.651	0.830	4.149	15.353	100.000	RPR
	100.000	100.000	50.000	21.739	39.362	71.726	RPC
BEST AGE/SEX W/O			2	36	57	95	RAW
			2.105	37.895	60.000	100.000	RPR
			50.000	78.261	60.638	28.274	RPC
COLUMN SUMS	135	57	4	46	94	336	RAW
	40.179	16.964	1.190	13.690	27.976	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .430102 E 01   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .354710 E 01

CONT COEF = .172644

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F FRIENDS ARE HAPPIER THAN YOU?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	3	11	35	241	RAW
	56.017	23.651	1.245	4.564	14.523	100.000	RPR
	100.000	100.000	60.000	32.353	33.333	71.726	RPC
BEST AGE/SEX W/O			2	23	70	95	RAW
			2.105	24.211	73.684	100.000	RPR
			40.000	67.647	66.667	28.274	RPC
COLUMN SUMS	135	57	5	34	105	336	RAW
	40.179	16.964	1.488	10.119	31.250	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .111491 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .108329 E -01

CONT COEF = .895562 E -02

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F OFTEN PITY YOURSELF?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	2	10	37	241	RAW
MENTAL	56.017	23.651	0.830	4.149	15.353	100.000	RPR
	100.000	100.000	100.000	27.778	34.906	71.726	RPC
BEST				26	69	95	RAW
AGE/SEX				27.368	72.632	100.000	RPR
W/O				72.222	65.094	28.274	RPC
COLUMN	135	57	2	36	106	336	RAW
SUMS	40.179	16.964	0.595	10.714	31.548	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .616590
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .336706

CONT COEF = .657526 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F 4-5 DRINKS AFFECT YOUR DRIVING?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-	135	57	11	9	29	241	RAW
MENTAL	56.017	23.651	4.564	3.734	12.033	100.000	RPR
	100.000	100.000	36.667	18.750	43.939	71.726	RPC
BEST			19	39	37	95	RAW
AGE/SEX			20.000	41.053	38.947	100.000	RPR
W/O			63.333	81.250	56.061	28.274	RPC
COLUMN	135	57	30	48	66	336	RAW
SUMS	40.179	16.964	8.929	14.286	19.643	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .793466 E 01   (SIGNIFICANT AT .01 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .684161 E 01   (SIGNIFICANT AT .01

CONT COEF = .255094

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F FEEL TENSE AND ANXIOUS MOST OF TIME

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	10	37	241	RAW
	56.017	23.651	0.830	4.149	15.353	100.000	RPR
	100.000	100.000	50.000	29.412	34.906	71.726	RPC
BEST AGE/SEX W/O			2	24	69	95	RAW
			2.105	25.263	72.632	100.000	RPR
			50.000	70.588	65.094	28.274	RPC
COLUMN SUMS	135	57	4	34	106	336	RAW
	40.179	16.964	1.190	10.119	31.548	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .348412
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .145607

CONT COEF = .498245 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F OFTEN BORED AND RESTLESS?

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	9	38	241	RAW
	56.017	23.651	0.830	3.734	15.768	100.000	RPR
	100.000	100.000	66.667	19.149	40.426	71.726	RPC
BEST AGE/SEX W/O			1	38	56	95	RAW
			1.053	40.000	58.947	100.000	RPR
			33.333	80.851	59.574	28.274	RPC
COLUMN SUMS	135	57	3	47	94	336	RAW
	40.179	16.964	0.893	13.988	27.976	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .638297 E 01 (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .546143 E 01 (SIGNIFICANT AT .05

CONT COEF = .208108

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII PLACE OF RESIDENCE

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NEW ORLEANS	NEW ORLEANS SUBURB	OTHER U.S.	OTHER SPEC	N/A X	ROW SUMS	KEY
EXPERI-MENTAL	135	57	45		2	1	1	241	RAW
	56.017	23.651	18.672		0.830	0.415	0.415	100.000	RPR
	100.000	100.000	36.290		13.333	100.000	100.000	71.726	RPC
BEST AGE/SEX W/O			79	3	13			95	RAW
			83.158	3.158	13.684			100.000	RPR
			63.710	100.000	86.667			28.274	RPC
COLUMN SUMS	135	57	124	3	15	1	1	336	RAW
	40.179	16.964	36.905	0.893	4.464	0.298	0.298	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .666127 E 01
DEGREES OF FREEDOM = 3

CONT COEF = .210972

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII DESCRIPTION OF PLACE OF RESIDENCE

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	CORE OF CITY	OUT-SKIRTS OF CITY	SUBURB OF CITY	RURAL	OTHER SPEC	N/A X	ROW SUMS	KEY
EXPERI-MENTAL	135	57	26	7	4	6	5	1	241	RAW
	56.017	23.651	10.788	2.905	1.660	2.490	2.075	0.415	100.000	RPR
	100.000	100.000	37.143	31.818	16.667	42.857	55.556	20.000	71.726	RPC
BEST AGE/SEX W/O			44	15	20	8	4	4	95	RAW
			46.316	15.789	21.053	8.421	4.211	4.211	100.000	RPR
			62.857	68.182	83.333	57.143	44.444	80.000	28.274	RPC
COLUMN SUMS	135	57	70	22	24	14	9	5	336	RAW
	40.179	16.964	20.833	6.548	7.143	4.167	2.679	1.488	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .565977 E 01
DEGREES OF FREEDOM = 4

CONT COEF = .201125

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII HOW FAR HAVE YOU GONE IN SCHOOL?

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	GRAD SCHOOL	4 YR COLLEGE	2 YR COLLEGE	SOME COLLEGE	HIGH SCHOOL GRAD	SOME HIGH SCHOOL	JUNIOR HIGH/ GRAMMAR	LESS THAN 7 YRS	N/A X	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	1	2	4	9	15	5	11		241	RAW
	56.017	23.651	0.830	0.415	0.830	1.660	3.734	6.224	2.075	4.564		100.000	RPR
	100.000	100.000	20.000	11.111	33.333	21.053	23.684	51.724	41.667	61.111		71.726	RPC
BEST AGE/SEX W/O			8	8	4	15	29	14	7	7	3	95	RAW
			8.421	8.421	4.211	15.789	30.526	14.737	7.368	7.368	3.158	100.000	RPR
			80.000	88.889	66.667	78.947	76.316	48.276	58.333	38.889	100.000	28.274	RPC
COLUMN SUMS	135	57	10	9	6	19	38	29	12	18	3	336	RAW
	40.179	16.964	2.976	2.679	1.786	5.655	11.310	8.631	3.571	5.357	0.893	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .162614 E 02   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 7

CONT COEF = .321565

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = N-F11 ARE YOU RETIRED?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI- MENTAL	135	57	4	6	39	241	RAW
	56.017	23.651	1.660	2.490	16.183	100.000	RPR
	100.000	100.000	25.000	37.500	34.821	71.726	RPC
BEST AGE/SEX W/O			12	10	73	95	RAW
			12.632	10.526	76.842	100.000	RPR
			75.000	62.500	65.179	28.274	RPC
COLUMN SUMS	135	57	16	16	112	336	RAW
	40.179	16.964	4.762	4.762	33.333	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .440619 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .489577 E -02

CONT COEF = .185503 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII NUMBER OF MONTHS UNEMPLOYED

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	1-3	4-6	7-10	11-18	19-24	25+	ROW SUMS	KEY
EXPERI-MENTAL	135	57	32	5			3	2	7	241	RAW
	56.017	23.651	13.278	2.075			1.245	0.830	2.905	100.000	RPR
	100.000	100.000	30.189	62.500			60.000	100.000	38.889	71.726	RPC
BEST AGE/SEX W/Q			74	3	2	3	2		11	95	RAW
			77.895	3.158	2.105	3.158	2.105		11.579	100.000	RPR
			69.811	37.500	100.000	100.000	40.000		61.111	28.274	RPC
COLUMN SUMS	135	57	106	8	2	3	5	2	18	336	RAW
	40.179	16.964	31.548	2.381	0.595	0.893	1.488	0.595	5.357	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .825935 E 01
DEGREES OF FREEDOM = 5

CONT COEF = .422545

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII REASON FOR CURRENT UNEMPLOYMENT

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	LAID OFF	FIRED	ILLNESS	QUIT	OTHER SPEC	ROW SUMS	KEY
EXPERI- MENTAL	135	57	30	3	1	4	3	8	241	RAW
	56.017	23.651	12.448	1.245	0.415	1.660	1.245	3.320	100.000	RPR
	100.000	100.000	29.703	42.857	100.000	44.444	25.000	57.143	71.726	RPC
BEST AGE/SEX W/O			71	4		5	9	6	95	RAW
			74.737	4.211		5.263	9.474	6.316	100.000	RPR
			70.297	57.143		55.556	75.000	42.857	28.274	RPC
COLUMN SUMS	135	57	101	7	1	9	12	14	336	RAW
	40.179	16.964	30.060	2.083	0.298	2.679	3.571	4.167	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .401254 E 01
DEGREES OF FREEDOM = 4

CONT COEF = .292148

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII CURRENT WORK STATUS

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	FULL- TIME JOB	HOUSE- WIFE	STUDENT	N/A X	ROW SUMS	KEY
EXPERI- MENTAL	135	57	13	20	5	10	1	241	RAW
	56.017	23.651	5.394	8.299	2.075	4.149	0.415	100.000	RPR
	100.000	100.000	39.394	30.303	35.714	34.483	50.000	71.726	RPC
BEST AGE/SEX W/O			20	46	9	19	1	95	RAW
			21.053	48.421	9.474	20.000	1.053	100.000	RPR
			60.606	69.697	64.286	65.517	50.000	28.274	RPC
COLUMN SUMS	135	57	33	66	14	29	2	336	RAW
	40.179	16.964	9.821	19.643	4.167	8.631	0.595	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .257181
DEGREES OF FREEDOM = 2

CONT COEF = .485170 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FIT JOB NORMALLY HELD

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	WHITE COLLAR	PROF/ TECH	MGR/ ADMIN	SALES WORKER	CLERIC-AL	CRAFT-MAN	OPER-ATIVES	TRANS OPER-ATIVES	LABORER	SERVICE WORKER	KEY
EXPERI-MENTAL	135	57	1	1			3	4	1	3	12	6	RAW
	56.017	23.651	0.415	0.415			1.245	1.660	0.415	1.245	4.979	2.490	RPR
	100.000	100.000	50.000	8.333			33.333	36.364	50.000	33.333	57.143	25.000	RPC
BEST AGE/SEX W/Q			1	11	8	3	6	7	1	6	9	18	RAW
			1.053	11.579	8.421	3.158	6.316	7.368	1.053	6.316	9.474	18.947	RPR
			50.000	91.667	100.000	100.000	66.667	63.636	50.000	66.667	42.857	75.000	RPC
COLUMN SUMS	135	57	2	12	8	3	9	11	2	9	21	24	RAW
	40.179	16.964	0.595	3.571	2.381	0.893	2.679	3.274	0.595	2.679	6.250	7.143	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII JOB NORMALLY HELD

	HOUSE-HOLD WORKER	HOUSE-WIFE	STUDENT	RETIRED	UNKNOWN	N/A X	ROW SUMS	KEY
EXPERI-MENTAL	2		5		1	10	24	RAW
	0.830		2.075		0.415	4.149	100.000	RPR
	66.667		38.462		33.333	66.667	71.726	RPC
BEST AGE/SEX W/Q	1	4	8	5	2	5	95	RAW
	1.053	4.211	8.421	5.263	2.105	5.263	100.000	RPR
	33.333	100.000	61.538	100.000	66.667	33.333	28.274	RPC
COLUMN SUMS	3	4	13	5	3	15	336	RAW
	0.893	1.190	3.869	1.488	0.893	4.464	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .222547 E 02
DEGREES OF FREEDOM = 14

CONT COEF = .983580

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII CURRENT OCCUPATION

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	WHITE COLLAR	PROF/ TECH	MGR/ ADMIN	SALES WORKER	CLERIC-AL	CRAFT-MAN	OPER-ATIVES	TRANS OPER-ATIVES	LABORER	SERVICE WORKER	KEY
EXPERI-MENTAL	135	57		1			2	4	1	3	6	4	RAW
	56.017	23.651		0.415			0.830	1.660	0.415	1.245	2.490	1.660	RPR
	100.000	100.000		12.500			33.333	40.000	100.000	37.500	60.000	21.053	RPC
BEST AGE/SEX W/Q			1	7	7	3	4	6		5	4	15	RAW
			1.053	7.368	7.368	3.158	4.211	6.316		5.263	4.211	15.789	RPR
			100.000	87.500	100.000	100.000	66.667	60.000		62.500	40.000	78.947	RPC
COLUMN SUMS	135	57	1	8	7	3	6	10	1	8	10	19	RAW
	40.179	16.964	0.298	2.381	2.083	0.893	1.786	2.976	0.298	2.381	2.976	5.655	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII CURRENT OCCUPATION

	HOUSE-WIFE	STUDENT	RETIRED	UNEMP >1 MO.	UNKNOWN	N/A X	ROW SUMS	KEY
EXPERI-MENTAL	4	8	2	9	1	4	241	RAW
	1.660	3.320	0.830	3.734	0.415	1.660	100.000	RPR
	30.769	44.444	22.222	56.250	20.000	40.000	71.726	RPC
BEST AGE/SEX W/O	9	10	7	7	4	6	95	RAW
	9.474	10.526	7.368	7.368	4.211	6.316	100.000	RPR
	69.231	55.556	77.778	43.750	80.000	60.000	28.274	RPC
COLUMN SUMS	13	18	9	16	5	10	336	RAW
	3.869	5.357	2.679	4.762	1.488	2.976	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .194584 E 02
DEGREES OF FREEDOM = 14

CONT COEF = .356089

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = W-FIT MAIN SOURCE OF SUPPORT

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	SALARY	INCOME NOT SALARY	FAMILY/ FRIEND	SAVINGS PENSION	DISAP BENEFIT SOC SEC	PUBLIC ASSIST	8	ROW SUMS	KEY
EXPERI-	135	57	2	17	2	14		7	5	2	241	RAW
MENTAL	56.017	23.651	0.830	7.054	0.830	5.809		2.905	2.075	0.830	100.000	RPR
	100.000	100.000	40.000	23.944	50.000	43.750		43.750	83.333	40.000	71.726	RPC
BEST			3	54	2	18	5	9	1	3	95	RAW
AGE/SEX			3.158	56.842	2.105	18.947	5.263	9.474	1.053	3.158	100.000	RPR
W/O			60.000	76.056	50.000	56.250	100.000	56.250	16.667	60.000	28.274	RPC
COLUMN	135	57	5	71	4	32	5	16	6	5	336	RAW
SUMS	40.179	16.964	1.488	21.131	1.190	9.524	1.488	4.762	1.786	1.488	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .148907 E 02   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 6

CONT COEF = .311065

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE COLUMNS = M-FII PERSONAL INCOME IN PAST YEAR

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NC ANS X	0	1	2	3	4	5	6	7	8-12	KEY
EXPERI- MENTAL	135	57	22	4	2	3	3	1	4	3		7	RAW
	56.017	23.651	9.129	1.660	0.830	1.245	1.245	0.415	1.660	1.245		2.905	RPR
	100.000	100.000	57.895	28.571	16.667	21.429	27.273	7.692	66.667	50.000		31.818	RPC
BEST AGE/SEX W/O			16	10	10	11	8	12	2	3	3	15	RAW
			16.842	10.526	10.526	11.579	8.421	12.632	2.105	3.158	3.158	15.789	RPR
			42.105	71.429	83.333	78.571	72.727	92.308	33.333	50.000	100.000	68.182	RPC
COLUMN SUMS	135	57	38	14	12	14	11	13	6	6	3	22	RAW
	40.179	16.964	11.310	4.167	3.571	4.167	3.274	3.869	1.786	1.786	0.893	6.548	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

```
       EXPERIMENTAL/
ROWS = REST AGE/SEX              COLUMNS = M-FII PERSONAL
       WITH QUESTIONNAIRE                  INCOME IN PAST YEAR
```

	13-18	19-25	26-35	ROW SUMS	KEY
EXPERI-MENTAL				241	RAW
				100.000	RPR
				71.726	RPC
REST AGE/SEX W/O	1	3	1	95	RAW
	1.053	3.158	1.053	100.000	RPR
	100.000	100.000	100.000	28.274	RPC
COLUMN SUMS	1	3	1	336	RAW
	0.298	0.893	0.298	100.000	RPR
	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .133311 E 02
DEGREES OF FREEDOM = 11

CONT COEF = .334239

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII TOTAL FAMILY INCOME IN PAST YEAR

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	0	1	2	3	4	5	6	7	8-12	KEY
EXPERI-MENTAL	135	57	24	6	1	2	3	1	3	3		6	RAW
	56.017	23.651	9.959	2.490	0.415	0.830	1.245	0.415	1.245	1.245		2.490	RPR
	100.000	100.000	50.000	40.000	12.500	16.667	27.273	8.333	75.000	50.000		28.571	RPC
BEST AGE/SEX W/Q			24	9	7	10	8	11	1	3	2	15	RAW
			25.263	9.474	7.368	10.526	8.421	11.579	1.053	3.158	2.105	15.789	RPR
			50.000	60.000	87.500	83.333	72.727	91.667	25.000	50.000	100.000	71.429	RPC
COLUMN SUMS	135	57	48	15	8	12	11	12	4	6	2	21	RAW
	40.179	16.964	14.286	4.464	2.381	3.571	3.274	3.571	1.190	1.786	0.595	6.250	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE COLUMNS = N-FII TOTAL FAMILY INCOME IN PAST YEAR

	13-18	19-25	26-35	ROW SUMS	KEY
EXPERI-MENTAL				241	RAW
				100.000	RPR
				71.726	RPC
BEST AGE/SEX W/O	1	3	1	95	RAW
	1.053	3.158	1.053	100.000	RPR
	100.000	100.000	100.000	28.274	RPC
COLUMN SUMS	1	3	1	336	RAW
	0.298	0.893	0.298	100.000	RPR
	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .140899 E 02
DEGREES OF FREEDOM = 11

CONT COEF = .357791

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE COLUMNS = N-FII NUMBER OF CHILDREN IN FAMILY

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	0	1-2	3-4	5-8	ROW SUMS	KEY
EXPERI-MENTAL	135	57	1	24	12	5	7	241	RAW
	56.017	23.651	0.415	9.959	4.979	2.075	2.905	100.000	RPR
	100.000	100.000	14.286	35.821	29.268	31.250	53.846	71.726	RPC
BEST AGE/SEX W/O			6	43	29	11	6	95	RAW
			6.316	45.263	30.526	11.579	6.316	100.000	RPR
			85.714	64.179	70.732	68.750	46.154	28.274	RPC
COLUMN SUMS	135	57	7	67	41	16	13	336	RAW
	40.179	16.964	2.083	19.940	12.202	4.762	3.869	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .273900 E 01
DEGREES OF FREEDOM = 3

~~CONT COEF = .140003~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII NUMBER OF ADULTS (18+) IN FAMILY

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	1-2	3-4	5-8	ROW SUMS	KEY
EXPERI- MENTAL	135	57	3	35	8	3	241	RAW
	56.017	23.651	1.245	14.523	3.320	1.245	100.000	RPR
	100.000	100.000	33.333	32.407	36.364	60.000	71.726	RPC
BEST AGE/SEX W/Q			6	73	14	2	95	RAW
			6.316	76.842	14.737	2.105	100.000	RPR
			66.667	67.593	63.636	40.000	28.274	RPC
COLUMN SUMS	135	57	9	108	22	5	336	RAW
	40.179	16.964	2.679	32.143	6.548	1.488	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .168098 E 01
DEGREES OF FREEDOM = 2

~~CONT COEF = .110899~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII # OF MEDICAL CONDITIONS CHECKED

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	1	2	3	4	6	ROW SUMS	KEY
EXPERI- MENTAL	135	57	22	21	4		1	1	241	RAW
	56.017	23.651	9.129	8.714	1.660		0.415	0.415	100.000	RPR
	100.000	100.000	26.506	45.652	44.444		50.000	100.000	71.726	RPC
BEST AGE/SEX W/Q			61	25	5	3	1		95	RAW
			64.211	26.316	5.263	3.158	1.053		100.000	RPR
			73.494	54.348	55.556	100.000	50.000		28.274	RPC
COLUMN SUMS	135	57	83	46	9	3	2	1	336	RAW
	40.179	16.964	24.702	13.690	2.679	0.893	0.595	0.298	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .370444 E 01
DEGREES OF FREEDOM = 4

~~CONT COEF = .239273~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII MOST SEVERE MEDICAL CONDITION W1=# OF CONDITIONS

		FATTY LIVER	PAIN/ WEAK LEGS	ANEMIA	DIAB- ETES	ULCERS	MENTAL ILLNESS	SEVERE BLEED- ING	OTHER SERIOUS	ROW SUMS	KEY
EXPERI- MENTAL		1	8	3		6	2	2	4	26	RAW
		3.846	30.769	11.538		23.077	7.692	7.692	15.385	100.000	RPR
		50.000	50.000	27.273		46.154	33.333	100.000	44.444	43.333	RPC
BEST AGE/SEX W/O		1	8	8	1	7	4		5	34	RAW
		2.941	23.529	23.529	2.941	20.588	11.765		14.706	100.000	RPR
		50.000	50.000	72.727	100.000	53.846	66.667		55.556	56.667	RPC
COLUMN SUMS		2	16	11	1	13	6	2	9	60	RAW
		3.333	26.667	18.333	1.667	21.667	10.000	3.333	15.000	100.000	RPR
		100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .515236 E 01
DEGREES OF FREEDOM = 7

~~CONT COEF = .281215~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII EVER HAD DRIVER'S LICENSE?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	N/A X	ROW SUMS	KEY
EXPERI- MENTAL	135	57	1	23	25		241	RAW
	56.017	23.651	0.415	9.544	10.373		100.000	RPR
	100.000	100.000	33.333	31.944	37.879		71.726	RPC
BEST AGE/SEX W/O			2	49	41	3	95	RAW
			2.105	51.579	43.158	3.158	100.000	RPR
			66.667	68.056	62.121	100.000	28.274	RPC
COLUMN SUMS	135	57	3	72	66	3	336	RAW
	40.179	16.964	0.893	21.429	19.643	0.893	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

more than 50% no drivers license

less than 50%

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .594585
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .304985

CONT COEF = .621197 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL / BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII NOW HAVE DRIVER'S LICENSE?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	N/A X	ROW SUMS	KEY
EXPERI- MENTAL	135	57	1	16	32		241	RAW
	56.017	23.651	0.415	6.639	13.278		100.000	RPR
	100.000	100.000	33.333	25.806	42.105		71.726	RPC
BEST AGE/SEX W/Q			2	46	44	3	95	RAW
			2.105	48.421	46.316	3.158	100.000	RPR
			66.667	74.194	57.895	100.000	28.274	RPC
COLUMN SUMS	135	57	3	62	76	3	336	RAW
	40.179	16.964	0.893	18.452	22.619	0.893	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

67% ~~23~~ w/o no drivers license

48% on street with no license

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .399864 E 01   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .331241 E 01

CONT COEF = .167809

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

~~ROWS~~ = EXPERIMENTAL/ ~~BEST AGE/SEX~~ WITH QUESTIONNAIRE   ~~COLUMNS~~ = ~~N-FII~~ YEARS HELD DRIVER'S LICENSE

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	0	1	2	3	4	6-10	10-20	21+	ROW SUMS	KEY
EXPERI- MENTAL	135	57	12	16	3	1	3	2	4	5	3	241	RAW
	56.017	23.651	4.979	6.635	1.245	0.415	1.245	0.830	1.660	2.075	1.245	100.000	RPR
	100.000	100.000	60.000	39.024	33.333	16.667	60.000	22.222	19.048	33.333	16.667	71.726	RPC
BEST AGE/SEX W/O			8	25	6	5	2	7	17	10	15	95	RAW
			8.421	26.316	6.316	5.263	2.105	7.368	17.895	10.526	15.789	100.000	RPR
			40.000	60.976	66.667	83.333	40.000	77.778	80.952	66.667	83.333	28.274	RPC
COLUMN SUMS	135	57	20	41	9	6	5	9	21	15	18	336	RAW
	40.179	16.964	5.952	12.202	2.679	1.786	1.488	2.679	6.250	4.464	5.357	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

~~CHI SQUARE~~ = .737161 E 01
DEGREES OF FREEDOM = 7

~~CONT COEF~~ = .290081

21/16

62/25

71.3 Do

29% Do not

5-6.7%

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

~~ROWS =~~ EXPERIMENTAL/ ~~BEST AGE/SEX~~ WITH QUESTIONNAIRE   COLUMNS = ~~M-FIT~~ EVER BEEN ARRESTED FOR DWI

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	NO	1 TIME	ROW SUMS	KEY
EXPERI-	135	57	2	43	4	241	RAW
MENTAL	56.017	23.651	0.830	17.842	1.660	100.000	RPR
	100.000	100.000	33.333	33.594	40.000	71.726	RPC
BEST			4	85	6	95	RAW
~~AGE/SEX~~			4.211	89.474	6.316	100.000	RPR
W/Q			66.667	66.406	60.000	28.274	RPC
COLUMN	135	57	6	128	10	336	RAW
SUMS	40.179	16.964	1.786	38.095	2.976	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

8.5%

6.6%

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .169495
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .426006 E -02

CONT COEF = .350245 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

~~ROWS =~~ EXPERIMENTAL/ ~~BEST~~ AGE/SEX WITH QUESTIONNAIRE   COLUMNS = ~~M-FIT~~ EVER BEEN ARRESTED FOR DUD

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	NO	1 TIME	2 TIMES	3-5 TIMES	6+ TIMES	ROW SUMS	KEY
EXPERI-	135	57	2	40	1	3	1	2	241	RAW
MENTAL	56.017	23.651	0.830	16.598	0.415	1.245	0.415	0.830	100.000	RPR
	100.000	100.000	40.000	31.250	33.333	75.000	50.000	100.000	71.726	RPC
BEST			3	88	2	1	1		95	RAW
~~AGE/SEX~~			3.158	92.632	2.105	1.053	1.053		100.000	RPR
W/Q			60.000	68.750	66.667	25.000	50.000		28.274	RPC
COLUMN	135	57	5	128	3	4	2	2	336	RAW
SUMS	40.179	16.964	1.488	38.095	0.893	1.190	0.595	0.595	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

1%

4.4%

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .755703 E 01
DEGREES OF FREEDOM = 4

~~CONT COEF = .227076~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-FII EVER BEEN CONVICTED OF RECKLESS DRIVING

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	NO	1 TIME	ROW SUMS	KEY
EXPERI-	135	57	2	45	2	241	RAW
MENTAL	56.017	23.651	0.830	18.672	0.830	100.000	RPR
	100.000	100.000	40.000	33.835	33.333	71.726	RPC
BEST			3	88	4	95	RAW
AGE/SEX			3.158	92.632	4.211	100.000	RPR
W/O			60.000	66.165	66.667	28.274	RPC
COLUMN	135	57	5	133	6	336	RAW
SUMS	40.179	16.964	1.488	39.583	1.786	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .644534 E -03
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .172826

CONT COEF = .215335 E -02

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII HOW OFTEN DO YOU DRINK?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	DAILY	4-5 TIMES/ WEEK	2-3 TIMES/ WEEK	ONCE/ WEEK	2-3 TIMES/ MONTH	ONCE/ MONTH	2-3 TIMES/ YEAR	ONCE/ YEAR	NEVER	KEY
EXPERI-MENTAL	135	57	2	5	2	9	6	4	2	2	3	14	RAW
	56.017	23.651	0.830	2.075	0.830	3.734	2.490	1.660	0.830	0.830	1.245	5.809	APR
	100.000	100.000	50.000	31.250	16.667	26.471	50.000	28.571	50.000	50.000	16.667	53.846	RPC
BEST AGE/SEX W/Q			2	11	10	25	6	10	2	2	15	12	RAW
			2.105	11.579	10.526	26.316	6.316	10.526	2.105	2.105	15.789	12.632	APR
			50.000	68.750	83.333	73.529	50.000	71.429	50.000	50.000	83.333	46.154	RPC
COLUMN SUMS	135	57	4	16	12	34	12	14	4	4	18	26	RAW
	40.179	16.964	1.190	4.762	3.571	10.119	3.571	4.167	1.190	1.190	5.357	7.738	APR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

```
        EXPERIMENTAL/
ROWS =  BEST AGE/SEX            COLUMNS = M-FII HOW
        WITH QUESTIONNAIRE                OFTEN DO YOU DRINK?
```

	ROW SUMS	KEY
EXPERI- I	241	RAW
MENTAL I	100.000	RPR
I	71.726	RPC
BEST I	95	RAW
AGE/SEX I	100.000	RPR
W/O I	28.274	RPC
COLUMN	336	RAW
SUMS	100.000	RPR
	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .120216 E 02
DEGREES OF FREEDOM = 8

CONT COEF = .281208

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = A-FII MINUTES SPENT DRINKING

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	ABSTAIN -ER	1-29	30-59	60-89	90-119	120-149	150+	ROW SUMS	KEY
EXPERI-MENTAL	135	57	5	17	1	1	3	2	5	15	241	RAW
	56.017	23.651	2.075	7.054	0.415	0.415	1.245	0.830	2.075	6.224	100.000	RPR
	100.000	100.000	35.714	37.778	50.000	33.333	20.000	50.000	45.455	30.000	71.726	RPC
BEST AGE/SEX W/O			9	28	1	2	12	2	6	35	95	RAW
			9.474	29.474	1.053	2.105	12.632	2.105	6.316	36.842	100.000	RPR
			64.286	62.222	50.000	66.667	80.000	50.000	54.545	70.000	28.274	RPC
COLUMN SUMS	135	57	14	45	2	3	15	4	11	50	336	RAW
	40.179	16.964	4.167	13.393	0.595	0.893	4.464	1.190	3.274	14.881	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .328695 E 01
DEGREES OF FREEDOM = 6

~~CONT COEF = .157038~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = #-FII NUMBER OF DRINKS NORMALLY CONSUMED

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	ABSTAIN -ER	1	2	3	4	5	6	7-9	10+	KEY
EXPERI-MENTAL	135	57	4	16	3	5	5	3	2	2	3	6	RAW
	56.017	23.651	1.660	6.639	1.245	2.075	2.075	1.245	0.830	0.830	1.245	2.490	RPR
	100.000	100.000	57.143	42.105	30.000	26.316	26.316	25.000	16.667	18.182	60.000	54.545	RPC
BEST AGE/SEX W/O			3	22	7	14	14	9	10	9	2	5	RAW
			3.158	23.158	7.368	14.737	14.737	9.474	10.526	9.474	2.105	5.263	RPR
			42.857	57.895	70.000	73.684	73.684	75.000	83.333	81.818	40.000	45.455	RPC
COLUMN SUMS	135	57	7	38	10	19	19	12	12	11	5	11	RAW
	40.179	16.964	2.083	11.310	2.976	5.655	5.655	3.571	3.571	3.274	1.488	3.274	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

```
        EXPERIMENTAL/                        M-FII NUMBER
ROWS =  BEST AGE/SEX         COLUMNS =  OF DRINKS NORMALLY
        WITH QUESTIONNAIRE                   CONSUMED

                  ROW
                  SUMS   KEY
          I
EXPERI-I           241   RAW
MENTAL  I      100.000   RPR
        I       71.726   RPC
        I
BEST    I           95   RAW
AGE/SEXI       100.000   RPR
W/Q     I       28.274   RPC
        I
COLUMN             336   RAW
 SUMS          100.000   RPR
               100.000   RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE =  .909932 E  01
DEGREES OF FREEDOM = 8

CONT COEF =   .249563
```

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-FII NORMAL ALCOHOLIC BEVERAGE

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	NONE	BEER	WINE	HARD LIQUOR	OTHER	BEER AND WINE	BEER AND LIQUOR	LIQUOR AND WINE	BEER LIQUOR & WINE	KEY
EXPERI-	135	57	3	11	17	2	9	2	2	2		1	RAW
MENTAL	56.017	23.651	1.245	4.564	7.054	0.830	3.734	0.830	0.830	0.830		0.415	RPR
	100.000	100.000	60.000	45.833	33.333	18.182	29.032	50.000	28.571	33.333		50.000	RPC
BEST			2	13	34	9	22	2	5	4	3	1	RAW
AGE/SEX			2.105	13.684	35.789	9.474	23.158	2.105	5.263	4.211	3.158	1.053	RPR
W/O			40.000	54.167	66.667	81.818	70.968	50.000	71.425	66.667	100.000	50.000	RPC
COLUMN	135	57	5	24	51	11	31	4	7	6	3	2	RAW
SUMS	40.179	16.964	1.488	7.143	15.179	3.274	9.226	1.190	2.083	1.786	0.893	0.595	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = N-FII NORMAL ALCOHOLIC BEVERAGE

	ROW SUMS	KEY
EXPERI-MENTAL	241	RAW
	100.000	RPR
	71.726	RPC
BEST AGE/SEX W/O	95	RAW
	100.000	RPR
	28.274	RPC
COLUMN SUMS	336	RAW
	100.000	RPR
	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .541939 E 01
DEGREES OF FREEDOM = 8

CONT COEF = .193719

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = N-FII DAYS ON WHICH DRINKING OCCURS

	NOT ATTEMPT -ED X	NOT COMPLE-TED X	NO ANS X	FRI,SAT SUN	DAILY	NO SPEC NOT DAILY	ONLY SPECIAL TIMES	ABSTAIN -ER	ROW SUMS	KEY
EXPERI-MENTAL	135	57	3	10	6	15	4	11	241	RAW
	56.017	23.651	1.245	4.149	2.490	6.224	1.660	4.564	100.000	RPR
	100.000	100.000	60.000	26.316	37.500	37.500	16.667	52.381	71.726	RPC
BEST AGE/SEX W/O			2	28	10	25	20	10	95	RAW
			2.105	29.474	10.526	26.316	21.053	10.526	100.000	RPR
			40.000	73.684	62.500	62.500	83.333	47.619	28.274	RPC
COLUMN SUMS	135	57	5	38	16	40	24	21	336	RAW
	40.179	16.964	1.488	11.310	4.762	11.905	7.143	6.250	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .773259 E 01
DEGREES OF FREEDOM = 4

CONT COEF = .229562

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL / BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII TIME OF USUAL DRINKING

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	8 PM- 12 AM	8 PM- 3 AM	4 PM- 8 PM	12 PM- 4 PM	8 AM- 12 PM	3 AM- 8 AM	ALL THROUGH DAY	ABSTAIN -ER	9	KEY
EXPERI- MENTAL	135	57	2	8	3	6	2	1	1		14	12	RAW
	56.017	23.651	0.830	3.320	1.245	2.490	0.830	0.415	0.415		5.809	4.979	RPR
	100.000	100.000	50.000	19.048	27.273	37.500	40.000	50.000	100.000		41.176	42.857	RPC
BEST AGE/SEX W/O			2	34	9	10	3	1		1	20	16	RAW
			2.105	35.789	8.421	10.526	3.158	1.053		1.053	21.053	16.842	RPR
			50.000	80.952	72.727	62.500	60.000	50.000		100.000	58.824	57.143	RPC
COLUMN SUMS	135	57	4	42	11	16	5	2	1	1	34	28	RAW
	40.179	16.964	1.190	12.500	3.274	4.762	1.488	0.595	0.298	0.298	10.119	8.333	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-F11 TIME OF USUAL DRINKING

	ROW SUMS	KEY
EXPERI-MENTAL	241	RAW
	100.000	RPR
	71.726	RPC
BEST AGE/SEX W/O	95	RAW
	100.000	RPR
	28.274	RPC
COLUMN SUMS	336	RAW
	100.000	RPR
	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .906228 E 01
DEGREES OF FREEDOM = 8

~~CONT COEF = .246567~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII WITH WHOM DRINKING OCCURS

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	SPOUSE	OTHER RELAT- IVES	FRIENDS	ALONE	ALL OF ABOVE	ABSTAIN -ER	ROW SUMS	KEY
EXPERI- MENTAL	135	57	2	3	3	24	3	2	12	241	RAW
	56.017	23.651	0.830	1.245	1.245	9.959	1.245	0.830	4.979	100.000	RPR
	100.000	100.000	50.000	27.273	23.077	36.364	37.500	11.111	50.000	71.726	RPC
BEST AGE/SEX W/Q			2	8	10	42	5	16	12	95	RAW
			2.105	8.421	10.526	44.211	5.263	16.842	12.632	100.000	RPR
			50.000	72.727	76.923	63.636	62.500	88.889	50.000	28.274	RPC
COLUMN SUMS	135	57	4	11	13	66	8	18	24	336	RAW
	40.179	16.964	1.190	3.274	3.869	19.643	2.381	5.357	7.143	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .810013 E 01
DEGREES OF FREEDOM = 5

~~CONT COEF = .233867~~

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = W-FII HOW DO YOU GET TO WHERE YOU DRINK?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	DRIVE CAR	PASS. IN CAR	TAXI	MASS TRANSIT	WALK	DRINK AT HOME	ABSTAIN -ER	MULT RESP NOT VEH	MULT RESP INCWALK	KEY
EXPERI- MENTAL	135	57	2	4	7	3		11	5	14	1	2	RAW
	56.017	23.651	0.830	1.660	2.905	1.245		4.564	2.075	5.809	0.415	0.830	RPR
	100.000	100.000	40.000	25.000	35.000	100.000		37.931	20.833	53.846	16.667	33.333	RPC
BEST AGE/SEX W/O			3	12	13		9	18	19	12	5	4	RAW
			3.158	12.632	13.684		9.474	18.947	20.000	12.632	5.263	4.211	RPR
			60.000	75.000	65.000		100.000	62.069	79.167	46.154	83.333	66.667	RPC
COLUMN SUMS	135	57	5	16	20	3	9	29	24	26	6	6	RAW
	40.179	16.964	1.488	4.762	5.952	0.893	2.679	8.631	7.143	7.738	1.786	1.786	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA-----SUBJECT FILE

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       EXPERIMENTAL/                          M-FII HOW DO
ROWS = BEST AGE/SEX           COLUMNS = YOU GET TO WHERE
       WITH QUESTIONNAIRE                     YOU DRINK?

                 ROW
                SUMS   KEY
         I
EXPERI-I         241   RAW
MENTAL  I    100.000   RPR
         I     71.726   RPC
         I
BEST     I         95   RAW
AGE/SEXI     100.000   RPR
W/O      I     28.274   RPC
         I
COLUMN           336   RAW
 SUMS        100.000   RPR
             100.000   RPC
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STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .185157 E 02   (SIGNIFICANT AT .05 LEVEL)
DEGREES OF FREEDOM = 8

CONT COEF = .342854

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII MAIN REASON FOR DRINKING

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	ABSTAIN-ER	RELAX/ CALM NERVES	TO BE POLITE	BECAUSE FRIENDS DRINK	TO CELEB-RATE	TO FORGET TROUBLE	TO FEEL GOOD	FOR THE TASTE	TO HELP SLEEP	KEY
EXPERI-MENTAL	135	57	2	13	11	13		4	2	6	6		RAW
	54.000	22.800	0.800	5.200	4.400	[illegible]		1.600	0.800	2.400	2.400		RPR
	100.000	100.000	50.000	54.167	33.333	27.660		13.793	28.571	28.571	37.500		RPC
BEST AGE/SEX W/Q			2	11	22	34	3	25	5	15	10	4	RAW
			1.449	7.971	15.942	24.638	2.174	18.116	3.623	10.870	7.246	2.899	RPR
			50.000	45.833	66.667	72.340	100.000	86.207	71.429	71.429	62.500	100.000	RPC
COLUMN SUMS	135	57	4	24	33	47	3	29	7	21	16	4	RAW
	34.794	14.691	1.031	6.186	8.505	12.113	0.773	7.474	1.804	5.412	4.124	1.031	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = N-FII WHERE DO YOU DO MOST DRINKING

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	HOME	BAR	PARTIES	FAMILY FRIENDS HOME	RESTAL -RANT	RECRE- ATION	ABSTAIN -ER	N/A X	ROW SUMS	KEY
EXPERI-	135	57	2	15	11	4	2			13	2	241	RAW
MENTAL	56.017	23.651	0.830	6.224	4.564	1.660	0.830			5.394	0.830	100.000	RPC
	100.000	100.000	50.000	42.857	32.353	50.000	11.765			52.000	12.500	71.726	CPC
BEST			2	20	23	4	15	1	4	12	14	95	RAW
AGE/SEX			2.105	21.053	24.211	4.211	15.789	1.053	4.211	12.632	14.737	100.000	RPC
W/O			50.000	57.143	67.647	50.000	88.235	100.000	100.000	48.000	87.500	28.274	CPC
COLUMN	135	57	4	35	34	8	17	1	4	25	16	336	RAW
SUMS	40.179	16.964	1.190	10.417	10.119	2.381	5.060	0.298	1.190	7.440	4.762	100.000	RPC
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	CPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .114705 E 02
DEGREES OF FREEDOM = 6

CONT COEF = .290904

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = N-FII MAIN REASON FOR DRINKING

	OTHER SPEC	ROW SUMS	KEY
EXPERI-MENTAL	1	250	RAW
	0.400	100.000	RPR
	12.500	64.433	RPC
BEST AGE/SEX W/O	7	138	RAW
	5.072	100.000	RPR
	87.500	35.567	RPC
COLUMN SUMS	8	388	RAW
	2.062	100.000	RPR
	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .154077 E 02
DEGREES OF FREEDOM = 9

CONT COEF = .272556

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = N-FII DO YOU FEEL THAT DRINKING IS CAUSING PROBLEM?

	NOT ATTEMPT-ED X	NOT COMPLE-TED X	NO ANS X	HOME PROBLEM	PERSON-AL PROBLEM	HEALTH PROBLEM	YES NFS	NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	2	1		2	42	241	RAW
	56.017	23.651	0.830	0.830	0.415		0.830	17.427	100.000	RPR
	100.000	100.000	50.000	33.333	33.333		66.667	33.071	71.726	RPC
BEST AGE/SEX W/O			2	4	2	1	1	85	95	RAW
			2.105	4.211	2.105	1.053	1.053	89.474	100.000	RPR
			50.000	66.667	66.667	100.000	33.333	66.929	28.274	RPC
COLUMN SUMS	135	57	4	6	3	1	3	127	336	RAW
	40.179	16.964	1.190	1.786	0.893	0.298	0.893	37.798	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .199329 E 01
DEGREES OF FREEDOM = 4

CONT COEF = .118482

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII EVER BEEN TREATED FOR DRINKING PROBLEM

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	1975, 1976 OR RECENT	3-10 YEARS	YES NFS	NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	1		1	45	241	RAW
	56.017	23.651	0.830	0.415		0.415	18.672	100.000	RPR
	100.000	100.000	66.667	100.000		33.333	33.088	71.726	RPC
BEST AGE/SEX W/O			1		1	2	91	95	RAW
			1.053		1.053	2.105	95.789	100.000	RPR
			33.333		100.000	66.667	66.912	28.274	RPC
COLUMN SUMS	135	57	3	1	1	3	136	336	RAW
	40.179	16.964	0.893	0.298	0.298	0.893	40.476	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .250367 E 01
DEGREES OF FREEDOM = 3

CONT COEF = .132086

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE   COLUMNS = M-FII HAS DRINKING EVER CAUSED LOSS OF JOB?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI-MENTAL	135	57	2	2	45	241	RAW
	56.017	23.651	0.830	0.830	18.672	100.000	RPR
	100.000	100.000	50.000	50.000	33.088	71.726	RPC
BEST AGE/SEX W/O			2	2	91	95	RAW
			2.105	2.105	95.789	100.000	RPR
			50.000	50.000	66.912	28.274	RPC
COLUMN SUMS	135	57	4	4	136	336	RAW
	40.179	16.964	1.190	1.190	40.476	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .498338
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .284966 E -01

CONT COEF = .595561 E -01

NEW ORLEANS ACCIDENT DATA----SUBJECT FILE

ROWS = EXPERIMENTAL/ BEST AGE/SEX WITH QUESTIONNAIRE

COLUMNS = M-FII DO YOU FEEL YOU ARE A PROBLEM DRINKER?

	NOT ATTEMPT -ED X	NOT COMPLE- TED X	NO ANS X	TRUE/ YES	FALSE/ NO	ROW SUMS	KEY
EXPERI- MENTAL	135	57	2	2	45	241	RAW
	56.017	23.651	0.830	0.830	18.672	100.000	RPR
	100.000	100.000	50.000	28.571	33.835	71.726	RPC
BEST AGE/SEX W/O			2	5	88	95	RAW
			2.105	5.263	92.632	100.000	RPR
			50.000	71.429	66.165	28.274	RPC
COLUMN SUMS	135	57	4	7	133	336	RAW
	40.179	16.964	1.190	2.083	39.583	100.000	RPR
	100.000	100.000	100.000	100.000	100.000	100.000	RPC

STATISTICS BASED ON RAW FREQUENCY

CHI SQUARE = .826018 E -01
DEGREES OF FREEDOM = 1
YATES CORRECTED CHI SQUARE = .151717 E -01

CONT COEF = .242830 E -01

APPENDIX H

Variable Definition

Police Model

Program Listing of Variable	Variable Description	Levels
1. V-4 PAGE	Pedestrian age	1=19-29 years 2=30-39 3=40-49 4=50-59 5=60-69 6=70-98
2. V-19 RACE	Pedestrian race	1=white 2=black 3=other, unknown
3. V-31 Recoded Variable	Age/Sex/Race Interaction	1=male,19-58 yrs. 2=male,60-98 yrs. 3=female,white 4=female,black and other
4. V-10 PCOND	Pedestrian "condition"	1=inattentive 2=variety of "other" conditions 3=had been drinking 4=normal 5=other, unknown
5. V-3 DAY OF WEEK	Day of week	1=Sunday 2=Monday 3=Tuesday 4=Wednesday 5=Thursday 6=Friday 7=Saturday

Variable Definition

Police Model

Program Listing of Variable	Variable Description	Levels
6. V-14 LIGHTING	Lighting	1=daylight 2=dark,no street lights 3=dusk or dawn 4=dark,continuous street lighting 5=dark,lights at intersection only 9=other, unknown
7. V-6 TC	Traffic Control	1=stop sign 2=signal light 3=painted lines only 4=no control 5=other, unknown
8. V-32 RECODED VARIABLE	Location interaction	1=non-intersection, residential 2=non-intersection, business and other 3=intersection, signal light 4=intersection, residential, no signal light 5=intersection, business and other, no signal light
9. V-14 ATR	Accident Type (from police report only)	0=Dart-out First, Dart-out Second, Midblock Dash 1=Intersection Dash, Trapped 2=Vehicle Turn/Merge, Turning Vehicle 3=Pedestrian Strikes Vehicle 4=Multiple Threat 5=Bus Stop 6=Backing 7=Other 8=Weird, Disabled Vehicle, Auto-Auto, Pedestrian not in Road 9=Not Classifiable

TOTAL POLICE MODEL

DEPENDENT VARIABLE V -18 BAC

	CODE	N	W	PERCENT
.000	1	102	102.	48.34
.001-.09	2	22	22.	10.43
.10+	3	87	87.	41.23

V -4.PAGE

CODE			Y	1 .000	2 .C01-.09	3 .10+
1	N	49	PERCENT	51.02	18.37	30.61
	SUM W	49.	ADJ PCT	45.47	19.08	35.44
	PCT	23.22	COEFF	-2.87	8.65	-5.79
2	N	30	PERCENT	30.0C	20.00	50.00
	SUM W	30.	ADJ PCT	39.35	19.53	41.12
	PCT	14.22	COEFF	-8.99	9.10	-0.11
3	N	34	PERCENT	38.24	8.82	52.94
	SUM W	34.	ACJ PCT	51.09	10.16	38.74
	PCT	16.11	COEFF	2.75	-0.27	-2.49
4	N	24	PERCENT	29.17	C.0	70.83
	SUM W	24.	ADJ PCT	45.1C	-3.30	58.20
	PCT	11.37	COEFF	-3.24	-13.73	16.97
5	N	33	PERCENT	60.61	0.0	39.39
	SUM W	33.	ADJ PCT	56.56	1.17	42.27
	PCT	15.64	COEFF	8.22	-9.26	1.04
6	N	41	PERCENT	68.29	9.76	21.95
	SUM W	41.	ADJ PCT	51.34	9.13	39.53
	PCT	19.43	COEFF	3.00	-1.29	-1.71

V -19.RACE

CODE			Y	1 .000	2 .001-.09	3 .10+
1	N	81	PERCENT	53.09	3.70	43.21
	SUM W	81.	ADJ PCT	57.09	8.05	34.87
	PCT	38.39	COEFF	8.74	-2.38	-6.37
2	N	115	PERCENT	45.22	15.65	39.13
	SUM W	115.	ADJ PCT	44.21	13.57	42.22
	PCT	54.50	COEFF	-4.13	3.15	0.98
3	N	15	PERCENT	46.67	6.67	46.67
	SUM W	15.	ADJ PCT	32.78	-0.85	68.07
	PCT	7.11	COEFF	-15.56	-11.27	26.84

V -31.RECODED VARIABLE

CODE			Y	1 .000	2 .001-.09	3 .10+
1	N	95	PERCENT	31.58	11.58	56.84
	SUM W	95.	ADJ PCT	44.12	10.04	45.84
	PCT	45.02	COEFF	-4.22	-0.39	4.61
2	N	44	PERCENT	54.55	4.55	40.91
	SUM W	44.	ADJ PCT	42.01	7.30	50.69
	PCT	20.85	COEFF	-6.33	-3.12	9.46
3	N	23	PERCENT	86.96	0.0	13.04
	SUM W	23.	ADJ PCT	63.50	0.57	35.92
	PCT	10.90	COEFF	15.16	-9.85	-5.31
4	N	49	PERCENT	57.14	18.37	24.49
	SUM W	49.	ADJ PCT	55.09	18.61	26.30
	PCT	23.22	COEFF	6.75	8.18	-14.93

V -10.FCOND

CODE			Y	1 .000	2 .001-.09	3 .10+
1	N	21	PERCENT	66.67	19.05	14.29
	SUM W	21.	ADJ PCT	57.72	13.86	28.42
	PCT	9.95	COEFF	9.38	3.43	-12.81
2	N	2	PERCENT	50.00	0.0	50.00
	SUM W	2.	ADJ PCT	23.33	-16.46	93.13
	PCT	0.95	COEFF	-25.01	-26.89	51.90
3	N	42	PERCENT	2.38	9.52	88.10
	SUM W	42.	ADJ PCT	12.64	13.18	74.17
	PCT	19.91	COEFF	-35.70	2.76	32.94
4	N	85	PERCENT	68.24	10.59	21.18
	SUM W	85.	ADJ PCT	62.76	7.01	30.23
	PCT	40.28	COEFF	14.42	-3.42	-11.00
5	N	61	PERCENT	45.90	8.20	45.90
	SUM W	61.	ADJ PCT	50.41	12.99	36.59
	PCT	28.91	COEFF	2.07	2.56	-4.64

V 3.DAY OF WEEK

CODE			Y	1 .000	2 .001-.09	3 .10+
1	N	27	PERCENT	25.93	3.70	70.37
	SUM W	27.	ADJ PCT	37.83	7.65	54.52
	PCT	12.80	COEFF	-10.51	-2.78	13.29
2	N	26	PERCENT	38.46	7.69	53.85
	SUM W	26.	ADJ PCT	44.77	6.44	48.79
	PCT	12.32	COEFF	-3.57	-3.99	7.56
3	N	30	PERCENT	63.33	10.00	26.67
	SUM W	30.	ADJ PCT	56.51	9.10	34.39

	PCT	14.22	COEFF	8.16	-1.32	-6.84
4	N	32	PERCENT	71.88	6.25	21.88
	SUM W	32.	ADJ PCT	62.39	8.23	29.37
	PCT	15.17	COEFF	14.05	-2.19	-11.86
5	N	36	PERCENT	41.67	11.11	47.22
	SUM W	36.	ADJ PCT	44.38	10.70	44.92
	PCT	17.06	COEFF	-3.96	0.28	3.68
6	N	31	PERCENT	48.39	19.35	32.26
	SUM W	31.	ADJ PCT	41.01	18.23	40.76
	PCT	14.69	COEFF	-7.34	7.80	-0.47
7	N	29	PERCENT	44.83	13.79	41.38
	SUM W	29.	ADJ PCT	50.13	11.69	38.17
	PCT	13.74	COEFF	1.79	1.27	-3.06

V 14.LIGHTING

CODE			Y	1 .000	2 .001-.09	3 .10+
1	N	116	PERCENT	62.93	14.66	22.41
	SUM W	116.	ADJ PCT	57.94	15.69	26.37
	PCT	54.98	COEFF	9.60	5.27	-14.86
2	N	4	PERCENT	50.00	0.0	50.00
	SUM W	4.	ADJ PCT	58.22	-10.08	51.86
	PCT	1.90	COEFF	9.88	-20.51	10.63
3	N	8	PERCENT	50.00	12.50	37.50
	SUM W	8.	ADJ PCT	55.87	18.96	25.17
	PCT	3.79	COEFF	7.53	8.54	-16.06
4	N	75	PERCENT	28.00	4.00	68.00
	SUM W	75.	ADJ PCT	35.08	1.83	63.09
	PCT	35.55	COEFF	-13.26	-8.59	21.86
5	N	6	PERCENT	16.67	16.67	66.67
	SUM W	6.	ADJ PCT	7.70	17.61	74.70
	PCT	2.84	COEFF	-40.65	7.18	33.46
9	N	2	PERCENT	50.00	0.0	50.00
	SUM W	2.	ADJ PCT	61.15	12.63	26.22
	PCT	0.95	COEFF	12.81	2.21	-15.01

V -6.TC

CODE			Y	1 .000	2 .001-.09	3 .10+
1	N	9	PERCENT	55.56	0.0	44.44
	SUM W	9.	ADJ PCT	60.98	1.29	37.73
	PCT	4.27	COEFF	12.64	-9.14	-3.50
2	N	45	PERCENT	66.67	11.11	22.22
	SUM W	45.	ADJ PCT	51.34	9.96	38.70
	PCT	21.33	COEFF	3.00	-0.47	-2.53

CODE			Y	1	2	3
3	N	55	PERCENT	43.64	14.55	41.82
	SUM W	55.	ADJ PCT	51.30	13.30	35.34
	PCT	26.07	COEFF	2.96	2.94	-5.89
4	N	93	PERCENT	40.86	9.68	49.46
	SUM W	93.	ADJ PCT	41.29	11.27	47.44
	PCT	44.08	COEFF	-7.05	0.84	6.21
5	N	9	PERCENT	55.56	0.0	44.44
	SUM W	9.	ADJ PCT	75.45	-4.70	29.26
	PCT	4.27	COEFF	27.10	-15.13	-11.97

V -32.RECODED VARIABLE

CODE			Y	1 .000	2 .001-.09	3 .10+
1	N	27	PERCENT	37.04	11.11	51.85
	SUM W	27.	ADJ PCT	45.08	6.11	48.82
	PCT	12.80	COEFF	-3.26	-4.32	7.58
2	N	70	PERCENT	50.00	17.14	32.86
	SUM W	70.	ADJ PCT	54.95	15.55	29.50
	PCT	33.18	COEFF	6.61	5.13	-11.73
3	N	35	PERCENT	65.71	6.57	25.71
	SUM W	35.	ADJ PCT	41.47	9.14	49.39
	PCT	16.59	COEFF	-6.88	-1.28	8.16
4	N	22	PERCENT	68.18	0.0	31.82
	SUM W	22.	ADJ PCT	68.18	6.83	24.99
	PCT	10.43	COEFF	19.84	-3.59	-16.25
5	N	57	PERCENT	33.33	7.02	59.65
	SUM W	57.	ADJ PCT	38.34	8.35	53.31
	PCT	27.01	COEFF	-10.00	-2.08	12.08

V -14.ATR

CODE			Y	1 .000	2 .001-.09	3 .10+
0	N	35	PERCENT	45.71	17.14	37.14
	SUM W	35.	ADJ PCT	42.29	15.10	42.62
	PCT	16.59	COEFF	-6.05	4.67	1.38
1	N	47	PERCENT	51.06	4.26	44.68
	SUM W	47.	ADJ PCT	54.44	4.76	40.81
	PCT	22.27	COEFF	6.10	-5.67	-0.43
2	N	7	PERCENT	71.43	14.29	14.29
	SUM W	7.	ADJ PCT	60.29	17.90	21.81
	PCT	3.32	COEFF	11.95	7.47	-19.42
3	N	13	PERCENT	23.08	7.69	69.23
	SUM W	13.	ADJ PCT	33.53	4.30	62.17
	PCT	6.16	COEFF	-14.81	-6.12	20.94

4	N	10	PERCENT	80.00	0.0	20.00
	SUM W	10.	ADJ PCT	59.38	3.54	37.08
	PCT	4.74	COEFF	11.04	-6.88	-4.16
5	N	7	PERCENT	85.71	14.29	0.0
	SUM W	7.	ADJ PCT	81.85	0.90	17.25
	PCT	3.32	COEFF	33.51	-9.53	-23.98
6	N	5	PERCENT	80.00	0.0	20.00
	SUM W	5.	ADJ PCT	66.00	-8.44	42.44
	PCT	2.37	COEFF	17.66	-18.87	1.20
7	N	24	PERCENT	33.33	16.67	50.00
	SUM W	24.	ADJ PCT	24.67	16.87	58.47
	PCT	11.37	COEFF	-23.67	6.44	17.23
8	N	17	PERCENT	58.82	11.76	29.41
	SUM W	17.	ADJ PCT	42.95	12.03	45.02
	PCT	8.06	COEFF	-5.39	1.60	3.79
9	N	46	PERCENT	39.13	10.87	50.00
	SUM W	46.	ADJ PCT	54.01	14.30	31.69
	PCT	21.80	COEFF	5.67	3.88	-9.55

*****TIME 23 17 15 63

TOTAL POLICE MODEL

3 CODES FOR DEPENDENT VARIABLE V -18 BAC

CODE	1	2	3
	.000	.001-.09	.10+
N	102	22	87
SUM WT	102.	22.	87.
PERCENT	48.34	10.43	41.23
R-SQUARED	0.4802	0.2385	0.5475
R-SQUARED (ADJUSTED)	0.3503	0.0481	0.4344

V -4 PAGE	Y		
	.000	.001-.09	.10+
ETA-SQUARED =	0.0836	0.0616	0.0956
BETA-SQUARED =	0.0113	0.0689	0.0174

GENERALIZED ETA-SQUARE = 0.0850

BIVARIATE THETA = 0.5829

V -19 RACE	Y		
	.000	.001-.09	.10+
ETA-SQUARED =	0.0057	0.0356	0.0025
BETA-SQUARED =	0.0224	0.0178	0.0278

GENERALIZED ETA-SQUARE = 0.0091

BIVARIATE THETA = 0.4834

V -31 RECODED VARIABLE	Y		
	.000	.001-.09	.10+
ETA-SQUARED =	0.1262	0.0367	0.1079
BETA-SQUARED =	0.0208	0.0302	0.0343

GENERALIZED ETA-SQUARE = 0.1043

BIVARIATE THETA = 0.5972

V -10 PCOND	Y		
	.000	.001-.09	.10+
ETA-SQUARED =	0.2463	0.0107	0.2833
BETA-SQUARED =	0.1415	0.0173	0.1291

GENERALIZED ETA-SQUARE = 0.2227

BIVARIATE THETA = 0.6540

V 3 DAY OF WEEK	Y		
	.000	.001-.09	.10+
ETA-SQUARED =	0.0807	0.0243	0.0962
BETA-SQUARED =	0.0265	0.0140	0.0253

GENERALIZED ETA-SQUARE = 0.0781

BIVARIATE THETA = 0.5687

V 14 LIGHTING	Y		
	.000	.001-.09	.10+

ETA-SQUARED =	0.1173	0.0309	0.1942
BETA-SQUARED =	0.0663	0.0576	0.1391

GENERALIZED ETA-SQUARE = 0.1353

BIVARIATE THETA = 0.6398

V -6 TC Y

	.000	.001-.09	.10+
ETA-SQUARED =	0.0426	0.0150	0.0445
BETA-SQUARED =	0.0257	0.0171	0.0140

GENERALIZED ETA-SQUARE = 0.0390

BIVARIATE THETA = 0.5213

V -32 RECODED VARIABLE Y

	.000	.001-.09	.10+
ETA-SQUARED =	0.0678	0.0322	0.0737
BETA-SQUARED =	0.0367	0.0149	0.0541

GENERALIZED ETA-SQUARE = 0.0645

BIVARIATE THETA = 0.5735

V -14 ATR Y

	.000	.001-.09	.10+
ETA-SQUARED =	0.0922	0.0319	0.0638
BETA-SQUARED =	0.0625	0.0394	0.0473

GENERALIZED ETA-SQUARE = 0.0791

BIVARIATE THETA = 0.5545

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MULTIVARIATE STATISTICS

GENERALIZED R**2 0.4695

MULTIVARIATE THETA 0.7820

CORRECTLY CLASSED WT. N	90	3	72
CORRECTLY CLASSED PROPORTION	0.8824	0.1364	0.8276

CLASSIFICATION MATRIX

ACTUAL	PREDICTED 1 .000	2 .001-.09	3 .10+	
.000 1	90	2	10	102
PERCENT	88.24	1.96	9.80	
.001-.09 2	13	3	6	22
PERCENT	59.09	13.64	27.27	
.10+ 3	15	0	72	87
PERCENT	17.24	0.0	82.76	
TOTAL	118	5	88	211

*****TIME 23 17 26 68

APPENDIX I

Pedestrian Alcohol Countermeasures

Once the field study was completed and its results analyzed, efforts turned to a preliminary identification of countermeasures to combat the pedestrian alcohol problem. Ideas for such countermeasures were explored at a conference held in the fall of 1978.

In planning the conference, it was decided that an innovative approach should be undertaken in order to make maximum use of each participant's creativity. The conference was therefore scheduled for a weekend (September 29 through October 1) and located at the Smithsonian Institution's Belmont Conference Center in Elkridge, Maryland. This environment permitted indoor and outdoor sessions, a casual atmosphere and non-conformance with the usual day-to-day work routine.

Thirteen individuals attended the conference. They were selected as representatives of several different traffic safety disciplines, with a common interest in pedestrian safety. They included Dr. Ralph Jones of the Midamerica Research Institute, Ms. Sylvia Roman of the Puerto Rico Traffic Safety Commission, Mr. Richard Knoblauch of BioTechnology, Inc., Dr. Earl Wiener of the University of Miami, Mr. Sam Yaksich, Jr., of the AAA Foundation for Traffic Safety, Captain Charles LaDell of the New Orleans Police Department, Dr. Alfred Farina, Jr., and Dr. Stephen Benson of NHTSA's Office of Driver and Pedestrian Research, Mr. James Fell of NHTSA's Statistics and Analysis Division, and Mr. Richard Blomberg, Mr. Robert Ulmer, Mr. Allen Hale and Dr. Harold Jacobs of Dunlap and Associates, Inc.

As indicated previously, the conference approach was one of informality and creativity. The emphasis was placed on ideas, not concrete results. Procedures included adaptations of creativity enhancement techniques such as game playing, role playing and general discussion.

Initially, the conference participants developed a list of professions (e.g., physician, teacher, sports figure), a list of life's intervention points (e.g., first social engagement, being hospitalized, applying for a mortgage) and a list of influences (e.g., hunger, fear, guilt, pain, joy, responsibility). Each suggestion was duplicated on a separate card, and each participant was "dealt a hand"--a profession, an intervention point and an influence. Participants were then asked to develop one or more ideas to employ the specific influence at the specific intervention point through the specific profession toward the end of preventing an alcohol pedestrian accident or reducing the probability of its occurrence. In the role-playing sessions, participants acted out incidents in which pedestrian alcohol accidents were overrepresented (for example, dart-outs and dashes) and played roles which included, among others, the pedestrian, the car, the driver, the roadway, time of day, etc.

This approach resulted in a variety of countermeasure ideas. Some seem practical and implementable. Some have been tried before on the driver alcohol problem. Some are currently being implemented as driver and pedestrian countermeasures. Others are of a "blue sky" nature--possibly totally impractical or even counterproductive. Others might alleviate pedestrian alcohol problems while at the same time creating other safety problems. No attempt was made at the conference or will be made herein to evaluate these ideas. They stand by themselves as the products of a creative process which may themselves catalyze further creative development.

The conference concluded with a request for each participant to give his own opinion as to the most fruitful area (for example, engineering, education) on which to focus for a pedestrian alcohol countermeasure. For most participants, it was a difficult task to select <u>one</u> specific area. Some had obvious and direct preferences. Some "leaned toward" an area (for example, changing the alcohol product itself) but considered it unrealistic so felt compelled to vote for a secondary area. Others found a need to express their preferences in terms of short-term, mid-term and long-term practicality of solutions.

Ten countermeasure areas were identified by the participants as a result of this exercise. These areas are:

- <u>Community mental health</u>--the overall problem of alcoholism and the need for an approach aimed at curing the alcoholic or, if that cannot be accomplished, protecting him from hurting himself and others on the highway.

- <u>Adjudication</u>--the threat of legal sanctions, for example, enacting per se laws for pedestrians that would make them automatically culpable in an accident if their BAC's are above a specified level.

- <u>Economics</u>--making the cost of drinking more expensive through taxation, for example, or by making it more difficult to buy a drink by not permitting use of credit cards for liquor purchases, by requiring exact change for liquor purchases, or making each successive drink more expensive.

- <u>Product</u>--making some change in the product itself, for example, reducing the proof of alcoholic beverages or adding a substance to alcohol that would have an unpleasant effect (e.g., profuse sweating) but not a deleterious one in terms of psychomotor performance at a certain BAC level.

- Case Finding/Detection--locating the high BAC pedestrian and removing him from the roadway, for example, providing government funds for reimbursing taxi drivers for picking up pedestrians who meet the profile of the high risk drinker and giving them free rides home.

- Symptoms--employing the symptoms of high BACs, such as decreased visual acuity or poor motor coordination, as a preventive measure. For example, developing and installing in bars a strobe light that wouldn't bother sober people but would be so visually disorienting to people at high BAC levels that they couldn't walk.

- Engineering--redesign of the sidewalk or roadway or redefinition of ordinances that affect motor vehicle and pedestrian traffic, such as, reducing the speed of traffic at night, creating pedestrian malls at night in high risk areas, or adding "life-lines" along the sides of buildings.

- Education--Youth/School--starting the alcohol pedestrian education process at the school level. For example, having controlled drinking sessions in high schools and having students at various BAC levels perform a task similar to crossing a street, or having teachers, coaches and driver education instructors use their influence to promote responsible drinking behavior.

- Education--Mass Media--using newspapers, television, radio, magazines, advertisements, etc., to educate the public to the pedestrian alcohol problem. For example, having a prominent sports figure appear on television and relate an actual experience of being hit by a car while at a high BAC level and appeal for responsible drinking behavior.

- Education--Public Responsibility--urging the public and all its segments (clergy, parents, industry, social workers, physicians, bartenders, police, lawyers, librarians--in fact all citizens) to use their influence to promote responsible drinking behavior. For example, encouraging industry to set up group therapy sessions for employees who drink, encouraging lawyers to promote adequate pedestrian intoxication laws and urging parents to teach their children responsible drinking behavior.

No clear-cut preference emerged from the conference participants for any one of the above-listed areas. Three attendees felt that the pedestrian alcohol problem was really a community health problem. Three participants felt that engineering was the best approach to solving the problem. One felt that the responsibility of the public must be exploited. The other five expressed preferences for dealing with the product itself, the symptoms of drunkenness, the economics of drinking, education through the mass media and youth education, respectively.

These 10 areas have been used as a means of organizing the countermeasure ideas suggested by the conference. It should be noted that there is not a clear-cut differentiation among the 10 countermeasure categories; rather, there is a good deal of overlap among them. For example, there is only one countermeasure listed under the "community mental health" category. Many of those countermeasures listed under "education--public responsibility" also recognize the pedestrian alcohol safety problem as a community health problem as do countermeasures listed under other categories. In addition, several of the countermeasures listed under "symptoms" are, in effect, "engineering" countermeasures. These include suggestions for sidewalk design and design and operation of pedestrian lights. They were included in the "symptom" category since the idea for the countermeasure was based on a symptom of behavior at high blood alcohol levels. Other areas in which the countermeasures overlap or in which countermeasures could be shifted from one category to another will doubtless be noted by the reader.

The countermeasures themselves are listed in succeeding paragraphs of this appendix. It should be noted that all ideas presented at the conference are included together with several ideas presented by a review of the conference tapes. The order of presentation is approximately chronological within category and is not intended to imply a ranking along any evaluative dimension.

- Community Mental Health

  - Decriminalize public intoxication and have responsibility for the problem drinker assumed by a social service agency. Thus, the police might be called in to apprehend the victim, and then the victim would be turned over to a social service agency for care.

- Adjudication

  - Enact per se laws for pedestrians which will make them automatically culpable if their BAC is above a specified level and will preclude pedestrian victims with BAC's above that level from obtaining compensation from a driver or an insurance company.

  - Enact an "implied consent" law for pedestrians so that other countermeasures dependent on a quantitative BAC measurement could be adopted.

  - Remove liability from the striking driver's insurance company if the pedestrian's BAC is above a presumptive limit.

- Extend bartender liability laws to include pedestrian situations.

- Extend authority to meter maids and other government employees (for example, mailmen, crossing guards, etc.) to issue warnings to pedestrians who are intoxicated. This would increase the identification of individuals who drink and walk.

- Make a host or hostess liable if a guest is involved in a pedestrian accident while under the influence of alcohol he/she served.

- Hold a specific liquor company liable for an accident if it can be proven that the individuals involved (pedestrian and/or driver) had been drinking that company's brand. In essence, this would be a product liability law extension.

• Economics

- Have insurance companies refuse insurance (e.g., life insurance) to people known to walk while intoxicated.

- Create a mandatory pedestrian insurance plan with a floating premium scale depending on the individual's risk. If detected by police in an unsafe pedestrian act, the insurance company would be notified and the premium would go up. This could create a financial incentive for pedestrian safety. General pedestrian insurance could even be a check-off on the Federal income tax form and premiums could be scaled for high risk pedestrians who drink to high BAC levels.

- Prohibit use of credit cards for purchase of drinks in restaurants and bars.

- Require drinks in bars to be paid for in cash per drink, i.e., no tabs. Possibly the customer should be required to pay exact cash for each drink.

- Make each successive drink purchased in a bar/restaurant more expensive.

- Have a separate credit card for alcohol which, for a given time period, would limit the bearer to a set number of drinks. This could be a separate "drinking" card having nothing to do with credit.

- Issue alcohol stamps like a ration card so that alcohol is only available by use of the stamps.

- Have restauranteurs notify credit agencies of excessive drinking by patrons.

- Put a special tax on liquor that would be used exclusively for medical care for those injured in alcohol-related accidents. The tax would be variable depending on the risk--if the risk went up, so would the tax; if the risk went down, so would the tax.

- Product

  - Reduce the proof of alcoholic beverages. This would reduce the BAC of those pedestrians who consume a set number of drinks; it would not affect those who drink to a perceived psychological state.

  - Put something else in alcoholic beverages that will produce the "feeling" normally associated with alcohol without producing the psychomotor degradation that accompanies high BAC's. Thus, the euphoria of alcohol would be induced without its side effects.

  - Put an agent in alcoholic beverages that would produce an adverse, but safe, physiological reaction at a certain BAC level below that at which risk increases dramatically. In other words, the substance would be benign at low concentrations and mildly toxic at high concentrations. This would either deter excessive drinking for those who fear the side effects or place a limit on BAC for those who continue to drink. Care would have to be exercised to ensure that the agent itself was not deleterious to safety. It might cause an uncomfortable physiological response (for example, profuse sweating); it should not cause psychomotor impairment.

- Case Finding/Detection

  - Allow taxi drivers to pick up pedestrians who meet the profile of the high risk drinker (age, sex, time of day, etc.) and give them free rides home. The fare would be paid by the government. In essence, this is a way to implement a "ped sweeper" concept without creating special teams to accomplish the task.

  - Educate the public to carry luminescent devices at night as a safety measure to increase their visibility. Bartenders could give out luminescent sticks to intoxicated patrons as a protective measure; the sticks could serve as chits for a free drink when no longer glowing. The sticks could also serve as chits for a free taxi ride home.

- Attach sensing devices to people in bars. Such devices would sound an alarm at a specified BAC level.

- Build a chemical into a toothpick so that it would turn red at a given BAC level. Use of such toothpicks would provide private hosts as well as bartenders with an indication of the BAC level of their guests or patrons and point out those who should not walk or drive (the BAC levels would be different).

- Symptoms

  - Develop a strobe light that will not bother sober people but will cause so much disorientation at certain BAC levels that the individual cannot walk. Such lights could be installed in bars or on streets with a high proportion of intoxicated pedestrians.

  - Design bar exits that are so visually disorienting at high BAC levels that inebriated people cannot get through them.

  - Design door handles or latches that require manual dexterity so that exit doors from bars cannot easily be opened by persons with high BAC levels. In essence, this is like the safety closures on medicine bottles.

  - Design sidewalks so that they slant upwards on the curb side so that if an intoxicated pedestrian staggers, he is more likely to stagger toward the building rather than into the street.

  - Install quick-reacting pedestrian lights. In addition to stopping traffic, such lights might assist the intoxicated person in releasing some of his aggressive behavior by giving him a sense of power.

  - Design pedestrian lights that require a complex series of coordinated procedures for them to be activated. A person at a high BAC level would not have the physical coordination to activate the lights.

  - Develop a spray product that can be used to put a staggering, intoxicated person to sleep for a few hours until his BAC level has been reduced and it is safe for him to walk or drive.

- Engineering

  - Create pedestrian malls from 10:00 p.m. to 2:00 a.m. in areas that have a high level of individuals who walk while intoxicated.

  - Install pressure-sensitive sidewalks that cause a light to come on when a person is walking on the sidewalk or, alternatively, when a person on the sidewalk moves toward the curb. Such a light would serve as a warning to drivers that a pedestrian is on the sidewalk and might make the driver more vigilant to a possible dart-out problem.

  - Reduce the speed limit at night in the city.

  - Do not permit parked cars on the street at night in the city.

  - Install pedestrian rails on sidewalks to prevent pedestrians from crossing the street except at crosswalks.

  - Install a life-line (a rope or rail) along the sides of buildings that a pedestrian could hold onto as he walks on the sidewalk. Such a life-line might be helpful to the handicapped and elderly as well as to the intoxicated pedestrian. Install overhead handles (similar to subway handles) at intersections. Pedestrians could use the handles to guide them across the street. The moving handle would be visible to the motorist and alert him to the fact that a pedestrian was crossing the street.

- Education--Youth/School

  - Include in the driver education curriculum a comparison of the effects of alcohol and those of old age. For example, both result in decreased reaction time and a decrease in visual acuity. Thus, when drinking, the individual's psychomotor responses are much like those of old age.

  - Have driver education instructors warn students of the negative impressions they create when drinking and of the consequences of drinking.

  - Include material in the driver education curriculum which emphasizes that refusing a drink makes you just as important as accepting one. Youth should be convinced that it is a sign of strength (of being grown up) to refuse a drink.

- Get chronic alcoholics together with youth groups for discussion of actual problems encountered by the alcoholics. Such meetings would be similar to those in which hardened criminals discuss their situations and problems with youths and first offenders.

- Have toxicologists, coroners or medical examiners go to schools to warn young children of the dangers of pedestrian accidents and alcohol. Perhaps, after each injury or fatal pedestrian accident, they could go to the schools and recreate the accident to emphasize the importance of appropriate pedestrian behavior and the effect of alcohol on that behavior.

- Encourage school coaches to provide advice on physical well-being, especially relative to the use of alcohol.

- Include alcohol training in basic safety curricula such as the "Officer Friendly" program.

- Form school youth groups to control student drinking activities not only at school but also on the street, at discos or any place of assembly. The members of the group should have rap sessions with drinking youths in an attempt to identify problems or reasons for the drinking and should have the authority to issue warnings for excessive drinking.

- Conduct controlled drinking sessions in high school. Give students alcohol and have them perform a task similar to crossing a street to provide a graphic illustration of the impairing ability of alcohol on walking.

- Conduct controlled experiments of drinking, driving and walking. Have adults be the subjects and have youths run the tests under the direction of technicians. Show how driving degrades with increasing BAC level. Include a simulation of the pedestrian dart-out problem and a drunk pedestrian to emphasize the dangers of drinking and driving or walking.

- Illustrate the psychomotor degradation of alcohol to children through "simulations." For example, tunnel vision and lack of complete motor control could be demonstrated in a controlled school environment.

- Have school children work in the emergency room on Friday, Saturday and Sunday to view firsthand the dangers of improper use of alcohol.

- If children come to school with alcohol on their breath, form them into groups and provide them with some useful but degrading experience, such as picking up beer cans from the road, etc. The event should be a public exposure.

• <u>Education--Mass Media</u>

- Have sports figures go on TV and purposely drink to a high BAC and display their lack of skills while under the influence. For example, a baseball player who easily hits the ball sober cannot make contact at a high BAC. The situation is then related to the task of being a pedestrian. Care must be exercised to avoid issuing a "challenge" to the viewer who might feel that "the sports figure can't do it but I can."

- Have a recovered alcoholic entertainer give a true confession of being hit by a car while at a high BAC and ask for responsible rather than irresponsible drinking behavior.

- Have a TV spot that shows a prominent tennis champion leaving a physician's office. The champion comments that his goal is to win a major tennis tournament and he must therefore keep himself in good health and avoid anything that would prevent him from reaching that goal. He indicates that alcohol is one of the dangers he must avoid just as it must be avoided by pedestrians since alcohol use can prevent pedestrians from reaching their goals.

- Permit emergency departments to run BAC tests on all patients. The results (including injuries and fatalities) would be made public in order to educate people to the dangers of alcohol.

- Produce a "birthdayscope" (similar to a horoscope) in newspapers and magazines which lists a person's chances of dying from various causes as a function of age. This could be general or specific to alcohol ingestion. It might convince people of the dangers of alcohol and engender a general safety improvement.

- Require warnings in liquor advertisements about the dangers of alcohol use.

- Require liquor companies to use a balanced approach in their advertising as part of their licensing process. That is, alcohol advertising should include both the pleasures and the dangers of alcohol use.

- Put subtle messages on alcohol abuse in popular TV programs.

- Make a computerized video game of getting a pedestrian across various street configurations. By having variable BAC levels for the pedestrian, demonstrations could be made of the effects of increasing intoxication up to and including reverse or irrational behavior at very high levels. For example, the pedestrian could be directed to go forward and he goes backward, or vice versa. Resistance could be added to the control stick (or other manipulation device) to make it more difficult to maneuver the pedestrian as the BAC level increases. Such a game could show both reduced judgment and loss of psychomotor control.

- Put labels on appropriate drugs that would indicate that the user's walking or driving ability will be impaired if the drug is used in combination with alcohol.

• <u>Education--Public Responsibility</u>

- Encourage restaurant owners to emphasize good cuisine and deemphasize drinking.

- Provide education programs for bartenders on alcohol and pedestrian and driver safety. Bartenders' responsibilities to their customers should be emphasized and they should be encouraged to advise their clients of the dangers of walking and driving at high BAC levels.

- Educate the public to the social acceptability of taking naps after drinking and have bartenders encourage drunk patrons to take a nap in a back room.

- Encourage industry to promote interest in reducing excessive drinking by setting up therapy sessions for employees who drink. Their families should be included.

- Encourage use of group stress therapy sessions in education and industry. In these sessions, the dangers of dealing with stress through alcohol should be emphasized.

- Convince parents to get exceedingly drunk in front of their children at least once under controlled conditions. Since children use parents as role models, this might make them understand the problems associated with irresponsible alcohol use. Perhaps the model of responsible alcohol use that parents typically try to present to children is counterproductive.

- Develop a game aimed at new parents. Various possible outcomes of child raising (including child drinking) could be included and matched with probabilities that the events will occur. The goal of the game would be to develop a strategy to overcome an adverse outcome (such as excessive drinking) or prevent its occurrence.

- Encourage parents to have their children leave early for school in order that they will have plenty of time to cross the street at corners and not dart out between cars.

- Have the clergy stress each individual's obligations not only to himself but also to society not "to waste himself" and "to keep himself in one piece." Each individual should, in effect, have a "social contract" to protect and preserve himself, and this contract should include responsible use of alcohol both as a driver and as a pedestrian.

- Have social workers who treat unemployed alcoholics point out the transportation choices available in an attempt to encourage intoxicated people to use public transportation and not attempt to walk home from bars or private residences when they have been drinking.

- Convince physicians to refer patients under stress to alcohol counseling. Such counseling should also be designed to include the dangers of walking and driving at high BAC's.

- Encourage lawyers to promote adequate pedestrian intoxication laws, perhaps based on DWI or DUI laws.

- Convince librarians to use bookmobiles to give out information on pedestrian safety to children.

- Take steps to increase a pedestrian's perceived risk so that the task of crossing streets is attended to with more intensity. This could be accomplished, for example, through messages, engineering or increased police patrols.

- Try to make people realize that they leave a stigma on their families if they die in an accident as a result of alcohol abuse.

- Emphasize to children the money it costs to drink and the thousands of dollars they could save in a lifetime (or have for other purposes) if they didn't drink or didn't drink to excess.