DRINKING AND DRIVING

Prearrest situational factors associated with those who illegally drink and drive in New Zealand.

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ABSTRACT

The aim of the present study was to explore situational factors antecedent to drink driving among a sample of convicted New Zealand drink drivers. Specifically, it aimed to determine if the situational factors reported among convicted drink drivers differed from those reported by a control group from the general driving population. A second aim was to determine whether the situational factors reported by the convicted drink drivers varied as a function of their demographic characteristics. Two groups were compared: a random sample of people arrested for driving while intoxicated (N = 43) and a sample of the New Zealand general driving population matched on some characteristics (N = 43). Self report data assessing the situational factors and demographic variables were collected from subjects using modified versions of Vegaga and Klitzner's (1989) "Drinking Driving Interview". The results indicate that although there were some significant variations, the groups were not dissimilar on the situational factors. Situational factors did not vary greatly with the drink drivers' demographic characteristics. Ethical and practical problems in conducting research on antisocial behaviour are addressed. Future research needs are identified, in particular, research to determine the generalizability of the present findings and research directed towards an examination of personality characteristics of New Zealand drink drivers and their interaction with situational factors in creating a drink drive situation. Practical implications of the present findings for prevention policies and educational/intervention programmes are also offered.

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CHAPTER 1

OVERVIEW

Introduction

Alcohol has created a serious safety problem, in the context of driving, since as early as 1904, when in an analysis of 25 fatal accidents occurring in horseless wagons, 19 of the drivers were found to have ingested alcohol within an hour of the accident (Buttigliere, Brunse & Chase, 1972). Prior to this alcohol also played a part in road accidents as intoxicated pedestrians were run down by horses, or intoxicated riders or passengers fell from horses and out of carriages (Bailey & Bailey, 1982).

Many early studies in the area of drink driving confirmed what many already believed to be true, namely that alcohol can impair skills related to driving; drivers impaired by alcohol are more likely to have road accidents than their non drinking counterparts; and increasing amounts of alcohol produce greater impairment and higher risks of crash involvement (Bailey, 1983; 1986; Bailey & Bailey, 1982; Bailey & Carpinter, 1991; Donelson, 1988; Forney & Harger, 1971; Geller & Lehman, 1988; Laurence, Snortum & Zimring, 1988; Levine, Kramer & Levine, 1975; Mitchell, 1985; Moskowitz, Ziedman & Sharma, 1976; Shinar, 1978; Verhaegan, van Keer & Gambart, 1975; Winek, 1983).

In an attempt to deter the drink driver various changes in government legislation relating to New Zealand road safety have led to lower legal blood/breath alcohol limits, more severe penalties for drink driving, blitz level enforcement and an increase in educational programmes and publicity related to drink driving. Selective blitzing in certain areas (e.g., near licensed premises) was the main drink driving countermeasure employed by the Ministry of Transport in the early 1980s and resulted in the number of fatally injured drink drivers decreasing by 14% over the period 1980-1982 compared to 1977-1979 (Bailey, 1986). In late 1983 'Operation Checkpoint' saw the introduction of random stopping, where drivers were stopped at random at a checkpoint and breath-tested at the discretion of the traffic officer. Random stopping which was seen as a deterrent to, not as a detector of, drink driving (Bailey, 1986) was to become the leading drink driving

countermeasure employed in New Zealand. However, according to Bailey (1992, cited in "Random Breath," 1992) "random stopping of motorists had not reduced drinking drive deaths in New Zealand" (pp. 3) and in fact, in 1991, there were still 112 deaths, compared to 113 drink drive deaths in 1985.

Further advances in drink drive countermeasures saw compulsory breath testing replace the random stopping procedure in 1993. Since then police have been able to stop a driver in a vehicle and breath test her/him for alcohol at any time and in any place (except on private property). The principle aim of this is to deter motorists from drink driving, by convincing them that they have a greater chance of being caught (Wright, 1993, cited in Venter, 1993). Evaluation of the effectiveness of compulsory breath testing is currently being carried out by Dr John Bailey of the New Zealand Institute of Environmental Health and Forensic Sciences, to determine how this law is affecting drink driving.

Drink driving however, is still a major social and health problem in New Zealand society. The extent of the problem can be seen in estimates that suggest that drink driving accidents account for 360 avoidable deaths a year and are one of the most frequent causes of accidental deaths in New Zealand (Bailey & Carpinter, 1991). In addition to human costs, financial costs associated with alcohol related crashes have been estimated as at least $250 million per year (Bailey & Carpinter, 1991). Bailey and Bailey (1982) believe that there has been an increase in drink driving and suggest that this is a result of an increase in both drinking, and driving, separately, in New Zealand society.

Research on drink driving in New Zealand has appeared to concentrate on the demographic profiles of those involved in drink drive accidents (Anon., 1989; Bailey, 1983, 1991; Stacey & Lonsdale, 1982), attitudinal factors (Archer, 1990; Perkins, 1990) and general drink drive accident characteristics (Bailey, 1979; 1980; 1984; 1986; 1987a; 1987b; Bailey & Bailey, 1982; Bailey & Carpinter, 1991; Bailey & Winkel, 1981; deJongh & Bailey, 1987). One area that has received relatively little attention is the examination of situational factors immediately prior to a drink driving episode.

In drinking situations the way in which an individual behaves, or feels, is influenced by a variety of factors including what s/he believes s/he should feel - often determined by the culture - and what is taking place in the immediate environment (Bewley, 1986). Other people, social variables and environmental factors may adversely influence the behaviour of the driver or may fail to effect appropriate constraints on the driver's behaviour (Yoder, 1975). As these factors contribute to the drink driving situation and help determine the outcome of the individual's behaviour it would be valuable to identify those situational factors that precede a drink driving episode. Also of value would be information on whether these situational factors vary as a function of personal variables such as demographic characteristics found to be associated with drink driving. If these factors can be identified action can be taken to attempt to reduce or control those situational factors associated with drink driving. Present educational and intervention programmes can also be evaluated to ensure that appropriate aspects and demographic groups are being targeted.

Although many studies on situational variables associated with drink driving have been carried out in overseas countries (Adebayo, 1991; Beck & Summons, 1987; Donovan, Marlatt & Salzberg, 1983; Gusfield, 1985; Johnson & White, 1989; McMillen, Pang, Wells-Parker & Anderson, 1991; O'Donnell, 1985; Rabow, Newcomb, Monto & Hernandez, 1990; Snow, 1988; Snow & Anderson, 1987; Snow & Landrum, 1986; Steer & Fine, 1978; Thurman, 1986; Vegaga & Klitzner, 1989; Wieczorek, Miller & Nochajski, 1992; Wilson & Jonah, 1985) no systematic documented research data about these factors in the New Zealand context are available. Therefore the present study examines a variety of situational factors antecedent to an arrest for driving under the influence of alcohol in New Zealand. The situational factors examined are based on those examined in a similar study by Vegaga and Klitzner (1989) in which a United States population was used. The present study incorporates these factors with additional factors identified through the literature as associated with the drink driving situation and examines them in relation to a sample of New Zealand drink drivers and a comparison group from the New Zealand general driving population.

The study starts by exploring person - situation interactions and drink driving and in doing so highlights the importance of not only the situation in a drink drive episode but also the person. It then explores the drink driving person, drawing attention to those demographic characteristics found to be commonly associated with drink driving and then moves on to look at different aspects of the drink drive situation that have been examined previously overseas and which are examined in the present study in New Zealand.

Definitions

As definitions and terminology of blood/breath alcohol levels vary between countries the clarification of terms used in the present study need to be clarified.

The following definitions for blood and breath alcohol levels are those currently employed in New Zealand and are derived from Bailey and Carpinter's (1991) report on drink driving in New Zealand.

Blood alcohol levels - Alcohol in the blood is measured in milligrams of alcohol per millilitres of blood. The legal limit in New Zealand for fully licensed drivers is 80 milligrams of alcohol per 100 millilitres of blood (written as 80mg%). Bailey and Bailey (1982) note that many people may be impaired in their driving by alcohol at 50mg/100ml.

Breath alcohol levels - Alcohol in the breath is measured in micrograms of alcohol per litre of breath. The legal limit for fully licensed drivers is 400 micrograms of alcohol per litre of breath written as 400mcg/1.

The drink driver is defined for the purpose of the present study to be one who drives with a blood or breath alcohol level that is over the legal limit i.e. an individual whose blood or breath sample gave an alcohol reading over the prescribed value and, who, as a result, was charged with a drink driving violation. Drink driving violations are categorised into one of two types under present New Zealand law (Bailey & Carpinter, 1991):

EBA - (excess blood/breath alcohol) - To drive or attempt to drive, with excess breath or blood alcohol concentration. This is determined through evidential breath or blood tests.

DIC - (drunk in charge) - To drive while under the influence of alcohol or a drug to such an extent as to be incapable of having proper control of the vehicle. Prosecution is on the basis of the observations of the enforcement officer, a medical examination and

sometimes a blood test. Such a charge is rarely used nowadays and it for this reason that only EBA drink drivers were used in the present study.

The EBA sample used in the present study will be referred to as the 'DWI group' as this term is commonly used in previous literature when referring to a drink driving sample.

Other acronyms which appear in the drink driving literature worth noting are:

DUI - (driving under the influence of alcohol)

DWI - (driving while intoxicated)

It should also be noted that for the purpose of this research those driving while under the influence of alcohol will be termed as "drink drivers". This is as a result of the term "drunk drivers" no longer being official New Zealand Police terminology. This change in terminology has eventuated as a result of discussion by police officials. As quoted by Superintendent Ray Whatmough from the New Zealand Traffic Safety Division (Holland, 1993) " Drunk driving [is] a misleading tag for one of the main contributors of New Zealand's road carnage simply because no one considers themselves drunk. While downing a final drink or two before driving away from a party, many people are liable to console themselves with the thought ; 'I might have had a few drinks, but I'm not drunk'. As a result those people do not respond to public education about drunk driving or modify their behaviour" (p. 1).

CHAPTER 2

PERSON - SITUATION INTERACTIONS AND DRINK DRIVING

Traditional approaches to drink driving research have tended to emphasize either the person or the situation but have rarely looked at the interaction of both and their effect on an individual's behaviour. Human behaviour can be considered to be the result of interactions between personal dispositions and situational conditions (Stephan, 1989). With this in mind it is important to look at both when examining determinants of behaviour.

Vingilis and Mann (1986) have recently advocated an interactionist approach which emphasizes the contribution of both the person and the situation to an individual's behaviour. They believe that the interactionist model proposes that the strong and unique contributions of the interaction of people and situations (both sources of variance) will determine the behaviour.

The interactionist model provides a framework (not a theoretical model) under which an individual's behaviour can be considered. Instead of specifying the precise variables involved in a behavioural process it provides a framework within which variables can be considered (Vingilis & Mann, 1986).

The major proposition of the interactionist approach is that behaviour at a particular point in time is initiated, shaped and/or modified as a result of the operation of one or more of the various factors contributing to person - situation interactions. Vingilis and Mann (1986) believe that each factor that contributes to each of these four antecedent behaviours or occurrences (drink, drive, drink and drive, accident involvement) will contribute to the drink driving risk of individuals and populations (See Figure 1). These factors are person variables, situation variables, person - situation interactions.

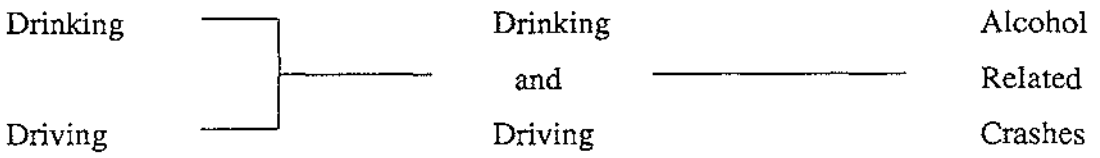

Figure 1: The drinking driving process

From "Towards an interactionist approach to drinking - driving behaviour: implications for prevention and research" by E.R. Vingilis and R.E. Mann, 1986, *Health Education Research, 4, p. 279.*

In a review by Bowers (1973), of studies that have been designed to assess the contributions of both situation and person factors to behavioural variance, Bowers (1973) found that both situation and person factors explained significant proportions of the variance in behaviour. In the studies reviewed, subjects were exposed to different situations and their responses (for example, anxiety levels, social interaction) were measured (through self report or behavioural observation). Analysis commonly found that both situation and personal factors explained significant proportions in the behaviour. Bowers (1973) also found that the interaction of situations with people accounted for significant proportions of behaviour.

Finn and Bragg (1986) showed young and old drivers videotapes of fifteen traffic situations and asked subjects to rate accident risk for each situation. Their results revealed significant interactions of the person factor (age) with the situation factor (the driving situation shown). For some situations younger drivers had significantly higher risk ratings than older drivers, while for other situations the risk ratings of older drivers were significantly higher than those of younger drivers. These types of studies highlight the importance of person-situation interactions on behavioural variance.

Vingilis and Mann (1986) note that few drink driving studies have considered person-situation factors within the interactionist framework even though its approach would appear relevant to studying drink driving behaviour. Those that have include Beck and Summons (1985) who looked at reasons for drinking (person variables) and the site of drinking (situation variables) among a group of college students and DWI offenders. They found that they were able to correctly identify college students and DWI offenders

by the site of drinking and reasons for drinking. In particular, college students were more likely to drink at a party, while DWIs were more likely to drink alone in their own homes. While college students appeared to drink for enjoyment of taste, in order to get drunk and in order to sleep, DWI offenders were more likely to drink to relieve stress.

Jessor and Jessor (1977) saw a need to expand the examination of behaviour from either a person orientated framework or situation orientated framework to including both orientations in their examination of the deviant behaviour of adolescents. Their 'Problem Behaviour Theory' adopts an interactionist approach in the examination of problem behaviour. Results of their research (Jessor, 1987a; Jessor, 1987b) and that of others who adopt their theory (Beirness & Simpson, 1988; Jonah, 1990) illustrate the importance of person and environmental factors in understanding behaviour. Mosher (1985) believes an attempt to understand the drinking driving problem in terms of individual factors without regard for environmental factors or vice versa is unlikely to lead to advances in knowledge or countermeasure development.

In examining the person-situation interaction in drink driving the importance of the situation and the person in a drink driving episode is highlighted and reinforces the need for research into situational factors associated with drink driving and their interrelationship with demographic factors.

Although the main focus of the present study involves the examination of situational factors associated with drink driving it does include additional person variables (i.e. demographics, mood and stress, and motivations) into its examination and therefore incorporates both person and situation orientations into its study of drink drive behaviour.

CHAPTER 3

THE DRINK DRIVING PERSON

This chapter reviews the literature on the drink driving person, focusing on the main demographic variables to be examined in the present study in relation to drink drive situational factors and concentrates on aspects of these groups commonly identified in drink drive research.

DEMOGRAPHIC VARIABLES

Age

Research indicates young people between the ages of 15 to 24 feature prominently in drink drive statistics and are overrepresented among the drink driving population (Bailey, 1983; Bailey & Carpinter, 1991; Farrow, 1985; Simpson, Mayhew & Warren, 1982; Stacey & Lonsdale, 1982; Voas, 1975; Williams, 1985). Donovan, Quiesser, Salzberg, and Umlauf (1985) found that a general driving population were significantly older and better educated than a DWI offender group. Voas (1975) found that elderly drivers 65+ are less likely to have high levels of alcohol and more likely not to have been drinking.

Although many researchers believe drink driving to be overrepresented in the 15 - 24 age group Gusfield (1985) believes that one should not conclude that drink driving is primarily found among the young and believes it is important to "recognize the difference between rates and absolutes" (pp. 73) of drink drive statistics. For example, Gusfield (1985) reports that although the rates for fatalities of drink drivers are consistently higher in persons under twenty five, the majority of drink drive fatalities in the United States usually are among those over twenty five. In addition, Adebayo (1991) found that younger middle aged groups tend to be more involved in impaired driving than any other groups.

In understanding the drink driving problem in relation to age, research tends to focus on an individual's skill development suggesting that driver impairment and crash involvement result from the simultaneous acquisition of both drinking and driving experience. Adolescents have often had little experience with drinking alcohol, with driving, and with drinking and driving (Geller & Lehman, 1988; Hurst & Bagley, 1972; Vejonska, 1982).

In addition, young people are generally ignorant of the physiological and psychological effects of alcohol (Blane, 1983). Of particular concern appears to be an apparent lack of knowledge about the amount of alcohol that impairs performance. In relation to this Beck (1981) suggests that decisions to drink and drive are the result of one's personal evaluation of behaviour and therefore drink driving may continue to be prevalent in lower age groups because they erroneously believe that they are still safe drivers and are effective at controlling associated risks.

Interestingly, Geller and Lehman (1988) state that despite the high involvement of youth in alcohol related crashes, recent data indicated that younger drivers were substantially underrepresented among those who are arrested for DUI (Voas & Williams, 1986). Geller and Lehman (1988) suggest that it may be that youthful drink drivers are more likely to be charged with offences other than DUI, or perhaps drivers under the age of eighteen who are arrested for DUI are charged as juvenile offenders and their records do not appear in the same statistical databases from which the adult samples are drawn. Farrow (1985) found that official enforcement of DWI laws, in the United States, especially with drivers under 19 appears to be low, providing yet another explanation of low arrest statistics. This underrepresentation of younger drivers in arrest statistics also appears to be the case in New Zealand. Bailey (1986) found that traffic authorities are detecting fewer younger drivers than are becoming involved in fatal accidents.

Geller and Lehman (1988) also suggest that it is possible that the compensatory driving behaviour (such as driving excessively slowly and taking side streets) used by the older, more experienced drink driver are readily noticed by police and increase the probability of the driver getting caught for DUI.

So while the extent of the problem of drink driving in younger age groups may not be reflected in arrest statistics, as is often the case with arrest statistics and criminal activity (Whitehead, 1975), it still remains that the younger age groups are overrepresented in alcohol related crashes.

Although most of this research on age factors and drink driving tends to be North American it can be seen from Bailey and Carpinter (1991) and Stacey and Lonsdale (1982) that similar trends are present in the New Zealand drink driving population.

The examination of age factors in relation to drink drive situational factors would help in understanding the relationship between age and drink driving behaviour.

Gender

Numerous studies of gender differences in drink driving suggest a disparity between the incidence of male and female involvement in drink and driving. In particular, males are found to be overrepresented in the drink driving population (Bailey, 1979; 1983; 1986; Bailey & Bailey, 1982; Bailey & Carpinter, 1991; Boyd & Huffman, 1984; Farrow, 1985; Fell, 1982, Foley, Glauz & Sharp, 1976; Geller & Lehman, 1988; May & Baker, 1975; Noordzij, 1975; Voas, 1975; Williams, Lund & Preusser, 1986). For example, Stacey and Lonsdale, (1982) report that males are more represented in traffic accidents, alcohol related traffic accidents and drink driving offences, and account for 85 to 95% of the cases in each of these categories. Even allowing for the greater day and nighttime driving frequency by males, drink driving is primarily a male activity (Gusfield, 1985). It should be noted however that between 1982 and 1988 the proportion of positively tested female drivers in New Zealand doubled, rising by 5.1% to 10.2% of the breath tested population (Bailey & Carpinter, 1991).

Geller and Lehman (1988) suggest that the strong and consistent gender difference in alcohol consumption and alcohol impaired driving suggested by the literature may reflect the influence of a variety of cultural factors. For example, they suggest that the 'traditional' masculine role includes risk taking, adventure seeking and confidence in

performance skills. This may lead to an increase in the probability that males will drive after drinking.

As a large amount of literature has found that persons arrested for driving while intoxicated are more likely than non offenders to exhibit psychological characteristics such as emotional instability, low self esteem, impulsiveness, hyperactivity, hostility and aggression, depression, sensation seeking, risk taking, egocentrism and an external locus of control (Arnett, 1990; Bradstock, Marks, Forman, Gentry, Hogelin, Binkin & Trowbridge, 1987; Cameron, 1982; Cox, 1987; Donovan et al, 1983; McMillen et al, 1991; Wilson & Jonah, 1985) and Zuckerman, Eysenck and Eysenck (1978) note that males have been found to score higher than females on sensation seeking, it is not surprising that there is a high proportion of young male drink driving offenders. In addition Snow and Anderson (1987) suggest that certain subtypes of offenders (especially sensation seekers) may receive reinforcement by combining heavy drinking with competitive aggression and daredevil drinking.

Farrow (1985) suggests that the risk taking behaviour related to dangerous driving may reflect young drivers testing new driving abilities and striving toward adult social status by drinking. Farrow (1985) believes that studying the drink driving characteristics of new drivers (16 to 19 year olds) is made more challenging by the superimposition of more normal developmental risk taking behaviours of that age group. Beck and Summons (1987) found that males reported more instances of drunken behaviour and drink driving because the males believed they were more effective than females at controlling the risks associated with drink driving. Compared to females, males also believed risks from excessive alcohol consumption to be less serious and less likely to occur.

Geller and Lehman (1988) also believe that females are socialized to be more dependent and less competent with respect to performance skills. Therefore, in mixed gender driving situations, males are more often cast in the role of driver and females submit to being passengers. In support of this, Simpson et al (1982) found that female fatality and injury rates in the United States are similar to those of males involved in drink drive

accidents. But young males are more frequently involved as drink drivers while young females are more often involved as passengers. Although Bailey (1980) found the rate of drink drive accidents is higher for young males than young females he also notes that females were involved mainly as passengers in these accidents rather than drivers.

Bailey and Carpinter (1991) note that in general women consume much less alcohol than men, perhaps as a result of less social pressure on women to be seen to be able to 'hold their booze'. They also note that women do less driving especially during the nighttime hours when most drink driving accidents occur.

One could suggest that this link to masculinity, and its role in drink driving behaviour, could also be examined through identifying whether DWI offenders take part or show interest in masculine sports such as rugby and rugby league. The present study endeavoured to investigate this relationship. It could be postulated that masculine sports attract masculine types as they encourage masculine behaviour. These sports also often provide an environment that encourages the consumption of large amounts of alcohol (i.e. sports clubrooms) which could ultimately lead to irresponsible behaviour such as drink driving.

Ethnicity

In overseas research Wolfe (1975) found a disproportionately high percentage of impaired drivers among blacks. However more recently Argeriou, McCarty and Blacker (1985) found that the proportion of non white drink drivers was similar to the proportionate representation of non whites in the general population.

Studies in New Zealand, however, have found Maori to be overrepresented in the drink driving population (Bailey, 1984; 1986; 1991; Jeffries, 1987). For example, deJongh and Bailey (1987), as a result of a Wanganui Hospital Road Accident Survey, found that out of 187 Maori admitted to hospital, 80 (43%) were drink drivers as assessed by hospital staff or by the driver's friends or relatives, whereas out of 833 Europeans, 183 (22%) were drink drivers. As a result of data such as this Bailey and Carpinter (1991) conclude that it would appear a relatively high proportion of Maori people injured in

motor vehicle accidents are drink drivers. In explanation of these findings Bailey (1991) suggests that the Maori drink drive problem is primarily a reflection of heavy drinking among Maori. Bailey and Bailey (1982) found that Maori and Polynesian men consumed more alcohol than European men at the last drinking occasion prior to an accident. However, they noted that these high averages are influenced by heavier drinking of a small proportion of the Maori and Polynesian group. Of interest is that although Maori drivers reported large volumes of alcohol consumption the blood alcohol levels of Maori and European drink drivers were roughly equivalent. Bailey and Carpinter (1991) cite unpublished data by Bailey and Turrasi (1990) which offers an explanation for the above findings. Bailey and Turrasi (1990, cited in Bailey & Carpinter, 1991) noted that of those drivers found to drink large amounts of alcohol in one drinking session, the drinking session lasted over a longer period of time, providing an opportunity for more of the alcohol to be metabolised before driving.

Research on ethnicity and drink driving in New Zealand, however, appears to suffer from methodological flaws which, Bailey and Carpinter (1991) suggest, may lead to the data not being of a high quality, therefore challenging the validity of the findings. They point out that none of the research is designed specifically to look at ethnicity, and that methods of determining ethnicity are often unreliable. In addition, Pacific Island people's drink driving has not been examined and the number of Maori identified in many of the surveys from which the incidence rate is determined is often small.

Socio-economic status (SES), Occupation and Income

Occupational status appears to be associated with drink and driving, with offending particularly high if the individual is made redundant, unemployed, retired or disabled (Voas, 1975). Research also suggests that individuals with lower occupational status and unskilled workers are overrepresented among drink drivers and that professional, managerial, clerical and technical groups are underrepresented (Bailey, 1979; 1983; Perrine, 1975). Bailey and Carpinter (1991) suggest that these findings probably reflect the generally different social behaviour patterns of people who comprise these occupational groups. Examining the situational factors in relation to SES may provide further evidence for Bailey's explanation. Donovan et al (1985) found that drink driving

offenders did not differ significantly with respect to their occupations from a high risk driving population which was defined as individuals with four traffic violation convictions or accidents within a one year period or five such incidents within two years. However, the drink driving offenders were significantly lower in occupational status than a general driving population. In contrast to the general driving population and high risk drivers, DWI subjects were also found to be significantly lower in social status.

Related to occupations, income levels also appear to have a slight relationship to the probability of drink driving. Voas (1975) found that the proportion of drivers at illegal blood alcohol concentration (BAC) was highest among those with the lowest income, and found that incidence of illegal BAC decreases as the income levels rises. He concluded that low income status groups are more likely to be on the road at significant BACs and are less likely to be sober than upper income groups.

Marital Status and Household Situation

Research points towards divorced or separated men, as well as single men, as having a significantly higher probability of having an illegal blood alcohol level (Donovan et al, 1985; May & Baker, 1975). Wolfe (1975) also found disproportionately high percentages of impaired drivers among divorced and separated persons (both female and male). Results of studies examining family distress related to drink driving may provide insight into this observation. Selzer and Barton (1977) found that DWI offenders reported greater family related distress than a control group from the general population of licensed drivers while Selzer, Vinokur and Wilson (1977) also found drink driving offenders had higher scores on a composite measure of family and job distress than an alcoholic population and control group. Jonah (1990) cites his unpublished study (1989) which found convicted impaired drivers and high risk drivers (as determined by number of traffic accidents and offences) reported more personal problems in their lives than did licensed drivers in general.

Recidivism

Bailey (1986) reports that about one third of the drink drivers coming before New Zealand courts have a previous conviction for drink driving. Of the drink drivers involved in fatal accidents in 1977 9% had a previous drink driving conviction. More recently Bailey (1993, cited in "Drink drivers," 1993) found that 18.5% of 124 drink drivers who survived fatal crashes in 1986 were subsequently convicted again for drink driving within four years. In one case a driver had eight prior and nine subsequent convictions for drink driving. Bailey and Carpinter (1991) suggest that of those disqualified drivers, 20-25% cease driving while 5-10% keep driving (badly) as usual, frequently coming to the attention of traffic officers. They believe the majority of disqualified drivers continue to drive but do so more carefully and less often to avoid detection. Stephan (1989) says that more than half of those who are convicted of drink driving for the first time are recidivists, who have previously driven after drinking but a considerable portion of whose offences have been undetected. Maisto, Sobell, Zelhart, Conners and Cooper (1979) found that DWI arrestees have elevated rates of traffic citations both prior to, and following, their initial arrest for DWI. Bailey and Carpinter (1991) believe the high recidivism rates in drink driving bring into question the effectiveness of current legal countermeasures.

So while it appears clear that recidivism is a problem there is a need for more in depth research on recidivism and examining whether situational factors vary between first offenders and recidivists is a beginning.

CHAPTER 4

THE DRINK DRIVING SITUATION

Epstein (1984) believes that behaviour is highly sensitive to variations in situational cues. He claims that every experiment that demonstrates a significant effect as the result of manipulation of a variable provides evidence that behaviour is responsive to situational cues. This chapter reviews the literature on situational factors found to be associated with the drink drive episode and addresses those main aspects to be examined in the present study.

Mood and Stress variables

One situational factor which has been found to influence drink driving is an individual's mood prior to the drink drive incident. An assessment of the mood states prior to drinking as well as those gained by drinking would allow inferences about the function being served by alcohol to be taken into account (Donovan et al, 1983). Adebayo (1991) found that those who were unhappy, bored or experiencing alienation and personal distress were more likely to drink and drive. Pandiani and McGrath (1986) reported that the most frequent mood reported by convicted DUI offenders prior to their arrest was happy/elated (48%) followed by no predominant mood (32%) while the remaining subjects reported feelings of anger, sadness and fear in equal proportions. Pandiani and McGrath (1986) also found that the mood of the driver prior to his/her arrest had an effect on the intervention attempts by others. More than 40% of the drivers who reported that they were fearful or anxious, before their arrest, had been the subject of at least one attempt by somebody (which varied from friends, family and in two of the cases, a bartender) to dissuade them from driving. This was twice the intervention rate for any other mood category. Pandiani and McGrath (1986) proposed two explanatory hypotheses in response to these findings. Firstly, that people who appear to be fearful or anxious would be perceived as less threatening than people who are not displaying these emotions and, secondly, that people who are viewed, either realistically or stereotypically, as more self sufficient and in less need of assistance

would not need to be discouraged from drink driving i.e. people who are not fearful or anxious would appear to be more self sufficient. Vegaga and Klitzner (1989) also found that almost all of the drink drivers they interviewed were in a good mood when they started drinking. These studies, however, did not include a comparison sample to determine if these mood characteristics were significantly different from a general licensed driving population.

Similar to an individual's mood is their affect and Selzer and Barton (1977) found drink drivers experience more negative affect from drinking than general licensed drivers. In relation to the type of DWI offender, Steer and Fine (1978) found that first offenders experienced more negative affect in the month preceding their arrest for drink driving than did second offenders. They suggest that their findings provide further evidence that different levels of negative affect may exist in persons arrested for driving while intoxicated and that these moods may be associated with different types of offences.

Various researchers (Scoles, Fine & Steer, 1984; Selzer, Rogers & Kern, 1968; Veneziano & Veneziano, 1992; Yoder, 1975) suggest that as a group, DUI offenders are likely to have experienced certain recent psychosocial stressors such as financial and work difficulties (e.g., job loss, unemployment, and interpersonal conflicts).

Yoder (1975) reported that 35% of a group of DWI offenders in a rehabilitation course had experienced some form of acute stress prior to the drinking episode that led to an arrest and 31% reported experiencing chronic stress. He reports that the most common source of the stress was interpersonal conflict. Yoder and Moore (1973) found that although a stress of some sort was often relevant to drinking prior to an arrest there was no one type of stress situation which was predominant in their DWI sample. Types of stress noted by subjects were financial, occupational, marital and health problems, death of a close associate and sudden relief from stress (e.g., celebration). In addition Bradstock et al (1987) found intoxicated drivers exhibited increased levels of stress. In support of this, other researchers have suggested that drink driving is a result of attempting to cope with stressful situations (Fine, Scoles & Mulligan, 1975; Selzer et al, 1977).

An explanation of these findings related to stress and drink driving may be found in the suggestion that people who are involved in traumatic/stressful life situations/events may attempt to deal with these problems by drinking excessive quantities of alcohol and by misusing drugs (Beck & Summons, 1985; Scoles, Fine & Steer, 1984). Scoles et al (1984) report that the individual may get depressed, feel hopeless and behave in irrational irresponsible ways including DWI or reckless driving. In addition, Beck and Summons (1985) suggest that heavy drinking may contribute to increases in the frequency of drink driving and decrease levels of concentration and psychomotor functioning which will increase the probability of unsafe driving. They do, however, note that drink driving may be a component of a more generalized behaviour style rather than a response to a stressful life event or to depressed affect.

Although a large amount of research indicates an association between stress and drink driving Jonah (1990) reports that "it is unclear at this point how the effects of these [stressful] events are mediated" (pp. 33).

Social context

The immediate social environment exerts important influences on drink driving behaviour. This would include such things as where people do their drinking or under what circumstances they consume alcohol and do ultimately drink drive. For instance do people drink in their own home, at a bar, with friends, at a party, or alone.? Another aspect of the social context deals with the specific motivational factors that explain why the drink driver consumed alcohol. From an examination of the social context under which drink drivers consume alcohol one may be able to discern whether the drink driver drinks alone or in a more social atmosphere, and why s/he drinks. People who drink alone or drink for the sedative effects of alcohol as a means of coping with both emotional as well as physical distress, may be developing, or have, an alcohol problem (Beck & Summons, 1987) and therefore current drink drive countermeasures may not be appropriate.

Vegaga and Klitzner (1989) found that DUI occurred within a social context which included a group of friends (not necessarily close friends). In support of this Pandiani

and McGrath (1986) found that 72% of their sample of DUI offenders had been drinking with friends. Yoder (1975) also found that 75% of his sample of convicted DUI offenders were drinking with friends or family just prior to their arrests. When looking at the number of people that are present while the individual was drinking Pandiani and McGrath (1986) found DUI offenders had been in the company of 3.7 people on average and that only 9% had been drinking alone. Vegaga and Klitzner (1989) believe that the presence of other individuals may be associated with DUI offences perhaps in the form of social pressure to drive after drinking or the failure to exert appropriate or successful intervention. In addition, Storm and Cutler (1981) found that the amount of alcohol consumed per individual increased with increasing size of the drinking group, suggesting social influence to drink, perhaps in the form of social pressure, was present.

While clear patterns in the social context of drink drivers are evident, in none of these studies was there a control group of general licensed drivers. It is important to examine the social groups within which the general driving population drinks to determine if the groups do in fact differ.

Motivation to drink alcohol

Snow and Anderson (1987) believe that it is important to understand the reasons for drinking as well as the reasons for driving in order to obtain a comprehensive understanding of the drink driving problem. While motivations for drink driving are addressed later the following material concentrates on motivations for drinking alcohol.

One would expect that the mood the drink driver is in would be related to the motive behind the drinking episode. Some studies have found that drinking among certain types of drinkers is the result of motivations to 'reduce tension', achieve a sense of mastery or dominance in a social situation, or blow off steam (Farrow, 1985; Freed, 1978; Russell & Mehrabian, 1975).

Donovan (1980, cited in Donovan et al, 1983) identifies three separate factors related to motives for drinking; drinking as a response to boredom or loneliness; drinking for social reasons (e.g., to be part of the "in" crowd, to be lively or funny) and drinking as

a response to negative feelings, primarily of an interpersonal nature (e.g., out of anger, resentment and/or frustration).

In support of this Snow and Anderson (1987) report that studies indicate that people report drinking for a variety of reasons that reflect the expected consequences of alcohol consumption (e.g., to forget worries, to relax, because they like the taste, to conform to social expectations).

Beck and Summons (1987) also report that people drink for recreational purposes (e.g., to be sociable, to have a good time, for the enjoyment of the taste, for a sense of well being and so on) or for medicinal-anaesthetic purposes (e.g., to relieve fatigue or tension, to cope with stress, to get to sleep, for aches and pains and so on).

Although a need for examining motivations for drinking in relation to the DWI problem has been highlighted, little research has been undertaken into these motivations. Although the present study does not concentrate on motivations to drink it does look at the wider situational context, and in doing so may provide insight into this unexplored area.

Location variables

The settings in which drinking occurs is in itself an important determinant of both the quantity and the effect of alcohol consumption, both behaviours that may influence an individual's decision to drink drive. For example, Glynn, LoCastro, Hermos and Bosse (1983) found that in a population of generally healthy men from the United States, those who drank for salutary reasons (to stimulate the appetite; find it healthy) and in social settings, were less likely to report alcohol related problems than men who drank equal quantities but who drank to reduce negative affect (when lonely, depressed, bored; to sleep), for social enhancement (enjoy parties; break the ice socially; feel friendlier; be with the boys) or in contexts of masculine activities (friends of the same sex; in bars; at work; with strangers; at athletic events).

Drinking contexts may contain behaviours that influence the likelihood of drink driving occurring. For example, incentives might be available to encourage or discourage excessive drinking (e.g., two for one price during happy hour), assignment of sober individuals to do the driving (e.g., free food and soft drinks for a designated driver) and discouragement of drink driving (e.g., the announcement of a nearby police roadblock) (Donelson, 1988). In addition Geller and Lehman (1988) believe that the environmental context within which drinking occurs moderates the causal relationship between the drinker as an individual and alcohol related problem behaviours.

One example of a social environment related to drink driving which deserves attention is the place where drink drivers receive their last drink prior to offending. The relationship between drink driving and place of the last drink could have significant implications for prevention policies. O'Donnell (1985) believes that special attention should be given to commercially licensed drinking settings such as bars and restaurants and highlights three reasons for this:

1. Commercial establishments are ideal locations for evaluating policy interventions because they are contained environments.

2. Prevention programmes could be built upon the existing legal requirements for licensing.

3. The increasing use of third party liability laws may provide an incentive for the owners of licensed establishments to adopt prevention programmes. At present New Zealand does not adopt such liability laws.

Research in New Zealand (Bailey, 1983, 1987a; Bailey & Bailey, 1982; Bailey & Carpinter, 1991) has found that the drink driver at risk of serious accidents commonly drinks at hotels. This is consistent with various overseas studies (Snow, 1988; Snow & Anderson, 1987; Wilson & Jonah, 1985; Wolfe, 1975; Yoder, 1975). In particular O'Donnell (1985), in a review of impaired driver's drinking locations, found that in 11 studies ten identified licensed establishments (especially bars) as their point of departure or place of drinking before driving. In the 11th study licensed establishments were the second most frequent location. Snow (1988) emphasizes that away-from-home settings probably involve greater drink driving risks than drinking at home and he points out that

bars or lounges were therefore the most frequently reported away-from-home drinking locations. However, as Bailey and Carpinter (1991) note, many drink driving accidents occur in the early hours of the morning, long after usual hotel closing times, so it is likely that a considerable number of drink drivers continue their drinking at other locations or they drive for some time after the hotels close and before their accidents occur.

Interestingly, Wieczorek et al (1992) found individuals may not necessarily stay in one location while drinking but move from location to location during the course of their drinking episode. Compared to single location drinkers a multilocation group was found to drive frequently (once a week) while intoxicated. As individuals may frequent multiple settings during any one drinking occurrence this means they may be influenced by multiple social contexts. Wieczorek et al (1992) suggest that in multilocation drinking there may be social pressures to drink at each location visited, no matter how short the visit, and that there may be pressure to 'pay the rent' for the use of facilities or entertainment by buying drinks when visiting a bar. These factors would influence individuals to drink at each location visited whether or not they felt any pressure to join in the sociability. An interesting idea posited by Wieczorek et al (1992) is that multilocation drinkers may also be persons who want to overdrink and who may move from bar to bar to avoid the control efforts of any one server.

Little research on persons who have reported multilocation drinking episodes hinders a deeper examination of this type of behaviour. However, multilocation drinking in one drinking episode appears to influence alcohol consumption levels which may indirectly affect the decision to drive after drinking. Storm and Cutler (1981) found a positive association between multiple location drinking and heavier alcohol consumption.

Damkot (1982) suggests that people tend to go to bars to continue the drinking they started elsewhere; bars appear to be a site for heavy drinking ; and more people may drive away from bars in an intoxicated state than from other drinking locations. Damkot adds that whether bars "foster" heavy drinking or whether heavy drinkers select bars cannot be determined.

In explaining the selection of drinking locations, Sommer (1969) identified several factors likely to attract a patron to a bar and influence subsequent drinking behaviour, including bar location, room decor and drink prices. Sommer (1969) also notes that the availability of recreational and entertainment activities such as watching sports on a large television screen, dancing and live band music may also influence the risk of DUI in particular ways, for example, although bar entertainment prolongs the time spent in a bar and thus increases the amount of alcohol consumed certain activities (for example, dancing) may detract from excessive drinking and increase "sobering up" time.

Burns (1980) argues that the selection of a drinking environment is not made at random but is a crucial decision based upon the need to choose a place that is compatible with a desired mode of behaviour. This may help explain the demographic differences of DWI related to drinking locations. Adult drink driving has been found to be associated with bar/home/restaurant drinking while youth are more likely to drink and drive on leaving a friend's home, or at a social get together, or in cars or in public places (Farrow, 1985; Hernandez & Rabow, 1987; Vegaga & Klitzner, 1989). In reference to this choice of locations Snow & Anderson (1987) have suggested that those DUI offenders who were young and unmarried selected drinking places primarily because of the entertainment available. They believe that such places provide opportunities to meet members of the opposite sex, and music and dancing facilitate the initiation of social encounters with these people. This is supported by Snow (1988) who suggests that the desire to meet potential sexual or marital partners may influence the selection of drinking places, such as parties and bars, among unmarried offenders. Snow (1988) notes that age and marital status, although interrelated, are also independently associated with drinking locations.

Snow (1988) also found that young offenders were significantly more likely than older offenders to do their drinking in away from home locations such as at friends' homes, at parties, in cars and parking lots - places likely to involve driving. Snow, Cunningham and Barnes (1985) report that this may account for the overrepresentation of youth in the DUI population and the high accident rate among young people, i.e. they may place themselves at risk more frequently than other persons. In addition the male offenders

reported drinking in cars and parking lots significantly more often than the female offenders. In relation to the drinking locations of young drink drivers, of concern is Farrow's (1985) finding that many households appear to allow teenagers' friends to leave their homes intoxicated.

Examining the drinking locations that precede an arrest for DWI constitutes an important area of research as different locations may define subgroups of DWI offenders. This information could be useful for identifying problem drink drivers among the general DWI population and for matching offender characteristics with targeted interventions (Wieczorek et al, 1992). Failure to take into account the characteristics of particular offenders might account for the generally ineffective results of previous drink driving countermeasures (Snow & Landrum, 1986). It is on the basis of these suggestions that the present study examines location variables specific to a New Zealand population.

Time variables

As Mercer (1985) notes many types of criminal activities vary systematically from hour to hour and from day of the week to day of the week. Mercer (1985) sees drink driving as one such criminal activity which tends to occur most frequently after 10pm on Friday and Saturdays. Thurman (1986) also found that time of day or day of the week when the driving takes place affected the decision to drink drive. Thurman (1986) believes that if drivers perceive some periods of the day or week as having higher traffic density than others then these hours/days will be perceived by potential drink drivers as having a lower risk of detection as police surveillance must be spread more thinly over a greater number of drivers. Related to this Parker, Manstead, Stradling, Reason and Baxter (1992) suggest that a driver's willingness to commit a driving violation is greater in darkness. They base this premise on the fact that there are more accidents at night than during the day.

In relation to New Zealand Bailey and Carpinter (1991) conclude that at risk drink drivers drive on Friday and Saturday, late at night and in the early hours of the morning (even though only a small proportion of driving is done at these times). More recently a New Zealand Ministry of Transport survey found that one in five drivers on the road

between 10pm and 3am had been drinking alcohol ("Study shows", 1992). Bailey and Carpinter (1991) note that a high proportion of drink drive fatalities occur early in the morning when there is little traffic and limited numbers of traffic officers deployed. Interestingly, Bailey and Carpinter (1991) report an age difference in the times of alcohol related accidents, with the older age group having a high number of accidents on week-nights and a low rate for the weekend compared to teenagers' high number of alcohol related fatal accidents on Friday and Saturday nights. As Bailey and Carpinter (1991) note, this provides evidence that drinking patterns differ between the groups and that different countermeasures are needed for each group. This also highlights the need to look for differences between groups within the drink drive population in relation to a variety of drink drive factors as differing countermeasures may be needed.

Perceived social pressure to drink or not and to DWI

Driving is very much a social performance carried out in the public domain and it is therefore going to be affected by those in that domain. Parker et al (1992) suggest that when a person forms an intention to perform a behaviour that carries important implications for others, the perceived views of significant others should be of greater importance than when a person forms an attitude towards a behaviour that is more private and likely to affect only the person concerned. This idea highlights the influence of pressures from others in forming intentions relating to drink drive behaviour.

Perceived social pressure in the drinking environment has been found to contribute to the drink driving situation. Vegaga and Klitzner (1989) found pressure to drink, in the form of positive encouragement, and social opprobrium if the individual did not drink, was reported by 15 percent of drink drivers while 13 percent felt pressure to drive after drinking as a result of the person exerting the pressure (presumably a passenger) needing to get home or to some other destination. Another common pressure was the argument that the drink driver was the most sober driver available.

When looking at age differences and social pressure it is well known that the years of adolescence bring with them increased choices and pressures. One of these pressures is peer pressure. Vejonska (1982) suggests that the adolescent may feel that to fit in

with his/her peers s/he must participate in social situations that may involve drink driving. Parker et al (1992) found that compared to older drivers younger drivers perceived less pressure from others to abstain from committing four specific driving violations (one being drink driving) and were more highly motivated to comply with the perceived wishes of their significant others.

Interestingly Vegaga and Klitzner (1989) found that 12% of their sample were pressured not to drink, but note that 3/4 of those pressured felt 'little' or 'no real' pressure. In looking at the relationship between social pressure to drive and social pressure to drink Vegaga and Klitzner (1989) found that youth who were pressured to drink were significantly more likely to be pressured to drive than youth who were not pressured to drink. However, youth who were pressured not to drink were also more likely to be pressured to drive than youth who were not pressured not to drink. They suggest that it would appear that the passengers were making an attempt to keep someone sober enough to drive. Vegaga and Klitzner (1989) found no gender or race differences in any of the pressure variables they examined.

Drug use

As noted in Chapter 1 it is well known that alcohol has a serious effect on an individual's driving performance. In addition, the consumption of drugs, both prescription and non prescription, with or without alcohol, can also affect driving performance (Cairns & McCallum, 1982; Hurst, 1976; McDonald, Stone & Dick, 1982; Shinar, 1978). Shinar (1978) reports that up to 20% of the United States' driving population is under the influence of some prescription or non prescription drug at any one time. Elliot (1987) found that those who used multiple illicit drugs drive under the influence of marijuana three times more frequently than those who use only marijuana. Wilson and Jonah (1988) found that alcohol impaired drivers were more likely than drivers in the general population to use drugs such as marijuana, cocaine, amphetamines and hallucinogens. In addition, it has been found in the United States that young drivers who use illicit drugs are more likely to report driving while intoxicated (Beirness & Simpson, 1988; Farrow, 1985). In a New Zealand drink drive accident population, Bailey (1986) found that 7% of injured drivers had used cannabis within the few days

prior to their accident. He could not, however, provide data on impairment by cannabis at the time of the accident. More recent research by Bailey (1987b) however, has found that the involvement of cannabis in injury accidents is of concern in New Zealand's young (in particular those aged 20-24). The present study explores further the contribution of drugs in the New Zealand drink driving problem.

Intervention variables

The literature on the social psychology of helping behaviour provides numerous examples of the general principle that bystander intervention increases with the perceived need for assistance (Latane & Darley, 1970). An increasing amount of research attention has been directed towards drink driving situations with reference to intervention through informal social control - social intervention by friends, relatives, neighbours and perhaps bartenders. Intervention by others in the immediate situation is a vital part of the prevention of drink driving as it often depends on a sober individual rather than the potential drink driver whose judgements are impaired by alcohol (McKnight, 1986).

As mentioned earlier, situational factors may influence the restraints, or possible intervention by another person, on the driver's behaviour. Rabow et al (1990) found that the intervener's affinity with the driver, amount of alcohol consumed by the intervener, number of persons in the situation and number of persons in the situation known by the intervener are associated with the decision to intervene in a drink drive situation. For example, they found that intervention was more likely to occur among those who knew and liked each other, which they suggest, confirms similarity and feelings of "we - ness" are related to helping. They also found that subjects were willing to intervene in situations where they noticed a potential drink driver, evaluated the person as being in sufficient danger and in need of help and felt able to intervene. Pandiani and McGrath (1986) also found that the driver's age, sex and level of intoxication influenced attempts of others to dissuade the individual from drink driving. In particular, women, older people and people who are perceived by others to be seriously impaired by alcohol were more likely than others to be the object of intervention. In relation to these findings Pandiani and McGrath (1986) suggested that

intervention was influenced by two factors: perceived social threat to the intervener and the amount of self sufficiency of the intervenee. In particular, as the notion of perceived social threat and self sufficiency both decreased, the likelihood of intervention increased, for example, women are likely to be perceived as less threatening and less self sufficient than men, as are older adults compared to their younger counterparts and those heavily intoxicated opposed to the less intoxicated. Therefore these groups are more likely to elicit intervention. Monto, Newcomb, Rabow and Hernandez (1992) looked at the influence of social status similarity or difference between the intervener and intervenee and found that neither sex nor race influenced the likelihood of intervention in a DUI situation among a college population. In addition, Rabow et al (1990) concluded from their findings that male and female rates of helping behaviour may not differ appreciably.

Gusfield (1985) reports that intervention was accepted and controls were utilized where people were related either through marriage, sexual relationships or friendships. Pandiani and McGrath (1986) found that only 12% of their DUI sample reported that someone tried to prevent them from drink driving. Friends accounted for 67% of these, 25% were family members and 11% were bartenders. Yoder (1975) reported that although his sample of convicted drink driving respondents were drinking with friends and family only 11% reported that someone tried to prevent their driving and in no instances was the intervener a bartender. Vegaga and Klitzner (1989) also found that only a small group of drink drivers (17%) reported that someone attempted to intervene. Type of action taken included trying to persuade the drink driver to let someone else drive, encouraging the drink driver to stay the night and using direct actions, such as taking the keys. They found that intervention attempts were either ignored, or the drink driver argued that s/he was sober enough to drive.

In contrast to these findings that intervention does not occur often, there is other evidence to suggest that a large proportion of the population do intervene or are willing to intervene in a drink driving situation. Adebayo (1988) interviewed a general population group, asking then about whether they had or would stop someone drink driving and what intervention techniques they had used/would use. He found that among

those who admitted they had been in a situation where a friend or someone in the family was about to drive while impaired, 94% took actions to prevent the intoxicated friend or family member from driving. Among those who did take action about 65% drove the person home or called a taxi. Nobody called the police. In general the respondents (both drinkers and non drinkers) were more inclined to take persuasive rather than coercive actions in preventing drink driving situations (Adebayo, 1988). Adebayo (1988) also found that 97% of respondents said that they would be willing to intervene if a friend or someone in their family was about to drive while intoxicated.

Therefore, there would appear to be a discrepancy between those individuals who say they had intervened in a drink drive situation and those who say that no one intervened when they drove after drinking. Although Adebayo (1988) suggests many people do, or are willing to, intervene in a drink drive situation, there is still a large group of people for which no attempt to stop them from driving is made. One explanation of this result could be socially desirable responding by those participants in Adebayo's (1988) study.

When discussing intervention one must also be aware of the role of the intervenee in the interaction. As Pandiani and McGrath (1986) report, any attempt to dissuade a driver from operating a motor vehicle is a challenge to the personal competence of that person. Therefore there is a strong possibility that the attempt to intervene will be rejected as a challenge to the potential driver's manhood, adulthood or overall social competence (Pandiani & McGrath, 1986). This belief that accepting help may threaten a male driver's sense of competence may inhibit intervention and one could posit that a gender difference in the actual success of an intervention attempt may occur with women more likely to comply with an intervention attempt.

Alternative transport

As Turrisi, Suls, Serio and Reisman (1988) note, in situations where people have been drinking and need to travel to a given destination (e.g., home) they can either decide to drive or not to drive. Many people only see one option available - to drive home. However, there are a number of options available if one chooses not to drive. For

example, one can ask a sober person for a ride, telephone someone, or use a form of public transport (Turrisi et al, 1988).

Availability of alternative transport and reasons for not using alternative transport are part of the prearrest situation that may lead to the DUI offence (Vegaga & Klitzner, 1989). Although respondents in Vegaga and Klitzner's (1989) study report that alternatives were available, the drink driver appeared very unlikely to use them in risk situations. Vegaga and Klitzner (1989) found that out of 40% of respondents who said they seriously considered not driving only 20% found an alternative means of transportation. Reasons given for not using the alternative included the belief that it was not feasible or that there was no real danger if they drove drunk, that the respondent was the most sober available driver, or that they had to get somewhere.

Perkins (1990) found that the most popular alternative to drinking and driving was 'one driver staying sober to drive others home'. Public transport was not highly rated as a viable alternative. It has been suggested that public transport does not always meet the needs of those who have been drinking (e.g., passenger's intoxicated behaviour may be antisocial, services may be minimal or inoperative during the main drinking hours) (Bailey & Carpinter, 1991). However, Perkins (1990) found the use of taxis was an attractive option but notes that few people knew drivers who used them. Other alternatives that have been suggested by DUI respondents were waiting to sober up, just not going, calling someone/parents (Vegaga & Klitzner, 1989).

Examining these aspects of intervention and alternative transport in a New Zealand population would provide further information on drink driving in New Zealand and also help determine the validity of the previous findings.

Motivation to DWI

Literature on motivation related to drink driving is sparse. Vingilis and Mann (1986) describe three types of motivation related to drink driving: instrumental, impulsive and compulsive. Instrumental motivation is a disposition to engage in behaviour in order to attain some specific goal such as driving in order to get home from a late night party.

Snow and Anderson's (1987) suggestion that driving after drinking may simply reflect a need or desire to move from one location to another supports this particular motivation. Impulsive motivation is a disposition to engage in behaviour for the pleasure or gratification it provides. Drunken joy riding by adolescents is an example of this type of motivation. Compulsive motivation is linked to the idea that compulsions irresistibly force individuals toward some irrational behaviour, and are virtually non deferrable. The classic example is drink drive offenders who are addicted to alcohol.

Webb (1980) argues that since instrumental acts are rationally motivated they are more likely to be responsive to certain deterrent measures while impulsive and compulsive acts are less likely to be responsive to legal sanctions. In addition to this Selzer and Barton (1977), who found that compared to a licensed driver from the general driving population the convicted drink driver had less responsibility and less self control, concluded that these factors imply a quality of impulsivity that may explain the difficulty in finding a solution to the drink drive problem.

It is also interesting to note that Farrow (1985) found that many young drivers use an automobile as a means of resolving anxiety and conflict and a means of getting away or passing time. He also suggests that the automobile offers an environment for socialisation in the form of driving behaviours such as 'racing cars with friends' and using the automobile as 'a place to get high' on drugs. One could posit that this may increase the use of the automobile as a social context from which drink driving could occur.

In relation to motivations to drink drive Vegaga and Klitzner (1989) found that a key situational variable was a perceived need to get home or to get a passenger home. In association with this, Thurman (1986) believes that drivers who drink away from home find it personally and socially rewarding to drive after drinking as it is a convenient means of transporting themselves or others to their desired destinations.

Relevant to this finding is Rotter's expectancy theory. Rotter, Chance and Phares (1972) define 'expectancy' as the probability held by the individual that a particular reinforcement will occur as a function of a specific behaviour on his/her part in a specific situation or situations. Heavily influenced by social learning theory, which emphasizes the crucial importance of situational determinants of behaviour (Rotter, 1972), the general tenets of expectancy theory posit three questions an individual asks her/himself a) whether the action has a high probability of leading to an outcome (expectancy), b) whether the outcome will lead to other outcomes (instrumentality), and c) whether the outcomes are valued to the individual (valence) (Rotter, 1972).

In relation to criminal behaviour such as drink driving, Phares (1972) states that many instances of criminal behaviour simply reflect a situation whereby the individual has learned to value goals or reinforcements that, while bringing the disapproval of the larger culture, lead to the approval and acceptance from those in the individual's reference group. For example, behaviour such as transportation to a destination may receive social reinforcement from passengers in the form of approval and praise. Thus the individual engages in such activity because of the expectancy that it will lead to the rewards of approval and recognition from those people who are particularly reinforcing for him/her. This may be seen most obviously in social or peer pressure. The reinforcing nature of the crime is seen to exceed the punishment of being caught and the state of mind at the time of the crime is insufficient to deter the behaviour (Rotter, 1972).

Identifying motivations behind drink driving provide useful information for designing or evaluating educational programmes and countermeasures.

Passengers

Factors within the social context while drink driving is actually occurring have been found to influence drink driving behaviour. Vegaga and Klitzner (1989) found that 82% of their sample of self report drink drivers reported there were other individuals in the vehicle when they drove after drinking. In contrast to these findings Bailey (1983, 1986), in an analysis of accident characteristics, found that 40-50% of drink drivers were on their own, approximately a quarter had one or more males with them (usually heavily intoxicated) and ten percent had a woman passenger. However, this may be because Bailey's sample was from an accident population. Voas (1975) found no significant relationship between the absence of passengers or the number of passengers, and driver's blood alcohol concentration (BAC). Vegaga and Klitzner's (1989) findings indicate drink driving most commonly occurred with one other passenger (30.6%) although 19.8% of subjects reported that four or more passengers were present. These passengers were usually friends of the driver. It should be noted however that all passengers of the drink driving group were described by the driver as being 'drunk' before getting in the vehicle and respondents often reported that they drove because they were the most sober of the group. By contrast Bailey (1979), in a New Zealand drink drive accident population, found only 37% of passengers (i.e. non drivers) had consumed alcohol. Although Bailey's (1979) sample was a different subgroup of the drink drive population to Vegaga and Klitzner (1989), it still highlights the fact that in these DUI episodes there was usually another individual present who could potentially encourage or discourage the driver to drink drive.

Thurman (1986) examined situational factors which entered a decision to drink drive. He found that the number of passengers contributed to the decision to drive. Individuals would be less likely to choose to drive after drinking as the number of passengers increased. He believes that drivers are aware of the increased risk of injury to peers that is associated with drink driving.

Thurman's (1986) methodology, however, saw subjects presented with hypothetical vignettes on drink driving decisions. One could argue that subjects' responses may not be the same in hypothetical as opposed to actual situations. For example, subjects may

express a tendency toward deciding not to drive during the study, but when placed into the actual situation may decide to drive. When in a drink driving situation the driver may not be capable of a priori reasoning and rational thinking in making a decision. The hypothetical nature of Thurman's (1986) methodology may explain the difference in his findings from other researchers relating to the number of passengers present during a drink driving episode.

Further research utilising reported behaviour, as in the present study, rather than hypothetical would contribute to the evaluation of these findings.

Vehicle variables

Other situational variables associated with drink driving identified in the literature include vehicle variables. Vegaga and Klitzner (1989) found that a drink drive episode occurred most commonly when the car belonged to the drink driver. Bailey (1979) found that there was higher alcohol involvement in car drivers than for drivers of motorcycles and trucks. He also examined the distribution of car age, by age of driver, in all drivers involved in a fatal accident in New Zealand in 1977. He found that those drivers with alcohol involvement had a smaller proportion of new cars and suggested that this may be a reflection of the role of lower socio-economic groups in drink drive statistics. He also found that the proportion of new cars increased with age of driver. However, he found no tendency for the younger drink drivers to drive very old cars.

In relation to size of car, Bailey (1979) found that older drivers at fault in accidents with alcohol involvement drove smaller cars, but a higher proportion (48%) of large cars (over 2000cc) were driven at excessive speed compared with the 19% for small cars (under 1500cc). This tendency to drive large cars with excessive speed was found to be greater among young drivers. Bako, McKenzie and Smith (1979) found that a United States population of drink drivers are more likely than non DWI motorists to be driving lighter and older cars.

As Gwynne (1977) suggests, certain types of cars may be disproportionately represented in a fatal drink drive accident. Bailey (1980) found that Zephyrs and Valiants (built

prior to 1973) appear to be overrepresented in fatal road accidents compared to other pre-1973 large cars and also post-1972 large cars. Bailey (1980) notes that the post-1972 cars were on average driven by older drivers and that this may help explain their lower involvement in fatal accidents. It should be noted that Bailey's (1980) findings are based on fatal accident data and one could suggest that these types of cars are overrepresented because of the high speeds at which they are often driven which increases the probability of serious injuries (Bailey & Carpinter, 1991). It may also be that the older age of the vehicle results in lower safety standards which also increases the probability of serious injury. The examination of these factors in comparison to a general licensed population will help determine if these vehicle variables identified are distinct to a drink driving population.

Driving distance and familiarity with the road environment

It has been suggested that situational factors such as the distance the individual must travel to return home, number of police roadblocks and the familiarity of the road between the drinking location and desired destination all influence the decision to drive after drinking (Thurman, 1986). Wolfe (1975) found more impaired driving among drivers on relatively short trips. It may be that those on shorter trips perceive the risk of being detected as less, therefore are more likely to drink drive.

As mentioned earlier and in support of Wolfe's suggestion, Thurman (1986) believes that if drivers perceive that traffic density is higher during some periods of the day than others, these hours will be perceived by drivers as having a lower risk of detection by authorities. In addition Thurman (1986) also suggested that as roads become less travelled (i.e. rural), longer and more difficult to drive, traffic density will decrease and thus the risk of detection is higher owing to greater exposure to the police. This finding, however, would depend on the amount of police surveillance in the rural district, which in New Zealand is considerably less than in urban areas (Bailey & Carpinter, 1991).

Bailey and Carpinter (1991) define roads with a speed limit of 50 kilometres per hour as urban and those with a speed limit of 100kph as rural. In a comparison of urban and rural fatal accident rates for 1987 and 1988 they report that there are many more fatal

drink drive accidents on rural roads (where speeds limits and speeds actually travelled are higher) than on urban roads. Bailey and Carpinter (1991) suggest that higher speeds (even though they may be within the speed limit) will increase the likelihood that an event (such as momentary loss of control) will lead to an accident and that as a result of the speed the consequences of the accident will be serious.

Thurman (1986) found that subjects would be less likely to drive after drinking when they were unfamiliar with the road. Turrisi and Jaccard (1991) note that individuals may perceive it as being safer to drive while slightly impaired if they have only a slight distance to travel, relative to long distances. Thurman (1986) saw the travel distance factor in terms of time and believed that the individual may be influenced by the length of time s/he is at risk of apprehension and the length of time spent in the life threatening behaviour. If similar findings are found for a New Zealand population this could have implications for traffic patrolling policies.

Judgements of drunkenness

People under the influence of alcohol often believe that their performance is normal or even improved - thus alcohol indirectly tends to increase risk taking behaviour (Bewley, 1986). Guppy (1988) found that a DUI offender group believed that their driving was not affected at a higher level of alcohol consumption than did a non - offending group (i.e. the non - offenders were more likely to recognise alcohol related impairment of their driving). Offenders also estimated the extent of consumption likely to lead to the average driver exceeding the legal limit at a higher level than did non - offenders. Thurman (1986) found that subjects were less likely to drink drive when they believed that the skills needed to do so had been severely impaired. However, Bewley (1986) claims that the ability to determine the extent of impairment is affected by alcohol and therefore would become ineffective in the drink drive situation.

Supporting this, in Basch, De Cicco and Maletti's (1989) study some of the participants reported that when they had been drinking their judgement was impaired and they did not consider the risks involved in driving. For individuals who do not recognise and respect the risks of drinking and driving, intervention could be targeted towards

improving knowledge about alcohol's effects on driving (Basch et al, 1989). Vegaga and Klitzner (1989) found that when drink drivers were asked what they were thinking about when they decided to drink drive 30.1% responded "nothing", 28% were concerned that they needed to get somewhere (most commonly home or to get a passenger home), 16% were just thinking of having a good time. Vegaga and Klitzner (1989) also found a clear sex difference in perceived urgency to get somewhere. Two thirds of the female drink drive sample reported needing to get somewhere compared to less than one third (28.2%) of the male DWIs. As their sample were young people they suggested that this may indicate a greater insistence on the part of parents that daughters be home on time.

Perception of risk

Drink driving behaviour has also been found to be related to expectancies about risk of detection, probabilities of arrest and accident involvement (Ross, 1978 cited in Levy 1982; Sostkowski & Peltier, 1982; Stephan, 1989; Wilson & Jonah, 1985). General consensus is that those who perceive a low probability of detection by authorities, or accident involvement, report drink driving more often, and therefore it is not surprising that perceived likelihood of detection is one factor associated with the difference between those who offend and those who do not. Guppy (1988) found that a DUI offender group indicated a significantly lower estimate of the probability of being stopped on a drink driving episode compared to a general driving population. Drink drivers also believe on average that the chances of arrest for drink driving are less than nondrinking drivers believe their chances to be (Wilson & Jonah, 1985). They suggest that a drink driver's belief that risk of arrest is low may encourage drink driving, and repeated experiences of not being detected may reinforce this belief.

Vegaga and Klitzner (1989) found that half those who had driven after excessive drinking felt that there was a risk involved in their drink driving. Of these 37% were concerned there would be an accident, 29% that they would get into trouble with the police and 17% that someone might get hurt. There was no indication that the amount of alcohol consumed affected perception of risk. Turrisi and Jaccard (1991) found that the tendency to drive after drinking was more related to perceived probability of being

arrested or being involved in an accident than it was to perceived drunkenness. Associated with this Basch et al (1989) found that young drivers tend to deny the risks of drink driving and use rationalization such as 'I'm not drunk' and 'I'll be extra careful' in a drink driving situation. This may be as a result of alcohol impairing the individual's judgement of his/her ability to drive.

Vegaga and Klitzner (1989) found that 72% of their drink drive sample reported doing 'something' to make their driving 'safer'. Sixty eight percent slowed down, 44% watched road signs more carefully, 34% watched for police and 24% took back roads. Only 8% used seat belts. In conclusion they suggest that the respondents' definition of 'safer' driving may be driving that is less likely to lead to detection rather than to accident or injury. However, as no other research related to this topic is available, one cannot draw further conclusions.

In relation to the perception of risk and drink driving behaviour Vingilis and Mann (1986) have proposed a deterrence theory. According to this theory the effectiveness of a legal threat is a function of the certainty, severity and rapidity of punishment for an offence i.e. the greater the likelihood of arrest, prosecution, conviction and punishment, the more severe the eventual penalty, and the more quickly it is administered, the greater the effect on behaviour (Vingilis & Mann, 1986). In New Zealand from June 1991 to June 1992 the conviction rate for those charged with alcohol related traffic offences was 98% (Ministry of Transport, (1992), a figure which, according to Vingilis and Mann's (1986) deterrence theory, should result in an effective legal threat to the drink driver's behaviour.

Jonah and Wilson (1983) report that some situational factors, for example, doubling enforcement activities, seem to have little impact on drink drivers' subjective probability of apprehension while others, for example, increasing the visibility of enforcement and mass media campaigns, have a larger impact. However, Vingilis and Mann (1986) note the legal approach (i.e. likelihood of arrest, prosecution, and punishment, noted earlier) to drink driving seems to be deterring some individuals, notably those whose driving is an instrumental act, but not those for whom it is a compulsive or impulsive act. This

is highlighted in a study by Ross, Klette, and McCleary (1984) who examined drink driving laws in Scandinavia and found that the legal approach to deterrence tended to deter the less dangerous moderate drinkers but not the more 'deadly alcoholic'. They suggest that although the same two people may hold similar expectations of arrest or accident involvement for drink driving, for one person this expected probability may be sufficient to deter the behaviour while for the other it may be unimportant. An individual may, however, attach great importance to the probability of a drink driving arrest or accident, but this fact may be outweighed by the benefits to be obtained by drinking and subsequently driving (Ross et al, 1984).

In terms of dealing with the drink drive problem, Jonah and Wilson (1983) indicate that subjective probability of apprehension for drink driving is crucial to the success of legislative and enforcement countermeasures. In relation to New Zealand one could posit that the New Zealand driver's subjective probability of apprehension has increased with the introduction of compulsory breath testing; however, as research suggests (Ross et al, 1984), these types of countermeasures may still not be deterring particular subgroups of the drink drive population.

Criminal Behaviour

A large body of research also indicates that previous criminal arrests (not necessarily DWI offences) were highly characteristic of DWI offenders (Argeriou et al, 1985; Waller, 1967; Yoder & Moore, 1973; Zelhart, Schurr & Brown, 1975). Bailey (1993, cited in "Drink drivers," 1993) found at least forty four percent of New Zealand drink drivers who were convicted after being involved in a fatal accident in 1986, had one or more previous criminal convictions. Those convicted of drink driving were three times as likely to have one or more convictions for violence, than sober drivers at fault, and drivers not at fault, in accidents. Drink drivers also had approximately three times the number of convictions for drugs, dishonesty or property offences than sober drivers at fault, and drivers not at fault, in accidents. Bailey concludes that as such a large proportion of drink drivers tend to be heavily involved in a wide range of illegal activities, including criminal and serious traffic offences, attempts to reduce fatal drink driving accidents would be difficult. Presumably this is based on the premise that given

their general level of deviance they would be unlikely to respond to educational programmes or be motivated to behaviour change.

McCord (1984) investigated differences in aggression and antisocial behaviour between men eventually convicted of DWI offences and men from the same neighbourhood who did not become DWI offenders. McCord (1984) found that those with a DWI conviction were more likely than the non offenders to have been convicted for serious crimes against persons and property, to be alcoholic, to have had greater exposure to parental conflict and aggression, and to have been in trouble in adulthood through drinking and physical expression of anger. He concluded that those eventually convicted for DWI manifest a history of exposure to and engagement in aggressive and severe antisocial behaviours, and have higher rates of alcoholism and alcohol related problems, than a non offender group.

Murty and Roebuck (1991) report that in the United States 3/4 of a DUI offender group had been previously convicted of one or more crimes (including DUI) and had been previously sentenced to probation or prison. Murty and Roebuck (1991) also found that multiple DUI offenders are similar in many respects to 'run of the mill' offenders processed by the criminal justice system. They are young, single, undereducated and semiskilled, from a relatively poor working class, and have drinking problems. They tend to be aware that they drink too much and know the risks involved (to themselves and others) in drink driving but are unconcerned with the consequences. The multiple DUI offender also viewed drinking as a highly prized natural recreational pursuit as well as a solace for personal problems. First time offenders, however, were found to be social drinkers who were inadvertently arrested for drink driving (Murty & Roebuck, 1991). As a result of their findings, Murty and Roebuck (1991) suggest that multiple offenders comprise a generalized deviant social type (both deviant and criminal) therefore the current practice of treating those arrested on DUI charges as specialized DUI offenders is misleading. This idea of recidivists being a generally deviant group is also supported by Bailey (1993, cited in Baldacci & Thomas, 1993).

Summary

A review of the literature on situational factors associated with drink driving shows that research conducted in this area is predominantly North American, most being atheoretical in nature. Theory building in the area of drinking and driving has received little attention mainly because of action oriented funding of road safety (Jonah, 1990). This would also appear to be the case in New Zealand drink driving research.

In addition the literature on the drink drive person and drink drive situation appears to be supportive of the idea that certain situations and demographic characteristics increase the probability of drink driving behaviour. While this association is not a simple cause-effect relationship it is important to take into account both these dimensions when examining the drink drive problem. More importantly the research illustrates that drink drivers are not a homogeneous population but that variations in terms of situational factors and demographic characteristics occur and this needs to be taken into account when examining drinking behaviour.

CHAPTER 5

THE PRESENT STUDY

The situational factors identified above although not exhaustive, are the most commonly documented and the present study aims to examine these in the New Zealand context to see if similar patterns occur. It should not be assumed that these situational factors observed in overseas research represent a universal phenomenon that would hold across different countries. Many of the studies examined did not compare their drink driving subjects to a general driving population to see if those situational factors identified distinguished between the groups. Comparison with a general driving population would help determine the specificity of these factors to a drink driver which past research appears to have automatically assumed.

While data does exist on a few of the factors in relation to the New Zealand context this has only eventuated as a result of research into other areas of drink driving such as socio-demographic and accident characteristics of drink driving. No direct examination of situational factors associated with a New Zealand drink driving episode has been carried out. Therefore the present exploratory research was designed to address three research questions.

1. Are there situational factors associated with illegally driving while under the influence of alcohol in New Zealand?.

2. Do these situational factors distinguish a DWI offender group from a general driving population group?.

3. Do situational factors vary within a DWI group in relation to demographic variables?.

It is hoped that answers to these questions will provide information which will be useful in designing strategies to help combat the drink drive problem in New Zealand.

CHAPTER 6

METHODOLOGY

Subjects

A total of 86 subjects were recruited for the present study. The sample consisted of two groups; a DWI offender group, consisting of 43 subjects, and a general driving population group (control), also consisting of 43 subjects.

DWI Offender Subject Recruitment

The first group was composed of individuals who had been arrested and convicted of EBA (excess breath/blood alcohol) drink driving in New Zealand between January 1991 and January 1993. Subjects were randomly selected from the lower North Island of New Zealand (See Appendix A for boundary criteria).

Prospective convicted DWI offender subjects were identified through traffic records from the Traffic Safety Division of the New Zealand Police. To ensure confidentiality and privacy of information related to New Zealand traffic records all information on potential respondents remained within the Traffic Safety Department. The researcher did not have access to any traffic records.

After Traffic Safety administrative services had identified those individuals who met the criteria for participation in the present study, a random sample of 400 potential respondents from this group was identified. It was not intended that the study would be of this magnitude but the researcher felt that owing to the sensitive nature of the subject being addressed the response rate would not be high. This assumption was found to be correct as can be seen by the overall response rate which is addressed later.

Upon identification of prospective respondents each was sent a letter from the Assistant Commissioner of New Zealand Traffic Safety, giving the individual information about

the study and assuring confidentiality (see Appendix B). This letter was accompanied by material from the researcher which included a letter of introduction and explanation of the study, a participant agreement form (see Appendix C) and a preaddressed stamped return envelope. Those willing to participate sent the agreement form back to the researcher who then returned a letter acknowledging the participant's decision to take part and advising him/her that she would be calling in the future to arrange an interview. The participation agreement acted as a consent form.

This method of subject recruitment was seen to be the most appropriate owing to the ethical issues involved with the handling of confidential traffic records. Both the Massey University Human Ethics Committee and the Traffic Safety Division of the New Zealand Police approved these procedures.

Rationale for the use of convicted drink drivers.

The use of convicted DWI offenders as subjects has been successfully employed in a mass of North American research (for example, Donovan & Marlatt, 1982; Donovan et al, 1983; McMillen et al, 1991; Murty & Roebuck, 1991). Therefore convicted drink driving offenders were chosen as subjects. This would also help to eliminate the biases that would exist in using subjects who provide data based on hypothetical drink drive situations. A conviction for drink driving provided a measure of actual behaviour which contributed to the validity of data obtained, whereas reports of hypothetical drink driving behaviour do not guarantee the behaviour will actually occur or has occurred.

RESPONSE RATE

Of the 400 letters sent 68 (17%) were returned without being completed because of outdated addresses and the absence of a forwarding address. Of the remaining 332 letters assumed to have reached the intended subjects 43 (13%) were returned by potential participants.

Snortum and Berger (1986) suggested, as a result of a low response rate in their sample of drink drivers, that the increased social unacceptability of drink driving may lead to an accelerated attrition among drivers who feel most defensive about their behaviour.

This may also be the case for the sample used in the present study, owing to similar attitude changes towards drink driving that are occurring in New Zealand society.

General Driving Population (Control) Subject Recruitment

The second group was composed of individuals from the general driving population who are licensed drivers and do drink alcohol but who have never been convicted of driving while intoxicated. This group served as the control group. These subjects were randomly selected from the Electoral Rolls but matched to the group of convicted drinking drivers for gender and location. Although an attempt was made to match the groups for socio-economic status, because many of the DWI group were not registered on the Electoral Roll it was not always possible to do so.

This group's participation was solicited through a mailing process similar to the convicted drink driving group. Each potential respondent was sent, by the researcher, an information and explanation letter, participation agreement (see Appendix D) and preaddressed stamped return envelope. If the subject did not respond within 14-21 days another subject was selected to replace him/her.

RESPONSE RATE

Of those 217 individuals who were sent letters 12 (5.5%) were returned because of incorrect addresses. Of the remaining 205 assumed to have reached the intended subject 43 (20.9%) were returned. This response rate was somewhat higher than the convicted DWI offender group. However, it was still lower than the average response rate of 60-75% reported by de Vaus (1991) of mail back surveys of the general public.

Table 1 shows the demographic characteristics of the convicted DWI offender group and the control group used in the present study. (See Chapter Seven for further discussion on the DWI respondents used in the present study and their representativeness of the general drink drive population).

Table 1: **Demographic characteristics of the convicted DWI offender group and the control group.**

	DWI GROUP		CONTROL GROUP	
	N=43	%	N=43	%
AGE				
15 - 19	1	2.3	0	0.0
20 - 24	11	25.6	6	14.0
25 - 34	14	32.6	15	34.9
35 - 44	12	27.9	10	23.3
45 - 64	5	11.6	12	27.9
SEX				
Male	35	81.4	35	81.4
Female	8	18.6	8	18.6
ETHNICITY				
New Zealand Pakeha	38	88.4	38	88.4
New Zealand Maori	2	4.7	3	7.0
Other Polynesian	2	4.7	1	2.3
Other	1	2.3	1	2.3
***SOCIO-ECONOMIC STATUS**				
1 = Professional	5	11.6	9	20.9
2 = Managerial	1	2.3	6	14.0
3 = Clerical and Technical	8	18.6	7	16.3
4 = Skilled	5	11.6	12	27.9
5 = Semi-skilled	3	7.0	5	11.6
6 = Unskilled	4	9.3	0	2.3
Student	3	7.0	4	9.3
Unemployed	14	32.6	0	0.0

Table 1 cont.: Demographic characteristics of the convicted DWI offender group and the control group.

	DWI GROUP		CONTROL GROUP	
	N=43	%	N=43	%
HOUSEHOLD SITUATION				
Alone	5	11.6	1	2.3
With partner/spouse	6	14.0	13	30.2
With parents	6	14.0	2	4.7
With partner/spouse and children	7	16.3	20	46.5
With children, no partner/spouse	5	11.6	0	0.0
With other adults	13	30.2	7	16.3
Other	1	2.3	0	0.0
INCOME				
Under $5000	3	7.0	1	2.3
$5001 - $10000	8	18.6	3	7.0
$10001 - $20000	7	16.3	5	11.6
$20001 - $30000	11	25.6	6	14.0
$30001 - $40000	6	14.0	11	25.6
$40001 - $50000	3	7.0	6	14.0
Over $50000	2	4.7	11	25.6
Over $100000	3	7.0	0	0.0
OFFENDER STATUS				
First offender	26	60.5	0	0.0
Multiple Offender	17	39.5	0	0.0

* Elley, W. B., & Irving, J. C. (1985). The Elley - Irving Socio-economic Index 1981 Census Revision. *New Zealand Journal of Educational Studies, 20*, 115-128.

Measures

Situational factors associated with drink driving were examined using a modified version of Vegaga and Klitzner's (1989) 'Driving While Drinking Interview'. This structured interview questionnaire, which they used in their study of situational risk factors associated with a drink driving episode, consists of primarily closed ended questions with a few open ended questions to enable clarification for closed ended answers.

Vegaga and Klitzner's (1989) 'Drinking While Driving Interview' assesses the contribution to the drink driving incident of nine classes of situational variables. These are:

Vehicle variables:

a. Type

b. Ownership

Social context:

a. Number of other individuals in the car

b. Relationship of other riders in car

Drinking and drug use variables:

a. Amount

b. Setting

c. Use by others in car

Social pressure to drink or not to drink

Social pressure to drive or not to drive after drinking

Mood variables:

a. Prevailing mood

b. Mood changes with drinking or drug use

Perception of immediate risk

Destination variables:

a. Where

b. Urgency to get there

Alternative transportation variables:

a. Availability

b. Reasons for using or rejecting alternatives

For the present study modifications were made to the interview protocol to examine in more depth some of the variables identified by Vegaga and Klitzner (1989). Modifications were also made to incorporate additional situational variables that have been identified through overseas literature as being associated with the drink driving situation. In addition for further examination of the drink drive situation, questions relating to the consequences of the DWI conviction were included.

To collect data in order to assess the association between the situational factors and demographic variables a section containing questions on demographic information was also included. In this section socio-economic status was assessed using the Elley Irving Socio-economic Index for New Zealand (Elley & Irving, 1985). Where necessary the interview was amended to meet New Zealand conditions.

On completion of the modified 'Drink Driving Interview' a second interview protocol for use with the control group was developed. This was similar to the modified 'Drink Driving Interview' and involved those in the control group answering the questions in relation to the most recent occasion when they had been drinking alcohol. It was felt that an examination of the most recent drinking epsiode would provide a more representative sample of drinking behaviour of the control group, as opposed to the respondent selecting an epsiode. Questions that were not relevant to the control group owing to their specificity to the drink driving offence leading to a conviction were omitted. (See Appendix E for copies of the interview protocols used in the present research).

Reliability and Validity of 'Driving While Drinking Interview'.

Vegaga and Klitzner's (1989) interview protocols were developed from focused group interviews as no similar protocols were found in the literature for the purpose of their research. No reliability or validity data is available on the 'Drinking While Driving Interview'. It is noted however that in order to maximize the reliability and validity of the interview all interviews were conducted by the researcher using a highly structured format.

RATIONALE FOR THE USE OF AN INTERVIEW

Babbie (1989) has found that the use of an interview survey achieves more accurate responses than mail questionnaires. The presence of an interviewer generally decreases the number of "don't know's" and "no answer" responses. In an interview situation the interviewer can probe for the answers. Interviewers can also clarify questions that the participant does not understand or may find confusing therefore participants' responses are more likely to be relevant (Babbie, 1989). It was for this reason that the researcher felt that the validity of the responses from the subjects would be greater from an interview.

Procedure

Pilot Study

Before the main study, pilot testing of the draft interview protocols was carried out for the purposes of a) testing the clarity and suitability of the items contained in the research interview protocols b) assessing the length and conversational flow of the interview c) obtaining feedback about the ease with which respondents understood and felt about the questions in the interview.

A total of 10 subjects participated in the pilot test - five for each of the two interview protocols. Some of these subjects met the same criteria for selection as the main study sample, although some were personally referred to the researcher.

As a result of the pilot testing changes were made to the wording of some of the interview items. These changes were designed to increase the clarity of the items and facilitate a conversational flow throughout the interview.

Main Study

Data Collection

Data collection occurred over the period of July 1993 - November 1993. Once the researcher had contacted the subject a time and place was organised that was suitable for the subject to be interviewed. Face to face interviews were conducted to collect the data. Most of these were conducted in the subject's own home with a few in the

subject's place of employment. Participants were interviewed individually and privately (unless they specified otherwise).

At the beginning of the interview subjects were once again briefed on the study and reassured of confidentiality and their rights as a subject. Data collection began with subjects being asked general demographic questions to 'break the ice' before the more personal questions related to the drink driving episode that led to a conviction, or in the case of the control group, the most recent occasion when they had been drinking alcohol. Subjects were then asked questions on a variety of situational factors surrounding the drink driving offence or the recent drinking occasion. Multiple drink driving offenders were asked about the most recent drink driving situation that led to a conviction. Most interviews took between thirty minutes to one hour depending on how much each subject wanted to talk about her/his experience.

No subjects showed any signs of anxiety as a result of the interview although the researcher was prepared with a list of support services available in the subject's residential area. In the event, this was not used.

Data analysis

The analysis procedures used in the present study in relation to the research questions are as follows:

RESEARCH QUESTION 1:

> *Are there situational factors associated with illegally driving while under the influence of alcohol in New Zealand?.*

A descriptive analysis of the interview data that focused on the frequency with which the various situational factors were present/absent and/or the specific form these situational factors took (e.g., type of destination, nature of intervention attempt) was used to examine the situational factors associated with drink driving.

RESEARCH QUESTION 2:

Do these situational factors distinguish a DWI offender group from a general driving population group?.

RESEARCH QUESTION 3:

Do situational factors vary within a DWI group in relation to demographic variables.?

Cross tabulation using chi square significance tests was used to examine if the situational factors differed between the DWI group and general driving population group and was also used to assess the association between the situational factors and demographic variables.

Prior to analysis all variables were examined using the statistical package for the social sciences (SPSSPC) (Nourisis, 1988) for accuracy of data entry, missing values. The data met all assumptions required for chi square (reported by Chase, (1984)) in order for the analysis to produce dependable results.

Owing to the small sample size in the present research there was the possibility of small cell counts when performing crosstabulations. This may lead to chi square giving an overestimate of the true value and as a result may reject associations that should in fact be accepted (Chase, 1984). To avoid this problem *Yates Correction for continuity* was applied to all contingency tables when the least expected frequency in any cell was less than five and/or one degree of freedom. Chase (1984) reports that if there is one degree of freedom one small cell frequency may not distort the results markedly however as the sample size for the present analysis was small it was decided that it was more feasible to apply *Yates Correction* to all tables with expected frequencies less than five irrespective of their degrees of freedom. In addition the *Fisher Exact Test of Probability*, which is based on exact probabilities and used with very small samples, was used when 2 X 2 tables had fewer than 20 cases.

Where possible cell categories were combined to attempt to eliminate small cell expectancies. When frequencies are large the correction has little effect on the chi square value but when frequencies are small (less than 5) the correction makes a substantial difference (Chase, 1984). Nourisis (1988) says that although it has been recommended that all expected frequencies in cross tabulation must be at least five, he reports that this is probably too stringent and can be relaxed.

Because of the large amount of individual analysis required, owing to the large number of variables, there is a risk of obtaining false positive associations on the basis of chance alone, for example, applying a statistical test to 100 variables simultaneously at .05 level will give positive results for an average of five variables by chance alone (Grove & Andreason, 1982). One statistical technique used to control this error risk is the *Bonferroni inequality* which assesses the level of significance for each of the variables individually adjusting the significance levels of tests to take into account the number of variables examined (Grove & Andreason, 1982). However the *Bonferroni inequality* provides very strict individual tests of significance if the number of tests is large (Grove & Andreason, 1982). As Rothman (1986) reports, making the screening criterion for statistical significance more stringent may result in real associations going undetected as they fail to meet the more stringent criterion. To deal with the strict tests of significance Grove and Andreason (1982) suggest increasing the sample size, however this was not feasible in the present study. Grove and Andreason (1982) also suggest to set the alpha level at a more liberal level and therefore lower the risk of missing important conclusions due to overconservative significance levels. As the present study is exploratory in nature and the sample size is small the researcher decided not to use the *Bonferroni inequality* owing to its stringent significance levels. It was felt that taking the risk of Type I errors occurring would be worthwhile in order to find relationships to be studied further, rather than associations going undetected by taking strict significance levels. In the present study the conventional significance level of 0.05, or less when indicated, has been taken as the critical cut off point of statistical significance.

CHAPTER 7

THE DWI RESPONDENTS.

As noted in Chapter 6 only 13% of potential DWI participants responded and it was suggested that this may be due to the sensitive nature of the topic being examined. Given the low response rate there was a possibility that a systematic response bias was present. However, owing to the confidential nature of traffic records the researcher was unable to compare those individuals returning letters (responders), those assumed to have received the letter (non responders) and those who did not receive the letter because of an incorrect address (returned), to determine a bias in responding.

However, through the examination of past New Zealand research on demographic variables associated with the drink driver the researcher was able to determine whether those convicted DWI offenders who returned letters constituted a representative sample of the New Zealand drink driving population.

Based on statistics presently available on drink drivers in New Zealand, one can identify demographic characteristics overrepresented in a drink drive population with which other samples can be compared. In defining demographic characteristics of the drink drive population, for the present study, attention is turned to the work of Bailey (1979; 1980; 1983; 1984; 1986; Bailey & Bailey, 1982; Bailey & Carpinter, 1991; Bailey & Winkel, 1981; deJongh & Bailey, 1987) on drink drive accident characteristics. The researcher decided to use Bailey's work as it is the only well documented research in New Zealand on drink driver characteristics. From data relating to DWI accidents Bailey has identified characteristics of those at risk of having an accident while driving while intoxicated.

As drink drivers are also identified through being stopped by a traffic officer or police, after committing a traffic offence or drawing the attention of the officer, one must ask whether the latter procedures are locating the same sorts of drink drivers as those

involved in drink drive accidents. Research in this area is sparse, however, as mentioned earlier, Bailey (1986) found that the breath testing procedure of detecting drink drivers is identifying fewer teenagers than are involved in fatal accidents and is detecting proportionately more middle aged drink drivers than show up in the fatalities. This is reflected in the present study (see Figure 3) and is discussed below.

As no further data appear to be available on differences in demographic characteristics as a function of how the drink driver came to the attention of authorities the researcher decided to use common characteristics of drink drivers most at risk of accident, identified through Bailey's work. As the subject pool from which the present study's sample was selected did include those individuals who had convictions as a result of an accident (14% [n = 6] of the DWI group reported being convicted as a result of an accident), this process of determining representativeness of the sample in the present study seemed the most feasible. It is recognized, however, that the characteristics of drivers involved in drink drive accidents may differ from those not involved in accidents, but who are charged by the police, and from self admitted DWIs who have never been apprehended. This difference may be related to other factors which increase/decrease the probability of an accident (e.g., travelling at higher speeds, on different roads [urban versus rural] and in different weather conditions [wet versus dry]).

A synthesis of Bailey's work reveals that:

- drink drivers at risk of accident are predominantly male. Women represent approximately only 9.5% of drink driving deaths and a small proportion of those positively breath tested.
- a relatively large proportion of at risk drink drivers are unskilled manual workers.
- there is a higher incidence of drink driving among Maori. (It should be noted that drink driving in the Samoan/Asian population has not been examined).
- younger drivers have higher numbers of alcohol related accidents than older drivers.

To provide a more specific group of drink driver characteristics to which the present sample can be compared reference was made to Bailey and associates' more recent research.

Figure 2 shows the gender of the DWI group used in the present study in comparison with the gender of those involved in alcohol related deaths over 1987 - 1988 reported in Bailey and Carpinter (1991). Both groups show that males are overrepresented in drink drive statistics whether they be arrest figures or accident figures.

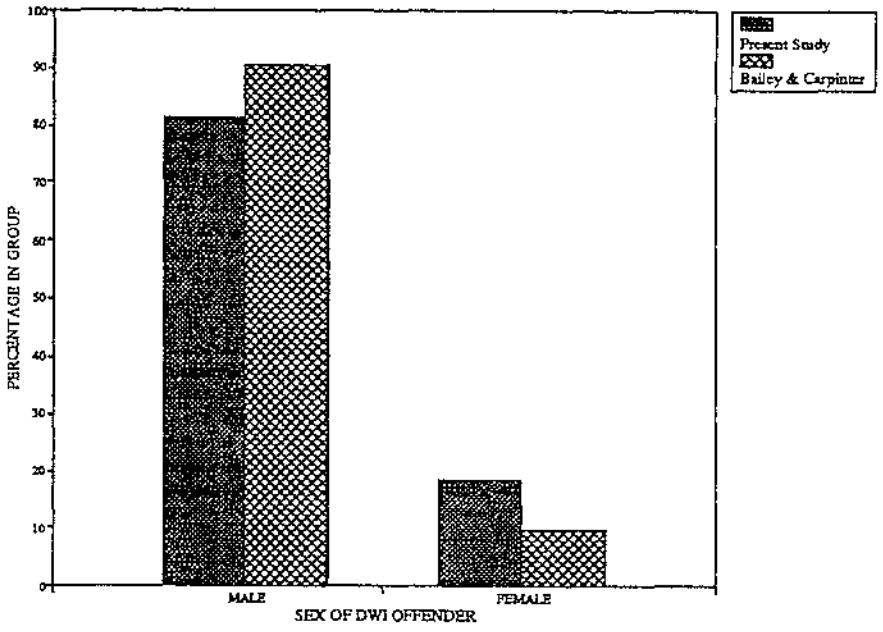

Figure 2: Comparison of sex of the DWI offender between the present study (n = 43) and Bailey and Carpinter (1991) (n = 378).

Figure 3 shows the age of DWI respondents in the present study in comparison to those involved in alcohol related deaths in 1987 - 1988 as reported in Bailey and Carpinter (1991). The DWI sample used in the present study differs from Bailey and Carpinter's (1991) data in that breath testing procedures are locating fewer 15 - 19 year olds than are becoming involved in drink drive accidents and tend to be locating more people aged

between 25 - 34 and over 45. It does, however, support Bailey's (1986) idea that breathtesting as a means of detecting drink drivers is not locating the same proportion of young drivers that are involved in fatal accidents. This suggests that younger drink drivers are disproportionately involved in drink drive accidents.

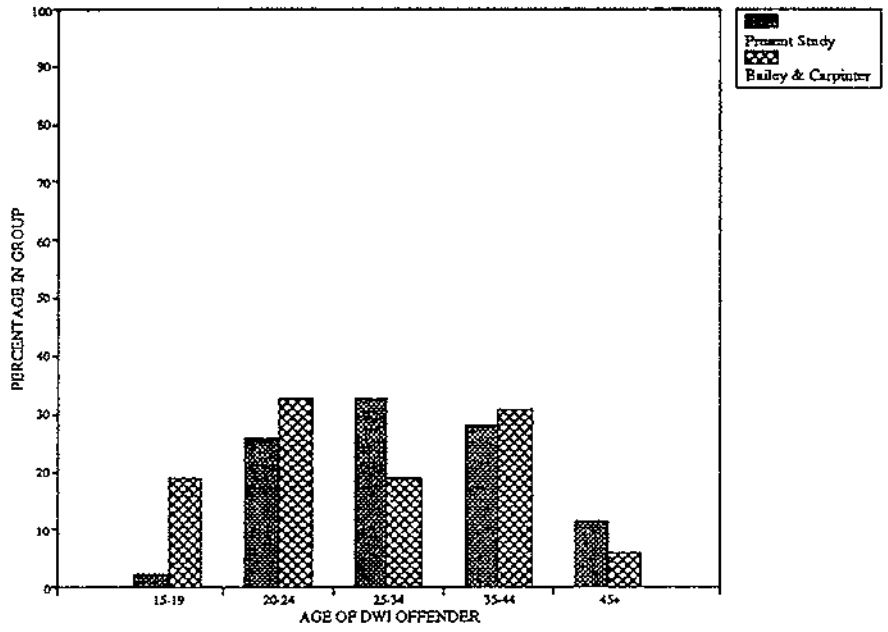

Figure 3: Comparison of age of the DWI offender between the present study (n = 43) and Bailey and Carpinter (1991) (n = 833).

Figure 4 shows the ethnicity of the DWI group used in the present study in comparison to deJongh and Bailey's (1987) data on injured drivers who had been drinking alcohol in 1986 - 1988. As deJongh and Bailey's (1987) data included only Maori and Pakeha statistics other ethnicity reported by the DWI group in the present study (n = 3) were excluded from the comparison. In relation to the ethnicity of the DWI group in the present study fewer Maori and more Pakeha respondents were evident compared to deJongh and Bailey's (1987) group. This finding may be explained by the small sample used in the present study. Overseas research has found that those from different cultures

(for example, migrants) are more likely to be non responders in surveys or the like (de Vaus, 1991). However, no New Zealand documented research on differences in response rates as a function of culture is available to help in explaining this difference.

Figure 4: Comparison of ethnicity of the DWI offender between the present study (n = 40) and deJongh and Bailey (1987) (n = 1020).

Figure 5 shows the occupational classes (based on Elley and Irving, 1985) of the DWI group in the present study compared to those reported by Bailey (1984) which were based on 1979 - 1980 statistics on males involved in alcohol related accidents. As Bailey's analysis looked only at male statistics, data on females in the present study were not presented in order to provide a more reliable comparison between the two groups. In addition Bailey's data appears to exclude the unemployed and students from analysis and therefore these groups are excluded from the occupational data for the present study.

Figure 5 shows a difference between the two groups. The DWI group used in the present study are from higher occupational classes (1 - 3) than Bailey's (1984) group.

One explanation of this may be due to the fact that the lower socio-economic classes are less likely to respond in mail out surveys (J. Hoek, personal communication, January 31, 1994). In addition de Vaus (1991) found that lower educated individuals were less likely to respond to mail back surveys.

No material is available on household situation of drink drivers in New Zealand and therefore no comparison could be made with the DWI group used in the present study.

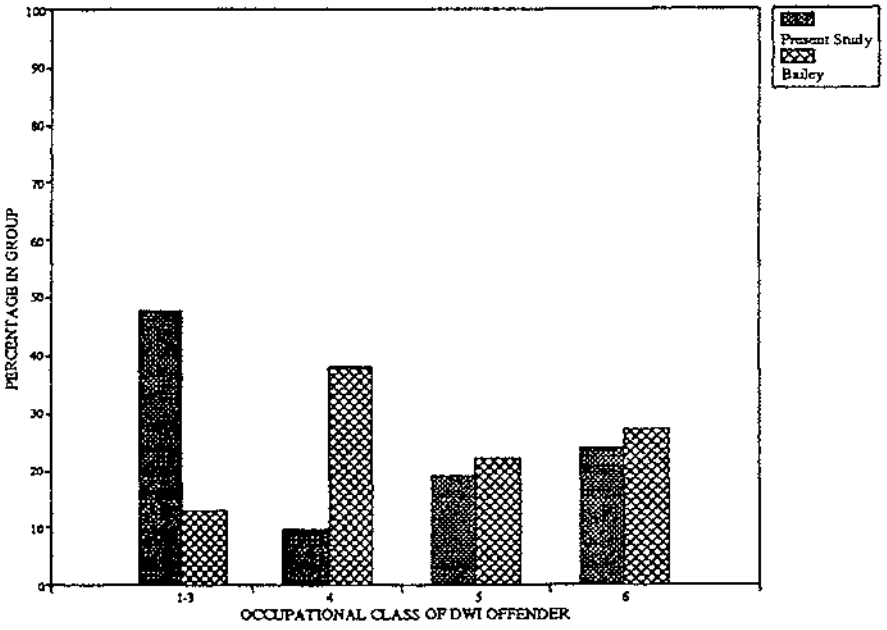

Figure 5: Comparison of occupational class of the DWI offender between the present study (n = 21) and Bailey (1984) (n = 901).

Figure 6 shows the recidivism rates of the DWI group used in the present study compared to data reported by Bailey and Winkel (1981) which is based on 1980 statistics from a group of disqualified drivers. Both groups are similar in their

recidivism rates i.e. approximately a third of each group had prior drink drive convictions.

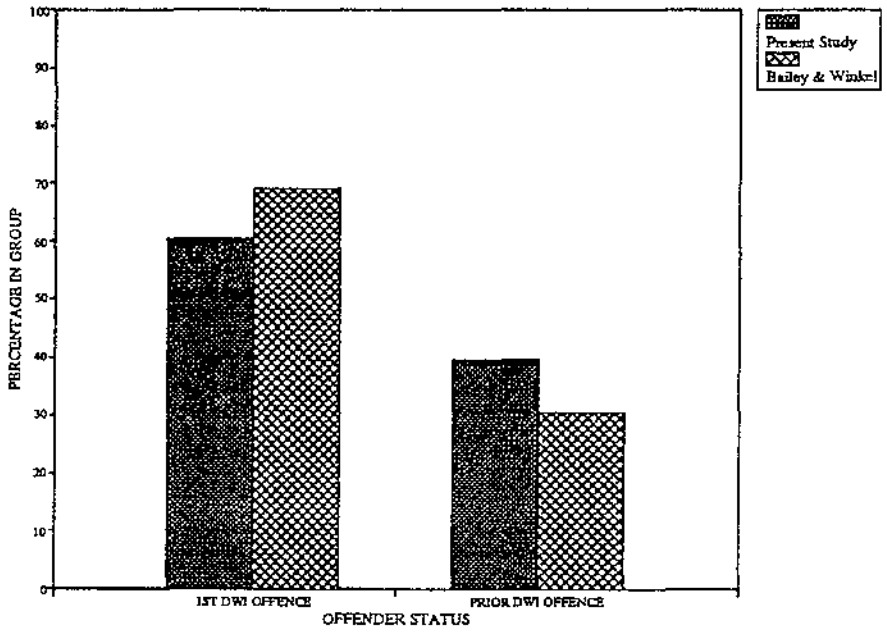

Figure 6: Comparison of the DWI offender status between the present study (n = 43) and Bailey and Winkel (1980) (n = 639).

One must note that a large proportion of drink driving is undetected in New Zealand. Bailey and Bailey (1982) estimate that 1 out of 800 drink driving episodes result in the driver being apprehended by a law enforcement officer, so defining a general drink driving population should be done with caution. Although the present study DWI group may not constitute a representative sample of those drink drivers who have had alcohol related accidents it may be representative of those who drink and drive and do not have accidents. However, when relating the demographics of the present sample to overseas research which has used non accident populations, it appears that Bailey's sample were more similar to overseas general DWI samples than was the sample in the present study. For example, overseas research is consistent with the present findings on gender and

previous convictions (Beck & Summons, 1987: Farrow, 1985; Fell, 1982; Geller & Lehman, 1988; Noordzij, 1975; Stephan, 1989; Voas, 1975; Williams, et al, 1986). However, it differs on age and occupational class (Donovan et al, 1985; Farrow, 1985; Geller & Lehman, 1988; Voas, 1975). Therefore Bailey's drink drive accident population appears to be more representative of a general drink drive population than the sample used in the present study whose characteristics may merely be a result of response bias discussed earlier. Interpretation of the following results should be made with this in mind.

CHAPTER 8

RESULTS

The following results are presented in two sections. Section 1 shows differences between those convicted of EBA drink driving (DWI group) and a general driving population (control group), on a number of situational factors. Section 2 looks at findings in relation to demographic variables.

SECTION 1: Situational factors associated with drink driving and group differences.

Mood and Stress variables

No significant differences were found between the DWI group and the control group on the type of mood they were in when they started drinking. Of all respondents, 86% were in a good mood. There was, however, a significant difference between the groups on the reason they reported being in a good mood. The DWI group were more likely to be in a good mood as a result of 'celebrating something' (e.g., sports victory, birthday, completion of exams) compared to the control group, who were more likely to be in a good mood as they were surrounded by 'friends they enjoyed being with' and 'good company' (χ^2 (5, $\underline{N}$ = 74) = 16.63, $\underline{p}$ < .01) (See Table 2).

Table 2: Reasons respondents were in a good mood

	DWI (n=35) %	CONTROL (n=39) %
No particular reason	8.6	10.3
Something good had just happened	5.7	2.6
A special event	5.7	15.4
In good company	5.7	38.5
After work	25.7	10.3
Celebrating something	48.6	23.1

Over half the respondents reported that their mood did not change and of the 47.6% of all respondents who reported that their mood changed, the majority reported that the change was for the better.

Although almost half of all respondents reported experiencing some form of stressful event (48.8%) in the 12 months prior to their drinking episode, there was no significant difference between the groups on frequency. The most common type of stressful event experienced was work related stress (25%) (e.g., new job, unemployment, lack of work in the organisation, work conflict).

Social context

Most respondents (93.4%) were drinking with other people such as friends, workmates partner/spouse or other relatives. Of the remainder, the control group were significantly more likely to be drinking with a variety of people, while the DWI group were more likely to be drinking alone (χ^2 (3, $\underline{N}$ = 86) = 8.03, $\underline{p}$ < .05) (See Table 3).

Table 3: People with whom respondents were drinking.

	DWI (n=43) %	CONTROL (n=43) %
Friends/workmates	76.7	72.1
Spouse/partner or other relative	7.0	4.7
Alone	9.3	0.0
Mixture of groups	7.0	23.3

No significant difference was found between the groups on their motives for drinking. Respondents most commonly reported drinking for socialisation (36%), in celebration of something (29.1%) or for after work drinks (20.9%).

In relation to the location where respondents first began drinking (e.g., bar, work, restaurant, party) or the area of the location (i.e. urban or rural) no significant differences were found between the groups. The most common place all respondents were drinking was a bar/hotel (33.7%) followed by a friend's/relative's place (15.1%), sports club (12.8%) work (11.6%), home (11.6%) or restaurant (5.8%). Other venues included a party and sports event. Most respondents (90.7%) were drinking in an urban area.

There was also no significant difference between the groups relating to the day that they were drinking alcohol. Overall 76.8% of all respondents reported drinking on the weekend (i.e. Friday to Sunday). Understandably, many of the DWI group (76.7%) reported drink driving on the weekend but when compared to respondents in the control group who reported driving after drinking (n = 16) no significant difference was found on the day they drove with 68.7% of the control group also drink driving on the weekend (i.e. Friday to Sunday).

When comparing those in the control group who reported driving home after drinking (n = 16) with those in the DWI group on the time of the day/night when they drove, no significant differences were found between the two groups, with most respondents (74.6%) driving between the hours of 5pm and 12am.

A significant difference was found between the groups on the amount of alcohol the respondent consumed prior to the decision to drive. The DWI group were more likely to have drunk a larger quantity of alcohol than the control group (χ^2 (1, $\underline{N}$ = 86) = 9.75, $\underline{p}$ < .005). Of the DWI group, 79.1% reported drinking large quantities (more than 10 200ml glasses of beer, 180ml glasses of wine or nips of spirits) of alcohol prior to the decision to drive, compared to 46.5% in the control group, while only 20.9% of the DWI group reported drinking small quantities (fewer than 10 200ml glasses of beer, 180ml glasses of wine or nips of spirits) compared to 53.5% of the controls. A quarter of the DWI group reported further drinking after they had started driving. Of these almost half reported that they drank another one to ten 200ml glasses of beer, 180ml glasses of wine or nips of spirits while the remainder reported drinking more than these amounts. No significant difference was found between the groups on whether they used drugs other than alcohol. Most respondents (86.0%) had not used any other drug.

Perceived social pressure to drink or not to drink.

The majority of all respondents did not feel pressure to drink (80.2%) and only a few felt pressure not to drink (3.5%). There was no significant difference between the DWI group and the control group on these variables. Of the 17 respondents from both groups who felt pressure to drink most of them felt 'a little' pressure (76.5%). This pressure most commonly took the form of positive encouragement (e.g., getting the respondent involved in drinking games, buying the respondent drinks, encouraging the respondent to 'join in and party'). Of those respondents pressured to drink, most (82.4%) did not take any action to resist the pressure i.e. they proceeded to drink.

Intervention

When respondents were asked if anyone tried to stop them from driving after they had been drinking, 70.9% of all respondents said that no one tried to stop them. There was no significant difference between the groups on this variable. Of the 27.9% who reported that someone did try to stop them driving, 45.8% reported that the intervener tried to persuade the respondent to let someone else drive, 29.2% asked the respondent if they were "OK" to drive and 16.7% suggested that it was not a good idea for the respondent to drive but did not take any further action. The types of intervention attempted did not significantly differ between the DWI and control groups.

Whether the intervention attempt was successful differed significantly between the groups (χ^2 (1, $\underline{N}$ = 23) = 19.33, $\underline{p}$ < .00005). The 52.2% who reported that the attempted intervention worked, understandably, were all from the control. The most successful strategy for them was to let someone else drive (83.3%). None of the DWI group reported that the attempted intervention was successful. The respondents' reactions to the intervention attempts differed significantly between the DWI and control groups (χ^2 (2, $\underline{N}$ = 23) = 19.30, $\underline{p}$ < .0001) (See Table 4).

Table 4: Reactions to intervention attempts

	DWI (n=11) %	CONTROL (n=12) %
Said could drive safely	81.8	0.0
Shrugged it off but did not drive	9.1	100.0
Mixture of reactions	9.1	0.0

While the control were more likely to 'shrug off' the intervention attempt and not drive the DWI group were more likely to report that they felt 'they could drive safely'.

Intervention in past situations.

Of those respondents from either group who reported that someone had attempted to intervene in other drink drive situations in which they were involved (65.8%) the most common action taken was to try to persuade the respondent to let someone else drive (51.9%). Respondents also reported that the intervener tried to stall them until they sobered up (7.4%) or encouraged them to stay the night (7.4%). A further 19.2% reported that the intervener attempted more than one of these interventions including trying to get the respondent's keys. These intervention attempts did not differ significantly between the DWI group and control group. In 96.1% of all the cases, respondents reported that the previous intervention attempt had worked. The most common reason that both groups reported as to why the intervention was successful was that they knew they were too drunk to drive. Interestingly, a significant difference was found among the remaining respondents as to why the intervention was successful. The DWI group were motivated by a desire not to get caught by traffic authorities while the control group reported having easy alternatives available to them (χ^2 (6, $\underline{N}$ = 52) = 13.40, $\underline{p} < .05$) (See Table 5).

Table 5: Reasons for success of past interventions

	DWI (n=30) %	CONTROL (n=22) %
No - intervention did not work	0.0	9.1
Yes - to avoid capture	26.7	4.5
Yes - to avoid injury	10.0	0.0
Yes - knew I was too drunk to drive safely	40.0	45.5
Yes - car was not in running order	6.7	0.0
Yes - an easy alternative was available	16.7	36.4
Yes - other	0.0	4.5

In two cases in the DWI group, the past intervention was successful as the intervener had disassembled the vehicle (e.g., removed the distributor cap; let down the tyres).

Alternative transport

Thirty seven percent of the DWI group reported that they considered not driving. Of this group, 83.3% considered alternatives. When those in the control group, who reported that they considered driving (58.1%), were asked if they considered alternatives, 65.1% reported that they did. Over all, the most common alternatives considered by both groups were finding another driver (34.9%) or taking a bus or taxi (23.3%). These did not differ significantly between the DWI group and the control group.

When the control group was asked if they used any of the alternatives considered, 85.7% reported that they did and in all cases the alternative used involved finding another driver. When the DWI group and those from the control group who did not use the alternative were asked why, the most common reasons were that the alternative was not feasible, owing to cost, the time alternative transportation services were active (e.g., buses and taxis) or the location where they were drinking in relation to their destination (42.1%), that the respondent did not want to leave the vehicle behind for security reasons (15.8%) or the respondent thought s/he was sober enough to drive (15.8%). Other reasons for not using the alternative included the prospective alternative driver not being available and the respondents' need to avoid a threatening situation. No significant difference was found between the groups on the reason alternatives were not used.

Although 37.2% of the DWI respondents reported that there was someone else who could have driven, 62.4% of this group reported that the other people were more drunk than themselves and 18.8% felt that they themselves were capable of driving. Other reasons why the other potential driver did not drive were that the potential driver had his/her own car to drive home and neither of the parties wanted to leave his/her car behind, or the respondent did not want to wait until the potential driver was ready to leave.

Motivation to DWI

When asked what they were thinking about when they decided to drive 72.1% of the DWI offender group reported that they were thinking about needing to get somewhere. The most common place the DWI group reported they needed to get to was home (often to get to bed). Other places they reported they needed to get to included a friend's or relative's house (either to party or visit) or that they needed to escape what they perceived as a negative situation (e.g., an argument). Three of the respondents were thinking about having a good time while only four wondered if they should not be driving.

Instrumental motivation explained the actions of 72.1% of the DWI group (e.g., they were motivated by a need to get somewhere). Of the remainder 7% were impulsively motivated, 18.6% were thinking about nothing or wondering if they should not drive and 2.3% could not remember what they were thinking about.

The DWI group were much more likely to perceive that they had a need to get somewhere than the control group (χ^2 (1, $\underline{N}$ = 86) = 30.11, $\underline{p}$ < .0001). Of those who perceived a need to get somewhere, 69.8% were from the DWI group compared to 14.0% in the control. The DWI were more likely to perceive a need to get themselves and a passenger home than the control group. The DWI group were also more likely to report that they needed to get to a relative's house or away from a negative or volatile situation (χ^2 (4, $\underline{N}$ = 37) = 10.42, $\underline{p}$ < .05) (Table 6).

Table 6: Destinations respondents perceived a need to get to

	DWI (n=31) %	CONTROL (n=6) %
Home - self	45.2	66.7
Home - self & passenger	22.6	0.0
Another bar	3.2	16.7
Party	0.0	16.7
Relatives House/Volatile situation	29.0	0.0

No significant difference was found between the groups on the consequences of not arriving at their destination. It is interesting to note, however, that most of those who said they needed to get somewhere reported that 'nothing' would have happened if they did not arrive at their destination. Of this group 83.3% were from the DWI group. In addition 22% of all respondents felt their car was at risk if they left it behind, while 10.8% (all from the DWI group) believed they would have got into trouble with their spouse or another family member (e.g., parent) if they did not arrive.

Passengers

Many of the DWI group reported driving with no passengers (60.5%) while 14.0% reported transporting one other passenger. The remainder reported carrying more than one passenger. In one case a DWI respondent had seven other passengers when drink driving occurred. The mean number of passengers travelling with the DWI offender was one (SD = 1.81). Of those who had passengers when DWI occurred, 76.5% of the passengers were friends, with the remainder being either workmates, or a partner/spouse. All of the DWI offenders reported that some or all of the passengers had been drinking prior to riding with the driver. In addition, 17.7% of the DWI group reported that some or all of the passengers had been using drugs.

In most cases (86%) no drinking occurred in the vehicle while it was being driven. Of the 14% who reported that drinking did occur, drivers, passengers, or both, were equally likely to be drinking.

Social pressure to DWI or not to DWI

The DWI group were more likely to have been pressured to drive than the control group (χ^2 (1, N= 86) = 7.24, p < .01). Of those pressured to drive (11.6%), 90% were from the DWI group compared to 10% from the control. The most frequent means of pressuring was the use of rationalization by the pressurer (e.g., 'can't leave car here'; 'save money that would be spent on a taxi or bus'; 'take the back roads'; 'let's go to our place for a party'; 'you're the most sober').

When all respondents were asked what others would have thought of them if they refused to drive, the DWI group were more likely to report that others would have thought they were 'making a big deal out of nothing' whereas the control group were more likely to report that others would have thought 'they (the driver) were pretty smart' (χ^2 (2, N = 86) = 8.99, p < .05) (Table 7).

Table 7: What respondents believed others would have thought if the respondent refused to drive

	DWI (n=43) %	CONTROL (n=43) %
Making a big deal out of nothing	32.1	0.0
Were pretty smart	57.1	82.6
Thought nothing of it	10.7	17.4

Vehicle variables

There was no significant difference between the DWI group and control group on the type of vehicle driven (e.g., car, van, truck, motorcycle), 85.9% of all respondents reporting that they drove cars. There was however, a difference between the groups on the actual make of the vehicle (χ^2 (7, $\underline{N}$ = 86) = 17.45, $\underline{p}$ < .05) (See Table 8).

Table 8: Makes of the vehicle driven

	DWI (n=43) %	CONTROL (n=43) %
Valiant	2.3	0.0
Holden	11.6	9.3
Japanese	41.9	69.8
British	34.9	4.7
American	0.0	2.3
European	4.7	7.0
Russian	2.3	0.0
Non cars	2.3	0.0

The DWI group were more likely to drive British model vehicles such as Vauxhall, Morris, Hillman and Ford compared to the control group who were more likely to drive Japanese vehicles. Although the majority of all respondents (76.7%) owned the vehicle they drove, of the remainder, the DWI group were more likely to be driving a friend's vehicle while the control group were more likely to drive a company vehicle (χ^2 (4, $\underline{N}$ = 86) = 10.16, $\underline{p}$ < .05) (See Table 9).

Table 9: Ownership of vehicle

	DWI (n=43) %	CONTROL (n=43) %
Mine	69.8	83.7
Partner/spouse	2.3	2.3
Friend	18.6	0.0
Other family member	4.7	2.3
Company vehicle	4.7	11.6

There was also a significant difference between the two groups on the age of the vehicles they drove. The DWI group were more likely to drive pre-1980 vehicles and the control group post-1980 vehicles (χ^1 (3, $\underline{N}$ = 86) = 24.87, $\underline{p}$ < .00001). Of the DWI group, 53.5% drove pre-1980 vehicles while 95.3% of the control drove post-1980 vehicles.

Destination variables

The DWI group were more likely to travel to more than one location after drinking before travelling home while the control group were more likely to go straight home after drinking (χ^2 (7, $\underline{N}$ = 86) = 18.55, $\underline{p}$ < .01) (See Table 10).

Table 10: Destinations travelled to after drinking began

	DWI (n=43) %	CONTROL (n=43) %
Home	41.9	76.7
Restaurant	0.0	2.3
Friends/Relatives house	14.0	2.3
Sports or other special event	2.3	0.0
Bar/hotel	4.7	2.3
Work	0.0	2.3
Variety of locations	34.9	9.3
Other	2.3	0.0

The DWI group were more likely to go to a variety of locations, often bars/hotels, before going home. Other locations travelled to included a friend's/relative's house, fast food outlet/shop or 'just hanging around'.

The most common destination that the DWI offender group was driving to when they were stopped by the authorities was home. Other locations that respondents reported they were driving to included a friend's or relative's house, bar/hotel, takeaway bar or shop, and 'just driving around' (See Table 11).

Table 11: Intended destination of DWI group when stopped by the authorities

	DWI (n=43) %
Home	67.4
Friends/Relatives house	14.0
Bar/hotel	2.3
Other	16.3

When the control group were asked how they travelled to their desired destination 46.5% reported that someone else drove, (either a spouse or friend). Others used some form of public transport (9.4%) (e.g., taxi or bus) while 7% reported walking. The remaining 37.2% drove themselves to their desired destination.

Driving distance and familiarity with the road

There was no significant difference between the DWI and control groups in the driving distance to their desired destination nor was there any difference in their familiarity with the road. Of all the respondents, 81.3% were 15 minutes or less drive away from their desired destination and 94.2% were familiar with the road.

Judgement of drunkeness

A significant difference was found between the two groups on the level of intoxication the DWI respondent felt prior to driving or in the case of the control group during their drinking episode. The DWI group were more likely to feel 'not too drunk and capable of driving safely' (χ^2 (4, $\underline{N}$ = 86) = 18.68, $\underline{p}$ < .001) (See Table 12).

Table 12: Level of intoxication felt prior to driving and in the case of the control group, during their drinking episode

	DWI (n=43) %	CONTROL (n=43) %
Not feeling any effects of the alcohol	20.9	37.2
Not too much (felt capable of driving safely).	51.2	20.9
A moderate amount (a little tiddly or high).	7.0	34.9
A lot (pretty drunk).	18.6	7.0
Don't remember	2.3	0.0

When the DWI group were asked how intoxicated they felt when they were actually driving many, 62.8%, still felt 'not too drunk and capable of driving safety' while 20.9% felt 'pretty drunk'.

When respondents were asked whether they believed they were under the legal breath/blood alcohol limit no significant difference was found between the groups. Although 60.5% of the DWI group and 60.5% of the control group perceived they were not under the legal breath/blood alcohol limit, all of the DWI group proceeded to drive while only 25% (n=4) of the control group, who believed they were not under the legal limit, drove.

Perception of immediate risk

There was no significant difference between the two groups' perception of whether it was risky to drive after they had been drinking. There was however a significant difference in the types of risks perceived by the 58.1% of all respondents who did feel risks were involved in driving. Whereas the DWI group were more likely to report the risk of getting into trouble with the police, the control group tended to consider many of the risks together, (e.g., might hurt themselves or someone else, might get in trouble

with the police, might damage the vehicle) (χ^2 (2, $\underline{N}$ = 52) = 6.50, $\underline{p}$ < .05) (See Table 13).

Table 13: Perceived risks in driving with types of risks perceive

	DWI (n=22) %	CONTROL (n=30) %
Hurt themselves or someone else	9.1	3.3
Trouble with police	77.3	50.0
Variety of risks	13.6	46.7

Of the DWI group, 41.9% reported that they took some form of action to make their driving safer. These actions, in order of frequency, varied from slowing down, checking their safety belt was properly secured, watching for police and taking the back roads, or using a variety of these strategies.

Consequences of drink driving

On this occasion 14% (n = 6) of the DWI group had an accident while they were driving. Consequences of the accident included their or the other person's vehicle being slightly or severely damaged and someone being injured, either slightly or seriously. Other reasons why the DWI respondent was stopped are presented in Table 14. Many were stopped as a result of their driving (e.g., speeding, weaving on the road, no lights, failure to comply with road signs).

Table 14: Reason for DWI group being stopped

	DWI (n=43) %
Accident	14.1
Offender's driving	39.5
Some fault in the car	4.7
Checkpoint	14.0
Someone complained	4.6
Random stop	14.0
Other	9.3

Forty seven percent of the DWI group said to themselves, after they were stopped, that they would never drive after drinking again.

Almost all DWI respondents (97.6%) had their licence suspended and received either a fine (range = $600.00 to $2000.00, mode = $800.00), periodic detention or community service. One of the respondents was imprisoned for six months. Licence suspension ranged from 6 months to 24 months ($\underline{M}$ = 9.33 months, SD = 6.39). The most common length of licence suspension was 6 months (53.5%). In spite of having their licence suspended 46.5% of the DWI group drove during the suspension.

When the DWI group were asked if they got into trouble with anyone as a result of their conviction nearly half reported they did (48.8%). Most commonly the respondent got into trouble with parents (38.1%) or a spouse/partner (33.3%). The type of trouble experienced included disappointment from parents and tension within a relationship with spouse/partner and restriction on work activities. In two cases the DWI respondents reported losing their jobs.

When the DWI respondents were asked if there was anything else that they felt contributed to their drink driving 25.6% offered a variety of reasons which appeared to be minor justifications. These included, needing to get the car home, 'penalties for DWI are not harsh enough', 'usual alternative was not available', 'not a big issue among me and my friends', 'do it all the time, why stop now' and 'I'm a good driver when I've been drinking'.

When those in the control group who reported not driving after drinking (67.5%), were asked if anything else contributed to them not driving, 44.2% offered additional reasons. These included that they tended to preplan to have a sober driver present when they knew they were going to be drinking (42%), that they had had a prior negative experience associated with drink driving (e.g., job involved dealing with drink drive accidents; they had been involved in, or knew someone who had been involved in, a drink drive accident) (21%). Another 21% reported that they did not take their car if they knew that they were going to be drinking.

No significant difference was found between the groups on whether the respondent thought they would ever drive after drinking. The majority of the DWI group (62.8%) reported they would not, while 23.3% reported that they would. Fourteen percent were unsure. Of the control group 69.8% reported they would not drive, 23.3% said they would, while 7% said they were unsure.

Criminal behaviour

A significant difference was found between the two groups on previous criminal convictions (χ^2 (1, $\underline{N}$ = 86) = 13.77, $\underline{p}$ < .0005). Although the majority of all respondents did not have previous criminal convictions (79.1%), of the remainder who did almost all (88.9%) were from the DWI group.

Sports variables

No significant differences were found between the groups relating to the sports they played or followed with interest. Just over half of all respondents played a sport (57.0%). The most common sport the respondents played was rugby, with a variety of

others including rugby league, netball, hockey, soccer, cricket. The majority of all respondents enjoyed following sports (88.4%). Many of the respondents tended to follow a variety of sports (69.7%) including, rugby, netball, rugby league, and cricket, rather than one particular sport. Respondents reported that they tended to follow many of these sports at a national level only.

SECTION 2: The relationship between the situational factors and the demographic factors

Although comparisons between women and men and New Zealand Pakeha and non pakeha on the situational variables were of interest the small numbers precluded such an analysis. Where possible categories were combined to alleviate the problem of small frequencies in cells. Table 15 shows the demographic data after combining categories.

Table 15: Demographic data for the DWI group and the control group

	DWI		CONTROL	
	N=43	%	N=43	%
AGE:				
15 - 34	26	60.5	21	48.9
35 and over	17	39.5	22	51.1
***SOCIO-ECONOMIC STATUS**				
Professional, Managerial, Clerical and Technical	14	32.6	22	51.2
Skilled and Semi skilled	8	18.6	17	39.5
Unskilled	4	9.3	0	0.0
Unemployed	14	32.6	0	0.0
Students	3	7.0	4	9.3
INCOME				
Under $30,000	29	67.4	15	34.9
Over $30,000	14	32.6	27	65.1
HOUSEHOLD SITUATION				
Alone	5	11.6	1	2.3
With other adults (partner, spouse, parents etc).	26	60.5	22	51.2
With partner/spouse and children	7	16.3	20	46.5
With children but no partner/spouse	5	11.6	0	0.0
OFFENDER STATUS				
1st Offender	26	60.5	N.A	N.A
Multiple Offender	17	39.5	N.A	N.A

* Elley, W. B., & Irving, J. C. (1985). The Elley - Irving Socio-economic Index 1981 Census Revision. *New Zealand Journal of Educational Studies, 20*, 115-128.

There was no significant difference between the DWI group and the control group on age, gender and ethnicity. The fact that there was no difference for gender was expected as the control group was matched on this variable.

The DWI group were more likely to be unemployed than the control group (χ^2 (4, $\underline{N}$ = 86) = 23.16, $\underline{p} < .0005$). They were also more likely to have unskilled occupations than the control group who were more likely to have professional, managerial, clerical or technical occupations and skilled and semi skilled occupations (See Table 15).

The DWI group were more likely to have an income below $30 000 than were the control (χ^2 (1, $\underline{N}$ = 86) = 9.12, $\underline{p} < .005$) (See Table 15).

Although most respondents were living with other adults members of the control group were more likely to be living with a partner/spouse and children (χ^2 (3, $\underline{N}$ = 86) = 14.26, $p<.005$) than the DWI group who were more likely to be living alone or with children and no partner/spouse. (See Table 15).

The mean number of prior DWI convictions was 2.54 (SD = 4.08, range = 1 - 27). Those DWI respondents with more than one DWI conviction (i.e. multiple offenders) were more likely to report earning less than $30,000 than those with a sole DWI conviction (χ^2 (1, $\underline{N}$ = 43) = 4.48, Fisher's Exact test = .04). Of the multiple offenders, 82.3% reported earning less than $30 000 compared to 57.7% in the first offender group. The multiple offender group was also more likely to have other criminal convictions (χ^2 (1, $\underline{N}$ = 43) = 9.10, $\underline{p} < .005$). Of this group 68.8% reported prior criminal convictions compared to 31.3% in the first offender group.

The following results present the associations found between the DWI offender group demographic variables and the situational variables.

Age

The younger DWI age group (19 to 34) were more likely to drink and drive on the weekend (Friday to Sunday) compared to those 35 and over (χ^2 (1, $\underline{N}$ = 43) = 13.88, Fisher's Exact Test =.00034). Of the younger group 96.2%, drink drove on the weekend compared to 47.1% in the older group.

There was a significant difference between the two age groups for the reason they were stopped while drink driving (χ^2 (6, $\underline{N}$ = 43) = 14.57, $\underline{p}$ < .05). Those aged between 19 and 34 were more likely to have been stopped as a result of their driving, an accident or a random stop compared to older drivers (35 and over) who were more likely to be stopped as a result of a checkpoint (See Table 16).

Table 16: DWI respondents in each age group, with reason for being stopped by authorities

	15-34 (n=26) %	35+ (n=17) %
Accident	15.4	5.9
Offender's driving	46.2	29.4
Some fault in the car	0.0	11.8
Checkpoint	3.8	29.4
Someone complained	0.0	11.8
Random stop	19.2	5.9
Other	15.4	5.9

No further significant differences were found in relation to the situational factors and age of the DWI offender.

Socio-economic status and Income

No significant differences were found within the DWI group in relation to the situational factors and socio-economic status. Those in the lower income bracket were more likely to be drinking with friends or workmates than the higher income bracket who, although they did report drinking with friends (50%), were more likely to be drinking with their partner/spouse, other relative and friends together, not friends alone as the DWI group reported (85%) (χ^2 (3, $\underline{N}$ = 43) = 8.87, $\underline{p}$<.05).

Of those from the DWI group who reported they needed to get somewhere, the lower income group were more likely to report that 'nothing' would have happened to them if they did not reach their destination (χ^2 (2, $\underline{N}$ = 31) = 8.73, $\underline{p}$ < .05). The higher income group was more likely to report that they would have got into trouble with spouse or a partner (See Table 17).

Table 17: DWI respondents in each income group, with consequences of not arriving at their destination

	<$30 000 (n=23) %	>$30 001 (n=8) %
Nothing	78.3	25.0
Trouble with spouse/partner	17.4	37.5
Something would happen to vehicle	4.3	37.5

Those DWI in the lower income group were more likely to report that they considered not driving (χ^2 (1, $\underline{N}$ = 43) = 4.67, $\underline{p}$ < .05). Of the lower income group 87.5% considered not driving compared to 12.5% in the higher income group.

Those DWI who were in the lower income group were more likely to have had someone else who could drive, but who was more drunk than the respondent, than the high income group (χ^2 (3, $\underline{N}$ = 43) = 10.23, $\underline{p}$ < .05) (See Table 18).

Table 18: DWI respondents in each income group, with reason someone else did not drive

	>30 000 (n=29) %	<30 000 (n=14) %
No one else to drive	65.5	57.1
Felt able to drive safely	0.0	21.4
Other people were more drunk	31.0	7.1
Other	3.4	14.3

No other significant differences in relation to income and the situational factors were found.

Household situation

No significant differences were found in relation to household situation and the situational variables.

Employment vs Unemployment

Of the DWI group the 68% who were employed were, not surprisingly, more likely to be drinking with workmates, than the unemployed (χ^2 (6, $\underline{N}$ = 43) = 14.23, $\underline{p}$ < .05). All those drinking alone (10%) were unemployed (See Table 19).

Table 19: DWI respondents in each employment group, with drinking companions

	EMPLOYED (n=29) %	UNEMPLOYED (n=14) %
Friends	38.5	57.1
Workmates	42.3	7.1
Wife/husband	3.8	0.0
Other relative	3.8	7.1
Alone	0.0	28.6
Mixed group	7.7	0.0
Other	3.8	0.0

The employed group were more likely to feel there was nowhere that they specifically needed to get to compared to the unemployed group who did feel there was somewhere they needed to get to (χ^2 (1, $\underline{N}$ = 43) = 4.48, $\underline{p}$ < .05). Of those who reported there was nowhere they needed to get to (27.5%, n = 11), 90.9% were employed.

The employed group were also more likely to report that they did not do anything to make their driving safer (χ^2 (1, $\underline{N}$ = 40) = 4.18, $\underline{p}$ < .05). Of those who did not do anything (57.5%, n = 23), 78.3% were employed. There was however no significant difference between the two groups on the type of action taken.

There was a significant difference between those who were employed compared to those who were unemployed on the type of punishment the respondent received as a result of their conviction (χ^2 (3, $\underline{N}$ = 43) = 16.15, $\underline{p}$ < .005) (Table 20).

Table 20: DWI respondents in each employment group, with consequences of conviction

	EMPLOYED (n=29) %	UNEMPLOYED (n=14) %
Prison	3.8	0.0
Licence suspension/fine	80.8	28.5
Licence suspension/PD	11.5	42.9
Licence suspension/Community Service	3.8	28.6

Understandably those who were employed were more likely to lose their licence and receive a fine compared to those who were unemployed, who were more likely to receive a suspended licence and periodic detention or community service.

In relation to length of licence suspension those who were employed were more likely to receive a six month licence suspension compared to those who were unemployed, who were more likely to receive a longer period of suspension (χ^2 (1, $\underline{N}$ = 43) = 8.58, $\underline{p} < .005$). Of those who received a six month suspension (53.5%, n = 22), 87% were employed. No further significant differences for these groups were found in relation to the situational variables.

Offender status

Interestingly, the first time DWI offenders were more likely to consider alternatives to DWI than the multiple DWI offenders (χ^2 (1, $\underline{N}$ = 43) = 5.66, Fisher's Exact test = .04). Of the first time offenders 73.3% considered alternatives compared to 26.7% in the multiple offender group. The types of alternatives considered did not, however, differ significantly between the offender groups.

Drinking in the vehicle by the passenger or driver was more likely among the multiple offending group than first offenders (χ^2 (1, $\underline{N}$ = 43) = 5.60, Fisher's Exact Test = .03). Of the multiple offending group 83.3% reported drinking in the vehicle compared to 16.7% in the first offender group.

The first time offenders were more likely to receive a licence suspension and fine whereas the multiple offender group were more likely to receive a licence suspension and periodic detention (χ^2 (3, $\underline{N}$ = 43) = 20.94, $\underline{p}$ < .0005) (See Table 21).

Table 21: DWI respondents in each offender group, with consequences of conviction

	1ST (n=26) %	MULTIPLE (n=17) %
Prison	0.0	5.9
Licence suspension/fine	88.5	29.4
Licence suspension/PD	0.0	52.9
Licence suspension/Community Service	11.5	11.8

In addition, those who had other criminal convictions (who were more likely to be multiple offenders) were also more likely to receive licence suspension and periodic detention rather than licence suspension and a fine or licence suspension and community service (See Table 22).

Table 22: DWI respondents with previous criminal convictions and the consequences of their conviction

	PRIOR CONVICTION (n=16) %	NO PRIOR CONVICTION (n=27) %
Prison	6.3	0.0
Licence suspension/fine	56.3	70.4
Licence suspension/PD	37.5	11.1
Licence suspension/Community Service	0.0	18.5

First time offenders were also more likely to receive shorter licence suspension than multiple offenders (χ^2 (1, $\underline{N}$ = 43) = 9.53, $\underline{p}$ < .005). Seventy seven percent of all first time offenders received 6 months suspension while 70.6% of the multiple offender group received licence suspension of between 8 and 24 months.

The first time offender group were more likely to report that they did think they would never DWI again than the multiple offender group (χ^2 (2, $\underline{N}$= 43) = 6.01, $\underline{p}$ < .05). Of the first time offender group 80% reported they thought they would never DWI again compared to 20% in the DWI group.

Participation or interest in sports did not vary with most of demographic variables in either DWI or control group. However in the DWI group the first offender group was more likely to be interested in a number of sports than the multiple offender group who were more likely to be interested in rugby only (χ^2 (4,$\underline{N}$ = 43) = 11.34, $\underline{p}$ < .05). Of the first offender group 71.4% were interested in a number of sports compared to 28.6% of the multiple offender group while 87.5% of the multiple offender group were interested only in rugby compared to 12.5% in the first offender group.

There were no further significant differences in relation to the situational factors and DWI offender status.

CONTROL GROUP

In addition to the findings among the DWI group in relation to the demographic and situational factors some interesting findings among the control group are worth noting.

Eighty six percent of the control group reported that they had driven after drinking at some stage of their life. Of those who had driven after drinking 42.1% had been stopped by either a traffic officer (93.8%) or a police officer (6.3%). None had been charged with an offence as a result.

In the control group younger drivers (aged 19 - 34) were less likely to have been previously stopped when driving after drinking than the older group (35 and over) (χ^2 (1, $\underline{N}$ = 38) = 4.35, $\underline{p}$ < .05). From the 42.1% of drivers who reported that they had been stopped while driving after drinking 75% were from the older group compared to their younger counterparts (25%).

Older respondents in the control group were more likely to report that they were 'not feeling any effects' of the alcohol or 'not too much (felt capable of driving safely)' while drinking, compared to the younger group who were more likely to report feeling a 'moderate amount (a little tiddly)' or 'a lot (pretty drunk)' (χ^2 (3, $\underline{N}$ = 43) = 10.71, $\underline{p}$ < .05) (See Table 23).

Table 23: Control respondents in each age group, with level of intoxication felt while drinking

	15-34 (n=21) %	35+ (n=22) %
Not feeling any effcts	19.0	54.5
Not too much (felt capable of driving safely)	14.3	27.3
A moderate amount	57.1	13.6
A lot (pretty drunk)	9.5	4.5

Those aged between 19 and 34 were more likely to report that they did not think any risks were involved as they felt they were not too drunk to drive safely, compared to their older counterparts (χ^2 (2, $\underline{N}$ = 43) = 5.63, $\underline{p}$ < .05) (See Table 24). There was, however, no significant difference in the type of risks perceived by the two age groups.

Table 24: Control respondents in each age group, with perception of risks involved in driving

	15-34 (n=21) %	35+ (n=22) %
No risk - didn't think they were too drunk to drive safely	9.5	40.9
No risk - other	9.5	4.5
Risk	81.0	54.5

Those respondents of the control group aged between 19 and 34 were more likely to report that they did consider alternatives than those aged 35 and over (χ^2 (1, $\underline{N}$ = 43) = 11.62, $\underline{p}$ < .001). Of those in the younger age group (48.8%), 90.5% considered alternatives.

The older group were more likely to drive themselves home than the younger group who were more likely to get someone else to drive (χ^2 (6, $\underline{N}$ = 43) = 16.60, $\underline{p}$ < .01). Of the 37.2% of those who reported driving, 75.0% were 35 years and older while of the 27.9% who reported that someone else drove, 83.3% were aged between 19 and 34.

The younger respondents (19 to 34) were more likely to have been pressured to drink alcohol (χ^2 (1, $\underline{N}$ = 43) = 7.3, $\underline{p}$ < .01). Of the small number who were pressured to drink (n = 6) all were from the younger age group. This group were pressured by either a friend (66.7%) or a workmate (33.3%). Respondents reported feeling either 'a little' or 'some pressure', with the most common type of pressure being in the form of positive encouragement from the pressurer. Many of the younger respondents (66.7%) took some form of action to resist the pressure which included refusing the drink or ignoring the pressurer.

CHAPTER 9

DISCUSSION

Before discussing the results of the present study it is necessary to make cautionary comments in relation to issues that may have distorted the present data and therefore place limitations on the findings in terms of their generalisability to the larger population of DWI offenders.

One of these issues is the size of the sample used in the present study. A low response rate resulted in a small sample. Although it would have been desirable to have a larger sample of subjects, as the response rate was 13% for the DWI group and 20.9% for the general licensed population group a mammoth initial post out would have been required. Although it was anticipated that the response rate would not be high the very low response could not have been anticipated.

It is interesting to note that 17% of letters sent to potential DWI participants were returned because of outdated addresses or an absence of forwarding address compared to a 5.5% and similar type of return rate in the control group. One could posit that convicted DWI offenders tend to be from a group who are more transitory in their movements, perhaps reflecting a lifestyle that is less stabilised and less settled. On the other hand this lifestyle may reflect the overrepresentation, in the drink drive population, of young adults who tend to be in a less settled stage of their life.

In explanation of the low response rate one is directed towards Snortum and Berger's (1989) suggestion that the increasing social unacceptability of drink driving may lead drink drivers to feel defensive about their behaviour and therefore exhibit a reluctance to become involved in drink driving research which may necessitate their confronting their behaviour. This may also be the case for the sample used in the present study owing to the increasing social unacceptability of drink driving in New Zealand.

The low response rate illustrates the practical problems faced in conducting research with offender groups and, as suggested by Snortum and Berger (1986), in areas that may be measuring antisocial behaviour.

When conducting research in areas of criminology one must always ask the question whether those arrested accurately reflect the population of law violators and the incidence of criminal behaviour in society. As the present study uses a convicted DWI sample representativeness becomes an issue. Whitehead (1975) believes that biases probably occur in arrest statistics because certain types of individuals have lifestyles which expose them to a higher probability of arrest, rather than because of deliberate efforts by the police to arrest or ignore certain types of individuals. Bailey and Carpinter (1991) state that "law enforcement statistics are not truly representative of the incidence of drinking and driving in New Zealand" (pp. 82). Overseas research also reports that for every DWI arrest a significant number of drivers are driving intoxicated yet undetected (Donovan et al, 1983; Johnson & White, 1989). In addition, Turrisi and Jaccard (1991) believe the likelihood of arrest is influenced by police coverage within a specified area with this being dependent on other criminal activities (e.g., assaults, robberies) which have to be policed. Therefore the probability of arrest may be dependent on driving within a given area rather than frequency of drink driving.

Because Bailey's (1979; 1980; 1983; 1984; 1986; Bailey & Bailey, 1982; Bailey & Carpinter, 1991; Bailey & Winkel, 1981; deJongh & Bailey, 1987) research is the only major documented research on drink driving in New Zealand, an attempt has been made to compare the present sample's demographic characteristics with those commonly identified in Bailey's research. As noted in Chapter Seven, the samples were dissimilar on a number of features (i.e. age, ethnicity and occupational class). However, it has been borne in the mind that Bailey's samples were people who had been in a drink drive accident, whereas the present sample were convicted drink drivers of whom only a small proportion (14%) has been involved in an accident. This suggests that the DWI arrest population differs on some of the demographic factors from those DWI who have accidents. However, a comparison with overseas data also suggests that the present

study sample is not representative of an arrested drink drive population and may be a result of biases in responding.

By identifying these issues which appear to influence the results markedly, it is acknowledged that possible biases are present and, as a result, discussion of the present findings is done within these constraints. Any of the findings must be considered preliminary because of the small sample size and the identification of the present sample as a specific subgroup of the New Zealand drink driver population.

It is, however hoped that the following findings will stimulate more research on situational influences on a drink driving episode.

SITUATIONAL FACTORS ASSOCIATED WITH DRINK DRIVING IN NEW ZEALAND

A review of the previous literature on situational factors associated with drink driving behaviour (see Chapter Four) suggests that there are a number of factors which appear to be part of the drink drive situation. Most research does not use a control group and therefore it is difficult to say whether these factors are peculiar to the drink drive group. Therefore a major aim of the present study was to determine if these situational factors differ between a DWI group and a control group from the general driving population.

The results suggest that as a group, those who illegally drive after drinking are distinguishable from a general licensed population of drivers on some situational factors. However, they are similar on the majority of the situational factors identified in the literature. This suggests that the other main component of an individuals behaviour - personality factors, which are not addressed in the present study, are having a stronger influence on the individual's decision to drink drive, or are interacting with the situational factors and affecting this decision.

The following more detailed discussion of the present findings elaborates on these and other issues.

Mood and Stress.

Earlier studies (Pandiani & McGrath, 1991; Vegaga and Klitzner, 1989) have found that drink drivers tend to be in a good or happy mood while drinking. Although this was found in the present study, mood did not differ from the control group suggesting that most people are happy when they are drinking. This finding is inconsistent with Selzer and Barton (1977) who found drink drivers tended to experience more negative affect prior to driving than general licensed drivers. However, as many of DWI group in the present study were drinking in celebration of something it is not surprising their mood was good/elated. Additionally, it may also merely be an indication that those who responded were happy gregarious people .

Although the present findings show that approximately half of both the control and DWI groups reported experiencing major life events in the 12 months prior to the drinking episode no difference in frequency was found between the two groups. The fact that the DWI group did experience some form of stress is consistent with earlier findings (Scoles, et al, 1984; Selzer et al, 1968; Veneziano & Veneziano, 1992; Yoder, 1975; Yoder & Moore, 1973). This suggests that although stress may contribute to drink driving, as suggested by Beck and Summons (1985), Scoles et al (1984) and Bradstock et al (1987) it cannot be construed as a simple cause of DWI because of the similarity with the general driving population.

Social context

Many previous studies have found that the drink driver most commonly drinks in a hotel or bar (O'Donnell, 1985; Snow, 1988; Snow & Anderson, 1987; Wilson & Jonah, 1985; Wolfe, 1975; Yoder, 1975). The findings in the present study are consistent with these but found no significance from the control group. One explanation of this may be that the environments of the bars/hotels may be different between groups, with some environments, as suggested by Sommer (1969), providing recreational and entertainment activities (such as dancing) which may detract from excessive drinking and increase

'sobering up' time. In addition, some bar environments may practise 'life saver' techniques or discourage drink driving through providing host buses or free food, and non alcoholic beverages for sober drivers, which the control group may utilise. Additional research examining whether these groups frequent different bars with differing environments would help determine the influence of bar/hotel environments on a drink driving episode.

As drink drivers are driving away from bars/hotels and intervention attempts, when they occurred, were not made by bar staff, one must question the role of licensed establishments in drink driving, and address the issue of accountability. It may be that in order to combat the drink drive problem licensed establishments need to be made accountable through actions such as third party liability laws, and more realistically, prevention programmes being built into existing legal requirements for licensing (as suggested by O'Donnell (1985)).

Respondents' drinking locations tended to be in urban areas, which supports Thurman's (1986) idea that the incidence of drink driving increases as density of traffic increases. It may be, however, that the main concentration of patrolling tends to be in the urban areas (Bailey & Carpinter, 1991) and therefore the majority of those arrested are probably from these areas.

The present data also suggest that drink drivers travel to more than one location after they have started drinking, before they drive home, and that drinking often occurred at these locations. This finding is consistent with Wieczorek et al (1992). In addition, consistently with Damkot (1982), the other locations were often bars. However, it appears that drink drivers are usually not stopped until they are on their way home. The fact that the drink driver is able to freely drive from location to location without detection will, according to Wilson and Jonah (1985), reinforce his/her belief that the risk of detection is small and therefore the driver will continue to drink drive. This finding illustrates the need for increased traffic patrolling in urban areas and, in particular, central town areas where drink drivers may be driving from one location to another. As Bailey & Carpinter (1991) note, there are relatively few traffic officers

employed in New Zealand, so one would imagine that the amalgamation of New Zealand Police and the Ministry of Transport, in 1992, would provide more resources which could help increase patrolling.

Multilocation drinking may also lead to increased amounts of alcohol being consumed, perhaps owing to social pressures to 'pay the rent' for the use of facilities or entertainment by buying drinks at each location, as suggested by Wieczorek et al (1991). This increase in alcohol consumption understandably leads to impairment and ultimately influences the drink driver's decision to drive.

Consistent with earlier studies (Pandiani & McGrath, 1986; Vegaga & Klitzner, 1989; Yoder, 1975) the DWI group tended to be drinking with other people such as friends, workmates and family but this was found to be similar to the control group. The DWI group were however, more likely to be drinking alone than the control group. It should be noted that only a small proportion of drink drivers were drinking by themselves (9.3%) which is similar to the finding of Pandiani and McGrath (1986) that only nine percent of their DWI sample had been drinking alone. Beck and Summons (1987) suggests that people who drink alone may be developing an alcohol problem and that as a result of this, current countermeasures may not be appropriate. Over all, the findings indicate that the social composition of the groups within which the DWI group and control group were drinking were similar.

Results indicate that the DWI group and the general driving population group are also similar in their motivations for drinking and that people were most commonly drinking for socialization and in celebration of something. This is consistent with previous research (Beck & Summons, 1987; Donovan, 1980, cited in Donovan et al, 1983) but does not support Farrow (1985), Freed (1978) and Russell and Mehrabian (1975), who found that drinking may be motivated by a need to reduce tension, achieve a sense of mastery or dominance in social situation, or blow off steam. This difference is not surprising considering drinkers in the present study tended to be in a good mood prior to drinking. If one was to use Beck & Summons (1987) terminology the drink driver in the present study was more likely to be drinking for 'recreational' reasons rather than

'medicinal-anaesthetic' reasons. This is also evidenced by the findings that the drink driver tended to be drinking with a group and was in a good mood. This raises the question whether 'recreational' drinkers may be more responsive to interventions and education than 'medicinal-anaesthetic' drinkers. This question was not addressed in the present study but may be a subject for future research.

As celebratory situations are often associated with large quantities of alcohol, which may encourage higher consumption and therefore increase the risk of drink driving, it was surprising to find that both groups were drinking for this reason.

Findings from the present study suggest that drinking patterns differed between the DWI group and control group. In particular the DWI group were more likely to be drinking larger quantities of alcohol than the general driving population. A suggested explanation for this may be found in Storm and Cutler (1981), who found an association between heavier alcohol consumption and multilocation drinking. As the DWI group were more likely to be travelling to more than one location after drinking (often other bars), and, as mentioned above, social pressure to pay the rent in the bar/hotel by buying drinks may be influencing consumption, it is not surprising that consumption was higher in the DWI group. In addition, in explaining these findings, one should note that higher alcohol consumption is especially associated with sporting victory celebrations which a number of DWI offenders noted as their reason for celebration. The differences in drinking patterns is an important finding as the higher consumption levels means that the DWI group were more likely to be cognitively impaired and unable to make accurate judgements of their ability to drive or assess whether they were under the legal limit compared to the general licensed population.

Time variables

Results suggest that there is no significant difference between the two groups on the day that they were drinking alcohol, with most drinking on the weekend (Friday to Sunday). As expected the results also show that the DWI group tended to drink drive on the weekend. This is consistent with other findings (Bailey & Carpinter, 1991; Mercer,

1985; Parker et al, 1992; "Study shows", 1992). In addition those in the general licensed population who did drive after drinking did so on the weekend.

Consistently with previous findings (Bailey & Carpinter, 1991; Mercer, 1985; Parker et al, 1992; "Study shows", 1992) drink driving was found to occur in the late hours of the evening and early hours of the morning. Whether the DWI group had been drinking for a long period or whether their arrest was influenced by traffic patrolling in the late hours of the evening and early hours of the morning is not clear. It may be that drivers in these hours are more conspicuous and likely to come to the attention of authorities, and the finding that the general licensed population who did drive after drinking were more likely to drive between 5pm and 12am and not be arrested reinforces this perception. In addition Bailey and Carpinter (1991) suggest that traffic officer deployment does not coincide with times when drink driving is more likely and is usually at its lowest rate around these times. This suggests that policies focused on traffic deployment need to be reassessed in relation to drink driving. In addition, the fact that the drink drivers drive late at night and early in the morning supports Parker et al's (1992) idea that a drink drivers willingness to commit the offence is greater in darkness, which is based on the fact that accident rates are higher at night than the day. It is probably unlikely that drink drivers rationally decide to drink drive as it is dark, owing to intoxication, but that drink driving occurs in the dark as drinking times often coincide with night.

Social pressure to drink or not to drink

The data indicate that although there was a small group of individuals who did experience social pressure to drink, the similarity between the groups suggest this played a minor role in the drink drive event. This finding is similar to that of Vegaga and Klitzner, (1989) who found only fifteen percent were pressured to drink. The type of pressure that those in the present study and Vegaga & Klitzner's (1989) study experienced was also similar (i.e. positive encouragement).

Drug use

Drug use did not differ between the two groups. The majority of both groups did not use any other drug than alcohol which is inconsistent with the finding by Shinar (1978)

who found that up to 20% of the United States driving population were under the influence of drugs (either prescription or non prescription) at any time. The present findings are also inconsistent with Elliot (1987) who found that multiple drug users drive under the influence of marijuana three times more frequently than those who just use marijuana. It is also inconsistent with Bailey's (1987b) finding that the involvement of cannabis in drink drive accidents is of concern in young New Zealanders. This inconsistency may be due to the unrepresentativeness of the present sample.

Intervention

Past research has indicated that intervention attempts in drink driving situations are not common occurrences (Pandiani & McGrath, 1986; Vegaga & Klitzner, 1989; Yoder, 1975). The results of the present study support this and provide further evidence to challenge Abedayo's (1988) finding that nearly all people would be willing to intervene in a drink drive situation. As Abedayo's (1988) finding is based on hypothetical situations and may be susceptible to social desirability this may explain inconsistency with the present study and previous research.

According to Pandiani and McGrath's (1986) theory of self sufficiency and intervention one would expect that the more intoxicated drivers would be more likely to be the target of intervention. As the DWI group reported consuming larger quantities of alcohol over the drinking episode one could posit that they were more intoxicated than the control group and according to Pandiani and McGrath's (1986) self sufficiency theory would be more likely to be the target of intervention. This, however, was not the case as no significant difference was found between the two groups on frequency of intervention attempts.

While a small number of the associates of both the DWI and control groups were prepared to intervene in a potential drink drive situation the DWI group appear to ignore the intervention attempt, perhaps as a result of their misperception that they are competent to drive. This was consistent with Vegaga and Klitzner (1989) as was the finding that common actions taken by the intervener included trying to persuade the respondent to let someone else drive. Unlike Vegaga and Klitzner's (1989) findings, the

intervener in the present study did not use direct action (such as taking the keys off the driver). Consistently with Abedayo (1988) it was found that intervention attempts in both groups were more likely to be persuasive rather than coercive. As these intervention attempts did not differ between the groups this suggests that types of intervention do not affect intervention success rate.

Pandiani and McGrath (1986) report that intervention may be viewed as a challenge to the individual's competence or manhood and therefore be rejected. This may be the case in the present study with the DWI offenders (most of whom were male) insisting that they could drive safely, as a response to what might be seen as a challenge to their competence, whereas the general driving population group tended to just shrug the intervention attempt off with no major concern, and comply with the intervention. This suggests that the DWI group may see themselves as more macho and therefore feel their masculinity is threatened when an intervention attempt is made.

It is interesting to note that in examining past drink drive situations involving intervention the present data suggest that, for both groups, a large number of people reported that someone tried to intervene and in the majority of situations the intervention was successful. This would appear to be in conflict with the findings on intervention in the drink drive episode examined in the present study. The present data suggests that in some situations people will comply with the intervention if the alternative is of no inconvenience, or if they perceive a risk of being caught for drink driving.

Alternative transport

As in Vegaga & Klitzner's (1989) study, a small group of drink drivers, did consider alternatives to driving. Interestingly over half the general licensed population group actually considered driving after drinking. However, a large majority of this group considered alternatives and used them, compared to the DWI group who did not use the alternatives. Common alternatives considered by both groups, and used by the general driving population, were finding another driver, and in some cases taking a taxi or bus. The fact that taxis were considered but used sparingly links to Perkin's (1990) finding that taxis are often seen as an attractive option to drink driving but are rarely used. The

explanation of this may lie in Bailey and Carpinter's (1991) suggestion that these types of transport do not meet the needs of those who have been drinking (e.g., they do not facilitate the antisocial behaviour that often accompanies intoxication, nor are they always available at appropriate times). It would appear from the data that people drink drive because they perceive the use of alternatives as an inconvenience because of cost, or time or because of negative consequences, such as being without a vehicle, rather than that they have a strong desire to drink drive.

Looking at programmes that concentrate on improving the convenience of alternatives, such as taxis or buses, may be one way of creating a positive approach to the use of alternative means of transport. These types of programmes can already be seen in New Zealand with the introduction of host buses run by bars/hotels, taxi chips (cheap fares) and Dial-a-Driver services.

Motivation to DWI

Findings suggest that (if classified into one of Vingilis and Mann's (1986) motivations) drink driving in the present study appears to be instrumental rather than compulsive or impulsive - the drink driver tended to be driving to attain a specific goal i.e. getting home. Findings on the drink driver's perception of the use of alternatives (discussed above) also provide support for instrumental motivation.

The present data suggest that drink drivers were more likely to perceive a need to get somewhere which is consistent with Snow and Anderson (1987) and Vegaga and Klitzner (1989). Places that the drink driver believed they needed to get to included home, also consistent with Vegaga and Klitzner's (1989) finding, a relative's house or away from a volatile situation. In relation to Rotter's expectancy theory (1972) the drink driver receives reinforcement by fulfilling his/her, or a passenger's, need to get to his/her desired destination. It is pleasing to find that the motivation behind drink driving in the present sample is of an instrumental nature as Webb (1980) believes that as instrumental acts are rationally motivated they are likely to be responsive to deterrent measures, compared to compulsive or impulsive acts.

The consequences of not arriving at the destination which the respondents perceived they needed to get to did not differ between the two groups. Interestingly, a large proportion of those who said 'nothing' would have happened were from the DWI group. This would tend to suggest that the DWI group perceive an urgency about getting to their desired destination even though there would appear to be no negative consequences of not arriving. This may be a type of rationalization by the drink driver to justify his/her drink drive behaviour. In believing that there was somewhere that s/he had to get to the decision to drink drive was made easier and less anxiety producing. This perceived urgency may also be a result of impaired reasoning owing to the individual's intoxicated state.

It is interesting to note that when the drink drivers were asked if anything else contributed to their drink driving a small group of the drink drivers provided justifications for their behaviour which tended to attribute it to external factors (e.g., penalties are not harsh enough; usual alternative transport not available) rather than internal. In association with this, Vingilis and Mann's (1986) deterrence theory states that the more severe the eventual penalty for drink driving, the greater the impact of legal threat on behaviour, and it is therefore understandable that drink driving and recidivism is a problem in New Zealand as drink drivers tend to perceive the penalties are not harsh enough. This would suggest that as penalties are not perceived as harsh enough, other means of punishment that have a more powerful deterrent effect are required. Suggestions made by drink drivers themselves include the confiscation of their vehicles or community service helping with those individuals who are now mentally or physically disabled as a result of a drink driving incident.

In contrast, when the general licensed population group were asked why they did not drive after drinking they tended to attribute their behaviour both to internal and external factors (e.g., they tended to preplan when knowing they were going to be drinking; they had had a previous negative experience with drink driving). One characteristic that stands out in the general driving group which appears to be non existent in the DWI population is the actions of the general driving population to preplan to have sober drivers available to drive (also found by Perkins [1990]) or not to take a vehicle if

drinking was planned. Drink drivers appear to get into situations where they feel they have no alternative to driving, while the general driving population do not get into the situation in the first place. It may be argued that the general driving population make a decision about driving before leaving home or before having a drink compared to the drink drivers who either make a decision to drink drive before alcohol consumption or do not think ahead. This finding highlights the importance of programmes that emphasis preplanning transport for drinking situations.

Passengers

The finding that the DWI group tended to be driving with no passengers is inconsistent with previous findings (Bailey, 1983; 1986; Vegaga & Klitzner, 1989) but supports Thurman's (1986) idea that as the number of passengers increases the individual is less likely to drink drive. Thurman (1986) believes that this may be a result of the driver being aware of the risk of injury to peers. However, this does not appear to be the case in the present study as the majority of the DWI group were more likely to perceive risks associated with detection rather than injury to others.

In support of Vegaga and Klitzner (1989), those who did drive with passengers reported that they were friends, rather than family or workmates. Consistent with other studies (Bailey, 1979; Vegaga & Klitzner, 1989) all of the friends had been drinking prior to riding with the drink driver, therefore the passengers may not have been aware of the risks owing to their own intoxication and may also not have been able to successfully evaluate the intoxication of the driver. So although there was someone present who could have encouraged or discouraged the drink driving behaviour, this person was often also intoxicated.

Social pressure to DWI

As with social pressure to drink social pressure to drive did not play a large part in the decision to DWI. Those who did feel pressure were more likely to be DWI offenders. However, this group was small i.e. nine respondents. This finding that some of the DWI group were pressured to drive is consistent with Vegaga and Klitzner (1989) as are the types of pressure exerted. It is interesting to note that the drink driver was more likely

to report that if s/he refused to drive s/he would be perceived as making a big deal out of nothing, suggesting that perhaps their drinking associate/s did not perceive drink driving to be a deviant behaviour. In contrast, those with whom the general driving group were drinking would appear to view, the drink drive act as a deviant behaviour as the respondents perceived that their drinking associate/s would think the respondent would be "pretty smart" not to have driven. This may provide insight into the types of people that these two groups were socialising with and the difference in their moral reasoning and belief system which may affect drink drive decision making. While direct social pressure does not appear to play a large role in decisions to drive, the social group the DWI and control groups are drinking with would still appear to be indirectly influencing the driver's decision through what the driver perceives to be the group's views on drink driving. It may be that the driver conforms to these views and either decides to drive or not.

This finding and the findings on social pressure to drink provide little support for educational programmes or countermeasures directed at social pressure resistance skills.

Vehicle variables

Consistently with previous findings (Bailey, 1979; Vegaga & Klitzner, 1989) the DWI group were more likely to drive a car than some other vehicle. However, similar findings in the general driving population suggest type of vehicle did not influence the decision to drink drive. The present data suggests that drink drivers tended to drive British model vehicles while the general driving population drove Japanese vehicles. As only one DWI offender was found to be drive a Valiant and none Zephyrs, the present findings do not support Bailey's (1980) finding that Zephyrs and Valiants are overrepresented in drink drive statistics. This may be because Bailey's (1980) sample was drawn from a drink drive accident population and other factors such as speed and safety features of these vehicles may contribute to the likelihood of an accident.

As Vegaga & Klitzner (1989) found, drink drivers tended to be driving their own vehicles and, similarly, the general driving population drove vehicles that were their

own. This suggests that ownership of vehicle driven is not associated with drink drive behaviour.

The present data also suggest that drink drivers were more likely to drive older vehicles (i.e. pre-1980) which is supported by Bako et al (1979). Although Bailey (1979) says that this may simply be a reflection of the role of low socio-economic status in drink driving offences, the present sample was overrepresented in the high socio-economic status group and therefore this may indicate that it is not solely socio-economic status which is the determinant of the drink driver's choice of an older model car.

Driving distance and familiarity with road

Findings of the present research are consistent with Thurman's (1986) and Turrisi and Jaccard's (1991) findings that drink drivers tend to drive if they have only a slight distance to travel and are familiar with the road. However, the general driving population were also found to be drinking at locations that required only a short drive and they were also familiar with the road. The fact that this group elected not to drive suggested that these factors do not play a major role in influencing the drink driver's decision to drive. However, it does suggest that as most respondents are drinking at bars/hotels, policies that lead to traffic patrolling close to these sites would be an effective deterrence to drinking. For example, Donelson (1988) reports that the announcement of a nearby police roadblock in a bar/hotel will discourage drink driving behaviour.

Judgements of drunkenness

As risk of arrest is influenced by whether the driver is over the legal breath/blood alcohol limit the ability to gauge this becomes an important part of the driver's perception of risk. There was no difference between the groups on their perception of their level of intoxication in relation to the legal breath/blood alcohol limit. Surprisingly, many of the drink drivers perceived that they were over the legal limit and this is inconsistent with Bewley's (1986) belief that ability to determine impairment is affected by alcohol. The fact that these drink drivers were aware they were over the legal limit would have also made them more wary of the risk of detection by the police.

The data also suggest that the DWI group were more likely to feel capable of driving safety, although as they were over the legal limit, this would tend to indicate that their driving skills were somewhat impaired. This idea that the DWI group feel their driving performance is normal is consistent with other studies (Bewley, 1986; Guppy, 1988). This type of misperception would, understandably, be a result of the impairment of judgements and reasoning that accompanies large consumption of alcohol (Bewley, 1986). The finding that the control group felt that they were a "little tiddly" or "high" suggests that the individual perceived s/he was impaired and did not drive. This supports Thurman's (1986) finding that subjects were less likely to drink and drive when they believed they were impaired.

These findings provide support for countermeasures that should be directed at educating individuals about the effects of alcohol on driving, and different levels of alcohol consumption on impairment, for example, television advertisements showing actual impairment related to alcohol consumption.

Perception of immediate risk

Although, drink drivers did not differ from the control group on whether they believed there were risks involved in driving after they had been drinking, the present findings suggest that, of those who did consider risks, drink drivers differ from the general licensed population in the types of risks perceived.

Of main concern to the drink drivers is the risk of detection by authorities, which is consistent with Turrisi and Jaccard (1991), while the general driving population appear to be more risk conscious, noting a number of risks which may have influenced their decision to drive. Guppy (1988) believes that the drink driver would probably not perceive arrest as a risk owing to his/her perception of a lower probability of detection by authorities, in comparison to the perception of control groups. The present finding that detection by authorities, is a concern, suggests that drink drivers feel there is a probability of arrest which is inconsistent with Guppy's (1988) findings. The present finding is also inconsistent with Wilson and Jonah (1985), who found that drink drivers believed their chance of arrest was less than non drinking drivers, and other previous

research (Ross, 1978, cited in Levy, 1982; Sostkowski & Peltier, 1982; Stephan, 1989) that suggests those who perceive a high probability of detection by authorities report drink driving less often. A suggested explanation of the present finding may be that although the present sample may perceive a probability of arrest the level of probability is not perceived as high enough to discourage the drink driving. This may also reflect the biased nature of the sample.

In addition Thurman (1986) believes that if the drink driver perceives a higher traffic density and thus lower risk of detection s/he is more likely to drive. It may be that the DWI group in the present study drove because they perceived traffic density as greater, and therefore believed there was a lower risk of apprehension. However, one must note that given the drink driver's level of intoxication, ability to evaluate whether to drink drive or not, in relation to traffic density, is probably problematic.

The present finding is also inconsistent with Vingilis and Mann's (1986) deterrence theory that suggests the greater the likelihood of arrest, the greater the effect on behaviour. Vingilis and Mann (1986) report that this approach deters individuals whose motivation is instrumental and as the present data suggests the motivation behind drink driving is instrumental, one would expect the behaviour to be deterred as the drink driver perceives a risk of detection. However, this is not the case. It may be that the benefits of drink driving outweighed the risks which were insufficient to deter the driver while the general driving population groups consideration of many risks, including risks of injury, influenced their decision not to drink. This may indicate that, influenced by alcohol, the DWI group do not consider the risk of injury to themselves or passengers. This suggests that interventions (such as increasing or localizing patrolling) to increase the DWI's probability of detection, and therefore lower the chance of drink driving, would be worthwhile.

It is interesting to note that what the drink drivers perceive the risks to be, is inconsistent with the action that they report taking. Nearly half of the drink drivers reported doing something to make their driving safer which is consistent with Vegaga and Klitzner (1989). While the actions taken to make driving safer may indicate that

the drink driver was concerned about self injury (for example, using a seat belt, slowing down), they may also indicate driving to avoid detection. So whereas Vegaga and Klitzner (1989) were able to definitively suggest that the actions of their sample to drive 'safer' indicated driving to avoid detection, this might not be the case in the present study. Although the present findings could be interpreted either way one could posit that as the DWI group were concerned with the risk of detection their actions, perhaps, were steps to avoid detection by authorities.

Sport

Whereas it was thought that the drink drivers might play or take an interest in more masculine sports than the general licensed population this was not found to be true. It should be noted that both groups more commonly played rugby and probably reflect the overall popularity of this sport in New Zealand society.

Criminal Behaviour

Consistent with previous findings (Argeriou et al, 1985; Bailey, 1993 cited in Baldacci & Thomas, 1993; Bailey, 1993 cited in "Drink drivers," 1993; Murty & Roebuck, 1991; Waller, 1967; Yoder & Moore, 1973; Zelhart et al, 1975) previous criminal convictions were characteristic of the drink drivers in the present study. As Bailey's sample is from an accident population this finding suggests that a DWI accident population and a DWI arrest population are similar in their association with criminal convictions. This implies that the drink drive problem may be complex, and intervention to modify the behaviour may become more an endeavour to modify the whole criminal behaviour of the individual.

Consequences of drink driving

Although drink drivers tended to believe that they were capable of driving safely the data suggest otherwise as many were stopped by authorities as a result of their driving and in some of the cases as a result of an accident.

All offenders received penalties typical of a drink driving offence under the New Zealand Justice System - licence suspension and a fine, and/or periodic detention or community service. Nearly half of the drink drivers reported getting into trouble with their parents, spouse/partner or workmates (two reported losing their jobs) as a result of the conviction. Consistent with Bailey and Carpinter's (1991) finding that the a large proportion of disqualified drivers continue to drive, nearly half of the DWI group in the present study proceeded to drive after disqualification.

Although research on recidivism in drink driving would tend to indicate a high recidivism rate amongst drink drivers (Bailey, 1986; Bailey & Carpinter, 1991; Bailey, 1993 cited in "Drink drivers," 1993; Stephan, 1989) many of the DWI group in the present study believe that they would not drive again after excessive drinking while nearly one quarter thought they would. Similar findings were found for the general licensed population group indicating that these proportions may just be typical of the general population and their attitude towards drink driving. Although most people intend not to drink drive, it seems they get themselves into situations which for particular reasons (i.e. lack of intervention, inconvenient alternatives) lead to a drink drive episode.

SITUATIONAL AND DEMOGRAPHIC FACTORS

As the drink drive act is considered to be the result of the interaction of personal and situational factors another major aim of the present study was to examine if situational factors varied within a DWI group in relation to personal factors such as demographic variables. However, findings indicate that demographics factors did not lead to marked variations in the situational factors. Although a small sample precludes analysis of gender and ethnicity with the situational factors, those variations that were found among the remaining demographic characteristics are discussed below.

Age

Situational factors did not tend to vary with the age of the drink driver except on the reason why the drink driver was stopped. This is inconsistent with previous findings which have found age to be associated with drinking location (Farrow, 1985; Hernandez & Rabow, 1987; Snow, 1988; Snow & Anderson, 1987; Snow et al, 1985; Vegaga & Klitzner, 1989) pressure to drink and to drink and drive (Parker et al, 1992, Vejonska, 1982), intervention attempts (Pandiani & McGrath, 1986) perception of risks (Basch et al, 1989, Geller & Lehman, 1988), judgements of drunkenness (Beck, 1981) motivation to DWI (Farrow, 1985) time of drinking (Bailey & Carpinter, 1991) and age of cars driven (Bailey, 1979). The finding in the present study is probably due to the small size of the sample.

As mentioned above, one area where age distinguished between groups was in the reason the drink driver was stopped. The data indicates that the younger group (15 - 34) were more likely to be stopped as a result of their own driving, a random stop or an accident and the older group (35 and over) were more likely to be stopped at a checkpoint. Previous research (Geller & Lehman, 1988; Hurst & Bagley, 1972; Vejonska, 1982) suggests that problems of drink driving among adolescents may be a result of the acquisition of drinking behaviour and driving behaviour simultaneously and this may explain the present results i.e. although the younger group are not adolescents their amount of experience with drinking and driving separately (and perhaps together) is probably less than the older drink drivers and therefore they are more likely to commit errors in driving.

Socio-economic status

In the present sample drink drivers were overrepresented in unskilled occupations and lower socio-economic status (as defined by Elley and Irving (1985) which is consistent with Bailey (1979; 1983), Donovan et al, (1985) and Perrine (1975). They were also, understandably, on lower incomes. This may reflect a trend of criminal activity, such as drink driving, to be more prevalent in the lower socio-economic group. Over all, socio-economic status was not found to be related to situational factors. Present findings also indicate that differing levels of income was not related to situational factors, which

is not surprising considering socio-economic status was not related to the situational factors.

Household situation

Donovan et al (1985), May and Baker (1975) and Wolfe (1975) found divorced, separated and single men have a significantly higher probability of drink driving. While most respondents in the present study were living with other adults it is interesting to note that the drink drivers were overrepresented in solo parenting while the general licensed population was more likely to be living with a partner/spouse and children. This suggests that those with no partner/spouse are more likely to drink drive even if they have children. One could suggest that a potential area of intervention highlighted by this finding may be advertising that appeals to the children of these drink drivers, placing emphasis on the child's welfare and the consequences drink driving may have on this.

Although marital status and, indirectly, household situation has been found to be associated with intervention (Gusfield, 1985) and drinking location (Snow, 1988; Snow & Anderson, 1987) this was not found in the present study. This may have been because marital status was not measured directly but rather through the household situation.

Unemployed compared to Employed

In the present study unemployment was characteristic of the drink drive group which is consistent with Voas's (1975) findings. It was hoped that the examination of situational factors in relation to those drink drivers who were employed and those who were unemployed would provide further information on the role of unemployment in drink driving. The present data provides some interesting findings. It is surprising to find that the unemployed group, who one would believe would have fewer demands on their time, seem to perceive themselves as having a greater sense of urgency to get somewhere. Another interesting finding is that the unemployed group were more likely to do something to make their driving safer than those who were employed. One would think this should also be reversed for the two groups as the employed group could be

seen as having more at stake if involved in an accident or being detected by the authorities. These findings may of course merely reflect the small sample.

However, on the basis of these surprising findings it may be posited that perhaps it is personality factors which play a large role in the drink drive situation; for example, the examination of personality factors of the unemployed group may show high scores on impulsiveness which would help to explain their perceived urgency to get somewhere.

When looking at the consequences of drink driving in relation to the unemployed and employed group, those who were unemployed were understandably more likely to receive periodic detention or community service which reflects the way the court perceived their financial resources. Those who were unemployed were also treated more severely in terms of licence suspension.

First Offenders vs Multiple Offenders

Consistently with Bailey's (1986) findings one third of the DWI population had a previous drink driving conviction. This group of recidivist were more likely to be from the lower income bracket and as suggested by Murty and Roebuck (1991) were more likely to have other criminal convictions. Bailey (1993, cited in Baldacci & Thomas, 1993) and Murty and Roebuck (1991) suggest that multiple drink driving offenders comprised a generalised deviant social type and the present data, based on previous criminal convictions, supports this idea. This suggests that the drink drive problem among recidivists is not just a problem of repeat drink driving but rather part of a more complex pattern of criminal behaviour. This may have implications for intervention strategies.

As one of the major problems of drink driving in New Zealand is recidivism, and this was found to be evident in the DWI sample, examining the difference between first offenders and recidivist might help in the understanding of this group. However, not many differences were found between the groups which would suggest that they are not dissimilar in the situations in which they are prior to arrest. This finding does not support Steer and Fine's (1978) finding that first offenders experienced more negative

effect in the month preceding their DWI arrest than second offenders. It does however, suggest that internal factors such as personality may be the dominant factors which influence the individual to drive. For example, as the recidivist group were more likely to be interested solely in rugby, this may suggest a higher level of perceived masculinity. In addition, present findings highlight differences that were present between the groups, which were more related to personal reasoning and thought processes rather than situational factors. For example, first time offenders were more likely to consider alternatives to DWI and were also more likely to report they thought they would never DWI again. The fact that recidivist drink drivers were more likely to be driving while drinking was occurring in the vehicle and that they were less likely to consider alternatives to DWI and less likely to report that they would not DWI again suggests that they did not see drinking and driving as separate behaviours and highlights the difficulties in effecting behaviour change in this group. As belief systems and cognitions are often influenced by personality traits, examining personality factors of the recidivist drink driver would increase the present knowledge on this subgroup of the drink drive population and help determine what interventions may be appropriate to this group.

Understandably the two groups differed on the consequences of their drink driving with the recidivist group receiving more severe penalties than the first offender group. Although these penalties were harsher they were still not deterring the recidivist from drink driving, as indicated by the finding that recidivists were less likely to report that they thought they would never DWI. This suggests the need for harsher penalties (as perceived by the drink driver).

THE GENERAL DRIVING POPULATION AND DRINK DRIVING

Some interesting findings related to the control group provide information about drink driving behaviour in the general driving population. In particular, data in relation to previous drink driving indicate that a large majority of the New Zealand public is driving after drinking but is not being detected by the authorities. This is consistent with Bailey and Bailey's (1982) findings. Understandably, owing to less exposure, the

younger drivers were less likely to have been previously stopped when driving after drinking and this may help explain Beck's (1981) suggestion that they believed that there were no risks involved in driving after drinking. As previous drink driving episodes did not result in detection, the behaviour is reinforced and the probability of it occurring will increase (Wilson & Jonah, 1985). They also felt they could drive safely which may have been true as indicated by the lower alcohol consumption levels reported by the general driving group. However, when the younger drivers were asked how intoxicated they felt while drinking they were more likely to report that they felt a 'moderate amount of intoxication' or 'a lot' which suggests they were intoxicated and therefore impaired in their driving.

This finding indicates that the younger age group from the general driving population carries a similar philosophy about their abilities to drive safely after drinking as the over all DWI group. Beck (1981) believes decisions to drink drive are dependant on the individual's ability to personally evaluate his/her behaviour. As Beck (1987) notes that younger age groups have a lack of knowledge about alcohol impairment, it is not surprising that the younger drivers from the general driving population perceived their intoxication level as acceptable to drive.

A positive finding for those drink drive campaigns whose advertising tends to target the younger drivers is that the younger drivers (15 to 34) in the general driving population were more likely to consider alternatives to driving. In particular they were more likely to get someone else to drive compared to the older group (35 and over) who drove themselves, which suggests that 'life saver' campaigns are working for the younger group. A suggested explanation of this may be the introduction of compulsory breath testing which has led to increased use of alternatives (e.g., host buses, taxi chips) which are often targeted at the younger drivers. This finding may also suggest that older drink drivers feel they can drink drive safely as they have been doing it for longer with no negative consequences.

The finding that the younger age group were more likely to be pressured by friends to drink (although they tended to resist the pressure) supports the idea that peer pressure

plays a part in the drinking situation (Vegaga & Klitzner, 1989; Vejonska, 1982) and this is probably more a reflection of general peer pressure among the younger age group to fit in to social situations.

LIMITATIONS OF THE PRESENT RESEARCH

As previously stressed, major limitations of the present study are a small sample size and non representativeness of the sample. These place constraints on the generalisability of the present findings to the larger drink drive population.

Another limitation in relation to the methodology of the present study is the use of an interview to measure the situational factors. Although the interview has many advantages in research (see Chapter 6) Babbie (1989) notes that social desirability is often a problem in a face to face interview situation. Owing to the nature of the information being elicited by the researcher this may be the case in the present study. In addition, the effect of the interviewer's characteristics (e.g., age, gender and ethnicity) on the respondent may have biased the respondents answers. As most of the subjects were male and the researcher was a comparatively young female this may have resulted in socially desirable responding or over exaggeration in some of the responses in the attempt to present themselves in a favourable light. Additionally, as the interview used in the present study was a structured questionnaire this limits the type of information participants provide as they are forced to respond within pre-established conceptual frameworks.

In addition, as mentioned, the DWI arrestees were sent letters by the Traffic Safety Division of the New Zealand Police asking if they would like to participate in the present research. Although confidentiality was assured one could assume that they would attempt to present themselves in a more favourable light in the interview, thinking that the Traffic Division may have other vested interests in the results even after they were told otherwise.

As the present study relies on the individual's ability to recall events that occurred in some cases two to three years prior, there is the possibility that retrieval of information is distorted owing to memory decay. It is also possible that as anxiety and stress may affect the retention of information i.e. those who are anxious may retain less than their calmer counterparts (Eysenck, 1979; Mandler, 1984: cited in Weiner & Hess, 1987) and those who are highly stressed may ignore relevant information due to a narrowing of their attention (Easterbrook, 1959), the retrieval of information surrounding the DWI epsiode that lead to an arrest may be subject to distortion and therefore affect accuracy.

Moreover, the introduction of Compulsory Breath testing (CBT) in 1993 may be acting as a confound. As the recruitment of the general driving population coincided with the introduction of CBT this may have influenced the present findings with situations varying markedly for those drinking recently, compared to those who drank prior to January 1993. The general driving population group may have been less likely to drink drive owing to CBT and the increased risk of detection. Compulsory breath testing may also be creating a change in attitudes that was not occurring when those in the DWI group drove. People may be taking different actions as a result of more alternative options to drink driving becoming available with the introduction of CBT (e.g., host buses, taxi chips and dial a driver). Compulsory breath testing may also be influencing the amount of alcohol consumed and behaviours surrounding the drinking episode (e.g., preplanning) owing to its deterrence effects.

PRACTICAL IMPLICATIONS OF THE PRESENT RESEARCH

Several policy implications are suggested by the present findings.

* Policies focusing on the accountability of licensed establishments in the drink driving problem, such as third party liability laws or, more realistically, prevention programmes being a requirement of licensing, (suggested by O'Donnell, 1985) should be a first priority.

* As suggested by Bailey and Carpinter (1991) and by the present research, prevention policies focusing on increased traffic patrolling which coincides with common drink driving times and locations would increase the visibility of authorities and therefore increase the drink driver's perceived probability of being detected which according to Ross (1978, cited in Levy, 1982), Sostkowski & Peltier, (1982), Stephan (1989), and Wilson & Jonah (1985) would result in less drink driving. As the present data suggests that risk of detection is a concern to drink drivers yet does not appear to deter the behaviour, increasing the risk of detection may be needed to lower the probability of behaviour. The merger of the Traffic Safety Division and Police may help to address this policy suggestion.

* The data suggest many individuals, especially youth, are unable to assess accurately the effect of alcohol on their ability to drive or to assess accurately how their level of intoxication compares with the legal breath/blood alcohol limit. Educational programmes concentrating on the effects of alcohol on driving and on the level of intoxication, which are targeted at the younger driver (under 35) would therefore appear to be needed. As research suggests that people personally evaluate their behaviour (Beck, 1981) education in recognizing behavioural indications of impairment would help to provide drivers with the knowledge and skills to successfully evaluate their behaviour at an early stage of a drink drive situation.

* It is obvious from the present study that the recidivist drink driver presents a major problem. As this research indicates that some drink drivers perceive the penalties for drink driving as not being harsh enough to deter them from drink driving, changes to present penalties which have more of an impact on drink drivers, particularly recidivists, are needed.

* Alternatives to drink driving need to be made more convenient. Although some of the drink drivers reported that they did consider alternatives, it appears that they did not use them as they were seen as inconvenient. The present study suggest that increasing the convenience of alternatives is essential. For instance, less costly alternatives such as taxi chips are currently being used in this country. More taxis/public transport in the early hours of Saturday and Sunday morning should also be made available and bars/hotels should provide areas where cars may be left securely. In addition the present study also indicates that countermeasures which emphasise preplanning transport would be appropriate. Although the DWI group reported that there was someone else who could have driven, this person was often as/more intoxicated than the driver. This suggests that the use of techniques such as 'life savers' would be effective if preplanned, as companions are commonly drinking alcohol also and are often also incapable of driving or seeing the need for, and/or organising an alternative. Countermeasures that emphasise preplanning are currently being introduced in New Zealand.

* As the present study suggests that drink drivers tend to be parents (often single), deterrence programmes that focus on their children's welfare may also lead to discouraging the drink driving behaviour.

* In addition to designing policies, interventions or countermeasures to combat the drink drive problem it would also be worthwhile evaluating present drink driving advertising campaigns to determine what groups these messages are reaching and how effective the message is. While it would appear some campaigns are effective in deterring the younger groups of the general driving

population, as indicated by the finding that this group is more likely to use alternatives, further evaluation would be worthwhile.

* As the present study identified that nearly a third of the general driving population is driving after drinking and not being stopped an evaluation, of reasons why authorities stop whom they stop, from the perspective of the enforcement officers, may help explain the present finding. It may be that institutionally determined patrol practices are only identifying particular subgroups of the drink driving population while other subgroups are not being detected.

RECOMMENDATIONS FOR FUTURE RESEARCH

Future research should be directed towards determining to what degree the present findings can be supported with a larger sample size. More generalisable results would help provide more meaningful data which may or may not support the findings of the present study.

It is noted that in obtaining a larger sample, ethical and practical problems may arise. In the present study the Traffic Safety Division of the New Zealand Police were extremely helpful in assisting in obtaining data and future research of this type would be dependant on their good offices.

Although the limitations in sample size preclude us from making a definite statement that situations do not tend to vary between the drink drivers and the general licensed population, findings from the present research warrant further research into situational factors on a New Zealand drink drive episode. In addition, as noted in Chapter 2, how an individual behaves will be a result of both situational and personal dispositions and in the drink drive situation it may be that the personal dispositions have a greater influence over the situational factors when decisions on drink driving are being made. Therefore exploring the personality structure of drink drivers would be a next step for

New Zealand research. Exploring personality factors may also provide information on recidivist behaviour in drink driving.

The present study looked at time variables, such as what day and time the individual was drinking and drove. However, a deeper examination of temporal factors associated with situational factors, such as in what sequence certain events occurred in the drink driving episode, (e.g., when intervention attempts took place, in what order were drinking locations visited, at what stage were risks of drink driving perceived) would provide more knowledge on the process of events leading up to a drink driving episode. If intervention attempts occur earlier in the evening when the driver is in a more sober state he/she may be more receptive rather than at the end of the drinking episode when the drink driver is more likely to be intoxicated, less likely to believe his/her impairment is of concern, and possibly reject the intervention attempt.

Further in depth studies on bar/hotel environments and their role in alcohol consumption levels and in intervention in drink driving would provide help in understanding the influence of the bar/hotel environment's influence on drink drive behaviour. This could have significant implications for prevention policies.

The present study draws attention to the possibility of present penalties for drink driving being perceived by drink drivers themselves as not very effective. More data on the effectiveness of present penalties for drink driving, and possible alternatives, may provide some interesting insights into the future directions of penalising drink drivers.

The present study aimed to describe the prearrest situational factors and demographic factors of a New Zealand drink driver, in the hope that interventions and countermeasures could be directed at those situations and individuals who are most at risk of drink driving. To advance the understanding of these factors future research would do well to use a multivariate approach in order to determine the unique contribution of each of these variables to drink driving behaviour.

SUMMARY AND CONCLUSIONS

The present study focused on situational factors and their association with the drink drive episode in an attempt to fill a gap in drink driving research in New Zealand.

One of the major findings in the present study is that the majority of situational factors examined in relation to a drink drive episode did not distinguish between a drink drive population and general driving population. Those situational factors which were found to distinguish between the two groups and which may contribute to drink driving are: the reason the drinker was in a good mood, social composition of the drinking group, quantities of alcohol consumed, the level of intoxication felt, reasons intervention attempts in the past had worked, reactions by the drinker to the present intervention attempt, the drinker's perceived need to get somewhere and the destination, social pressure to drive, how others would have regarded them if they refused/declined to drive, make of the vehicle, owner of the vehicle, age of the vehicle, where the drinker travelled to during the drinking episode and the types of risks perceived in drink driving. These differences highlight areas where possible intervention and countermeasures can be targeted to modify drink driving behaviour.

Another finding was that the situational factors did not vary considerably among the DWI group in relation to the demographic variables. A small number of variations were identified in relation to the drink driver's age, whether he/she was employed or not and whether his/her DWI conviction was their first offence or he/she had a previous DWI conviction. This suggests that different interventions and countermeasures may need to be targeted towards different subgroups as the drink drive population is not a homogenous population.

As a result of the small number of significant findings one could hypothesise that personal dispositions have a greater influence on behaviour than situational factors and that research which examines more of the person behind drink driving, for example, personality factors and their interaction with the situation, rather than just their

demographics characteristics, should be the next step for New Zealand in drink driving research.

Although the present findings can only be taken as preliminary, owing to limitations identified, they do merit further examination with a larger sample to determine the validity of the findings. One of the strengths of the present study is the examination of actual behaviour rather than hypothetical behaviour which, as noted, is not always an accurate reflection of the way the individual will react in a drink drive situation. The present methodology of examining actual behaviour offers a new approach to drink driving research in New Zealand. As mentioned above, conducting research in areas that deal with socially undesirable behaviour, such as drink driving brings with it ethical and practical problems. In spite of this, research of this type is needed for society to understand socially deviant groups such as the drink driver.

While drink driving is still a major social and health problem in New Zealand society there is a social obligation to continue to examine all facets of the behaviour. The present study is a step towards advancing the current state of knowledge on factors that influence drink driving behaviour in New Zealand.

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AREA FROM WHICH SUBJECTS WERE SELECTED

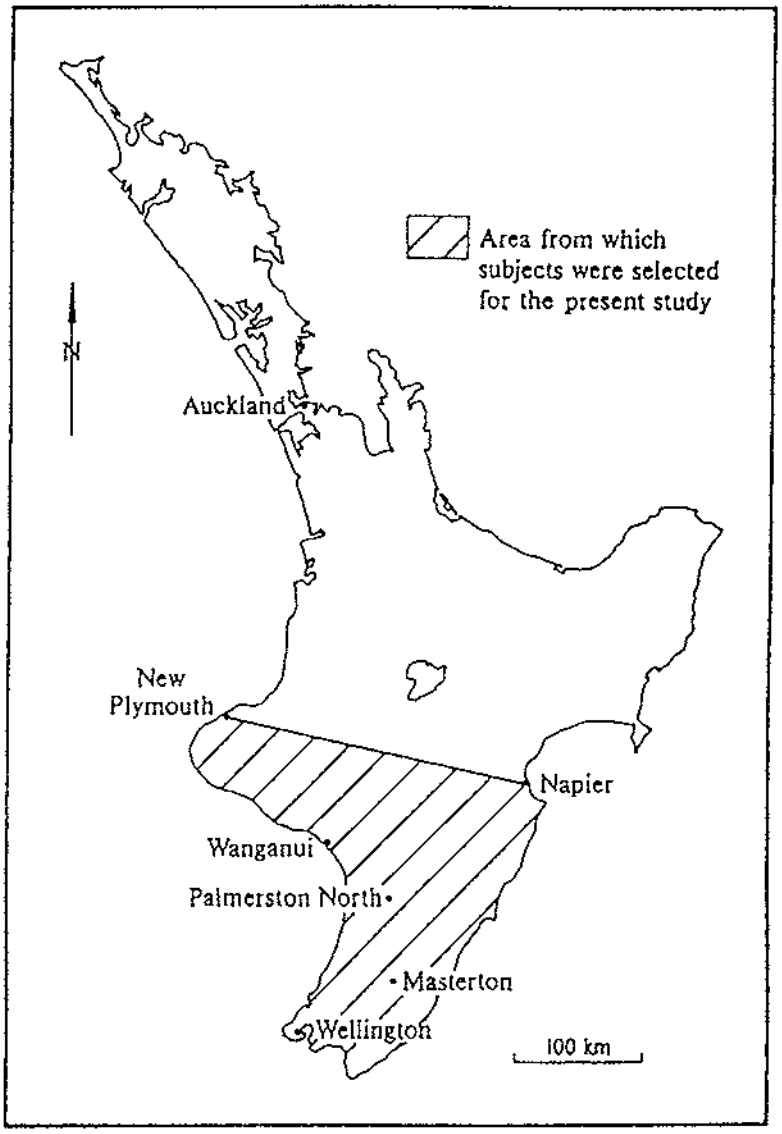


Figure 7: Map of the North Island of New Zealand showing area from which subjects used in the present study were selected.

APPENDIX B

TRAFFIC SAFETY DIVISION COVER LETTER

POLICE
Nga Pirihimana O Aotearoa

1 June 1993

Dear recipient

We have been approached by Massey University for assistance with a research project. The researcher seeks to contact persons who have been prosecuted for a drink drive offence.

While we are not prepared to release anyone's name to the university to protect people's privacy we have agreed to pass the researcher's letter on. One is enclosed for you.

Please be assured your name and address remain confidential. Whether or not you reply to the researcher is entirely up to you. However the study seems a very worthwhile project and I would encourage those people willing and able to take part to do so.

Yours faithfully

Philip G Wright
Assistant Commissioner : Traffic Safety

Safer Communities Together

NEW ZEALAND POLICE NATIONAL HEADQUARTERS
180 Molesworth Street, Wellington, New Zealand. P O Box 3017.
Phone 64-4-474 9499, Fax 64-4-474 9446, Dx 8802, Telex POLICEHQ NZ 3550.

APPENDIX C

INFORMATION LETTER AND AGREEMENT FORM (DWI)

Dear Sir/Madam

My name is Diana McAlpine and I am a student at Massey University in Palmerston North. As part of my studies I have to do some research.

I have asked The Traffic Safety Division of The New Zealand Police to forward this letter to some persons who have been convicted of driving under the influence of alcohol. I hope that you would be willing to be talk to me on this topic. Whether you take part or not is up to you.

I would like to ask you about things that were happening before and during the time when you drove after drinking and were stopped. There will also be questions about the way you act and feel in different situations as well as questions about yourself such as your age and occupation.

I realise this may be a sensitive area but I would really appreciate your help. Our talk would take about one hour. Everything you tell me will be confidential (your name will not be used in any part of the study) and it will not be possible to tell who you are from the final report I write. You will be free to opt out of the study at anytime or you can refuse to answer any questions I ask you. You also have the right to ask any questions about the study that you may think of during our talk. You will also be given a copy of what I found out when the research is finished.

I stress that the everything you say will be confidential and that nothing will be able to be traced back to you.

If you agree to take part I would be willing to come to talk to you at a time and place that suits you. To take part would you please return the enclosed form in the envelope. When I get this I will contact you and we can arrange a time to talk.

If you have any questions about this research please feel free to contact me through the Psychology Department at Massey University (06) 3569099 extn 8465.

Diana McAlpine
RESEARCHER

AGREEMENT TO TAKE PART IN DIANA MCALPINE'S RESEARCH

I have read the letter from Diana McAlpine which explains why she is doing the research and I feel comfortable with what I know about the study. I know that I may ask further questions at any time during the research.

I know that the questions will be about

: things happening before and during the time when I drove after drinking and was stopped.

: the way I behave, act or feel in different situations

: general information about myself such as my age and occupation.

I also know that I am free to opt out of the study at anytime, or I can refuse to answer any questions Diana asks me. I agree to give information to Diana McAlpine knowing it is completely confidential and that nobody will be able to tell who the information is from.

I am willing to take part in Diana McAlpine's research under the conditions set out in her letter.

NAME:

_____

ADDRESS:

_____

PHONE:

_____

SIGNATURE:

_____

DATE:

_____

APPENDIX D

INFORMATION LETTER AND AGREEMENT FORM (CONTROL)

Dear Sir/Madam

My name is Diana McAlpine and I am a student at Massey University in Palmerston North. As part of my studies I am required to complete a research project. I am undertaking research into behaviour related to Drinking and Driving in New Zealand.

With this research I hope to identify situational factors that lead to people driving under the influence of alcohol so that programmes can be developed to reduce the likelihood of these situations occurring.

As part of this research I am interviewing a group of people who have been convicted of driving under the influence of alcohol. However, I also need to compare these people with a group who do not have such a conviction.

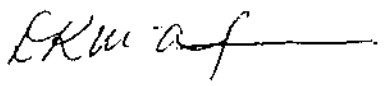
I have randomly selected your name from the Electoral Roll. I would be extremely grateful if you would take part in my study. Whether you take part or not is up to you. Taking part would involve a talk with me of about one hour where I will ask you questions relating to an occasion when you drank alcohol. There would also be a few questions about yourself such as your gender and occupation.

Everything you tell me will be confidential (your name will not be used in any part of the study) and it will not be possible to tell who you are from the final report I write. You will be free to opt out from the study at anytime or you can refuse to answer any questions I ask you. You also have the right to ask any questions about the study that you may think of after our talk. You will also be provided with a summary of the findings once the study is completed.

I stress that the interview will be confidential and that nothing will be able to be traced back to you.

If you agree to participate I would be willing to come to talk to you at a time and place that suits you. To take part please return the enclosed form in the envelope. Upon receiving this I will get in contact with you to arrange a time to talk.

Should you have any questions regarding this research please feel free to contact me through the Psychology Department at Massey University (06) 3569099 extn 7163.



Diana McAlpine (RESEARCHER)

CONSENT FORM FOR PARTICIPATION IN DIANA MCALPINE'S RESEARCH

I have read the enclosed letter from Diana McAlpine which explains why she is doing the research and I feel comfortable with what I know about the study.

I understand that the questions will be about

: an occasion when I had been drinking alcohol.

: general information about myself such as my age and occupation.

I also know that I am free to withdraw from the study at anytime, or may refuse to answer any questions Diana asks me. I agree to provide information to Diana McAlpine on the understanding that it is completely confidential and that nobody will be able to tell who the information is from.

I am willing to take part in Diana McAlpine's research under the conditions set out in her letter.

NAME:

_____

ADDRESS:

_____

PHONE:

_____

SIGNATURE:

_____

DATE:

_____

DRINKING WHILE DRIVING INTERVIEW (Experimental Group)

DATE:

CITY:

INTERVIEWER: FIRST I'D LIKE TO ASK YOU A FEW QUESTIONS ABOUT YOURSELF

1. What sex are you? (CIRCLE ONE)

   1. MALE
   2. FEMALE

2. To which ethnic group do you belong? (CIRCLE ONE)

   1. NEW ZEALAND PAKEHA
   2. NEW ZEALAND MAORI
   3. OTHER POLYNESIAN
   4. ASIAN
   5. OTHER (SPECIFY:_____)

3. How old are you? (CIRCLE ONE)

   1. 15 - 19
   2. 20 - 24
   3. 25 - 34
   4. 35 - 44
   5. 45 - 64
   6. 65 +

4. What is your birth date? _____

5. What is your occupation? (RECORD:_____)

   _____

6. What is your personal annual income? (CIRCLE ONE)

   1. UNDER $5000
   2. $5001 - $10,000
   3. $10,001 - $20,000
   4. $20,001 - $30,000
   5. $30,001 - $40,000
   6. $40,001 - $50,000
   7. OVER $50,000
   8. OVER $100,000

7. Which of these describes your household? (CIRCLE ONE)

   1. LIVING ALONE
   2. LIVING WITH PARTNER/SPOUSE
   3. LIVING WITH PARENTS
   4. LIVING WITH A PARTNER/SPOUSE AND CHILDREN
   5. LIVING WITH CHILDREN, BUT NO PARTNER/SPOUSE
   6. LIVING WITH OTHER ADULTS BUT NO PARTNER/SPOUSE.
   7. OTHER (SPECIFY: _____)

   _____

8. What drinking and driving offence have you been convicted of (CIRCLE ONE)

   1. EBA - (excess blood/breath alcohol)
   2. DIC - (drunken charge)

9. Can you tell me how many times you have been convicted of EBA or DIC? (Which ever is appropriate).

   _____ NUMBER OF TIMES

   INTERVIEWER: If "Don't know", probe to get estimate.

   I'd like to learn more about the most recent incident which led to your conviction. I'll stop for a moment to let you think about that time.

10. First, how old were you when this occurred? (RECORD)

    _____ AGE

11.

12.

13. What kind of vehicle were you driving? (CIRCLE ONE OR USE AS PROBE)

    1. CAR
    2. TRUCK
    3. VAN
    4. MOTORCYCLE
    5. MOPED
    6. OTHER (SPECIFY:_____)

14. What Make, Model, Year was the vehicle you were driving?

    _____

15. Whose vehicle was it? (CIRCLE ONE)

1. MINE
2. MY WIFE\HUSBAND
3. FRIEND'S
4. OTHER FAMILY MEMBERS
5. FIRM'S CAR
6. OTHER (SPECIFY _____)

16.

17.

18.

19.

20.

21.

22. Where were you that day or evening when you first started drinking before you drove? (CIRCLE ONE OR USE AS PROBE)

1. AT HOME
2. AT A RESTAURANT
3. AT A PARTY
4. AT A FRIEND'S/RELATIVES HOUSE
5. AT A SPORTS/OTHER SPECIAL EVENT
6. AT A BAR/HOTEL
7. AT WORK
8. JUST "HANGING" AROUND
10. AT SCHOOL
11. OTHER (SPECIFY _____)

_____

23. Were you in a town area or in a country area?

1. TOWN
2. COUNTRY
3. DON'T REMEMBER

24. Why were you drinking? (CIRCLE ALL THAT APPLY)

1. TO RELIEVE STRESS
2. TO GET DRUNK
3. LONELY/BORED
4. SOCIAL REASONS (SPECIFY _____)

_____

7. TO BE PART OF THE 'IN CROWD'
8. ENJOYMENT OF TASTE

10. OTHER (SPECIFY _____)

_____

25. Who were you drinking with? (CIRCLE ALL THAT APPLY)

1. FRIEND(S)
2. WORKMATE(S)
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY: _____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. ALONE
11. OTHER (SPECIFY: _____)

12. MIXED GROUP OF ABOVE (SPECIFY _____)

26. What day of the week was it when you drove after drinking? (CIRCLE ONE)

1. MONDAY
2. TUESDAY
3. WEDNESDAY
4. THURSDAY
5. FRIDAY
6. SATURDAY
7. SUNDAY

27. What time of the day/night was it when you drove after drinking? (CIRCLE ONE)

1. 7AM - 12PM
2. 12PM - 5PM
3. 5PM - 12AM
4. 12AM - 4AM
5. 4AM - 7AM

28. How many other people were in the car with you that day/night (all together)? (RECORD)

_____ NUMBER (IF "0" GO TO QUESTION 36)
10. CAN'T REMEMBER (PROBE FOR ESTIMATE)

29.

30. What were the passengers relationship to you? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. FRIEND(S)
2. WORKMATE(S)
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY: _____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. OTHER (SPECIFY: _____)
11. MIXED GROUP OF ABOVE (SPECIFY _____)

31.

32. Had the other passengers been drinking before they got in your car? (CIRCLE ONE)

1. NO (NONE OF THEM)
2. YES (SOME OF THEM)
3. YES (ALL OF THEM)
4. DON'T KNOW

33.

34. Had the other passenger(s) been using drugs before they got in you car? (CIRCLE ONE)

1. NO (NONE OF THEM)
2. YES (SOME OF THEM)
3. YES (ALL OF THEM)
4. DON'T KNOW

35.

36. While you were driving, was anyone, including you, drinking alcohol in the vehicle? (CIRCLE ONE)

1. NO (GO TO QUESTION 38)
2. YES
3. DON'T KNOW (GO TO QUESTION 38)

37. Who was drinking? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. DRIVER
2. PASSENGERS
3. BOTH

38. How many drinks had you had before you first started driving that day? (RECORD)

1. 1 - 10 200ML GLASS OF BEER
2. 10 - 20 200ML GLASS OF BEER
3. 20 - 40 200ML GLASS OF BEER
4. 40+ 200ML GLASS OF BEER
5. 1 - 10 180ML GLASS OF WINE
6. 10 - 20 180ML GLASS OF WINE
7. 20+ 180ML GLASS OF WINE
8. 1 - 10 NIP OF SPIRITS
10. 10 - 20 NIP OF SPIRITS
11. 20+ NIP OF SPIRITS
12. OTHER (SPECIFY: _____)

INTERVIEWER: If "Don't know" probe for estimates.

39. Before you started driving did you think you were pretty drunk, just a little high, or not really feeling any effects of the alcohol?

1. NOT FEELING ANY EFFECTS OF THE ALCOHOL
2. NOT TOO MUCH (FELT CAPABLE OF DRIVING SAFELY)
3. A MODERATE AMOUNT (LITTLE "TIDDLY" OR "HIGH")
4. A LOT (PRETTY DRUNK)
5. DON'T REMEMBER (PROBE FOR ANSWER)

40. Did you drink any more that day/night after you started driving? (CIRCLE ONE)

1. NO (GO TO QUESTION 43)
2. YES

41. How many drinks did you have? (RECORD)

1. 1 - 10 200ML GLASS OF BEER
2. 10 - 20 200ML GLASS OF BEER
3. 20 - 40 200ML GLASS OF BEER
4. 40+ 200ML GLASS OF BEER
5. 1 - 10 180ML GLASS OF WINE
6. 10 - 20 180ML GLASS OF WINE
7. 20+ 180ML GLASS OF WINE
8. 1 - 10 NIP OF SPIRITS
10. 10 - 20 NIP OF SPIRITS
11. 20+ NIP OF SPIRITS

12. OTHER (SPECIFY:_____

_____ [ ][ ]

42. So what was the total number of drinks you had all day? (RECORD)

1. 1 - 10 200ML GLASS OF BEER
2. 10 - 20 200ML GLASS OF BEER
3. 20 - 40 200ML GLASS OF BEER
4. 40+ 200ML GLASS OF BEER
5. 1 - 10 180ML GLASS OF WINE
6. 10 - 20 180ML GLASS OF WINE
7. 20+ 180ML GLASS OF WINE
8. 1 - 10 NIP OF SPIRITS
10. 10 - 20 NIP OF SPIRITS
11. 20+ NIP OF SPIRITS

12. OTHER (SPECIFY:_____

_____ [ ][ ]

43. What's the drunkest you felt at any time you were driving? (CIRCLE ONE)

1. NOT FEELING ANY EFFECTS OF THE ALCOHOL
2. NOT TOO MUCH (FELT CAPABLE OF DRIVING SAFELY)
3. A MODERATE AMOUNT (LITTLE "TIDDLY" OR "HIGH")
4. A LOT (PRETTY DRUNK)
5. DON'T REMEMBER (PROBE FOR ANSWER) [ ]

44. Did you think that you were under the legal limit when you drove after drinking (CIRCLE ONE)

1. YES
2. NO
3. DON'T REMEMBER (PROBE FOR ANSWER) [ ]
4. OTHER (SPECIFY:_____

45. Did you use drugs other than alcohol on that day? (CIRCLE ONE)

1. NO (GO TO QUESTION 47)
2. YES
3. DON'T REMEMBER (GO TO QUESTION 47) [ ]

46. Which drugs? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. MARIJUANA
2. COCAINE
3. MEDICATION (SPECIFY _____
4. OTHER (SPECIFY: _____ [ ]

47. When you first started drinking that day were you in a good mood or a bad mood? (CIRCLE ONE)

1. GOOD MOOD (GO TO QUESTION 48)
2. BAD MOOD (GO TO QUESTION 49)
3. NEITHER A GOOD NOR BAD MOOD (GO TO Q.50)
4. CAN'T REMEMBER (GO TO QUESTION 50) [ ]

48. Why were you in a good mood? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. NO PARTICULAR REASON
2. SOMETHING GOOD HAD JUST HAPPENED

What? (RECORD: _____

_____

6. IT WAS A SPECIAL DAY

Why? (CIRCLE OR USE AS PROBE)
7. SPECIAL OUTING (BOY/GIRLFRIEND:HUSBAND/WIFE)
8. SPECIAL EVENT (EG., PARTY)
10. OTHER (SPECIFY:_____

_____ [ ][ ]

GO TO QUESTION 50

49. W y were you in a bad mood? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. FELT BLUE OR DEPRESSED BECAUSE (RECORD).

_____

2. HAD A PROBLEM ABOUT (RECORD) _____

_____

3. WAS ANGRY BECAUSE (RECORD) _____

_____

4. FELT ANXIOUS OR NERVOUS BECAUSE (RECORD)

_____

5. OTHER (SPECIFY:_____

_____

50. Did your mood change after you had started drinking? (CIRCLE ONE)

1. NO, DIDN'T CHANGE
2. YES, GOT BETTER
3. YES, GOT WORSE
4. CAN'T REMEMBER

51. Had any of the following events occurred over the year prior to the night you drove after drinking? (CIRCLE ALL THAT APPLY OR USE TO PROBE)

1. DEATH OF A SPOUSE
2. DIVORCE
3. SEPARATION
4. IMPRISONMENT
5. DEATH OF CLOSE FAMILY MEMBER/FRIEND
6. PERSONAL INJURY OR ILLNESS
7. MARRIAGE
8. FIRED OR BECAME REDUNDANT
10. MARITAL RECONCILIATION
11. RETIREMENT
12. CAN'T REMEMBER
13. OTHER STRESSFUL EVENT (SPECIFY:

_____

_____

_____

14. NONE

52. Which of the following places did you drive to after you started drinking? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. HOME
2. RESTAURANT
3. A PARTY
4. A FRIEND'S/RELATIVE'S HOUSE
5. SPORTS/OTHER SPECIAL EVENT
6. BAR/HOTEL
7. WORK
8. JUST "HANGING" AROUND
10. SCHOOL
11. OTHER (SPECIFY: _____

53. Can you tell me what you were thinking about when you decided to drive after you had been drinking? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. HAVING A GOOD TIME
2. NOTHING IN PARTICULAR
3. NEEDING TO GET SOMEWHERE (WHERE? SPECIFY:

_____

_____

4. IMPRESSING FRIENDS
5. IMPRESSING BOY/GIRLFRIEND
6. WONDERING IF I SHOULDN'T DRIVE
7. CAN'T REMEMBER
8. OTHER (SPECIFY:_____

_____

54. Was there someone else who could have driven?

1. NO
2. YES (WHY DIDN'T THEY?)

_____

_____

55.

56. Did you think it was risky for you to drive at any point after you started drinking? (CIRCLE ONE)

1. NO, DIDN'T THINK I WAS TOO DRUNK TO DRIVE SAFELY
2. NO, DIDN'T KNOW DRINKING IMPAIRS DRIVING
3. NO, OTHER (SPECIFY:

_____

_____

4. YES (IF "YES" ASK QUESTION 57;

OTHERWISE GO TO QUESTION 58)

57. What did you think the risks were? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. YOU MIGHT GET HURT
2. YOU MIGHT HURT SOMEONE ELSE
3. YOU MIGHT GET IN TROUBLE WITH THE POLICE
4. YOU MIGHT GET IN TROUBLE WITH YOUR PARTNER/SPOUSE
5. YOU MIGHT DAMAGE THE VEHICLE
6. OTHER (SPECIFY:_____

_____

_____

58. Did you do anything special to make your driving safer once you started drinking? (CIRCLE ONE)

1. NO (GO TO QUESTION 60)
2. YES

59. What did you do? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. SLOWED DOWN
2. WATCHED TRAFFIC LIGHTS AND STOP SIGNS MORE CAREFULLY
3. WATCHED FOR THE POLICE/TRAFFIC OFFICER
4. TOOK BACK ROADS
5. OTHER (SPECIFY:_____

_____

_____

60. Where were you going when you drove and were stopped? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. HOME
2. RESTAURANT
3. A PARTY
4. A FRIEND'S/RELATIVE'S HOUSE
5. SPORTS/OTHER SPECIAL EVENT
6. BAR/HOTEL
7. WORK
8. JUST "HANGING" AROUND
10. SCHOOL
11. OTHER (SPECIFY:_____

61. Was there some place you or a passenger had to go? (CIRCLE ONE)

1. NO (GO TO QUESTION 64)
2. YES

62. Where? (CIRCLE ONE)

1. HOME - SELF
2. HOME - PASSENGER
3. ANOTHER BAR
4. PARTY
5. SPORTS EVENT
6. WORK
7. OTHER (SPECIFY:_____)

63. What would have happened to you if you were late or didn't get there? (RECORD)

64. How faraway was the desired destination in driving time from where you were drinking? (CIRCLE ONE)

1. 5 MINUTES DRIVE
2. 10 MINUTES DRIVE
3. 15 MINUTES DRIVE
4. 30 MINUTES DRIVE
5. 45 MINUTES DRIVE
6. 1 - 2 HOURS DRIVE
7. OVER 2 HOURS
8. OTHER (SPECIFY:_____)

65. Were you familiar with the road between where you were drinking and where you were driving to? (CIRCLE ONE)

1. YES
2. NO
3. DON'T REMEMBER (PROBE FOR ANSWER)

66. After you started drinking, did you ever consider not driving? (CIRCLE ONE)

1. NO (GO TO QUESTION 72)
2. YES

67.

68. Did you consider alternatives to driving?

1. YES
2. NO (GO TO QUESTION 72).

69. What alternatives did you consider? (CIRCLE ALL THAT APPLY OR USE AS A PROBE)

1. JUST NOT DRIVING/NOT GOING
2. TAKING A BUS OR TAXI
3. WALKING OR RIDING A BIKE
4. CALLING SOMEONE FOR A RIDE
   Who? (SPECIFY:_____)
7. FINDING ANOTHER DRIVER
8. WAITING TILL YOU SOBERED UP
10. STAYING THE NIGHT
11. OTHER (SPECIFY:_____)

70.

71. Why did you not do any of these? (RECORD)

I'D LIKE TO ASK YOU ABOUT THE REACTIONS OF OTHERS TO WHAT WENT ON THAT DAY.

72. Did anyone pressure you TO DRINK that day or evening? (CIRCLE ONE)

1. NO (GO TO QUESTION 79)
2. YES

73. Who?

1. FRIEND
2. WORKMATE
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY:_____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. OTHER (SPECIFY:_____)

74. All together, how many people pressured you to drink? (RECORD)

_____ NUMBER

75. How much pressure did you feel? (CIRCLE ONE)

1. NONE
2. A LITTLE
3. SOME
4. A GREAT DEAL

76. What did someone/others do to make you feel pressured to drink? (RECORD)

77. Did you do anything to resist the pressure? (CIRCLE ONE)

1. NO (GO TO QUESTION 79)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 79)

78. What did you do? (RECORD)

79. Did anyone pressure you NOT TO DRINK that day or evening? (CIRCLE ONE)

1. NO (GO TO QUESTION 86)
2. YES

80. Who?

1. FRIEND
2. WORKMATE
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY:_____
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. OTHER (SPECIFY:_____

81. All together, how many people pressured you not to drink? (RECORD)

_____ NUMBER

82. How much pressure did you feel? (CIRCLE ONE)

1. NONE
2. A LITTLE
3. SOME
4. A GREAT DEAL

83. What did someone/others do to make you feel pressured not to drink? (RECORD)

84. Did you do anything to resist the pressure? (CIRCLE ONE)

1. NO (GO TO QUESTION 86)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 86)

85. What did you do? (RECORD)

86. Did anyone pressure you TO DRIVE after you had been drinking? (CIRCLE ONE)

1. NO (GO TO QUESTION 93)
2. YES

87. Who?

1. FRIEND
2. WORKMATE
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY:_____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. OTHER (SPECIFY:_____)

88. All together, how many people pressured you to drive after you had been drinking? (RECORD)

_____ NUMBER

89. How much pressure did you REALLY feel? (CIRCLE ONE)

1. NONE
2. A LITTLE
3. SOME
4. A GREAT DEAL

90. What did someone/others do to make you feel pressured to drive after you were drinking? (RECORD)

91. Did you do anything to resist the pressure? (CIRCLE ONE)

1. NO (GO TO QUESTION 93)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 93)

92. What did you do? (RECORD)

93. What do you think other people would have thought of you if you refused to drive after you were drinking? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. NOT APPLICABLE (NO ONE ELSE INVOLVED)
2. THAT YOU WERE "WIMPISH", "SOFT", ETC.
3. THAT YOU WERE MAKING A BIG DEAL OUT OF NOTHING
4. THAT YOU WERE PRETTY SMART
5. YOU WERE SPOILING OTHERS' FUN
6. OTHER (SPECIFY:

_____

_____

94. Did anyone do or say anything to try to stop you from driving once you had started drinking? (CIRCLE ONE)

1. NO (GO TO QUESTION 99)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 99)

95. What did they say or do? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. TRIED TO GET YOU TO LET SOMEONE ELSE TO DRIVE
2. TRIED TO GET KEYS
3. TRIED TO GET YOU TO STAY THE NIGHT
4. TRIED TO STALL YOU UNTIL YOU SOBERED UP
5. CALLED SOMEONE. Who? (RECORD: _____)

_____

6. OTHER (SPECIFY:_____)

_____

_____

96. Did any of these things work at any time?

1. NO (GO TO QUESTION 98)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 98)

97. What worked? (CIRCLE ALL THAT APPLY)

1. GOT YOU TO LET SOMEONE ELSE TO DRIVE
2. GOT THE KEYS
3. GOT YOU TO STAY THE NIGHT
4. STALLED YOU UNTIL YOU SOBERED UP
5. CALLED SOMEONE. Who? (RECORD: _____

_____

6. OTHER (SPECIFY:_____

_____ 97

98. What was your reaction to these things? (CIRCLE ALL THAT APPLY)

1. YOU DENIED YOU WERE DRUNK
2. SAID YOU COULD DRIVE SAFELY
3. SHRUGGED IT OFF
4. GOT ANGRY
5. TOLD THEM TO MIND THEIR OWN BUSINESS
6. OTHER (SPECIFY:

_____

_____ 98

NOW I'D LIKE TO ASK YOU ABOUT ANY CONSEQUENCES THERE MAY HAVE BEEN AS A RESULT OF YOUR DRINKING AND DRIVING

99. Did you have an accident while you were driving? (CIRCLE ONE)

1. NO (GO TO QUESTION 101)
2. YES

99

100. What happened as a result of the accident?
(CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. YOUR VEHICLE WAS DAMAGED SLIGHTLY
2. OTHER PERSON'S VEHICLE WAS DAMAGED SLIGHTLY
3. YOUR VEHICLE WAS DAMAGED SEVERELY
4. OTHER PERSONS VEHICLE WAS DAMAGED SEVERELY
5. SOMEONE WAS INJURED SLIGHTLY
6. SOMEONE WAS INJURED SERIOUSLY
7. SOMEONE WAS KILLED
8. OTHER (SPECIFY: _____

_____

INTERVIEWER: If more than one take the most serious.

100

101. Why did the Traffic Officer/Police stop you?

1. ACCIDENT
2. YOUR DRIVING
3. SOME FAULT IN THE CAR
4. CHECKPOINT
5. SOMEONE/OTHERS COMPLAINED Who? (RECORD)

_____

_____

10. OTHER (SPECIFY:_____

_____ 101

102. What happened as a result of getting stopped by the police? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. WAS CHARGED WITH EXCESS BREATH/BLOOD ALCOHOL (EBA)
2. WAS CHARGED WITH DRIVING UNDER THE INFLUENCE (DIC)

102

103. As a result of that what happened? CIRCLE ALL THAT APPLY)

1. HAD YOUR LICENCE SUSPENDED OR REVOKED
2. WAS FINED (How much? _____
3. WENT TO PRISON
4. SENT TO A PROGRAMME
5. OTHER (SPECIFY: _____

103

104. How long did you have your licence suspended/revoked? (RECORD)

_____ 104

105. Did you drive while your licence was suspended/revoked?

1. YES
2. NO

105

106. Did you get into any trouble with anyone as a result of your conviction?
(CIRCLE ONE)

1. NO (GO TO QUESTION 109)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 109)

106

107. Who? (CIRCLE ALL THAT APPLY OR USE TO PROBE)

1. FRIEND
2. WORKMATE
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY: _____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. MIXED GROUP OF ABOVE
11. OTHER (SPECIFY: _____)

108. What kind of trouble? (RECORD)

109. Was there anything else that contributed to your driving after drinking that day which we haven't discussed? (CIRCLE ONE)

1. NO (GO TO QUESTION 111)
2. YES

110. What? (RECORD)

111. Did you ever think or say to yourself during the time after you were stopped by the traffic officer/police that you would never drive again after drinking?(CIRCLE ONE)

1. NO
2. YES
3. CAN'T REMEMBER (PROBE FOR ANSWER)

112.

113.

NOW I'D LIKE YOU TO THINK BACK OVER ALL THE TIMES WHEN YOU MIGHT HAVE DRIVEN AFTER DRINKING.

114. Did anyone ever at anyume successfully persuade you not to drive after drinking?

1. NO (GO TO QUESTION 117)
2. YES (GO TO QUESTION 115)
3. NEVER BEEN IN THE SITUATION

115. What did they do?

1. TRIED TO PERSUADE HIM/HER TO LET SOMEONE ELSE DRIVE
2. TRIED TO GET THE KEYS
3. TRIED TO GET HIM/HER TO SLEEP OVER
4. TRIED TO STALL HIM/HER UNTIL S/HE COULD SOBER UP
5. CALLED SOMEONE FOR HELP Who? (RECORD:

_____

_____

10. NOTHING
11. OTHER (SPECIFY: _____)

_____

_____

116. Did it work?

1. NO
2. YES (WHY DID IT WORK?

_____

_____

_____

117. Do you think you will ever drive again after drinking? (CIRCLE ONE)

1. NO
2. YES
3. DON'T KNOW/UNSURE

118. Why do you think that? (RECORD)

119. Do you have any other criminal convictions?

1. YES
2. NO

NOW I'D LIKE TO ASK YOU A FEW QUESTIONS TO FINISH UP WITH

120. Do you play a sport?

1. NO (GO TO QUESTION 122)
2. YES

121. Which of the following sports do you play?
(CIRCLE ALL THAT APPLY OR USE FOR PROBE)

1. RUGBY
2. NETBALL
3. RUGBY LEAGUE
4. HOCKEY
5. SOCCER
6. CRICKET
7. BASKETBALL
8. OTHER (SPECIFY: _____)

123. Do you follow a sport with particular interest?

1. NO (GO TO END OF QUESTIONNAIRE.)
2. YES

124. Which of the following sports do you follow with particular interest? (CIRCLE ALL THAT APPLY OR USE FOR PROBE)

1. RUGBY
2. NETBALL
3. RUGBY LEAGUE
4. HOCKEY
5. SOCCER
6. CRICKET
7. BASKETBALL
8. OTHER (SPECIFY: _____)

THAT'S ALL I HAVE TO ASK YOU. DO YOU HAVE ANY QUESTIONS YOU WOULD LIKE TO ASK ME. THANK YOU FOR TALKING TO ME. YOUR HELP IS GREATLY APPRECIATED.

DRINKING WHILE DRIVING INTERVIEW (CONTROL) [ ][ ][ ]

DATE:

CITY:

INTERVIEWER: FIRST I'D LIKE TO ASK YOU A FEW QUESTIONS ABOUT YOURSELF

1. What sex are you? (CIRCLE ONE)

   1. MALE
   2. FEMALE [ ]

2. To which ethnic group do you belong? (CIRCLE ONE)

   1. NEW ZEALAND PAKEHA
   2. NEW ZEALAND MAORI
   3. OTHER POLYNESIAN
   4. ASIAN
   5. OTHER (SPECIFY:_____) [ ][ ]

3. How old are you? (CIRCLE ONE)

   1. 15 - 19
   2. 20 - 24
   3. 25 - 34
   4. 35 - 44
   5. 45 - 64
   6. 65 + [ ]

4. What is your birth date? _____ [ ][ ][ ][ ][ ][ ]

5. What is your occupation? (RECORD:_____

   _____) [ ][ ][ ]

6. What is your personal annual income? (CIRCLE ONE)

   1. UNDER $5000
   2. $5001 - $10,000
   3. $10,001 - $20,000
   4. $20,001 - $30,000
   5. $30,001 - $40,000
   6. $40,001 - $50,000
   7. OVER $50,000
   8. OVER $100,000 [ ]

7. Which of these describes your household? (CIRCLE ONE)

   1. LIVING ALONE
   2. LIVING WITH PARTNER/SPOUSE
   3. LIVING WITH PARENTS
   4. LIVING WITH A PARTNER/SPOUSE AND CHILDREN
   5. LIVING WITH CHILDREN, BUT NO PARTNER/SPOUSE
   6. LIVING WITH OTHER ADULTS BUT NO PARTNER/SPOUSE
   7. OTHER (SPECIFY:

   _____) [ ][ ]

8. [ ]

9. [ ][ ]

10. [ ][ ]

11. Do you drink? (CIRCLE ONE)

    1. YES
    2. NO (TERMINATE INTERVIEW) [ ]

12. Do you drive?

    1. YES
    2. NO (TERMINATE INTERVIEW) [ ]

13. What kind of vehicle do you drive? (CIRCLE ONE OR USE AS PROBE)

    1. CAR
    2. TRUCK
    3. VAN
    4. MOTORCYCLE
    5. MOPED
    6. OTHER (SPECIFY: _____) [ ][ ]

14. What Make, Model, Year is the vehicle you drive?

    _____ [ ][ ]

(PROBE TO GET INFORMATION)

15. Whose vehicle is it? (CIRCLE ONE)

1. MINE
2. MY WIFE/HUSBAND
3. FRIEND'S
4. OTHER FAMILY MEMBERS
5. FIRM'S CAR
6. OTHER (SPECIFY _____)

16. Have you ever driven after drinking? (CIRCLE ONE)

1. NO (GO TO QUESTION 21)
2. YES (GO TO QUESTION 17)

17. Have you been stopped when driving after drinking? (CIRCLE ONE)

1. YES
2. NO (GO TO QUESTION 21)

18. Who were you stopped by? CIRCLE ONE)

1. TRAFFIC OFFICER
2. POLICE
3. OTHER (SPECIFY _____)

19. Were you charged with an offence? (CIRCLE ONE)

1. YES (SPECIFY _____)
2. NO (GO TO Q.21)

20. Were you convicted as a result?

1. YES (GO TO QUESTIONNAIRE 1, Q.8)
2. NO (GO TO Q.21)

I'd like to learn more about the most recent time when you drank alcohol. (In particular discuss guidelines) I'll stop for a moment so you you let think about that time.

21 When was this ? (RECORD)

22. Where were you that day or evening when you starting drinking? (CIRCLE ONE)

1. AT HOME
2. AT A RESTAURANT
3. AT A PARTY
4. AT A FRIEND'S/RELATIVES HOUSE
5. AT A SPORTS EVENT/OTHER SPECIAL EVENT
6. AT A BAR/HOTEL
7. AT WORK
8. JUST "HANGING" AROUND
10. AT SCHOOL
11. OTHER (SPECIFY _____)

23. Were you in a town or a country area? (CIRCLE ONE)

1. TOWN
2. COUNTRY
3. DON'T REMEMBER

24. Why were you drinking? (CIRCLE ALL THAT APPLY)

1. TO RELIEVE STRESS
2. TO GET DRUNK
3. LONELY/BORED
4. SOCIAL REASONS (SPECIFY _____)

_____

7. TO BE PART OF THE 'IN' CROWD
8. ENJOYMENT OF TASTE
10. OTHER (SPECIFY _____)

_____

25. Who were you drinking with? (CIRCLE ALL THAT APPLY)

1. FRIEND(S)
2. WORKMATE(S)
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY: _____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. ALONE
11. OTHER (SPECIFY: _____)

12. MIXED GROUPS OF ABOVE (SPECIFY _____)

_____

26. What day of the week was it when you started drinking? (CIRCLE ONE)

1. MONDAY
2. TUESDAY
3. WEDNESDAY
4. THURSDAY
5. FRIDAY
6. SATURDAY
7. SUNDAY

27. What time of the day/night was it when you started drinking? (CIRCLE ONE)

1. 7AM - 12PM
2. 12PM - 5PM
3. 5PM - 12AM
4. 12AM - 4AM
5. 4AM - 7AM

28.

29. How many other people were present that day/night when you were drinking (all together)? (RECORD)

_____ NUMBER (IF "0" GO TO QUESTION 33)
10. CAN'T REMEMBER (PROBE FOR ESTIMATE)

30.

31. What were their relationships to you?
(CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. FRIEND(S)
2. WORKMATE(S)
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY:_____
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. OTHER (SPECIFY: _____
11. MIXED GROUPS OF ABOVE (SPECIFY _____

_____

32.

33. Were they drinking with you? (CIRCLE ONE)

1. NO (NONE OF THEM)
2. YES (SOME OF THEM)
3. YES (ALL OF THEM)
4. DON'T KNOW

34.

35. Had they been using drugs? (CIRCLE ONE)

1. NO (NONE OF THEM)
2. YES (SOME OF THEM)
3. YES (ALL OF THEM)
4. DON'T KNOW

36.

37.

38. How many drinks did you have that day/night? (RECORD)

1. 1 - 10 200ML GLASS OF BEER
2. 10 - 20 200ML GLASS OF BEER
3. 20 - 40 200ML GLASS OF BEER
4. 40+ 200ML GLASS OF BEER
5. 1 - 10 180ML GLASS OF WINE
6. 10 - 20 180ML GLASS OF WINE
7. 20+ 180ML GLASS OF WINE
8. 1 - 10 NIP OF SPIRITS
10. 10 - 20 NIP OF SPIRITS
11. 20+ NIP OF SPIRITS
12. OTHER (SPECIFY:_____

_____

INTERVIEWER: If "Don't know" probe for estimates.

39. While you were drinking that day/night were you feeling pretty drunk, just a little high, or not really feeling any effects of the alcohol?

1. NOT FEELING ANY EFFECTS OF THE ALCOHOL
2. NOT TOO MUCH (FELT CAPABLE OF DRIVING SAFELY)
3. A MODERATE AMOUNT (LITTLE "TIDDLY" OR "HIGH")
4. A LOT (PRETTY DRUNK)
5. DON'T REMEMBER (PROBE FOR ANSWER)

40.

41.

42.

43. So what was the drunkest you felt at any time that day/night? (CIRCLE ONE)

1. NOT FEELING ANY EFFECTS OF THE ALCOHOL
2. NOT TOO MUCH (FELT CAPABLE OF DRIVING SAFELY)
3. A MODERATE AMOUNT (LITTLE "TIDDLY" OR "HIGH")
4. A LOT (PRETTY DRUNK)
5. DON'T REMEMBER (PROBE FOR ANSWER)

44. Did you think that you would have been under the limit to be able to legally drive? (CIRCLE ONE)

1. YES
2. NO
3. DON'T REMEMBER (PROBE FOR ANSWER)
4. OTHER (SPECIFY:_____)

45. Did you use drugs other than alcohol on that day? (CIRCLE ONE)

1. NO (GO TO QUESTION 47)
2. YES
3. DON'T REMEMBER (GO TO QUESTION 47)

46. Which drugs? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. MARIJUANA
2. COCAINE
3. MEDICATION (SPECIFY:_____)
4. OTHER (SPECIFY:_____)

47. When you first started drinking that day were you in a good mood or a bad mood? (CIRCLE ONE)

1. GOOD MOOD (GO TO QUESTION 48)
2. BAD MOOD (GO TO QUESTION 49)
3. NEITHER A GOOD NOR BAD MOOD (GO TO Q.50)
4. CAN'T REMEMBER (GO TO QUESTION 50)

48. Why were you in a good mood? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. NO PARTICULAR REASON
2. SOMETHING GOOD HAD JUST HAPPENED
   What? (RECORD:_____)
6. IT WAS A SPECIAL DAY

   Why? (CIRCLE OR USE AS PROBE)
   7. SPECIAL OUTING (BOY/GIRLFRIEND/HUSBAND/WIFE)
   8. SPECIAL EVENT (EG., PARTY)
   10. OTHER (SPECIFY:_____)

GO TO QUESTION 50

49. Why were you in a bad mood? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. FELT BLUE OR DEPRESSED BECAUSE:

_____

2. HAD A PROBLEM ABOUT:_____

_____

3. WAS ANGRY BECAUSE: _____

_____

4. FELT ANXIOUS OR NERVOUS BECAUSE:_____

_____

5. OTHER (SPECIFY: _____

50. Did your mood change after you had started drinking? (CIRCLE ONE)

1. NO, DIDN'T CHANGE
2. YES, GOT BETTER
3. YES, GOT WORSE
4. CAN'T REMEMBER

51. Had any of the following events occurred over the year prior to the night you were drinking? (CIRCLE ALL THAT APPLY OR USE TO PROBE)

1. DEATH OF A SPOUSE
2. DIVORCE
3. SEPERATION
4. IMPRISONMENT
5. DEATH OF CLOSE FAMILY MEMBER/FRIEND
6. PERSONAL INJURY OR ILLNESS
7. MARRIAGE
8. FIRED OR BECAME REDUNDANT
10. MARITAL RECONCILIATION
11. RETIREMENT
12. CAN'T REMEMBER
13. OTHER STRESSFUL EVENT (SPECIFY:_____

_____

_____

14. NONE

52. Which of the following places did you go to after you started drinking? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. HOME
2. RESTAURANT
3. PARTY
4. FRIEND'S/RELATIVE'S HOUSE
5. SPORTS/OTHER SPECIAL EVENT
6. BAR/HOTEL
7. WORK
8. JUST "HANGING" AROUND
10. SCHOOL
11. OTHER (SPECIFY: _____
12. NOWHERE (GO TO QUESTION 56)

53.

54.

55. How did you get there? (CIRCLE ONE)

1. WALKED
2. TAXI
3. BUS
4. BICYCLE
5. DROVE
6. SOMEONE ELSE DROVE (WHO? _____

_____

WERE THEY DRUNK? _____

56. Did you think it was risky for you to drive at any point after you started drinking? (CIRCLE ONE)

1. NO, DIDN'T THINK I WAS TOO DRUNK TO DRIVE SAFELY
2. NO, DIDN'T KNOW DRINKING IMPAIRS DRIVING
3. NO, OTHER (SPECIFY: _____

_____

4. YES

(IF "YES" ASK QUESTION 57; OTHERWISE GO TO QUESTION 61)

57. What did you think the risks were? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. YOU MIGHT GET HURT
2. YOU MIGHT HURT SOMEONE ELSE
3. YOU MIGHT BET IN TROUBLE WITH THE POLICE
4. YOU MIGHT GET IN TROUBLE WITH YOUR PARTNER/SPOUSE
5. YOU MIGHT DAMAGE THE VEHICLE
6. OTHER (SPECIFY: _____)

_____

_____

[ ][ ] 11

58. [ ]

59. [ ][ ]

60. [ ][ ] 14

61. Throughout the time when you were drinking was there some place you or a drinking companion had to go (CIRCLE ONE)

1. NO (GO TO QUESTION 66)
2. YES

[ ] 15

62. Where? (CIRCLE ONE)

1. HOME - SELF
2. HOME - PASSENGER
3. ANOTHER BAR
4. PARTY
5. SPORTS EVENT
6. WORK
7. OTHER (SPECIFY: _____)

[ ][ ] 16

63. What would have happened to you if you were late or didn't get there? (RECORD)

[ ][ ] 18

64. How faraway was the desired destination in driving time from where you were drinking?
(CIRCLE ONE)

1. 5 MINUTES DRIVE
2. 10 MINUTES DRIVE
3. 15 MINUTES DRIVE
4. 30 MINUTES DRIVE
5. 45 MINUTES DRIVE
6. 1 - 2 HOUR DRIVE
7. OVER 2 HOURS
8. OTHER (SPECIFY: _____)
10. NOT APPLICABLE (DID NOT MOVE AFTER DRINKING GO TO Q66)

[ ] 19

65. Were you familiar with the road between where you were drinking and your desired destination? (CIRCLE ONE)

1. YES
2. NO
3. DON'T REMEMBER (PROBE FOR ANSWER)

[ ]

66. After you started drinking, did you ever consider driving? (CIRCLE ONE)

1. NO (GO TO QUESTION 68)
2. YES

(REVERSE CODE)

[ ] 20

67. Why did/didn't you drive? (RECORD)

[ ][ ] 21

68. Did you consider alternatives to driving?

1. YES
2. NO (GO TO QUESTION 72)

[ ]

69. What alternatives did you consider?
(CIRCLE ALL THAT APPLY OR USE AS A PROBE)

1. JUST NOT DRIVING/NOT GOING
2. TAKING A BUS OR TAXI
3. WALKING OR RIDING A BIKE
4. CALLING SOMEONE FOR A RIDE
   Who? (SPECIFY: _____)
7. FINDING ANOTHER DRIVER
8. WAITING TILL YOU SOBERED UP
10. STAYING THE NIGHT
11. OTHER (SPECIFY: _____)

70. Did you do any of these things? (CIRCLE ONE)

1. YES (SPECIFY _____)
   (GO TO QUESTION 72)
2. NO

71. Why did you not do that? (RECORD)

I'D LIKE TO ASK YOU ABOUT THE REACTIONS OF OTHERS TO WHAT WENT ON THAT DAY.

72. Did anyone pressure you TO DRINK that day or evening? (CIRCLE ONE)

1. NO (GO TO QUESTION 79)
2. YES

73. Who?

1. FRIEND
2. WORKMATE
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY: _____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. OTHER (SPECIFY: _____)

74. All together, how many people pressured you to drink? (RECORD)

_____ NUMBER

75. How much pressure did you feel? (CIRCLE ONE)

1. NONE
2. A LITTLE
3. SOME
4. A GREAT DEAL

76. What did someone/others do to make you feel pressured to drink? (RECORD)

77. Did you do anything to resist the pressure? (CIRCLE ONE)

1. NO (GO TO QUESTION 79)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 79)

78. What did you do? (RECORD)

79. Did anyone pressure you NOT TO DRINK that day or evening?
(CIRCLE ONE)

1. NO (GO TO QUESTION 86)
2. YES

80. Who?

1. FRIEND
2. WORKMATE
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY: _____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. OTHER (SPECIFY: _____)

81. All together, how many people pressured you not to drink? (RECORD)

_____ NUMBER

82. How much pressure did you feel? (CIRCLE ONE)

1. NONE
2. A LITTLE
3. SOME
4. A GREAT DEAL

83. What did someone/others do to make you feel pressured not to drink? (RECORD)

84. Did you do anything to resist the pressure? (CIRCLE ONE)

1. NO (GO TO QUESTION 86)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 86)

85. What did you do? (RECORD)

86. Did anyone pressure you TO DRIVE after you had been drinking? (CIRCLE ONE)

1. NO (GO TO QUESTION 93)
2. YES

87. Who?

1. FRIEND
2. WORKMATE
3. WIFE/HUSBAND
4. PARTNER
5. PARENT
6. OTHER RELATIVE (SPECIFY: _____)
7. NEIGHBOUR
8. SOMEONE YOU DIDN'T KNOW VERY WELL
10. OTHER (SPECIFY: _____)

88. All together, how many people pressured you to drive after you had been drinking? (RECORD)

_____ NUMBER

89. How much pressure did you REALLY feel? (CIRCLE ONE)

1. NONE
2. A LITTLE
3. SOME
4. A GREAT DEAL

90. What did someone/others do to make you feel pressured to drive after you were drinking? (RECORD)

91.

92. What did you do to resist the pressure? (RECORD)

93. What do you think other people thought of you when you did not drive after you had been drinking? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. NOT APPLICABLE (NO ONE ELSE INVOLVED)
2. THAT YOU WERE "WIMPISH", "SOFT", ETC.
3. THAT YOU WERE MAKING A BIG DEAL OUT OF NOTHING
4. THAT YOU WERE PRETTY SMART
5. YOU WERE SPOILING OTHERS' FUN
6. OTHER (SPECIFY: _____)

10. NOT APPLICABLE (DID NOT DRIVE ANYWHERE)
11. NOT APPLICABLE (DROVE)

94. Did anyone do or say anything to stop you from driving once you had started drinking? (CIRCLE ONE)

1. NO (GO TO QUESTION 112)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 112)

95. What did they do or say? (CIRCLE ALL THAT APPLY OR USE AS PROBE)

1. TRIED TO GET YOU TO LET SOMEONE ELSE DRIVE
2. TRIED TO GET KEYS
3. TRIED TO GET YOU TO STAY THE NIGHT
4. TRIED TO STALL YOU UNTIL YOU SOBERED UP
5. CALLED SOMEONE. Who? (RECORD:

6. OTHER (SPECIFY: _____)

96 Did any of these things work at any time?

1. NO (GO TO QUESTION 98)
2. YES
3. CAN'T REMEMBER (GO TO QUESTION 98)

97. What worked? (CIRCLE ALL THAT APPLY)

1. GOT YOU TO LET SOMEONE ELSE DRIVE
2. GOT THE KEYS
3. GOT YOU TO STAY THE NIGHT
4. STALLED YOU UNTIL YOU SOBERED UP
5. CALLED SOMEONE. Who? (RECORD: _____

_____

6. OTHER (SPECIFY: _____

_____ [97]

98. What was your reaction to these things? (CIRCLE ALL THAT APPLY)

1. YOU DENIED YOU WERE DRUNK
2. SAID YOU COULD DRIVE SAFELY
3. SHRUGGED IT OF
4. GOT ANGRY
5. TOLD THEM TO MIND THEIR OWN BUSINESS
6. OTHER (SPECIFY: _____

_____ [98]

99. [99]

100. [100]

101. [101]

102. [102]

103. [103]

104. [104]

105. [105]

106. [106]

107. [107]

108. [108]

109. [109]

110. [110]

111. [111]

112. Was there anything else that contributed to you not driving after drinking that day which we haven't discussed? (CIRCLE ONE)

1. NO (GO TO QUESTION 114)
2. YES [112]

113. What? (RECORD)

[113]

NOW I'D LIKE YOU TO THINK BACK OVER ALL THE TIMES WHEN YOU MIGHT HAVE DRIVEN AFTER DRINKING.

114. Did anyone ever at anytime successfully persuade you not to drive after drinking?

1. NO (GO TO QUESTION 117)
2. YES (GO TO QUESTION 115) [114]
3. NEVER BEEN IN THE SITUATION

115. What did they do?

1. TRIED TO PERSUADE HIM/HER TO LET SOMEONE ELSE DRIVE
2. TRIED TO GET THE KEYS
3. TRIED TO GET HIM/HER TO SLEEP OVER
4. TRIED TO STALL HIM/HER UNTIL S/HE COULD SOBER UP
5. CALLED SOMEONE FOR HELP Who? (RECORD:

_____

6. NOTHING
7. OTHER (SPECIFY: _____

_____ [115]

122. Do you follow a sport with particular interest?

1. NO (GO TO END OF QUESTIONNAIRE)
2. YES

123. Which of the following sports do you follow with particular interest? (CIRCLE ALL THAT APPLY OR USE FOR PROBE)

1. RUGBY
2. NETBALL
3. RUGBY LEAGUE
4. HOCKEY
5. SOCCER
6. CRICKET
7. BASKETBALL
8. OTHER (SPECIFY: _____)

THAT'S ALL I HAVE TO ASK YOU. DO YOU HAVE ANY QUESTIONS YOU WOULD LIKE TO ASK ME. THANK YOU FOR TALKING TO ME. YOUR HELP IS GREATLY APPRECIATED.

116. Did it work?

1. NO
2. YES (WHY DID IT WORK? _____)

117. Do you think you will ever drive after drinking? (CIRCLE ONE)

1. NO
2. YES
3. DON'T KNOW/UNSURE

118. Why do you think that? (RECORD)

119. Do you have any criminal convictions?

1. YES
2. NO

NOW I'D LIKE TO ASK YOU A FEW QUESTIONS TO FINISH UP WITH

120. Do you play a sport?

1. NO (GO TO QUESTION 122)
2. YES

121. Which of the following sports do you play? (CIRCLE ALL THAT APPLY OR USE FOR PROBE)

1. RUGBY
2. NETBALL
3. RUGBY LEAGUE
4. HOCKEY
5. SOCCER
6. CRICKET
7. BASKETBALL
8. OTHER (SPECIFY: _____)