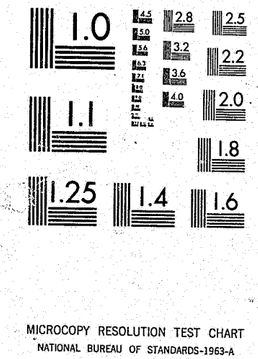


Department of the Attorney General & of Justice NSW Bureau of Crime Statistics & Research

Research Report 7

Penalties and the Drink/Driver

A Study of One Thousand Offenders

VOLUME I — MAIN REPORT

ROSS HOMEL

Research Report 7

Published by the Department of the Attorney General & of Justice NSW Bureau of Crime Statistics & Research

PENALTIES AND THE DRINK/DRIVER

A Study of One Thousand Offenders

VOLUME 1 - MAIN REPORT

ROSS HOMEL

School of Behavioural Sciences,
Macquarie University

1980

Report prepared for the N.S.W. Bureau of Crime Statistics and Research and the Australian Government Department of Transport.

This study has been assisted by a project grant from the Australian Government Department of Transport, as well as by the New South Wales Bureau of Crime Statistics and Research and Macquarie University. The views expressed here are those of the author, and do not necessarily represent those of the Department of Transport or the Bureau.

82056J—1

ISBN 7240 2680 0

FOREWORD

From the inception of breathalyser testing in New South Wales the Bureau of Crime Statistics and Research has collected information on drink-driving offences. Statistics have been published annually in the statistical report "Court Statistics".

This collection has provided a substantial base for further research, recognised as such by the former Deputy Director of the Bureau, Ross Homel, and has led to the study reported in this publication. Financial support has been received from a number of sources, acknowledged by Mr. Homel. The Bureau is grateful for this help and Mr.Homel's dedication in pursuing the research while undertaking a busy career of lecturing and advising on statistics at Macquarie University.

It is one of the few Bureau reports to be individually authored and we are pleased to be able to publish it in the Bureau research report series.

Dr. A.J. Sutton
Director.

CONTENTS

LIST OF TABLES

LIST OF TABLES (Cont'd.)

LIST OF TABLES (Cont'd.)

LIST OF FIGURES

LIST OF FIGURES (Cont'd.)

SUMMARY

(a) Introduction

1. The study is based on an analysis of the personal characteristics, previous record and subsequent convictions of 1,000 drink/drivers convicted in New South Wales in 1972 and "followed-up" for three years from their date of conviction or date of release from prison. All data was derived from official records held by the Magistrates' Courts, Department of Motor Transport, C.I.B. and Department of Corrective Services.

2. The aim of the study is to determine the impact of judicial penalties on the likelihood that drink/drivers will reoffend for drinking and driving or for other motoring or criminal offences. More precisely, the aim is to test the hypothesis of a "marginal specific deterrent effect" of penalties - that is, to test the assertion that heavier penalties (such as bonds or imprisonment) are more effective in preventing reoffending than lighter penalties (such as fines), or that "more" of a given type of penalty (such as licence disqualification) is a more effective deterrent than "less" of that penalty. The study is not directly concerned with "absolute specific deterrence," defined as the effect of arrest and conviction "in themselves," apart from the marginal effects of one type of penalty versus another.

(b) Research design

3. The design of the study is "observational" rather than "experimental" - that is, no direct "manipulation" of penalties has been carried out by means of random assignment or other experimental devices. This necessitates the introduction of "statistical controls" in comparison of offenders who have received different penalties. The purpose of these controls is to adjust for the fact that offenders who receive heavier penalties are generally "worse risks" than the offenders who receive lighter penalties. A statistical approach called "linear models analysis" has been used for this purpose.

4. Preliminary analysis of data on how drinking drivers get caught suggests that the young unskilled or unemployed male is more likely than other drivers to come to police attention for drinking and driving, probably because of his manner of driving and the "visibility" of the vehicle he drives. This reinforces the need for the statistical controls described above.

5. The design of the study is built around an attempt to measure the severity of penalties as perceived by offenders. Based on a simple model of the sentencing process, offenders were classified as "high, medium or low entitlement for punishment," and as having received a "high, medium or low severity penalty." Offenders from each of the corresponding nine categories were sampled, in addition to all those who were put on probation or who were imprisoned. Appeal rates in the nine categories accorded with the hypothesised model of "perceived severity."

6. The method of sampling was intended to yield a disproportionate number of offenders who had committed the most serious offences and who had received the heaviest penalties, since most penalties are at the lighter end of the spectrum. Statistical weights have been used to correct for this sampling bias.

7. The period of follow-up excludes any period of imprisonment which an offender may have served as a result of his initial conviction for drinking and driving.

8. In determining the effects of penalties, the *total* penalty imposed on the offender for all the offences for which he was convicted at the time of his conviction for the drink/drive offence has been used.

(c) Results.

9. Drink/drivers can be reconvicted not only for drinking and driving but for other motoring offences and also for criminal offences. The overall reconviction rate for all offences within three years of the original conviction for drinking and driving was 37.5 per cent. That is, 62.5 per cent of all offenders recorded no conviction in three years.

10. The rate at which different types of offences were committed in three years is shown in the table below:

	%
Drinking and driving	13.0
All motoring offences (including drinking + driving)	28.9
Criminal offences	13.4

11. The most common motoring offences committed, apart from drinking and driving, were negligent driving, speeding, driving while disqualified, not giving way to a vehicle on the right and not complying with traffic lights.

12. On the basis of an analysis of the time periods to reconviction, it is possible to prove that approximately 58 per cent of all offenders will eventually be reconvicted for some offence (motoring, drink/drive or criminal). Two thirds of these will be reconvicted within three years, and 90 per cent within six years. These figures include moving traffic infringements (speeding etc) as well as more serious motoring offences.

13. Offenders with a concurrent conviction for driving while disqualified (i.e. offenders who were convicted for driving while disqualified at the same time as their drink/drive offence) were more likely to be reconvicted, and were more likely to be reconvicted quickly. The estimated mean time to reconviction was 13 months for drive disqualified offenders and 33 months for others.

14. It is possible to show that approximately 23 per cent of offenders will eventually be reconvicted for drinking and driving. In other words, about three quarters of offenders will never appear in court again for drinking and driving, although they may appear for some other offence, and of course they may commit the offence without being caught.

15. Of those reconvicted for drinking and driving, about 60 per cent will be reconvicted within three years, and 86 per cent within six years.

16. There is no penalty or combination of penalties which is more effective than any other in simultaneously deterring offenders from committing all kinds of offences (motoring, drink/drive and criminal.) This finding and those below take into account the fact that more serious offenders receive heavier penalties.

17. Neither heavy fines nor long disqualification periods are more effective than light fines or short disqualification periods in reducing the rate of reconvictions for drinking and driving. In other words, if people are going to be reconvicted for drinking and driving neither amount of fine nor length of disqualification (short or long) has any effect on them.

18. There is some evidence, although not based on statistically significant differences, that a good behaviour bond under Section 554 of the Crimes Act (or under Section 558 in its revised form), together with licence disqualification, is more of a deterrent to drinking and driving than other penalties. The reconviction rate among the 136 offenders in this group was nearly half that for the whole sample. A possible reason for this difference is that offenders under bond were more likely to appreciate the penalties for driving while disqualified and for other offences. Alternatively, they may have been deterred by means of a financial surety.

19. The findings reported in para. 17 and para. 18 do not apply to offenders who had a concurrent conviction for driving while disqualified. For this group heavy fines, and to a lesser extent long periods of disqualification, were associated with lower reconviction rates for drinking and driving. In today's terms, the optimum fine was around $600 and the optimum disqualification period was about five years, although this latter figure should be treated cautiously. The reconviction rate among those fined the equivalent of $600 was around nine per cent, compared with 36.5 per cent among those who were not fined. About one offender in fifty has a concurrent conviction for driving while disqualified, but the findings probably apply more generally to those with a recent record for driving while disqualified.

20. Imprisonment was no more effective than any other penalty for any group of offenders, and there is strong evidence that long periods of imprisonment, especially beyond six months, encourage reoffending, especially for drinking and driving.

21. The likelihood of reconviction for drinking and driving was not related to age. Offenders older than 35 were as likely as those around the age of 20 to be reconvicted for drinking and driving. See paras. 25, 26 and 28.

22. Offenders who were separated, widowed or living in a defacto relationship were more likely to be reconvicted for drinking and driving, indicating the importance of further research on the effect of disrupted personal relationships on drinking and driving.

23. For those offenders who proved they were "good risks" by not being reconvicted for any drink/drive or criminal offences in three years, longer rather than shorter disqualification periods appeared to be a deterrent to committing motoring offences other than drinking and driving.

24. The optimum disqualification period among "good risk" offenders was around 18 months for those without a concurrent conviction for a serious traffic offence and was around three years for those with such a conviction. This latter group was more likely to be reconvicted for a non-drink/drive motoring offence.

25. "Good risk" offenders (those not reconvicted for drink/drive or criminal offences) were more likely than others to be over 35, married, to have no concurrent convictions in addition to drinking and driving, to be of professional or white collar occupational status, to have a blood alcohol concentration *over* .23, to be legally represented, and to have no criminal record. It was these kinds of offenders for whom disqualification seemed to be a deterrent. See paras. 21, 26 and 28.

26. Young men were no more likely than older men to be reconvicted for a non-drink/drive motoring offence. See paras. 21, 25 and 28.

27. No kind of penalty was more effective than any other in deterring offenders from reoffending for criminal offences.

28. Offenders who were reconvicted for criminal offences tended to be aged 18 to 23, were not legally represented, were single, separated or living in a de facto relationship and had a concurrent conviction for driving while disqualified. See paras. 21, 25 and 26.

29. For disqualification periods up to 18 months, longer disqualification periods were *not* associated with higher rates of reconviction for driving while disqualified. This implies that penalties involving longer disqualification periods (up to 18 months) will probably not encourage driving while disqualified.

30. Offenders with a concurrent conviction for driving while disqualified or with a high blood alcohol concentration (BAC) were more likely than others to be reconvicted for driving while disqualified.

31. The results of the study suggest that convicted drink/drivers fall into six subgroups. Three of these groups consist of offenders who are generally responsive to licence disqualification and who are unlikely to be reconvicted for drinking and driving. These groups are (in order of increasing "deviance"): "never convicted again" offenders, minor motoring offenders and serious motoring offenders. The other three groups consist of offenders who mostly will be reconvicted for drinking and driving and who are generally unresponsive to penalties. These groups are (in order of increasing deviance): specialist or dedicated drinking drivers, criminal offenders and drive disqualified offenders.

32. This classification or "typology" helps to explain why age and BAC are not correlated with drink/drive reconvictions. Drink/drive recidivists are drawn mainly from the latter three groups listed in para. 31, and mixing these three groups tends to "cancel out" the distinctive effects of age and BAC.

33. An analysis of reconvictions based on the measure of "perceived severity of penalties" generally confirmed the results of the earlier analysis which used penalties directly.

(d) Conclusions

34. A summary of the implications of the study for social policy appears in Section 9.4.

35. The main conclusion of the study is that there are several groups of "high risk" offenders who will reoffend for drinking and driving no matter what the penalty they receive. It is recommended that "preventive" approaches, such as mechanical devices on cars to prevent drunks driving them as well as more intensive and specialized rehabilitation schemes be employed to deal with these groups.

36. Disqualification periods up to 18 months in duration are recommended as a general measure to reduce the rate at which some offenders commit non-drink/drive motoring offences. Longer disqualification periods will probably *not* reduce the rate of reconvictions for drinking and driving.

37. It is suggested that there are "high risk" groups in the general motoring population as well as among convicted drink/drivers, and that these high risk drivers are likely to be impervious to alcohol countermeasures such as the breathalyser itself, random breath tests, and publicity campaigns.

PREFACE AND ACKNOWLEDGEMENTS

The aim of this report is to present the main findings of a prospective study of the effect of judicial penalties on a sample of drink/drivers convicted in New South Wales during 1972. Although some analyses are still proceeding it is hoped that the results presented in this report will contribute to the present debate in our community about drink/drivers and penalties. I make no claim to present a general review of the literature on deterrence or on drink/drivers, but concentrate rather on the issue of specific deterrence - what penalties discourage drink/drivers from committing the offence again? A review of recent Australian literature on deterrence is presented by Tomasic (1977).

Begun in 1973 when the author was employed by the N.S.W. Bureau of Crime Statistics and Research, the present project has involved the compilation of detailed statistical information on more than 1000 drink/drivers. Each offender has been "followed-up" for at least three years, and in some cases up to five years, with respect to reconvictions for drink/driving or some other kind of offence. The study is probably more ambitious than most in its attempt to incorporate a range of variables as statistical controls, although data on the social and legal backgrounds of offenders has been restricted to what was available in official records. Nevertheless, the statistical techniques employed are as comprehensive as the data allowed.

Since this report was prepared, a number of changes have been made to the laws governing penalties imposed on drink/drivers. Prominent among these was the introduction late in 1979 of minimum disqualification periods for convicted drink/drivers. Clearly it was not possible to consider these new measures in detail in the discussion of penalties or in the recommendations. However, it is worth noting that the new penalties represent a move in the direction recommended in Chapter 9, although the desirability of mandatory penalties (as opposed to heavier penalties imposed at the discretion of the magistrates) is a separate issue which is not considered in this report. Suffice it to say here that criminological research into general deterrence suggests that *certainty of apprehension* is a more effective deterrent than heavier penalties (including mandatory penalties) so the new laws may be more valuable for their specific than their general deterrent effect. Nevertheless it is possible that this specific deterrent effect could have been achieved within the framework provided by the old legislation.

An early analysis of part of the data (792 cases) was presented to the Sydney University Institute of Criminology (Homel, 1975). More recently, preliminary analyses, based on a two year follow-up, have been presented to the Criminology Section of the Australian and New Zealand Association for the Advancement of Science (Homel, 1976) and to the Seventh International Conference on Alcohol, Drugs and Traffic Safety (Homel, 1979). The paper appearing in the proceedings of the International Conference is an abbreviated version of the ANZAAS paper. The present report elaborates themes presented in these papers, introduces additional statistical controls and incorporates the third year follow-up data.

The project was assisted by an initial grant from the Australian Government Department of Transport to the N.S.W. Bureau of Crime Statistics and Research. When making the grant, the Department of Transport recognised that it did not cover the whole cost of the study, but saw it rather as a stimulus to the development of an Australian research program on the "human" and "criminological" aspects of road safety. The present study was intended to complement the study of the effects of licence disqualification undertaken by Mr Chris Robinson, the results of which have been published by the Department of Transport.

New South Wales was chosen since at the time it was the only State in Australia with accurate and comprehensive statistics on the convicted drink/driver, a situation which has improved only recently. The present sample of 1000 drink/drivers was derived from the statistical records of approximately 15,000 drivers convicted in 1972. This was the first year of operation of the Bureau's statistical reporting system through Magistrate's Courts, although the N.S.W. Department of the Attorney General and of Justice had published some statistics on drink/drivers for two years previously.

In addition to acknowledging the assistance of the Department of Transport and the Bureau, it is important to recognise the support of Macquarie University, both through a Macquarie University research grant and through its computing facilities. The research grant enabled the third year follow-up data to be obtained, while without the computing facilities the analyses reported in the study would have been impossible. The statistical methodology employed in this research has involved the development of a new computer program which, especially in the early stages, required such extensive computer time that the cost of processing commercially or through government computing facilities would have been prohibitive.

Mrs Margaret Buckland searched CIB and Motor Transport Department records to collect the data, and her patient and intelligent work forms the foundation of this research. Her help is gratefully acknowledged. Mrs Lyn Wagland typed the manuscript most capably.

The data analysis has benefited from the advice of Dr George Cooney, and Professor Murray Aitkin, although the reported analyses are solely the author's responsibility. Mr Arthur Gilmour, biometrician with the N.S.W. Department of Agriculture, provided valuable assistance in adapting his regression program to perform maximum likelihood analysis.

It is impossible in a report of this nature to present all the detailed statistical relationships which have emerged from the various analyses. Consequently, a statistical appendix is being prepared, incorporating details of methodology, tables and graphs which could not be included in the present report. Copies of this appendix, which constitutes Volume II of the report, may be obtained by writing to the author:

Mr Ross Homel,
School of Behavioural Sciences,
Macquarie University,
North Ryde,
N.S.W. 2113
Australia

CHAPTER 1. INTRODUCTION.

There are over 50,000 convictions for drinking and driving in Australia each year. The percentage of offenders with previous convictions for the same offence has been steadily rising since the introduction of the breathalyser, so that currently in New South Wales more than a quarter (27.7 per cent in 1977) are recidivist drinking drivers. That alcohol is a major cause of death and appalling injury on the roads is taken for granted in this report. The aim of the study reported here is to investigate the effects of judicial penalties on the likelihood of reconviction, with a view to determining what kind of penalties may be effective in discouraging convicted drink/drivers from committing further offences (especially motoring offences). Obviously with such large numbers being convicted each year, even a small reduction in the reconviction rate for drinking and driving or other motoring offences may well correspond to several thousand fewer dangerous drivers on the roads, especially since repeated drink/drivers have higher blood alcohol concentrations than first offenders.

However, the search for an "optimum" penalty should not blind us to the realities. First of all, the sentencing process itself is complex, and deterrence is only one objective, competing with retribution, prevention and rehabilitation. Secondly, even if we focus exclusively on deterrence, there are a number of major problems. For example, we need to distinguish individual or specific deterrence, or the effect of penalties on those who receive them, from general deterrence or the effect of penalties on the population at large. Moreover, it is clear that even if specific deterrence is a real phenomenon, it is inherently unobservable, since we can never directly observe somebody refraining from some action through fear of further punishment. The finding of a deterrent effect can never be better than a reasonable inference.

In addition, we need to recognise that individual differences are very great and that it is extremely unlikely that a given penalty will have the same effect on all groups of offenders. If this is the case, then the search for a single optimum penalty is not likely to be fruitful, the opinions of Elliot and Street (1968) and Willett (1973) notwithstanding. A much more profitable approach would be to ask: "What kind of penalty is best for what kind of person under which particular circumstances?" This approach is consistent with the experience of psychotherapists and clinicians who have known for years that some people get better after treatment and some get worse --- the trick is to know who and why (Herson & Barlow, 1977, page 13). However this leads directly to the debate between individualized sentencing, with the penalty tailored to the offender, as opposed to a "tariff approach," with the penalty tailored to the offence (Hood (1973)). Considerations of justice may well favour the tariff approach.

If criminological research over the past 20 years has yielded any definite results at all, it is that no method of "treating" criminal offenders is any better than any other in preventing reconvictions (Zimring and Hawkins, 1973, Clarke and Sinclair, 1974, Hood, 1971). Clarke and Sinclair (1974), echoing the argument outlined above, claim that:

> "What little cause for optimism exists, has arisen from research suggesting that relatively specific types of treatment can prevent reconviction among offenders with certain specific characteristics." (page 58).

Therefore a subsidiary, but nevertheless crucial goal of the present study has been to develop a typology of convicted drink/drivers, based both on offender characteristics and on their reactions to penalties. An attempt in this direction is presented in Section 7.4. It is worth noting that in order to develop this typology it was necessary to go beyond many previous studies, and examine not only the *rate* of reconvictions but the *types of offences* for which reconvictions were recorded.

A fundamental problem in attempting to demonstrate that higher or lower penalties of one kind or another cause higher or lower rates of reoffending is the impossibility of excluding other factors as possible causes of any observed correlation. If, for example, offenders sent to prison have a higher reconviction rate than any other group (which they do), this may reflect either the negative effect of imprisonment on an offender and on his family and social supports, or it may just reflect the fact that people sent to prison are bad risks, having many previous criminal and drink/drive convictions (which they do). The higher reconviction rate may in fact reflect both sets of causes. Consequently, simple correlations on their own are at best insufficient, and at worst seriously misleading.

The classical solution to this dilemma in such fields as experimental psychology or agriculture is to assign subjects at random to different groups --- in our case, to prison or to some other penalty. Such a procedure has in fact been attempted in the United States (Blumenthal & Ross (1973)), although imprisonment was not one of the penalties. This attempt failed, perhaps predictably, since human beings are not rats or cabbage patches and have the awkward habit of hiring lawyers who naturally lobby for the best results for their clients. More will be said about this issue later in the report, but the immediate implication is that if comparisons between different penalty groups are to have any validity, statistical controls need to be introduced. In other words, the different groups need to be "equalised" on a number of factors which are regarded (a priori) as being related to the probability of reconviction.

There is a plethora of techniques for accomplishing this goal, ranging from pairwise matching of individuals to methods with such impressive titles as "the automatic interaction detector," "predictive attribute analysis," and "prognostic configuration analysis." These latter methods have been widely used in criminological research, but they suffer from certain common weaknesses. Prominent among these are the isolation of "false positives" (called Type 1 errors in the statistician's jargon) leading to unnecessary and difficult to interpret complications, and the use of inefficient methods of statistical estimation. The approach adopted in this study - linear models analysis - is favoured by most statisticians.

No statistical technique, no matter how refined, can compensate for the omission of crucial variables. It is obvious that extensive social and psychological data is required for an adequate picture of the drinking driver. The present study, which is based solely on data available in official records, can do no more than make a start in the direction of instituting adequate statistical controls or developing a typology of offenders. Even so, it has proved possible to construct about 25 statistical variables to use as controls, in addition to the basic measures of penalties and reconviction rates.

It should be added that even the data from official records was difficult to collect and time consuming to correct. It is clear that the accuracy and completeness of data held by the police, Department of Motor Transport, courts and Department of Corrective Services needs to be improved if further research is to be completed quickly. The present study was possible only because the Bureau of Crime Statistics and Research collects (and edits) comprehensive court statistics.

Perfection not being of this world, the best that can be claimed for the kind of analyses presented in this report is that they shift the balance of evidence. If for example imprisonment still appears to cause higher reconviction rates even when a number of offender characteristics have been taken into account, it is incumbent upon the proponents of imprisonment as a specific deterrent to produce evidence supporting their case. Of course they *could* be right --- there may be some crucial factor omitted from the present analysis --- but it is up to them to demonstrate that this is so.

Before leaving problems of data collection and analysis, there is a further, more fundamental problem to be faced, usually overlooked in deterrence research. Human beings are not black boxes reacting to stimuli, but are social beings with a particular history and with ideas of their own. It seems essential in any study of deterrence to ascertain how they view their situation, and in particular how they perceive the severity or appropriateness of penalties imposed upon them. Although this study does not incorporate direct interview data, an attempt has been made to manipulate the statistical information on penalties in such a way that it corresponds more closely to the notion of "perceived severity." However, the results of this analysis, which are set out in Chapter 8, should be regarded as the first attempt rather than as a finished product.

The following chapters aim to give a concise and mainly non-technical account of the major findings of the study. Chapter 2 provides an overview of the situation with respect to drink/drivers and the law in New South Wales and in Chapter 3 the concept of deterrence is examined together with previous empirical research. Chapter 4 sets out the methodology and design of the study. Although parts of this chapter are technical, it forms an essential backdrop to the later findings. In Chapter 5, the basic results of the three year follow-up are summarised and used to estimate how many drinking drivers will never be convicted again for drinking and driving or for any other offence. Chapters 6 and 7 present the main evidence with respect to the relationship between penalties and reconviction rates. The findings in these chapters are (effectively) summarised in Section 7.4 where a typology incorporating the earlier results is presented. Chapter 8 contains (as was mentioned above) a summary of an approach to the data which attempts to measure the subjective experience of punishment. Chapter 9 attempts to put the findings in perspective and suggests some practical steps for dealing with convicted drink/drivers.

Two final cautionary remarks may be in order. Firstly, the present report is not an evaluation of the various drink/driver rehabilitation schemes which have been introduced in N.S.W. since 1976. Such an evaluation is presented in another Bureau report, utilising a different set of data. However, the present findings should provide a useful "baseline" against which the performance of the various schemes can be compared. At the time of writing this report, it was not clear how many drink/drivers have been through the rehabilitation courses in N.S.W., although the number must now run into the thousands. Clearly the rehabilitation schemes are a major new factor in penalties imposed on drink/drivers, even though the majority still receive some kind of traditional penalty in addition. However, the cost of running these programs, together with the fact that most offenders are given a choice with respect to participation, is likely to mean that in the long term many drivers in N.S.W. will simply be dealt with by means of a fine, disqualification, prison or bond.

Secondly, criminologists have for a number of years searched for predictive models which would assist parole boards and magistrates in deciding the appropriate penalty for a particular offender (see, for example, Simon, 1971). This relates to the individualised mode of sentencing discussed earlier. The aims of the present study are more modest. The main goal is to determine whether there is a link between penalties and reconviction rates, taking other factors into account. Through this analysis it is hoped to gain a deeper understanding of the effects of the criminal justice system on drink/drivers. Any study based solely on official records, as in the present case, can never incorporate crucial social and psychological variables which together tend to make reoffending more or less likely. Moreover, the apparent effect of a particular penalty may always reflect the operation of one or more of these unmeasured variables. Thus the findings reported in subsequent sections should not be regarded as prescriptive for sentencing, but rather as general indications of the roles of a range of factors available in official records.

CHAPTER 2. DRINK/DRIVERS AND THE LAW IN NEW SOUTH WALES.

2.1 Conviction statistics 1969-1977.

The offence of drink/driving in N.S.W. actually encompasses four offences under Sections 4E and 5 of the Motor Traffic Act and Section 100 of the Justices Act. These offences, together with their relative frequencies in 1972 (the year the follow-up sample was selected) and 1977 (the most recent year for which statistics are available), are set out in Table 2.1.

Table 2.1. Relative frequencies of drink/drive offences in N.S.W., 1972 and 1977.

Definition of offence.	1972(%)	1977(%)
PCA - Drive with the prescribed content of alcohol in the blood, .08 mg/100 ml. (S.4E(1), Motor Traffic Act).	88.0	91.9
DUI - Drive under the influence of intoxicating liquor or a drug, detected without the aid of the breathalyser. (S.4E(7), Motor Traffic Act).	9.7	5.3
REFUSAL to take breathalyser test (S.5(2), Motor Traffic Act).	1.7	2.3
AID and ABET breathalyser offence (S.100 Justices Act).	0.6	0.5
Total convicted	17873	17747

The breathalyser was introduced into N.S.W. late in 1968. The Act provides that a policeman may administer a roadside alcotest if he has reasonable cause to believe that the driver has committed some offence, if his manner of driving indicates that he may have alcohol in his body, or if he has been involved in an accident. Random breath tests are *not* carried out at the moment in N.S.W.

It is clear from the percentages convicted for PCA in 1972 and 1977 that by 1972 the breathalyser had reached nearly its present level of deployment throughout the State. Table 2.2 below supports this contention --- the number of people convicted for PCA rose steadily from 1969 to 1972, but has remained fairly steady ever since. The practical implication of this is that the statistics for 1972 should form at least as secure a foundation for generalisations about the convicted PCA offender as any of the subsequent years.

For research purposes it is important to standardise as far as possible the offence being studied. Moreover, the blood alcohol concentration (BAC) of PCA offenders is a convenient index of the seriousness of the offence, an index which is not available for the DUI and other drink/drive offenders. For these reasons the follow-up study has been restricted to PCA offenders, and most of the statistics reported below relate to this group only.

The most striking feature of the PCA statistics over the last ten years is how little they have changed. Tables 2.3 and 2.4 particularly, which present the age and social class distributions of offenders, show little change in the type of person being caught. First, however, we need to consider some more basic variables. Apart from the numbers of people convicted each year, perhaps the most crucial indices are the mean BAC and the percentages with previous drink/drive convictions. These are presented in Table 2.2.

Table 2.2. Number of convicted PCA offenders, mean BAC and percentage with previous drink/drive convictions, 1969-1977.

	Number convicted for PCA.	Mean BAC.	Percentage with previous drink/drive convictions.
1969	7552	.166	17.3
1970	9557	.161	15.1
1971	12335	.161	20.9
1972	15736	.161	22.7
1973	16779	.162	23.5
1974	15606	.158	25.0
1975	15836	.161	27.5
1976	15702	.158	27.7
1977	16300	.158	27.0

The relatively high mean BAC in 1969 seems to have reflected the actual state of affairs rather than police reluctance to charge offenders with a BAC near .08, since 6.9 percent had a BAC less than .10. It appears that there may have been a real drop in the BAC of drinking drivers after 1969, the mean then remaining steady until 1974. Previous Bureau reports (Court Statistics, 1974 & Court Statistics, 1976) have considered whether the drop in mean BAC in 1974 was due to a public education campaign conducted in 1973 and 1974 and directed at the drink/driver. In view of the subsequent drop in 1976 when there was no campaign, it seems wisest to regard the 1974 and 1976 drops as being within the range of normal variations. In any case, the variations have not been large enough to make much impact on the road toll.

The simplest explanation of the general rise in the percentage with at least one previous drink/drive conviction is that the operation of the breathalyser each year creates an ever larger pool of offenders who make an increasing contribution to the conviction statistics. Moreover, since the percentage of the general driving population (or even the population "at risk" of police attention) who have been convicted for drink/driving is certainly less than 27 per cent,* it would seem that many people who have already been convicted at least once are likely to be convicted again. The implications for deterrence research are obvious.

* Raymond (1972) found that 2.5 per cent of a random sample of drivers in Melbourne had a drink/driving record. However, this survey was carried out in 1969, and the percentage could be expected to have increased since then: not, however, to anything like 27 per cent!

2.2 The Process of Apprehension.

Ever since the relevant statistics have been collected, the young unskilled male has been over-represented in the drink/driver conviction statistics, as he is in the statistics for most other offences. Tables 2.3 and 2.4 show the trend (or rather, the lack of trend) for the years 1972 to 1977.

Table 2.3. Percentage of women, and percentage of offenders aged 18 - 24 and 40 or more, 1972-1977 conviction statistics.

	Percentage of women.	Percentage 18 - 24.	Percentage 40+.
1972	1.8	32.3	29.3
1973	1.7	31.0	30.1
1974	2.0	31.6	29.6
1975	2.3	33.5	27.5
1976	2.4	31.7	27.3
1977	2.3	35.1	26.5

Table 2.4. Occupational status of convicted drink/drivers, 1972-1977.

Occupational Status.	1972	1973	1974	1975	1976	1977	Estimated Sydney Population, 1974.
A	1.2	0.7	0.3	0.8	1.0	1.0	3.8
B	6.7	7.5	8.5	8.8	8.5	7.8	19.1
C	42.0	47.6	45.6	51.1	46.8	44.8	56.6
D	50.1	44.2	45.6	39.3	43.7	46.3	20.4
Total Classified	15314	16769	14896	14512	14063	14005	

In view of the fact that in 1977 more than a third (37.5 per cent) of all licence holders were women, the small numbers of women convicted each year is most striking. The number of Class 1 licence holders who are aged 18 to 24 has varied from 23.8 per cent in 1971 to 19.8 per cent in 1976, while the number 40 years and older has varied from 42.7 per cent to 41.3 per cent in the same period. It is apparent therefore from Table 2.3 that women are under-represented in the conviction statistics by a ratio of about 15:1, while young men aged 18 to 24 are over-represented by a ratio of about 1.5:1.

The method of classifying occupations in Table 2.4 is based on Congalton (1969), and reflects the status of occupations as they are perceived by the general community. A status corresponds closely to professional/managerial type occupations, B status to semi-professional/middle-management, C status to sales/small business, clerical or skilled trades, and D status corresponds most closely to unskilled occupations. This system of classification applies only to those in the work force. In 1977, about nine per cent of offenders were coded as students, pensioners, domestic or unemployed.

It is clear from Table 2.4 that unskilled workers are over-represented in the conviction statistics by a ratio of between 2.5:1 and 2:1, while professional people are generally under-represented by a factor of at least 3:1. The over-representation of both young men and unskilled workers is not a coincidence, since in the population generally and among drink/drivers there is a correlation between age and occupational status. For those in the work force, occupational status tends to rise with age, reflecting a process of promotions and increasing skills over time.

These figures raise some important issues for the design of the present study and for deterrence research generally. The simplest explanation of the preponderance of young unskilled males in the conviction statistics is that this group does indeed drink and drive more often, leading to a high rate of arrests. On the other hand, some researchers have suggested that at least part of the reason for the over-representation of young unskilled men relates to police procedures. These people would argue that even if all age groups and social classes combined drinking and driving equally often, young unskilled men would still be over-represented because the kinds of vehicles they drive are more "visible" to the police, being older and perhaps modified in some way. Furthermore, it is sometimes argued that the demeanour and appearance of young men when stopped by the police often helps to create suspicion that they have been drinking.

If the latter argument is correct, then the use of reconviction statistics as a criterion for evaluating the effects of penalties could result in seriously biased results, since the figures for various groups would reflect police procedures as well as the "true" rate of reoffending. Furthermore, if young unskilled men are singled out for "special attention" by the police, this may lead to feelings of resentment on the part of some offenders and a negative reaction to penalties. As a British researcher, Macmillan (1975) has noted, for some motoring offenders:

> "...it seems to have been the way in which they have been treated by authority, rather than the problem itself, which had created their social difficulties and led to anti-social attitudes and behaviour, and so affected the way in which they saw and performed their role as drivers." (p. 200).

For both these reasons it is important to give some attention to the question of whether the convicted drink/driver is typical of the drink/driver at large. A full discussion of this issue is beyond the scope of this report, but a review of some of the literature and a summary of some Australian data is presented below.

Women who are convicted for drink/driving tend to be older and to have higher BACs, although they are less likely to have previous convictions for drink/driving (Court Statistics, 1976). Everyday experience would suggest that women are indeed less likely to drink and drive than men, an observation which was confirmed by a survey carried out in Sydney by Freedman, Henderson & Wood (1973). These authors found that while nearly all the sampled men who were drinkers and who were aged 20 to 29 admitted to drink/driving at some stage, only 30 per cent of the women aged 20 to 39 admitted to drink/driving. Most women were driven home by someone else after drinking at a hotel or a party.

While it appears that women are less likely to drink and drive than men, a sizeable proportion do admit to committing the offence from time to time. Why then are only two per cent of convicted offenders women? A part of the explanation may lie in police attitudes to apprehending and arresting women. Two American researchers (Warren & Phillips (1976)) who investigated the interaction between the police and the driver suspected of drink/driving made the following comments:

> "Officers were reluctant to stop and question women in the first place. When they did, the officers frequently *profferred accounts of driving behaviour on behalf of the women*, enabling them to avoid making up their own." (Warren & Phillips (1976, p. 71)).

They also report the case of one officer who consistently arrested women for drunken driving and who was removed from the Force, even though the women he arrested were indeed drunk. He was said to be "nuts, or have a mother hangup or something" (p. 73).

The applicability of such findings to the Australian situation is a matter for further research. The present study of the effect of penalties includes only 11 women, which is not a large enough number to allow a thorough investigation of sex differences. It is perhaps worth noting that two out of the 11 were reconvicted for drink/driving in a three year period, about the same proportion as the men (see Chapter 5).

Two American studies, by Zylman (1972) and by Hyman, Helrich & Besson (1972), investigated the issue of police bias in arrests for drunken driving. Hyman et al. (1972) attempted to measure police bias in two counties in California by comparing the race and social status of persons arrested for driving while intoxicated (ADWI) who were involved in accidents with the race and social status of those who were arrested following observed violations not involving accidents. They also examined the blood alcohol concentrations of all those arrested, on the assumption that if police bias were operating, minority groups would record lower BACs. These authors came to the following conclusion:

> "It appears from the present investigation that there is no tendency for police in either Santa Clara county or Columbus to arrest adults of socially or economically disadvantaged sectors of the population for drunken driving under conditions wherein they would either not arrest other adult citizens or arrest them for lesser offences. It is quite probable therefore that the high ADWI rate found among the population groups accurately reflects a greater frequency of drunken driving among them." (Hyman et al. (1972, p. 156-157)).

Zylman's (1972) findings were similar. In an analysis of very extensive data from the Grand Rapids Study (Borkenstein et al. (1964)), he compared approximately 6,000 drivers involved in collisions with a control group of 7,600 drivers not involved in collisions. He concluded that there was no systematic bias in traffic law enforcement in Grand Rapids during the year of the study. Non-whites were involved in proportionately more collisions (and subsequently drive while intoxicated arrests) because of the propensity of the lower class to drive after drinking and the preponderance of this class among non-whites. He also suggested that white and non-white lower status drivers were involved in more collisions because of the congested conditions under which they lived.

It would not be appropriate to apply these findings directly to the Australian situation, since social conditions are different and factors such as race are not as obviously important in arrests for drink/driving. In any case, some other American studies have come to a different conclusion. For example, Marshall & Purdy (1972) contrast an "impartial" model, which suggests that the probability of conviction is determined by the degree and frequency of deviance, with a "labelling" model, which suggests that this probability is more a function of membership of certain social categories (race, social status, etc.). Their data (also Californian in origin) leads them to favour the labelling hypothesis, although the impartial model was given some support.

Unfortunately there does not appear to be much empirical research in Australia to match the thoroughness of the studies cited above. Boyce & Dax (1977) examine the situation of the intellectually handicapped driver and his problems in negotiating encounters with the police or with the Courts. While containing much valuable material, they do not always substantiate their claims with hard data. For example, the assertion (p. 11) that arrests for PCA are largely the product of the appearance of the drivers needs further research before it can be accepted.

Birrell (1970, 1972) has noted that the young male drinking driver receives a disproportionate degree of attention from breathalyser equipped officers. He argues that the role of alcohol in the driving behaviour of young men is not as clearcut as might first appear. For example, young persons are often stopped simply because their cars appear to be "bombs."

Some previously unpublished Australian data (Turney & Kemp (1976)) suggests that young unskilled men are overrepresented in the conviction statistics both because they drink and drive more *and* because they receive a disproportionate share of attention from police. The data presented here is derived from a sample of 200 drivers arrested for PCA in some police districts of Newcastle, N.S.W., in July, 1976.

Following the work of Zylman (1972) and Hyman et al. (1972), reasons for coming to the attention of the police may be divided into two broad categories: "mechanical" and "non-mechanical." Mechanical reasons include the occurrence of an accident to which police are called, or apprehension for speeding using radar equipment. Non-mechanical reasons include speeding detected without radar or more generally the manner of driving. The essence of this distinction is that in non-mechanical cases, a greater element of police discretion is involved in the decision to investigate a driver.

In only two cases was the offender a woman. Both were under 25 years of age, and in one case police were called to an accident. The other woman drove a late model car and was detected through the manner of driving.

Table 2.5 compares the occupational statuses of the two groups with that of the Newcastle population. The population data is derived from a survey of 846 people carried out by Vinson & Homel (1976) in 1973*.

Table 2.5. Occupational statuses of "mechanical" and "non-mechanical" groups, compared with Newcastle population.

Occupational Status (Congalton scale)	Non-mechanical group		Mechanical group		Newcastle population
	No.	%	No.	%	%
A - B	9	9.7	16	16.3	21.3
C	27	29.0	36	36.7	52.1
D	57	61.3	46	46.9	26.7
	93	100.0	98	100.0	846

NOTE: In nine cases drivers were not in the workforce, being students or pensioners. Unemployed people were classified according to their usual occupation.

It is apparent that drivers apprehended as the result of an accident or through a radar speed trap (the mechanical group) are of higher status than the non-mechanical group, although still of lower status than the population as a whole. The same pattern is evident with respect to the percentages unemployed. In the non-mechanical group, 23 out of 93 (24.7 per cent) were unemployed, compared with 9 out of 98 (9.2 per cent) in the mechanical group. This latter figure is still higher than the 1976 unemployment rate in the city of 6.8 per cent.

* The social status and age distributions of Class 1 licence holders in Newcastle would be a more appropriate comparison. However, such data is not published.

Table 2.6 compares the age distributions of both groups with the Newcastle population and with Class 1 licence holders in N.S.W.

Table 2.6. Age distributions of "mechanical" and "non-mechanical" groups, compared with Newcastle male population (1976 Census) and with Class 1 licence holders, N.S.W. (1976).

	Non-mechanical		Mechanical		Newcastle male population.	Class 1 licence holders, N.S.W.
	No.	%	No.	%		
18-19	13	13.7	12	11.4	5.7	5.5
20-24	42	44.2	35	33.3	12.1	14.7
25-29	17	17.9	15	14.3	11.3	15.2
30+	23	24.2	43	41.0	70.9	64.6
	95	100.0	105	100.0	100.0	100.0

Once again the same pattern is evident. The age distribution of the mechanical group is closer to that of the general Newcastle population and to that of Class 1 licence holders than the non-mechanical group. However, the mechanical group is still not a random sample of the general population, being markedly younger.

This data, together with other information collected in the survey, needs more rigorous analysis before firm conclusions can be drawn.* Moreover, the reasons for the differences between the mechanical and non-mechanical groups need to be investigated. It may be that the greater "visibility" of young lower status males in terms of vehicle age and type may be sufficient to account for the differences.

Nevertheless, these simple findings are important for the light they throw on the validity of reconviction statistics as a criterion for assessing the effects of penalties. The tables suggest that young, unemployed or unskilled males do attract a disproportionate share of police attention, while affirming in addition that drink/drivers apprehended through mechanical means (accidents or radar speed trap) are also atypical of the general population, being younger and of lower status. The implication is that at least age, social status and employment status need to be introduced as statistical controls in any analysis of the effects of penalties which uses reconviction rates. Further discussion of this issue is postponed until the design of the study is considered in detail in Chapter 4.

* This analysis is proceeding.

2.3 Profile of the Convicted Drink/Driver.

The evidence presented above on modes of apprehension by the police would lead one to suspect that drink/drivers are not an homogeneous group. However, there has been much debate about the most appropriate way of categorizing drink/drivers. Tomasic's (1977) review of some Australian studies leaves the impression that there is no consensus with regard to appropriate categories. Should we talk, for example, of alcoholics and non-alcoholics, dividing the latter group into "excessive" and "responsible" drinkers? Should a BAC of .150 or higher be evidence of an excessive drinking problem? Are some drink/drivers "typical criminals," while others are "typical motorists?" Raymond (1973) argues that existing evidence suggests that there are two fairly distinct types of drinking driver. One attracts police attention and gets caught, the other drives in a responsible manner and does not get caught. Her thesis is that a particular type of driver continually comes to the attention of the authorities, regardless of the method of detection used, and this group is similar in characteristics to recognised alcoholics. This implies that convicted drink/drivers tend to be similar in that they are alcoholics or potential alcoholics, and often have a record of drink/drive, traffic or criminal convictions. Raymond's position is supported by McLean and Campbell (1979), who compared a sample of 70 convicted drink/drivers with 39 alcoholism hospital inpatients and 39 university students rated as "heavy drinkers." It was found that the drink/drivers and the problem drinkers (alcoholics) had lower mean profiles on the California Psychological Inventory than the control group, and that the differences between the drink/drivers and the problem drinkers could probably be attributed to the fact that the problem drinkers were generally older. This implies that drink/drivers are problem drinkers detected early.*

These findings, however, are not in accord with some other research. For example, Venardos (1975) in a study of 1426 drivers arrested for driving while intoxicated in New Mexico, concluded that there are distinct sub-groups of drink/drivers, that they are not "typical" alcoholics, and that rehabilitation programs for drink/drivers should take these differences into consideration. He used 90 demographic, behavioural and psychometric measures, and compared arrested drink/drivers with five control groups, including drivers involved in accidents, and two groups of diagnosed alcoholics.

Clearly a satisfactory typology is not likely to emerge without psychological testing, detailed information on the social world of the offender, as well as data on how he was caught and his previous contact with the criminal justice system. At the very least, both Australian research (for example Birrell (1970)) and research overseas should alert us to the possibility that convicted drink/drivers are not all of a kind, even if it is difficult to delineate precise groupings. This is an important consideration for deterrence research, since if there are different groupings of convicted drink/drivers, it is likely that the different groups will respond in different ways to penalties.

We have seen that the convicted drink/driver in N.S.W. is younger than the driving population, of lower occupational status and is nearly always male. About a quarter have previous convictions for drinking and driving. Thus drink/drivers tend to be like other criminal groups with respect to age and social status, although it is important to note that there are many more older drink/drivers than older offenders of other kinds dealt with at Magistrates' Courts. In 1976, 50.1 per cent of non-drink/drive Magistrates' Court offenders were aged 18 to 24, compared with only 33.8 per cent of drink/drivers.

* However this study suffers from the small sample sizes and from the absence of multivariate statistical procedures.

In addition, in 1972 about one third (35 per cent) of convicted drink/drivers had a criminal record of some kind, whether for a juvenile, summary or indictable offence. Raymond (1970) also found a figure of 35 per cent for Victoria, while Willett (1973) found 37 per cent for England. This figure of 35 per cent is certainly higher than for the driving population --- Raymond (1970) found a figure of between 10 and 15 per cent for a control group of drivers. It is however less than for other groups of offenders, 45 per cent of whom had a criminal record (Court Statistics, 1976).

At least in terms of age and criminal record, the convicted drink/driver seems mid-way between the general driving population and other criminal groups. This does lend some weight to the popular contention that drink/drivers are not typical criminals, and that at least some are just typical motorists. However, this argument cannot be pushed too far. Certainly a more detailed examination of the drivers with records of some kind, or the group who committed other offences at the same time as their drink/drive offence, would dispel any illusions that they are typical motorists. The previous drink/driver offender, for example, is twice as likely as the first offender to have a criminal record (57.3 per cent compared with 27.4 per cent).

Nearly one in five (19.0 per cent) of convicted drink/drivers were convicted of one or more other offences at the same time as the drink/drive offence.* Of these most were charged with only one additional offence, although it is not unknown for up to eight or ten additional charges to be preferred. Most commonly (9.1 per cent of convicted drivers in 1972) these were traffic offences which caught the attention of the police, such as negligent driving, speeding or crossing to the wrong side of the road.

A significant proportion were charged with driving while unlicenced (6.1 per cent), while 2.6 per cent were charged with serious traffic offences such as damaging property, driving dangerously, or not stopping after an accident. Fewer than two per cent were dealt with for driving while their licence was disqualified, cancelled, or suspended, but as we shall see this group provides an important pointer to the effects of penalties. A small proportion (about 2.5 per cent) were dealt with for criminal offences such as larceny of a vehicle, common assault, resisting arrest, possessing a gun while intoxicated or breaching recognizance.

The major implication of this sketchy review of the characteristics of convicted drink/drivers is that an analysis of the effects of penalties must be open to the possibility that any effect will vary depending upon the characteristics of the offender. Disqualification may be effective, for example, with people of low BAC but not with others. Fines may discourage the young unskilled offender but not the older businessman.

* The figures for other offences are weighted estimates from the follow-up sample of 1,000 drink/drivers. See Table 6.2.

2.4 Penalties for Drink/Driving, 1969-1977.

Penalties for driving with the prescribed content of alcohol (PCA) vary from State to State in Australia. Victoria, Queensland, South Australia and the Northern Territory vary the penalty depending on whether the BAC is less than .150. For example, for a first offence in Victoria, offenders with BAC over .150 are disqualified for a minimum of 1 year and fined, while those with a BAC less than .150 are disqualified for a minimum of three to six months.

Penalties in N.S.W. are not tied to the BAC in the legislation, and in practice there is little correlation between the penalty imposed and the recorded BAC. There is a default period of disqualification of one year in N.S.W. for the first offence, and three years for the second offence.* In practice, Magistrates are free to vary this period up or down, depending on the circumstances of the case. The overall average disqualification period has been three months for a number of years. Until late 1978, when the maximum fine was raised to $1,000, the maximum fine in N.S.W. was $400. The average fine actually imposed in 1972 was about $150.

Each year since 1969, about 85 per cent of PCA offenders in N.S.W. have been dealt with by means of a fine and a period of licence disqualification.** The remaining 15 per cent have been dealt with either by a period of imprisonment not usually exceeding six months (although multiple offenders can be incarcerated longer by being imprisoned for several offences), by being dealt with under Section 556A of the Crimes Act, or finally by being given a recognizance under Sections 554 or 558 of the Crimes Act.

* Late in 1979 minimum disqualification periods (of three months for a first offence and six months for second and subsequent offences) were introduced.

** There are technical distinctions between the terms disqualification, suspension and cancellation. For our purposes, disqualification and suspension may be regarded as equivalent terms. Licence cancellation is carried out by the Commissioner for Motor Transport as an administrative measure, while disqualification or suspension is usually an action of a Court. Homel (1975) has shown that penalties for driving while disqualified are much heavier than driving while cancelled. Licence revocation, in the sense of permanent disqualification for life, does not appear to be a common penalty in N.S.W.

Briefly stated, Section 556A of the Crimes Act provides that "where any person is charged before a court --- and the court thinks that the charge is proved --- but is of the opinion that, having regard to the character, antecedents, age, health, or mental condition of the person charged, or to the trivial nature of the offence, or to the extenuating circumstances under which the offence was committed, it is inexpedient to inflict any punishment ---, the court may, without proceeding to conviction, make an order either -

(a) dismissing the charge; or

(b) discharging the offender conditionally on his entering into a recognizance ---"

The essence of the section is that no conviction is recorded.

Section 558 changed in 1974. Before 1974 (and at the time the sample for the present study was selected), it amounted to a suspended prison sentence for offenders without a record for indictable offences. The offender entered into a bond to be of good behaviour for a period of at least one year, and if he failed to comply with a number of conditions, or if he committed any offence, he would immediately be imprisoned. Since 1974, the conditions of the section have become more general, and no longer involve the actual passing and the suspension of a prison sentence.

Section 554 requires the offender to enter into a good behaviour bond for a period between one and three years, in addition to or in substitution for being fined and disqualified. When an offender enters into a bond, he is usually warned by the Magistrate that if he breaks the conditions of the bond, or is reconvicted for some offence, he will be brought before the same Magistrate for sentence on breach of the bond. The penalty is not fixed by legislation.

The revised form of S. 558 makes it more similar to S. 554 than the old form. One important difference between Section 558 and Section 554 before 1974, which is the pertinent period for this study, is that under Section 554 the penalties for breach of recognizance constituted an *undefined* threat of punishment at the hands of the *same* Magistrate.*

Bonds or probation may be regarded as the most severe penalties short of imprisonment, and Section 556A as the most lenient. Table 2.7 summarizes the pattern of penalties for 1969 to 1977.

Table 2.7. Penalties, excepting fine and disqualification, for PCA offenders, 1969-1977.

	S.556A (%)	Bond under S.554 or S.558 (%)	Prison (before appeal) (%)	Total convicted.
1969	7.6	Not published	Not published	7552
1970	8.9	Not published	Not published	9557
1971	8.5	3.8	1.4	12335
1972	9.2	5.8	1.9	15736
1973	8.8	6.1	2.0	16779
1974	9.5	6.2	1.7	15606
1975	8.0	5.9	2.3	15836
1976	7.8	6.7	2.0	15702
1977	7.3	6.9	1.9	16300

* Some magistrates may have required offenders to deposit a sum of money as surety. The implications of this are discussed later in the report.

As with previous tables, the most obvious feature of the data is the relative stability of the penalties imposed. In.1977 penalties were much the same as they were in 1971 or 1972. About two per cent of offenders go to prison, presumably the most "deserving" in terms of seriousness of offence or number of previous convictions, although this number declines slightly after appeal. Five or six per cent are dealt with under Section 554 or 558, slightly more under Section 556A.

It is perhaps not surprising that the broad pattern of penalties has not changed, given the relative stability of offender characteristics (age, previous convictions, and so on). It is rather more surprising, however, that average fines and periods of licence disqualification do not appear to have varied much over the years. Table 2.8 summarises the pattern.

Table 2.8. Median fines and periods of licence disqualification, 1969-1977.

	Fine ($)	Disqualification (months).
1969	Not published	Not published
1970	Not published	Not published
1971	Not published	51.6% less than 6 months
1972	125	3 months
1973	140	3 "
1974	150	3 "
1975	150	3 "
1976	150	3 "
1977	150	3 "

In addition to the penalties summarised in Tables 2.7 and 2.8, drink/drivers have been dealt with in three further ways. Firstly, an increasing number have been sentenced to periodic detention in recent years (this means essentially weekend detention for the period of the sentence). In 1972 only three people were dealt with in this way, but in 1977 there were 76 cases (0.5 per cent). The present study does not include periodic detention as a penalty, since there were too few cases in 1972. Secondly, the use of restricted licences as an alternative to licence disqualification has been growing in popularity. Restricted licences allow offenders to drive in restricted hours for particular purposes, usually to get to and from work. In 1974, 8.7 per cent of offenders received a restricted licence, while in 1977 the figure was 12.2 per cent. It is safe to say that while some offenders would have received a restricted licence in 1972, the number would have been smaller than eight per cent. As with periodic detention, the present study does not include data on any offenders who received a restricted licence.* Thirdly, in March 1976, a drink/driver rehabilitation scheme was introduced into four Sydney Courts. As was mentioned in Chapter 1, the various schemes which have developed since then represent a major new factor in the penalties imposed on drink/drivers in N.S.W. As yet, detailed information on the characteristics of those passing through all these schemes has not been published. The evaluation of the effects of these schemes, and their impact on the judicial penalties imposed by the Courts, is the subject of another Bureau report.

* The changes to the laws governing disqualification periods in 1979 removed the power of magistrates to impose restricted licences.

82056J—3

It was noted above that the maximum fine in N.S.W. was raised to $1,000 late in 1978. This change in legislation was accompanied by a blaze of publicity, and Sydney newspapers carried headlines for several months highlighting cases where offenders were fined the maximum or who were jailed. Recent statistics on fines imposed are not available, although a hand check on statistical returns for the first three months of 1979 indicated that the proportion sentenced to prison before appeal was about 3.3 per cent. This represents an increase in the imprisonment rate of about 30 per cent, but the number imprisoned is still relatively small. An analysis of the full year's data will be necessary to see whether the increased use of imprisonment is maintained. It is probable that when the statistics for 1979 are analysed, the average fine imposed will have increased, although in view of Table 2.8 it is unlikely to exceed $500.*

The recent increase in fines really represents a catching up with inflation, since take-home wages have more than doubled since 1969. One effect of the new legislation has been to heighten public awareness of the penalties for drinking and driving, and therefore there may be a general deterrent effect---people who otherwise may have driven while drunk may now think twice. Needless to say, the measurement of any general deterrent effect would be difficult (Gibbs, 1975). However, such problems are beyond the scope of this report, since the research is concerned with the *specific* deterrent effect of penalties on offenders who have received them.

Although most offenders plead guilty to PCA (99 per cent), the majority are legally represented. The number represented was 49.1 per cent in 1972, and rose to 70.8 per cent in 1977, probably as a result of increased legal aid, especially through the N.S.W. Public Solicitor. The figure of 70.8 per cent for drink/drivers in 1977 was higher than the figure of 41.0 per cent for other groups of offenders dealt with at Magistrates Courts in 1976. The relatively high rate of representation for drink/drivers could be one reason for the stability of penalties.

Previous research has highlighted the importance of legal representation, as well as some other variables, in influencing the judicial penalty (Vinson & Homel, 1972 and Court Statistics, 1976). More detailed statistical analysis (using linear model techniques) confirms the pattern revealed by cross tabulation analysis, that three factors are primarily associated with the outcome. In order of importance these factors are:

* Number of previous drink/drive convictions --- the higher the number of previous convictions, the greater the likelihood of heavier penalties;
* Age --- young offenders are much more likely to receive heavier penalties, other factors controlled;
* Legal representation --- represented offenders received lighter penalties, with the effects of a range of other variables statistically controlled.

* Hood (1973) noted that Magistrates in Britain tend to impose fines in the lower half of the range, a pattern which is confirmed in N.S.W. for the period 1969 to 1977. A hand check on some cases suggests a median fine of about $400 for the first three months of 1979.

The role of legal representation is understandable, since a solicitor is able to present the "facts of the case" (that is, the circumstances in which the offence occurred) in as favourable a light as possible. If more details of this kind were available through the statistical records, the apparent importance of legal representation *might* be diminished. Similarly, the relationship between penalties and number of previous drink/drive convictions is consistent both with the legislation and with what would be expected.

The heavier penalties imposed on the young offender are a little more difficult to understand. Probably the view of most Magistrates is that young offenders need to be "taught a lesson" while they are young enough to be influenced in their behaviour, especially since young men are over-represented in motor traffic accident statistics. The relative severity of the sentences which young men receive can be gauged from Table 2.9, which presents simple comparisons of penalties for the under-25 age group with penalties for the age group 40 years and older. These kinds of differences persist even after allowance is made for such factors as previous convictions or legal representation.

Table 2.9. Penalties for PCA by age, 1972.

	Under 25	40 and older
Mean fine	$133	$111
Median period of disqualification	6 months	1 month (3 months excluding 556A cases)
Percentage 556A	1.2%	23.5%
Percentage imprisoned	1.8%	1.9%

The effect of age on penalties is most clearly seen in the proportions granted a dismissal of recognizance under Section 556A, and in the median periods of licence disqualification. Magistrates are clearly not prepared to give young men the benefit of any doubt under Section 556A, even though they are more likely to be first offenders. They receive double the average period of disqualification, while offenders over 40 usually receive less than the average. Even if the large proportion of 556A cases are excluded from the 40 plus age group, the median disqualification is still only three months. Imprisonment rates do not vary by age, apparently reflecting the importance of other factors, such as the circumstances of the offence.

The sentencing of drink/drivers is a complex issue, and will be examined in more detail in a later report.* Results of the analysis of sentencing patterns in 1972 are presented in summary form in Chapter 8, in connection with the method of sampling offenders for the present study. Further discussion of sentencing will be postponed until then.

* An analysis of sentencing trends for the period 1972-1976 (the period of the follow-up) will be presented in a later report, and will be related to the findings of the present study.

CHAPTER 3. DETERRENCE RESEARCH.

3.1 Punishment and deterrence.

Broadly speaking, 'deterrence' can be thought of as the omission of an act as a response to the perceived risk and fear of punishment for contrary behaviour (Gibbs (1975, p. 2)). It is widely regarded as one of the major aims, if not *the* major aim of punishment. At its simplest, behind the notion of deterrence lies the idea of a rational man, weighing the pleasure to be gained from comitting a crime against the risk of unpleasantness communicated by a legal threat (Zimring and Hawkins, 1973, p. 75). Most people today would reject such a simple model of the deterrent process, recognizing that the part played by calculation of any sort in anti-social behaviour has been exaggerated. Nevertheless, legislators and the judiciary all around the world continue to justify penalties on the grounds of their assumed deterrent effect.

However, few people would claim that deterrence is the only aim of punishment. Zimring and Hawkins (1973 p. 33) assert that some sort of retributive theory now seems to be fairly generally accepted; that is, that punishment is pain or deprivation inflicted on an offender for his offence. In discussing the competing requirements of a purely retributive or a purely utilitarian approach, they point out that while an emphasis on retribution ignores the fact that punishment has a social and political function which cannot be fully defined in terms of the requirements of morality, purely reformatory or deterrent theories lack what are essential safeguards against inhumanity and the infringement of human rights. They favour a compromise solution which employs the retributive notion of appropriateness or deserving as fixing an upper limit to the range within which penalties may be selected on utilitarian grounds.

These considerations are by no means irrelevant to the drink/driver or to the motoring offender. As Hood has pointed out:

> "Magistrates obviously face a problem in deciding how to perceive the motoring offender. They have to administer a system of penalties which adequately distinguishes between offences of different gravity, appears to be effective in preventing bad driving, and, at the same time, 'fair'." (1972, p. 4).

He notes that the public view of justice demands a retributive or tariff approach based on the gravity of the offence committed, whereas a preventive or deterrent system would entail an individualized approach which would attempt to distinguish likely recidivists from those who could be given a nominal penalty.

Hood found in his investigations that a tariff approach partly undergirded the sentencing practices of British magistrates, especially for the less serious offences (see for example Hood (1972, p. 90)). He noted that variations in penalties were largest for the more grave offences, and that within each kind of offence cases with special circumstances (such as previous convictions) led to more disagreement (1972, p. 130).

To the extent that deterrence is accepted as an objective of punishment, the need for research into which penalties deter follows logically. However, until recent years there was relatively little evaluative research in the area of deterrence, and what research results have been established appear to have had little impact on sentencing. Zimring and Hawkins (1973, p. 18) speak of an "official ideology of deterrence," which is something quite distinct from beliefs supported by evidenc

Gibbs (1975) has made the point strongly that there is no systematic theory of deterrence, only a deterrence doctrine, and that progress toward a satisfactory theory first requires extensive conceptual groundwork. Traditionally, deterrence has to do with the impact of legal punishment on those who have suffered it, while general deterrence pertains to the impact or threat of punishment on the public at large. Gibbs (1975, p. 38) criticises Andenaes' formulation of this distinction as "vague and seemingly far too inclusive," and substitutes a detailed typology of his own consisting of sixteen combinations of conditions. For example, "Potential, Specific Deterrence Type 1A" relates to a situation in which an individual has suffered only one of the presently prescribed punishments for the type of crime contemplated, and has previously committed this type of crime and also other types of crime. Gibbs' table illustrates that especially for research purposes, conditions and situations which are actually quite distinct should not be conflated.

At a less detailed level, he distinguishes three, rather than two, types of deterrence. 'Absolute deterrence' refers to instances where someone refrains from crime for their whole life for fear of punishment. 'Restrictive deterrence' is similar, except that in this case some individuals *curtail* (rather than refrain entirely from) their violations of the law. Finally, 'specific deterrence' occurs when an individual omits or curtails some types of criminal activity because he or she has been punished at least once for a crime, and is unwilling to risk being punished again. In order to limit the meaning of 'general deterrence,' Gibbs equates it with absolute and restrictive deterrence.

A further distinction is necessary for the present study of specific deterrence. It is necessary to distinguish between 'absolute specific deterrence' and 'marginal specific deterrence.' The former term refers to the specific deterrent effect of being caught and punished *in itself*. This requires a comparison between those caught and convicted for some offence with those who have committed the same offence but who have not been caught or punished. 'Marginal specific deterrence' refers to the specific deterrent effect of one penalty compared with another (for example probation versus prison) for those caught and convicted only. Since the present study is restricted to a follow-up of a sample of convicted drink/drivers, only the *marginal* deterrent effects of penalties can, in principle, be determined.

Gibbs further argues (1975, Chapter 3) that deterrence is only one of ten possible ways that punishment may prevent crime. Other preventive mechanisms include such obvious processes as incapacitation (imprisonment and execution), and punitive surveillance (probation and parole), as well as less obvious mechanisms like enculturation or socialization, which means that public knowledge of laws is furthered by punishment.

A practical implication of these distinctions for the present study is that the imputing of a deterrent effect to a penalty on the grounds that it is associated with lower reconviction rates must remain a pure inference. Even if it can be shown that penalties reduce or eliminate the incidence of a crime, the mechanisms involved may not be deterrence but reformation, incapacitation, stigmatisation, or something else. To take one simple example, a young man may not be deterred from committing a traffic offence by having his licence disqualified. However, his family may take the penalty seriously and confiscate his vehicle for the duration of the disqualification, thus reducing the opportunities for the offender to drive while disqualified or to commit some other offence.

In many ways establishing a deterrent effect is more difficult than proving the operation of any of the other preventive mechanisms. As Gibbs points out:

> "... a thoughtful definition of deterrence promotes recognition that the term denotes an inherently *unobservable phenomenon*. Common sense to the contrary, we never *observe* someone omitting an act because of the perceived risk and fear of punishment." (1975, p. 3)

For policy purposes the mechanism whereby penalties prevent reoffending may not matter very much. If a certain kind of penalty can be shown to 'work' then that is sufficient justification for employing it, within the limits set by considerations of justice. The real problem is that it is very difficult in practice to prove that penalties 'work,' as a consideration of the literature reviewed in the next section will show.

3.2 Past research

Most research has been restricted to a study of the marginal deterrent effects of penalties, using reconviction rates as criterion. Reviewing the results of many of these studies, Zimring and Hawkins (1973, p. 244) conclude that:

> "... those treated more leniently have lower rates of subsequent criminality than those punished more severely. But when such comparisons are controlled for differences in the offender groups other than type of punishment, the dominant feature of the results is that the overall differences between various methods of treatment are small or non-existent."

These findings are not consistent with the deterrence doctrine; in fact they indicate that the particular type of penalty imposed is irrelevant to the subsequent behaviour of the offender.

Zimring and Hawkins (1973) go on to say that the apparent lack of significance could be the result of more severe punishment producing significant positive effects in some types of offenders and significant negative effects on others that tend to balance out. This implies that the possibility of interaction effects between offender characteristics and penalties should be carefully considered in a study of specific deterrence.

Unfortunately there have been relatively few studies of the specific deterrent effect of penal sanctions on motoring offenders, or drink/drivers in particular. Middendorff (1968) provides a comprehensive summary of many studies undertaken in Europe and the United States up till about 1968. One West German study to which he refers compared the effect of a suspended jail sentence with an actual period of imprisonment on a sample of drinking drivers. The reconviction rates between the years 1959 and 1962 averaged eight per cent for both groups; there was no significant difference. However, these figures are open to the criticism that they were not adequately controlled for differences in regions or for variations among the drivers who received the two types of penalties.

Gibbs (1975, p. 183) describes a study of the effect of penalties on traffic offenders in Israel reported by Shohan (1974). Briefly it was found in the study that there appeared to be a *direct* correlation between the severity of penalty for first offence and the number of subsequent offences. Thus, for example, of those drivers who were warned on their first offence, 52.7 per cent remained free of further convictions compared with 38.7 per cent of those who were fined. Gibbs notes that the overall findings of this study are inconsistent with the deterrence doctrine. Shoham's own explanation (1974, p. 69) for the puzzling findings is that severe punishments may increase the anxieties of drivers and lower their self confidence, thus making them poorer drivers.* This is certainly not the result desired by proponents of the deterrence doctrine.

* Another explanation is that Shoham has not adequately controlled for the characteristics of offenders in his analysis.

Dijksterhuis (1974) evaluated the specific preventive effect of a special prison for drunken drivers in Holland. He matched 76 drink/drivers in a traditional prison with 76 drink/drivers from a special prison for traffic offenders called Bankenbos. Bankenbos involved minimum supervision, prisoners worked in the garden or woods, and were allowed to wear their own clothes. There was some input of information about traffic problems. The traditional prison was quite different, involving strict supervision and consisting of prisoners of all kinds. The two groups were matched individually on age, social status and time of year of imprisonment.

Dijksterhuis found that the experimental group had a more positive overall opinion of Bankenbos than the control group did of the traditional prison, but that the rate of reoffending for drink/driving, as reported in an interview with the offenders two years after release, did not differ significantly between the two groups. In fact 52.6 per cent of the experimental group admitted to driving under the influence, compared with 44.7 per cent of the controls. There was no difference in the reported frequencies of drinking and driving. Dijksterhuis concluded that a more humane prison climate, however valuable in itself, does not *per se* make for a clear cut difference in terms of specific prevention. On the other hand, the study provides no support for inflicting harsh treatment on drink/drivers.

One of the most thorough studies of the impact of the legal system on motoring offenders in Britain was undertaken by Willett (1973). This was a project parallel to Hood's (1972), which studied disparities in sentencing motoring offenders and the theoretical basis of sentencing as perceived by magistrates.

In Willett's study, the sample of people convicted of relatively serious motoring offences (causing death by dangerous driving, driving under the influence, etc.) were followed up and interviewed as many as three times over a period of two years. Nearly three-quarters (71 per cent) of the 181 offenders felt their sentences were unjust, especially the drunken drivers. More than one in three (36 per cent) of those disqualified from driving admitted to having disobeyed the disqualification order, and most of these were never caught. After a four year period, 39 per cent had been reconvicted for some offence, whether motoring or not. Twenty-seven per cent committed a motoring offence (1972, p. 127).

Willett found that overall about two-thirds of the offenders were relatively untouched by their sentences. There was a great distaste for disqualification, but its power rested mainly on bluff; as soon as it was realized that the disqualification order is not energetically enforced, it was reduced to the status of an irritant. On average, offenders were younger than a control sample of drivers, of lower education and occupational status, and were more likely to have had previous convictions for both motoring and non-motoring offences.

Willett's study gives little encouragement to the view that heavier penalties, or the use of one type of penalty (such as disqualification) rather than another, will deter offenders from further offences. Moreover, it seems that sentences are most effective in the case of law abiding drivers, rather than the group of experienced law breakers who tend to ignore disqualification and fines (1973, p. 135).

A number of studies have been conducted in the United States, mainly by government research organisations. One of the most ambitious studies was by Blumenthal & Ross (1973).* These researchers attempted to use a randomization methodology to compare the effects of a fine, 'conventional' probation or 'rehabilitative' probation on drink/drivers who were first offenders. With the co-operation of the judges, it was hoped by the researchers that all the offenders in a specified month would (with few exceptions) receive one of these types of penalties.

* See also Ross & Blumenthal (1974)

Unfortunately, the lawyers got wind of the experiment and either introduced delaying tactics so that their client did not appear until the 'fine month' or argued persuasively for a penalty other than probation. Thus the advantages of a randomized experiment were lost, and statistical controls had to be introduced. As far as the researchers were able to determine, the type of penalty imposed on the 500 first offenders who were sampled had no effect on subsequent drink/drive behaviour or traffic safety (1973, p. xvii). Those sentenced to jail rather than to one of the three prescribed treatments also were found not to differ from the balance of the group in subsequent records. Overall about five per cent of the sample were reconvicted for a D.U.I. offence within one year.

Hagen, Williams, McConnell and Flemming (1978) review some recent American studies. Epperson, Harano and Peck (1975) and Hagen (1977) found that multiple drink/drive offenders receiving a mandated licence suspension (12 months) or revocation (36 months), in addition to fines and jail, had at least 30 per cent fewer convictions and accidents than those drivers receiving only fines and/or jail sanctions. The effect lasted approximately 42 months on D.U.I. recidivism and 48 months on accidents. Finally, the licensing actions were found to be differentially effective for various age groups. A later study (Janke, Peck, and Dreyer, 1978) contains evidence of a 50 per cent reduction of accident expectancy over a three year period following multiple conviction of drunk driving. Since a majority of drivers received either a licence suspension or revocation, it is likely that the reduction was causally related to licensing action impact. Hagel et al. (1978) also review some evaluative studies of rehabilitation schemes, and come to the conclusion from their own evaluation of a Californian scheme that program participants had worse traffic accident and conviction records over a one year follow-up period than drivers dealt with by means of licence suspension or revocation.

There are few Australian studies published to date which can match overseas research. Robinson (1977) in a mail survey of 1552 disqualified drivers found that 36.4 per cent admitted driving while disqualified, with over 40 per cent of those subjects driving on more than 20 occasions. Drivers who committed more serious offences, many of whom were drunk drivers, were less likely to admit to driving while disqualified (30.4 per cent). The relation between driving and length of disqualification was curvilinear, with the highest frequency of violations reported by subjects disqualified for a period of one or two months (46.2 per cent). Subjects disqualified for less than one month or for twelve months or more had the lowest rate of reported violations (29.5 per cent and 29.9 per cent respectively).

One problem in evaluating the results of Robinson's research is the relatively low response rate in the survey: only 37.2 per cent of the original 4492 subjects selected responded. This is not a bad response rate for a mail questionnaire, and is comparable to similar studies overseas, but raises questions about the 63 per cent of drivers who did not respond. Comparison of the non-respondents with the respondents showed that non-respondents were older, on average by two years, were more likely to be disqualified for a longer period, and were also less likely to have held a full licence when originally sampled. The longer periods of disqualification for the non-response group and the higher proportion unlicensed probably correspond to a higher number of previous convictions, and hence presumably to a greater likelihood of reoffending. This implies that Robinson's figure of 36.4 per cent is likely to be an underestimate.

In a review of previous research on licence disqualification, Robinson (1977) concluded that the proportion of drivers who violate the sanction is between 32 per cent and 68 per cent, but some studies suggest that many who do drive while disqualified drive more carefully. The evidence bearing on the relationship between length of disqualification and probability of driving while disqualified appears to be contradictory. Some findings indicated that those who do drive during a period of disqualification tend to be younger and of lower status, but again the evidence is not unanimous. The reader is referred to Robinson's report for more details of the literature on disqualification.

In a very interesting study of the driving records of 546 people descended from multiproblem families in Tasmania, Hagger & Dax (1977) documented the relationship between motoring offences and other kinds of social pathology. Although not a quantitative analysis, their discussion of the relationship between these families and the police is instructive. Their comment on the effect of penalties is also worth quoting:-

> "Consideration has to be given to whether the penalties for traffic offences in these cases have much meaning. Court appearances, probation and prison sentences have less stigma for these families than for others. A period in prison for driving an unlicensed car means not much more than he is being confined in a room which may be no worse than his own home; he will be better fed and will certainly live a more ordered and healthier life. It must also be considered how he is being deprived or punished, and whether it is of use to him at all. It will not teach him to read or write in a short period of time and this he may need above all else if a recurrence of this form of non-moving offence is to be avoided." (1977, p. 125).

To the extent that drink/drivers from multiproblem families constitute a significant percentage of convicted drink/drivers in N.S.W., the research by Happer & Dax helps to inject a note of realism into the discussion of the likely effects of penalties. That drivers from multiproblem families do occur frequently among those convicted is implied by the findings of Vinson & Homel (1975 & 1976) on the relationship between crime (including drink/driving) and other kinds of social problems, and the overconcentration of both crime and social problems in a small number of 'high risk' neighbourhoods.

A final source of Australian information on penalties and drink/drivers is provided by the ongoing work of Raymond (1973) and Raymond and Santamaria (1978), at the Department of Community Medicine, St. Vincent's Hospital, Fitzroy. They report that among convicted drink/drivers at large one in three will be reconvicted for the same offence and that one in seven will be reconvicted two or more times. Their results indicate that the drink/driver program at St. Vincent's Hospital has lowered the recidivism rate by about one third over the first 18-24 months. However, they caution that their numbers are too small to do a "life table" analysis beyong that period.

The House of Representatives Standing Committee on Road Safety is currently conducting an enquiry into alcohol, drugs and driving. This has involved the compilation of data from a wide variety of sources, which is published in the official Hansard Report of Proceedings. The final report of the committee should provide a comprehensive summary of all Australian work in the field to date, including correctional and rehabilitation measures for drink/driving.

The review of literature presented above leaves very little hope that judicial penalties will be very effective in reducing the rate of offending for drink/drivers. There is some American evidence that licence disqualification is an effective sanction, but it seems that the overwhelming weight of evidence collected in studies undertaken to date is not consistent with the doctrine of specific deterrence. The evidence, if anything (Shoham 1974, Zimring and Hawkins, 1973, p. 244) is that harsher penalties *encourage* rather than discourage further offences. Gibbs' statement applies to motoring offences as much as to other offences:

> "Briefly, few findings support the contention that individuals who have been punished for a crime are deterred from subsequent offences, or for that matter that specific deterrence is a function of the severity of punishment" (1975, p. 185).

CHAPTER 4. RESEARCH DESIGN AND METHODS OF ANALYSIS

4.1 Non-randomized designs in deterrence research

The ultimate objective of research into the effects of penalties is to discover any causal connection between type and severity of penalty and subsequent behaviour of offenders. As the discussion in Section 3.1 made clear, a relationship between penalties and subsequent behaviour may have a number of causes (even when a causal connection, as opposed to mere correlation, has been established), deterrence being just one of the possibilities. However, for policy purposes the immediate objective is to discover whether penalties do have any effect.

The only satisfactory way in which causal connections can be established in the social sciences is via replicated experiments involving a randomisation methodology. In the context of this study, this would require that drink/drive offenders be assigned a penalty at random with at best only limited regard for the seriousness of their offence or the appropriateness of the penalty. This would ensure that offenders receiving different penalties did not differ systematically, and would allow a correlation between penalties and subsequent behaviour to be interpreted as evidence of a causal effect of penalties. If the same correlation emerged in repetitions of the experiment, a causal connection could be regarded as proved.

Randomization has been employed in a number of studies of juvenile traffic offenders (Zimring and Hawkins, 1973, p. 358). In these studies, penalties typically varied from fines or probation to attendance at traffic school or writing an essay on traffic safety. Zimring and Hawkins note that:

> "the tolerance towards experimentation that exists within the area of traffic offender treatment...make this an eminently suitable area for a series of controlled random assignment experiments."

No doubt one reason for public tolerance of experimentation in traffic cases is that they aren't regarded as crimes and the penalties are relatively lenient. However, the study by Blumenthal & Ross (1973), discussed in Section 3.2, illustrates that things are not so straightforward in more serious matters such as drinking and driving. Although it is the optimum technique scientifically, randomization in practice has a number of serious defects.

First, there are serious ethical difficulties in assigning penalties at random. As Ross & Blumenthal (1975) note, random assignment conflicts with the principle that punishment should fit the crime and also with the principle that punishment should fit the criminal. They restricted their study to first offenders, and defended their design on a number of grounds:

(i) All the prescribed treatments (fine, traditional probation and rehabilitative probation) were commonly used on first offenders in the court system studied;

(ii) The experimental prescription went only to the quality or type of sanction, not to its quantity or amount - furthermore, judges were free to depart from the experimental prescription in cases where it seemed grossly inappropriate;

(iii) The value of the possible results of the study seemed sufficient to outweigh any marginal costs to the offender. They note, however, that not all their colleagues were convinced as to the ethics of the design.

A second major problem with randomization is also reflected in the experience of Blumenthal & Ross (1973) - it is generally impossible in practice to carry it out. Unless offenders and their solicitors can be kept in the dark about the experiment, the natural legal processes will take over, with solicitors seeking the lightest penalty for their clients, regardless of the penalty prescribed by the experiment. This is exactly what happened in the above study, with the result that the advantages of a randomized experiment were lost.

It should be noted that even if offenders and their solicitors were to comply with the experimental procedures, either voluntarily or through coercion, there would still be major problems of interpretation. Once an offender knows that he is being "experimented upon," the psychological impact of the penalty is completely changed, and the process of sentencing takes on a "game" atmosphere. It is hard to imagine that under these circumstances the penalty imposed would be perceived in the same way as if it were imposed as a matter of"justice."

The possibility of a randomization methodology was never seriously considered for the present study, even though it was planned before Blumenthal and Ross published their results. Ethics aside, the practical difficulties involved in gaining the co-operation of magistrates and solicitors were regarded as insurmountable. In the present climate of public opinion concerning drinking and driving, with growing demands for heavier penalties from a number of quarters, such experimental procedures seem even less likely to be implemented.

The only alternative to randomization is the incorporation of statistical controls in the analysis. Methods of statistical control are usually called "analysis of covariance," or more generally "linear models analysis." The purpose of introducing statistical controls is to separate the effect of penalties from offender characteristics. If, for example, people sent to prison are "poor risks," and would probably reoffend no matter what punishment they received, it may not be possible to blame prison for their high reconviction rates. What is needed is a statistical method which will hold offender characteristics "constant," allowing a valid comparison between different penalties.

Unfortunately this is easier said than done. A suitable linear model can usually be constructed, provided the right offender characteristics can be identified and measured. However, there is very little theoretical background which would assist in the identification of all the important variables (psychological and sociological) and in any case most could not be measured without very extensive interviews with offenders. The present study, which relies on official records, cannot hope to incorporate more than a bare minimum of relevent variables.

A detailed description of the statistical methodology employed in this study is given in Section 4.6. However it is necessary, at a less technical level, to answer the criticisms of those who regard anything less than a randomization methodology as inadequate. Gibbs (1975) for example, states categorically that the only satisfactory basis for assessing the marginal specific deterrent effect of different penalties is randomization (p. 235). He adduces two primary arguments in support of his position. First, he argues that the statistical models employed to carry out controls in non-randomized designs assume linearity and may not incorporate interaction effects, and secondly that the variety of variables that could condition the outcome of punishment is so vast and complicated that many crucial factors must be omitted in a linear-model analysis.

The first argument is somewhat technical and is dealt with in Section 4.6. Briefly, it is now generally recognised (see for example Nelder & Wedderburn, 1972) that linear models may be as complex as the user wishes, subject to computing constraints, and may incorporate a wide variety of non-linear terms (quadratic, cubic, etc) as well as interaction effects. It is true that the researcher often doesn't know which interaction effects should be included, but this is also a problem with complex

randomized designs. Ths use of randomization does not absolve the researcher from investigating the possibility that penalties have a different effect on different types of offenders.

The second argument is more telling, and is strictly correct. However, two points in reply should be noted. First, the problem is not restricted to deterrence research, but applies in any situation where it is desired to compare "naturally occurring groups" (for example smokers and non-smokers). Statistical methods in these cases can at best alter the balance of evidence: they can never yield proof. The problem does not seem any worse in the deterrence case than in other areas of research (for example smoking and lung cancer). Secondly, if such basic statistical controls as age and previous convictions can "explain" the apparent impact of penalties (Zimring & Hawkins, 1973, p. 244), it is unlikely that more detailed information will alter the general conclusion that penalties have little effect, except possibly that interaction effects may be isolated. In other words, given this general conclusion of deterrence research, it is always possible to argue that simple social and legal characteristics of offenders are sufficient to explain the apparent effect of penalties, and that therefore penalties are not necessary in an explanation of subsequent behaviour. Unfortunately this argument does not apply in reverse - if penalties are correlated with recidivism after statistical controls have been introduced, it is always possible that one or more unmeasured factors could "explain" this apparent effect of penalties.

4.2 Reconvictions as an index of penalty effectiveness

The present study, like so many of its predecessors, uses some kind of reconviction within a certain time period as an index of the effects of penalties. Other possible criteria include:

(i) accident records;

(ii) self-reported infractions of the law, particularly drinking and driving and motoring offences;

(iii) changes in knowledge, attitudes or lifestyle as reported in an interview.

Accident statistics have been widely used in American studies of motoring offenders, and are especially attractive in investigating drink/drive offenders, given the close connection between drink/driving and accidents. Unfortunately the licence number of drivers involved in accidents has only been recorded in New South Wales by the Department of Motor Transport since June, 1975. The present study spans the period 1971 to 1976, making it impossible to use accident involvement as a criterion of penalty effectiveness. However, it should be noted that accident involvement is an ambiguous index unless some breakdown is available with respect to the presence of alcohol or being "at fault." Such information could possibly be obtained by linking accident and conviction records.

The use of self-reported infractions is attractive since it would allow a measure of the true rate of reoffending. However the study carried out by Robinson (1977) indicates some of the problems associated with such research. A satisfactory response rate can only be achieved by a direct-interview technique combined with extensive field work, rather than through mail questionnaires, and there are in addition the perennial problems of exaggeration or concealment in the reporting of offences. Such problems can be overcome, but a satisfactory methodology would be extremely expensive. Needless to say, such research would be very valuable, and would provide much more extensive data in addition. More subtle effects of involvement with the criminal justice system such as changes in attitudes, knowledge or lifestyle could be ascertained.

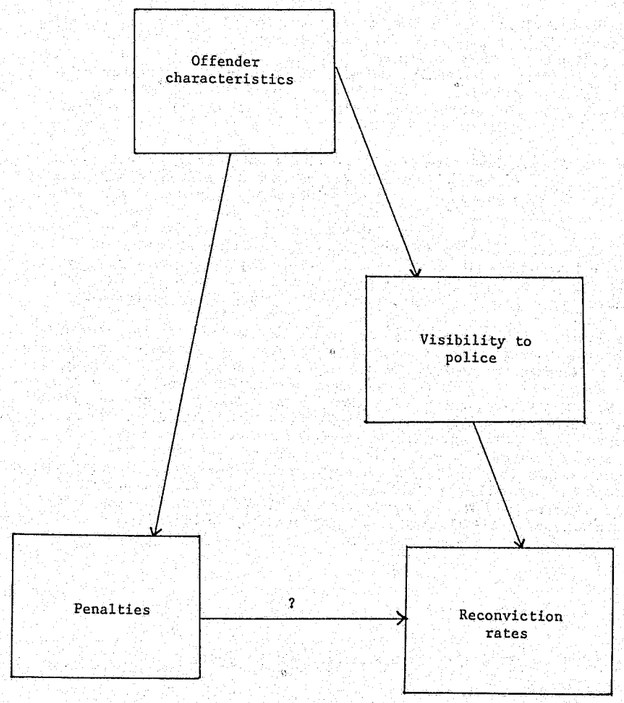
In the absence of all this information, a reconviction in three years remains as the sole index of penalty effectiveness in the present study. A follow-up period of three years was chosen since it was considered that any shorter time would not yield a sufficient number of reconvictions for the various detailed analysis which were proposed. Moreover, 90 per cent of drink/drivers in 1972 received a disqualification period shorter than three years, so a three-year follow-up allows succifient time for the effects of most periods of disqualification to be monitored.

It is not possible to claim that reconviction statistics yield an estimate of the true rate of reoffending, nor is such a claim necessary for the research design. The crucial question is whether one penalty compared with another is more or less "effective" in preventing reoffending, and all that is required to answer this question is an unbiased indicator of reoffending. The problem then becomes: is every offender equally likely to be caught and charged each time he commits an offence?

This question has already been discussed in Section 2.2. We have seen that two major American studies (Zylman, 1972 and Hyman, Helrich and Besson, 1972) indicated that there was no bias in police arrests for drinking and driving, at least in terms of social class or race. To the extent that this conclusion holds generally for New South Wales the use of reconviction statistics as an index of reoffending is justified. However, we have also seen from a small sample of apprehended drink/drivers in Newcastle that social class, age and employment status are related to the probability of apprehension for drinking and driving in New South Wales, possibly because of the greater "visibility" of the young, lower status male.

The Newcastle data implies that the direct use of reconviction statistics would result in a biased index of reoffending, and that therefore the use of reconvictions could lead to an incorrect assessment of the effects of penalties. For example, young men are much more likely to receive longer periods of licence disqualification (see Table 2.9), and it also appears that they are more likely to come to police attention for drinking and driving than older drivers (see Table 2.6). Consequently, even if a period of disqualification made no difference to the probability of reoffending, longer periods of disqualification would be associated with higher reconviction rates, possibly leading to the incorrect conclusion that longer periods of disqualification encouraged reoffending. The correlation between period of disqualification and probability of reconviction would be an artifact of police procedures. This problem is illustrated diagrammatically in Figure 4.1.

Figure 4.1. Schematic representation of relationship between penalties, offender characteristics and reconviction rates.



The only solution to this problem is to adopt the expedient already discussed in Section 4.1, namely to introduce age, social status and employment status as covariates in the statistical analysis. In effect, in the present study two social processes are inextricably bound together:

(i) the sentencing process distributes certain kinds of offenders to certain penalty groups (for example, previous offenders are much more likely to go to jail), the different types of offenders having varying probabilities of reoffending, regardless of penalties;

(ii) the process of police apprehension probably makes some offenders more likely to be caught and charged than others, even if these offenders are no more likely to reoffend.

Knowing the relative contribution of each kind of bias is not as important as ensuring that as many relevant factors as possible are included as controls. The variables available from police and court records which have been used as statistical controls are listed and described in Section 4.5.

The meaning of the term 'reconviction' needs to be clarified. An offender has been classified as being reconvicted if either C.I.B. or Motor Transport Department files contain a record of a criminal, traffic or drink/drive offence in the three year period following the date of original conviction in 1972 or the date of release from prison for the offences dealt with at the time of the original conviction in 1972. In other words, the follow-up period did *not* include the time an offender may have spent in prison for the original offence.* Each offender could be convicted of one or more of each of the three types of offences: criminal, traffic or drink/drive.

Only the categorical recidival rate for each type of offence has been recorded. That is, record has been kept of whether a criminal, traffic or drink/drive offence was committed in the three year period, but the total *number* of offences in each category has not been recorded. The categorical recidival rate has more meaning than any other measure of recidivism, since the aim of the research is to link penalties for the target or original offence with reoffending. Once another offence has been committed and the offender has been convicted and sentenced, the new penalties constitute a major additional variable in the analysis. Under these circumstances, it does not seem meaningful to continue to ask whether the penalties imposed for the original offence are still affecting the likelihood of reoffending. At the very least, data on the new penalties would have to be included in the analysis. Since this introduces complications which seem unnecessary in an exploratory study, the decision was made to use only categorical recidival rates.

* In a couple of cases offenders committed a criminal offence in jail (for example, attempting to escape). The follow-up period for these offenders was taken as three years from the date of conviction for the recording of criminal offences, and three years from the date of release from prison for traffic and drink/drive offences. The incidence of offences in jail is not sufficient to make this a general rule for all offenders.

It should be obvious, however, that the problem of "intervening offences" cannot be avoided entirely. For example, if we wish to focus exclusively on reconvictions for a drink/drive offence, consideration must be given to the possibility that a criminal or traffic offence, or both, may have preceded it. The penalties imposed for these offences may have a psychological impact on the offender, altering the likelihood of reoffending for drinking and driving. Moreover, if one of the penalties for these offences is imprisonment, the offender may be prevented from drinking and driving for a period.

Penalties for "intervening offences" were not recorded in the present study. Their possible effect has been incorporated in the analysis by including them as dummy variable covariates in the linear model (Section 4.6). Thus in the analysis of drink/drive convictions, two dummy variables have been constructed. One recorded whether or not a traffic offence occurred, either before the first drink/drive offence if one was committed, or during the whole three year period if no drink/drive offence was recorded in this time. The other dummy variable indicated the same thing for criminal offences.

Criminal offences have been classified as indictable or summary, but no details were recorded of the specific offence committed. The *principal* traffic offence committed during the three year follow-up was recorded, the principal offence being defined as the one carrying the maximum penalty. The principal traffic offence could include drinking and driving. The *first* traffic offence committed was also recorded.

It follows from these rules that if a drink/drive offence was committed during the period of the follow-up, a less serious traffic offence was recorded in addition only if it occurred *before* the drink/drive offence. Less serious traffic offences committed after a drink/drive offence were not recorded. Table 4.1 summarises the way in which reconvictions were recorded. Both the traffic offences less serious than drink/drive and those more serious than drink/drive are listed in order of seriousness, from most serious to least serious.

Table 4.1. Method of recording reconvictions

Offence type	Categories
Criminal	Indictable only Summary only Both indictable and summary
Traffic offences more serious than drink/drive	In principal offence order Manslaughter Inflict grievous bodily harm with intent Culpable driving Inflict grievous bodily harm Cause bodily harm by furious or negligent driving Not stop after accident where death/injury caused
Drink/drive	PCA DUI (Detected without a breathalyser) Refuse breath test Aid and abet Alter alcohol content
Traffic offences less serious than drink/drive Only recorded if: (i) no drink/drive or more serious traffic offence was committed; (ii) a drink/drive offence or more serious traffic offence was committed but a less serious traffic offence occurred first	In principal offence order Drive furiously, recklessly, in manner/speed dangerous Drive while disqualified/suspended or licence cancelled Negligent driving Not stop after accident where damage in excess of $50.00 Speeding Unlicensed driving Cross centre line at grade or curve Pass stopped vehicle at marked footcrossing Not give way to pedestrian at marked footcrossing Not give way to vehicle on right Not comply with traffic light signal Cross unbroken separation line or lane line Not cross separation line or lane line with safety Not make right hand turn properly Not make left hand turn properly Not draw out from boundary or carriageway with safety Not keep wholly within traffic lane Not observe 'Halt' or 'Stop' sign Not give proper signal Not have proper control over vehicle Other

In Table 4.1 "other" traffic offences include things like driving on a median strip, unlawfully making a U turn, or overtaking on a bridge, as well as a number of vehicle defect offences (unsafe tyres, inefficient silencer etc). It did not include parking infringements.

A problem arises when an offender moves interstate, or commits an offence in another state. In theory the police in that state should pass on the information to the police in N.S.W., where the offence should be entered on the offender's card at the C.I.B. The extent to which this is actually done is not known; it is probably safe to assume that the police in N.S.W. will eventually hear of the offence, but that there could be a delay in communicating the fact. Since most people who were reconvicted were reconvicted early in the three year period (see Chapter 5), there should have been sufficient time in this study for most interstate offences to be recorded.

4.3 Penalties, entitlement and perceived severity

There is a subtle problem to be faced in assessing the impact of penalties. It would be superficial to regard the penalty imposed by the court as some sort of 'absolute,' independent of the characteristics of the offender and his offence. A penalty is never imposed in a vacuum; it is imposed on a human being from a certain social background at a certain stage in his life cycle with a certain conviction record and probably a general (if unexpressed) feeling as to what he "deserves" in the way of punishment. As we have already noted, deterrence is concerned with the *perceived* fear of punishment; thus the doctrine of deterrence really rests on a psychological foundation.

That there really is something there to measure which is more than the magistrate's actual sentence is apparent if we consider the following situations. Compare the man who has been driving for thirty years and has an unblemished record in every sense, and receives a sentence of six months imprisonment, with a man who receives the same sentence, yet has dozens of different convictions for motoring and non-motoring offences and knows that he can expect to receive the maximum penalty when he reoffends. Strictly speaking, of course, the penalties the two men receive are identical. However, the important factor in the study of deterrence is the *response* to punishment, and for that reason the two penalties cannot be equated - in terms of *deserving*, one is extremely heavy while the other is only average or even light.

The method of sampling in this study is built around an attempt to measure "perceived severity of penalties." On the basis of a simple model of the sentencing process (described in Chapter 8), an index of "entitlement for punishment" has been constructed, together with an index of penalty severity. Offenders were classified as either high, medium or low in terms of "entitlement" and high, medium or low in terms of penalty severity, making nine categories altogether. Offenders were then sampled from each of these nine categories.

It was originally hoped that comparison of the cells in this 3 x 3 table would allow an evaluation of the effect of punishment severity relative to entitlement. For example, an offender with low entitlement who received a high severity penalty could be assumed to have been punished more severely than an offender with high entitlement who received a high severity penalty. On the other hand an offender with high entitlement who received a low severity penalty could be expected to feel that he had got off rather lightly. Table 4.2 summarises the idea behind the sampling scheme.

Table 4.2 Sample structure in relation to relative severity of penalties:

Severity	Entitlement: High	Medium	Low
High	Average	Heavy	Very heavy
Medium	Light	Average	Heavy
Low	Very light	Light	Average

Independent validation is required before 'relative severity' can be equated with 'perceived severity.' A convenient index for validation is the percentage who appealed in each category. If for example very high relative severity corresponds to very high perceived severity, this group should have the highest rate of appeals. The appeal data is presented in Chapter 8, where it is shown that the pattern is consistent with what would be predicted from Table 4.2.

Further discussion of penalties in terms of perceived severity will be postponed until Chapter 8. Preliminary analyses of the data (Homel, 1977 & 1979) were carried out using the categories of Table 4.2, with interesting results. However, it became clear that before the psychological impact of penalties could be assessed, more information was needed on the direct effect of one kind of penalty compared with another. A summary index of severity is convenient, and in this study probably more meaningful in the long run, but does not allow particular components of the penalty (such as disqualification) to be identified as being more or less effective.

Thus the analysis of penalties presented in this report, with the exception of Chapter 8 will be based on the actual penalties imposed. The sampling scheme employed has the immediate advantage for this kind of analysis that offenders receiving heavier penalties are greatly over-represented in the sample, thus allowing a proper investigation of the effects of rare penalties such as bonds and imprisonment. It was shown in Chapter 2 that most penalties for drinking and driving were at the lower end of the severity spectrum in 1972, so a simple random sample of offenders would have resulted in a sample with too few of these heavy penalty cases to be useful (only about 20 cases of imprisonment would have been sampled). The method of sampling is fully described in Section 4.4.

For analysis purposes, penalties can be regarded as varying along three dimensions: amount of fine, length of licence disqualification and the imposition of a bond or a period of imprisonment. As was explained in Section 2.5, periodic detention and restricted licences have not been included as penalties. A few offenders in the sample may have received a restricted licence, but this has not been incorporated in the analysis. The three penalty dimensions are displayed in Table 4.3.

Table 4.3 The three dimensions of penalties:

1. Fine	2. Licence disqualification	3. Prison/bond
Minimum: Zero	Minimum: Zero	1. No bond or prison
Maximum: $400 + fines for offences other than drink/drive	Maximum: No limit	2. S. 554 bond 3. S. 558 bond 4. Prison up to and including three months 5. Prison longer than three months up to and including six months 6. Prison longer than six months 7. Probation

In principle, any amount of fine can occur with any period of disqualification, and any combination of fine and disqualification can occur with any of the seven categories constituting the prison/bond dimension. Note that only one of the prison/bond categories can apply to any particular offender.

In about 25 per cent of cases offenders are convicted of one or more offences in addition to the drink/drive offence. In these cases the total penalty for all offences was recorded. Thus if an offender was fined $150.00 and $200.00 for two separate offences, the total fine was recorded as $350.00. The same rule was followed for disqualification period - the total length of disqualification was computed as the period from date of conviction or date of release from prison to the date the licence was officially restored. In a number of cases, the disqualification included a period which carried over from previous offences.

A few offenders received one or more bonds and a period of imprisonment as well. In these situations the offender has been allocated to the most severe category. For example, someone who received a 554 bond and who served a period of imprisonment of three months would be allocated to category 4. The length of time in prison was computed from the date of release; it was not based on the magistrate's sentence. In a number of cases offenders were released from prison earlier than their due date.

A dismissal under Section 556A corresponds to the absence of a penalty on all three dimensions; that is, no prison or bond, no fine and no period of disqualification. This is not an entirely satisfactory way of representing a 556A since there is a qualitative difference as well as a quantitative difference between those receiving a 556A and those receiving a very light fine and disqualification period. However, the method of formulating the linear model described in Section 4.6 attempts to deal with this problem.

4.4 Sampling method

A sample of 1,000 drivers was selected from the 15,736 PCA cases determined during 1972. The sample excluded the following cases:

(i) Drink/driver offenders other than PCA;

(ii) Duplicate records;

(iii) All appeal cases;

(iv) Offenders for whom the PCA charge was dropped when they were convicted of a more serious offence at a higher court (e.g. culpable driving);

(v) Offenders with incorrect or missing information on one or more variables;

(vi) Offenders not in the workforce.

Appeal cases were excluded since it was considered that the psychological impact of penalties would be different for offenders who had appealed. In most cases in 1972 appeals against the sentence were successful, with judges reducing the severity of the penalty imposed in the magistrate's court. It was felt that appeal cases could be usefully examined in a separate study, especially since there were nearly 800 cases in 1972 (5.1 per cent of the total), but that this was outside the domain of the present study.

In theory offenders in category (iv) should have been included in the sample. However, the statistical records in 1972 did not make it easy to identify such people, and in any case many of them would have been imprisoned for long periods, making it impossible to include them in the study. More recent statistics indicate that the number of such offenders is fewer than one per cent of the total.

In 1972 about three per cent of offenders were not in the workforce and were not classified on the Congalton scale of occupational prestige (see Section 2.2). This three per cent would have included cases for which the information was not available, as well as unemployed people, some students and a few women not in the workforce. However, these categories were not distinguished in the coding, so the decision was made not to include any of them in the study. This restriction in the population of drink/drivers is not likely to introduce any problems of interpretation and has the advantage that one factor which appears to affect the probability of apprehension by the police, namely employment status, is standardised.

The sample was not simple random, but was stratified according to the categories of Table 4.2. More serious cases were oversampled, yielding a stratified sample with non-proportional weighting. In addition to the nine categories in Table 4.2, all cases coded as receiving prison, a bond or probation in 1972 were sampled. That is, a tenth category was created (with appropriate adjustments to the other nine) and all cases in this category were sampled. The sample sizes and sample fractions within the ten population strata are set out in Table 4.4. The sampling fractions within the low severity and medium and low entitlement groups reflect the small proportions of "ordinary offenders" sampled.

Table 4.4 Sample sizes and sampling fractions within the 10 population strata.

Severity	Entitlement: High		Medium		Low		Stratum 10	
	n	f	n	f	n	f	n	f
High	56	.19	69	.24	6	.33	304	1.00
Medium	88	.17	94	.07	94	.18		
Low	94	.33	97	.03	98	.01		

Since the sample is stratified with unequal sampling fractions in each strata, it is necessary to apply certain corrections to the sample values to obtain unbiased estimates. The methods of Cochran (1963) have been employed to produce weighted estimates.

4.5 Characteristics of offenders as intervening variables.

Figure 4.1 illustrates the problem of linking penalties with reconviction rates. The offender characteristics which have been incorporated as controls in the present study are listed and described below.

A. Background characteristics

(i) Age of offender at time of arrest for the original drink/drive offence. This is a crucial factor since most previous research has shown that young offenders are more likely to be reconvicted. We have also seen that young offenders are more likely to come to police attention.

(ii) Sex. There are only eleven women in the present study but sex has been included as a factor in the analysis in case there are large differences in the records of men and women.

(iii) Occupational status on the four point Congalton scale (see Section 2.2). The same considerations apply as for age.

(iv) Marital status at time of original conviction. This is an important, albeit crude index of the quality of an offender's social relations. Many criminological studies have found that marital disruption indicated by separation or divorce is associated with recidivism. Marital status has been categorized as single, married, widowed, divorced, separated, defacto, or not known.

B. Previous offences

(i) Number of previous drink/drive offences. This variable has been found to have a strong bearing on recidivism in previous research.

(ii) Number of previous non-drink/drive motoring offences. This excludes very minor offences such as parking infringements, but includes (as far as possible) all moving traffic offences and infringements.

(iii) Criminal record. This has been classified under four headings:

indictable with the possible addition of non-indictable offences as well; summary or children's court convictions only; children's court convictions only; or no criminal record.

C. Details of original drink/drive court case

(i) Blood alcohol concentration (BAC) of offender. Although the significance of a high BAC as an index of alcoholism or a drinking problem is disputed, the BAC may affect the probability of reconviction for a drink/drive offence.

(ii) Plea. Although only eight offenders pleaded not guilty, plea was included as a factor since a plea of not guilty could indicate a feeling of being unjustly dealt with.

(iii) Legal representation at the hearing. Being legally represented is related to socioeconomic status and affects the penalty imposed. It could also be related to reconviction rates.

(iv) Time period from date of arrest to date of sentence. In a study of deterrence, the delay in conviction could be an important factor affecting the way in which the penalty is perceived.

(v) Relative severity of magistrate. A numerical score based on an analysis of sentencing. It takes into account the variability in cases with which each magistrate deals (Homel, 1979).

D. Offences dealt with at the same time as the drink/drive offence

These offences may be an important index of life style, and probably tell us more about the offender and his present social circumstances than his previous record.

(i) Criminal offences prior to or in addition to PCA. These include larceny of vehicle, break, enter and steal, unlawful use of vehicle, and unlawful possession of property.

(ii) Non-traffic offences associated with PCA arrest. These include assault/police, common assault, resisting arrest, drunk and disorderly, using unseemly words, offensive behaviour and possessing a gun while intoxicated.

(iii) Manipulate or breach recognizance.

(iv) Serious traffic offences associated with PCA. These include damaging street or property, driving furiously or dangerously and not stopping after an accident where damage was in excess of $50.

(v) Drive while disqualified, suspended or cancelled.

(vi) Drive while unlicensed.

(vii) Less serious traffic offences associated with PCA. These include negligent driving, speeding, crossing yellow lines, driving on the wrong side of the road and not making a right-hand turn properly.

(viii) Total number of charges preferred. This could exceed the total of offence types listed above since offenders sometimes committed more than one offence in a category.

E. Environmental factors

(i) Area of residence - urban or rural. Urban areas were defined as the Sydney Statistical District, Wollongong and Newcastle. This factor could be related to the probability of apprehension.

(ii) Risk score of area of residence. This is an index of the cumulative social disadvantage of a region, based on 25 social indicators developed by Vinson & Homel (1976). High risk areas are characterised by high rates of crime and other social and health problems, as well as higher average levels of BAC for those convicted of PCA. It is likely that risk is related to the probability of apprehension (Zylman, 1972).

F. Intervening offences

As explained in Section 4.2, reconvictions for specific offences are sometimes preceded by offences of other types. Thus traffic or criminal offences can precede a drink/drive offence, drink/drive or traffic offences can precede a criminal offence, but only criminal offences can precede a traffic offence less serious than PCA. (Traffic offences less serious than PCA committed after a PCA offence were not recorded).

4.6 Linear Models Analysis*

There are five major possible outcomes of the three-year follow-up. Offenders may fall into one of the following five categories:

(i) No convictions recorded for the three year period;

(ii) PCA only;

(iii) Traffic offence other than PCA only;

(iv) Criminal offence only;

(v) Some combination of categories (ii) to (iv).

The fundamental question is whether penalties affect the probability of falling into one of these categories, controlling for the offender characteristics listed in Section 4.5. The most satisfactory way of answering this question is to construct a linear model with the multinomal logit as a set of dependent variables (Bock, 1975), and to use maximum likelihood techniques to estimate the model.

An alternative approach would be to construct a log-linear model for a multi-way contingency table formed by cross-classifying outcome with penalties and offender characteristics. However, this would result in a huge table with mainly empty cells. In any case, many of the penalty and offender characteristics variables are numerical in form and the construction of a contingency table would involve many arbitrary cutting points. The multinomial logit model has the additional advantage that the model clearly specifies the relationship between dependent and independent variables.

* Parts of this section are rather technical and are included for the specialist reader.

A traditional way of analysing this kind of data has been to use multiple discriminant analysis. While having descriptive validity, any tests of significance in the discriminant analysis presuppose that the independent variables (penalties and offender characteristics) are distributed as a multivariate normal. This assumption cannot be strictly correct when many categorical variables are included. One way around this problem essentially involves taking all numerical independent variables as a group of 'dependent variables' and treating outcome and other categorical variables (such as marital status) as 'independent variables' in a multivariate analysis. This approach is quite workable, especially if non-normal numerical variables (such as fine or BAC) are transformed to normality, but involves changing the basic question of interest and complicates considerably the interpretation of results. In addition, the multivariate analysis approach just described does not yield predicted probabilities of reconviction for each offender or for groups of offenders.

Another traditional approach has been to define the responses as a dichotomy (e.g. reconvicted or not) and to use ordinary least squares regression with the binary response coded as a (0,1) variable (see for example Simon, 1971). This technique has the considerable disadvantage that tests of significance are not reliable, since the dependent variable is not normal and sample sizes in subgroups formed by a large number of independent variables are seldom large enough to allow the response to be treated as a proportion. Empirical comparisons show that maximum likelihood analysis often leads to a different conclusion, especially when the response is outside the range 0.2 to 0.8.

The main problem in carrying out maximum likelihood analysis in a multivariate logit model is finding a computer program which will do the computations for models of sufficient size and flexibility. Approximations to the maximum likelihood estimates in the multinomial situation have been developed by Grizzle and his colleagues (see for example Forthofer, Starmer and Grizzle, 1971, and Grizzle, Starmer and Koch, 1969). However, Grizzle's method is based on weighted least squares, and strictly requires replications at each data point. When there is only one individual for each combination of conditions defined by the independent variables, the method breaks down.

Bock (1975) has developed a program called MULTIQUAL which computes maximum likelihood estimates for a multivariate logit model, but requires all the independent variables to be categorical in form (that is, the data is treated as a multi-way contingency table). This restriction is burdensome when there are many variables of numerical form, and does not allow interactions between numerical and categorical variables to be investigated.*

A computer program for maximum likelihood estimation when the dependent variable is multinomial is being developed at Macquarie, utilising iterated weighted least squares and allowing complete flexibility of the form of the independent variables (Cooney, 1979). However, when carrying out the analyses for the present study it was necessary to treat the multinomial response as a series of binary responses, and analyse each binary response in a separate model. In each model, logit analysis was carried out by maximum likelihood (Nelder & Wedderburn, 1972). The binary variables analysed were:

*In any case, MULTIQUAL was not available at Macquarie when the analysis was being carried out.

(i) reconvicted for drink/drive;

(ii) reconvicted for a traffic offence, excluding from the sample those reconvicted for a criminal or drink/drive offence;

(iii) reconvicted for anything;

(iv) reconvicted for a criminal offence;

(v) reconvicted for a criminal or drink/drive offence.

Not all models constructed were of equal complexity. The main analysis concentrated on reconvictions for drinking and driving, and involved testing a fairly extensive model incorporating several hypothesised interactions. Simpler models were tested for other responses.

Models were fitted by hierarchical partitioning of the maximised likelihood (total deviance), with a simultaneous test procedure applied to the hierarchical partition to produce a "minimal adequate" model (Aitkin, 1978). This approach involves specifying the full model and then testing groups of terms simultaneously for significance, working in a hierarchical fashion down from high order interactions to low order interactions, to main effects. Among its many advantages this approach reduces the problem of overfitting to the sample by an accumulation of Type 1 errors, since the Type 1 error rate for the whole model can be fixed at a reasonable level in advance. The labour of fitting terms in many orders is reduced by the simultaneous test procedure which tests a whole family of effects at once. Moreover, the statistical adequacy of the full model can be tested by comparing the residual deviance with its degrees of freedom, and also by checking that the regression of observed results on predicted values is linear. If the full model is not adequate, additional interaction terms, or other variables, can be added.

Since a number of large models have been fitted, levels of significance for individual variables have been set at .01 and all simultaneous tests were carried out at a corresponding level. For example, if a family of 15 terms was being tested for significance, the significance level for the simultaneous test was set at $1 - .99^{15} = .14$. Models were always fitted in an order which tested whether penalties were significantly related to the response *over and above* offender characteristics. More exactly, the general order of fitting was as follows:

(i) dummy variable covariates indicating "intervening offences" (see Section 4.2);

(ii) main effects of offender characteristics;

(iii) main effects of penalties;

(iv) interactions of penalties;

(v) interactions of main effects of penalties with selected offender characteristics.

In some cases, these broad categories were broken into a number of smaller families of variables. For example, in the analysis of drink/drive reconvictions, offender characteristics were grouped under the headings listed in Section 4.5.

The stratified sample structure was taken into account in the analysis by fitting stratum as the final term in the model, and showing that in every case it was non-significant, adjusted for all other penalty and offender variables. This result is hardly surprising, given that the division into strata was based on these variables. Thus each model could be interpreted without reference to the constructs "entitlement" or "severity."

Numerical variables were not divided into categories, but were often included as cubic polynomials. For example, the period of licence disqualification was expressed in days, then the logarithm was taken since the distribution was very skewed, with some very long periods) and the linear, quadratic and cubic terms included in the model. This allowed for a non-linear relationship between probability of reconviction and period of disqualification, and allowed in particular for the group of offenders who received a S. 556A dismissal or recognizance to be markedly different from offenders who received a small fine and a short disqualification.

The interactions of penalties with offender characteristics allows the investigation of the possibility (discussed in Section 2.3) that different kinds of offenders will react differently to penalties. Interactions between numerical and categorical variables or between two numerical variables have been allowed. For example, disqualification has been considered in interaction with age and number of previous drink/drive convictions. This point is important since it is often supposed that analysis of covariance is invalid if an interaction effect (non-parallelism) is found. In fact interaction effects simply require that the meaning of the model be investigated carefully, and that the differential effects of the interacting variables be understood. This is accomplished via a generalisation of the Johnson-Neyman technique.

In a non-randomised design it is important that the range of values of covariates used to adjust comparisons between groups overlap from one group to another. Analysis of covariance cannot perform the impossible; if, for example, offenders sent to prison are all older than those not sent to prison, then age is not a useful covariate in the comparison of reconviction rates in the two groups. Evidence presented in Volume 2 of this report indicates that this is not a major problem in the present study, since most kinds of offenders were present in most penalty groups.

The aim of the model reduction procedure is to produce a model with the minimum number of terms necessary to "explain" the response, including necessary interaction terms. A model is "adequate" if the deviance for omitted terms is not significantly large by the simultaneous test procedure, and a model is "minimal adequate" if no proper subset of it is adequate (Aitkin, 1978). Thus the aim of each model reduction is to produce a minimal adequate model. In some cases, there is more than one minimal adequate model.

In summary, the linear model techniques adopted for the analysis allow the fundamental question of the study to be answered - namely, to determine whether penalties have a correlation with reconviction rates after controlling for offender characteristics. The possibility of differential effects of penalties can be tested. The full range of variables can be incorporated in the analysis without grossly overfitting to the data, by utilising a simultaneous testing procedure. The use of maximum likelihood analysis allows tests of significance to be carried out which are based on more efficient estimators than those in ordinary least squares regression with a binary response, and moreover allows analysis in the logistic scale, which is more appropriate for binary data. Finally, parsimonious models can be obtained which allow the effects of all the "useful" variables, adjusted for the effects of other variables, to be estimated and interpreted.

CHAPTER 5. RECONVICTION RATES

5.1 Reconvictions in three years

Out of 1000 offenders in the sample, 378 were reconvicted for some offence committed within three years - that is, for a drink/drive, criminal or traffic offence.* This corresponds to an estimated 37.5 per cent for convicted drink/drivers as a whole (this latter figure is weighted to take account of the non-proportional sampling method). As the figures in Table 5.1 demonstrate, the great majority of these 378 offenders committed their first offence within two years of the commencement of the follow-up, and nearly half committed their first offence within the first year.

Table 5.1 Overall reconviction rates in three years

Period to date of first offence	Number in sample	Estimated population percentage
One year	176	18.1
Two years	316	30.2
Three years	378	37.5

In the sample, roughly equal numbers of offenders committed drink/drive, criminal or traffic offences as their first offence, but when the numbers were weighted, non-drink/drive traffic offences emerged as the single most common type (see Table 5.2).

Table 5.2 Type of first offence committed in three years

	Number in sample	Estimated population percentage
Traffic (other than drink/drive)	125	17.1
Criminal	129	9.3
Drink/drive	105	9.8
Not known	19	1.3
Total	378	37.5

In all, 149 offenders were reconvicted for a drink/drive offence in three years, which corresponds to a weighted estimate of 13.0 per cent. Corresponding figures for criminal offences and for traffic and drink/drive offences combined are set out in Table 5.3. (The reason for considering drink/drive and traffic offences combined is explained in Section 4.2).

* Traffic offences included moving traffic infringements such as speeding. A reconviction for a traffic offence was recorded if there was an entry for the offender either in the CIB files or in the Department of Motor Transport records.

Table 5.3 Reconviction rates for drink/drive, traffic and criminal offences in three years.

Offences committed in	Drink/drive No.	Drink/drive Population estimate (%)	Criminal No.	Criminal Population estimate (%)	Drink/drive and traffic combined No.	Drink/drive and traffic combined Population estimate (%)
One year	55	4.4	81	6.4	113	12.9
Two years	102	9.4	147	10.8	220	25.2
Three years	149	13.0	184	13.4	270	28.9

It is clear from Tables 5.2 and 5.3 that drink/drivers who reoffend are quite as likely to commit other kinds of offences as drinking and driving, a finding which is consistent with our knowledge of their previous records. It is implied by the figures in Table 5.3 that a number of offenders were reconvicted for more than one kind of offence. In fact 84 offenders, corresponding to a weighted estimate of 6.5 per cent, were reconvicted for some combination of offences. Table 5.4 presents the breakdown.

Table 5.4 Combinations of offence types committed in three years for which convictions were recorded.

	Number	Population estimate (%)
Drink/drive only, with no less serious traffic offence before it	73	8.1
A less serious traffic offence only	104	14.3
Criminal offence only	99	8.6
Drink/drive and a less serious traffic offence before it	14	1.7
Criminal and drink/drive	50	3.0
Criminal and traffic less serious than drink/drive	16	1.5
All types	4	0.3
Total	378	37.5

The relative frequency with which traffic convictions occurred reflects in part the fact that this category includes a broad range of offences. As is implied in Table 5.4, drinking and driving was the most serious motoring offence committed, according to the ordering of principal offences presented in Table 4.1. In other words, no offenders in the sample were reconvicted for manslaughter, inflict grievous bodily harm with intent, culpable driving, inflict grievous bodily harm, cause bodily harm by furious and negligent driving, or for not stopping after an accident where death or injury was caused. The traffic offences committed are set out in Table 5.5. In interpreting this table, remember that drinking and driving was regarded as a motoring offence, and less serious motoring offences were recorded only if they occurred before a drink/drive offence or if no drink/drive offence was committed during the three years.

Table 5.5 Traffic offences recorded in three years (listed in principal offence order)

	Number	Population estimate (%)
Drink/drive	149	13.0
Drive furiously etc	2	0.0
Drive while disqualified etc	32	0.8
Negligent driving	20	3.3
Not stop after accident where damage in excess of $50	1	0.6
Speeding	32	5.9
Unlicenced driving	1	0.0
Not give way to vehicle on right	3	1.3
Not comply with traffic light	3	0.8
Drive on wrong side of separation line	2	0.1
Not make right hand turn properly	1	0.1
Not draw out from boundary with safety	1	0.6
Not observe 'Stop' sign	1	0.2
Not give proper signal	2	0.0
Other	20	2.3
All traffic offences	270	28.9

Clearly the number convicted for driving while disqualified (0.8 per cent) is not a full count of all such convictions. A full count was obtained by comparing the date of committing the first traffic offence with the date of the licence restoration. This yielded a total of 134 cases, which corresponded to a weighted estimate of 4.3 per cent of the population, or 15.4 per cent of all those reconvicted for a motoring offence.

Offenders who had a disqualification period of three years or longer and who were reconvicted for a motoring offence were automatically counted as having been convicted for driving while disqualified. Note, however, that since nine per cent of offenders in the population had a disqualification period in excess of three years, and that many of these may have been reconvicted after three years, the figures above are an underestimate of the eventual rate of convictions for driving while disqualified.

The other point to bear in mind is that the chance of being convicted for driving while disqualified is strongly related to an offender's disqualification period. An offender who consistently drives during a disqualification period of three weeks is less likely to get caught than an offender who consistently drives during a disqualification period of three years. A fuller analysis of convictions for driving while disqualified is presented in Chapter 7.

Drink/drive offences committed were mainly PCA, with about 20 per cent being DUI or refused breath-test. These offences have not been distinguished in the analysis. The great majority of criminal offences committed were summary offences (83.6 per cent weighted estimate), so a distinction between indictable and summary has not generally been made in analysing reconviction rates for criminal offences.

5.2 A method for estimating long-term recidivism rates

Using some well known statistical theory and some approximation methods, it is possible to derive an estimate of how many offenders will be reconvicted for drinking and driving over longer time periods than three years, and for that matter how many will eventually be reconvicted for anything. Of course, such estimates assume that the same basic police procedures for apprehension will apply over a reasonable time period (say 10 years or so), and that there will be no dramatic changes in social policy, such as the introduction of random breath tests. Such assumptions are reasonable for New South Wales for the period 1968-1979, and will probably apply for some years to come - long enough for the estimation procedures to be good approximations.

The statistical method is explained briefly below. Readers not familiar with statistical theory may prefer to resume reading at (b).

(a) Statistical method

The method is based on the assumption that there are two groups of offenders: those who will eventually be reconvicted and those who will never be reconvicted. For those who will be reconvicted, it is further assumed that their chances of being reconvicted increase as time goes by. In particular, it is assumed that the probability of reconviction in any short time interval is proportional to the length of that interval. This leads to the familiar Poisson process, and in particular to the fact that for a given individual the time to first conviction will have an exponential distribution. Since the follow-up is restricted to three years, what is observed is actually a truncated exponential. The problem of estimating recidivism rates beyond the three year follow-up reduces, in the first instance, to modelling the time period to reconviction.

We could envisage a complex model involving a mixture: some unknown proportion of those not reconvicted in three years would have been reconvicted in a longer follow-up period, the remaining proportion would never be reconvicted. Such models can be analysed (Dempster, Laird and Rubin, 1978), but a somewhat simpler approach is adopted here.* For those offenders reconvicted, the time period to reconviction is a truncated exponential. We wish to model period to reconviction and identify the sub-groups of offenders who have the same mean time to reconviction. For each of these sub-groups, recidivism rates at various times can be estimated by extrapolating the exponential curve with the estimated mean. The estimates for each sub-group can then be combined into a weighted estimate for the whole population. The precise details of this method are set out in Volume II.

There are a number of sources of error which make this estimation process at best an approximation. In 19 cases out of 378, the time period to first offence was not known, necessitating some arbitrary assumptions about the time distribution in this group. Moreover, the time period to first drink/drive offence is affected by the occurrence of a conviction for a criminal offence first. The problem with this group is that they took rather longer to be reconvicted for drinking and driving since many of them went to prison, and were therefore not "at risk" of drinking and driving for a certain time. Unfortunately details of time in prison were not recorded for offences other

* A more rigorous analysis employing a mixture model will be published separately.

than those committed at the time of the target drink/drive offence. Therefore for the small group of offenders who committed a criminal offence first extrapolation was somewhat arbitrary. This introduces an element of uncertainty into the estimates for drink/drive recidivism.

(b) Estimated Total Recidivism

We noted from Table 5.1 that an estimated 37.5 per cent of drink/drive offenders were reconvicted for some offence within three years. The percentage reconvicted within two years was 30.2 per cent, suggesting that many offenders will never be reconvicted.

In order to investigate this question, an analysis of factors related to time to first offence was undertaken, using the methods described above. A comprehensive model was constructed, fitting variables in the order, offender characteristics and then penalties. The conclusions from this analysis were:

(i) For those reconvicted penalties make no difference to the time to reconviction, over and above offender characteristics;

(ii) Only one offender characteristic was related to time period: whether or not the offender was convicted for driving while disqualified at the time of the conviction for the original drink/drive offence;

(iii) The 155 offenders with a record for driving while disqualified tended to be reconvicted more quickly, generally for a criminal or drink/drive offence; the mean time to reconviction was 329 days (nearly 11 months) for the drive/disqualified group, and 452 days (nearly 15 months) for the remainder.

It is important to remember that these mean times to conviction are for those reconvicted in three years *only*. However, using the statistical methods described above, mean times to reconviction can be estimated including people who would be convicted *after* the end of the three year follow-up. In other words, it is possible to derive estimates of the mean times to reconviction for people with and without a record for driving while disqualified which would have applied if an unlimited follow-up period had been used. In addition, the estimated proportions who would eventually be reconvicted from both groups can be computed. These estimates are set out in Table 5.6.

Table 5.6 Mean times to reconviction and percentages reconvicted

	Offenders with a record for driving while disqualified		Offenders without a record for driving while disqualified	
	Percentage reconvicted (N=155)	Mean time to reconviction	Percentage reconvicted (N=845)	Mean time to reconviction
Three year follow-up (actually observed data)	51.6	329 days (11 months)	33.1	452 days (15 months)
Unlimited follow-up (statistical estimates)	63.8	411 days (13 months)	58.2	1031 days (33 months)

It is apparent from Table 5.6 that drive/disqualified offenders who are going to be reconvicted will be reconvicted rather more quickly than other offenders - only one year on average compared with nearly three years for the remainder of the sample. However, long term rates of recidivism are not dissimilar for the two

groups, with an estimated 63.8 per cent of drive disqualified offenders and 58.2 per cent of other offenders eventually being reconvicted. This implies that while penalties may have a temporary effect on the majority of offenders, they may not have this impact for drive/disqualified offenders. On the other hand, it needs to be remembered that more than one-third of both groups will never appear in court again, or be dealt with for a traffic infringement.

Using the same statistical machinery it is possible to derive estimates of how many offenders in both groups, and in the drink/drive population as a whole, will be reconvicted at various times. These estimates are summarised in Table 5.7, and depicted graphically in Figure 5.1.

Table 5.7 Estimated percentages reconvicted over time in the drink/driver population (actual reconviction rates shown in brackets)

Years	Estimated percentage reconvicted	Proportion of total reconvicted who were reconvicted within 1, 2, 3 years etc
0.5 (6 months)	9.7 (11.0)	0.17 (.19)
1	17.8 (18.1)	0.31 (.31)
1.5 (18 months)	24.4 (24.7)	0.42 (.42)
2	30.0 (30.2)	0.51 (.51)
2.5 (30 months)	34.6 (35.2	0.59 (.60)
3	38.5 (37.5)	0.66 (.64)
4	44.0	0.75
5	48.6	0.83
6	51.5	0.88
Ever	58.3	1.00

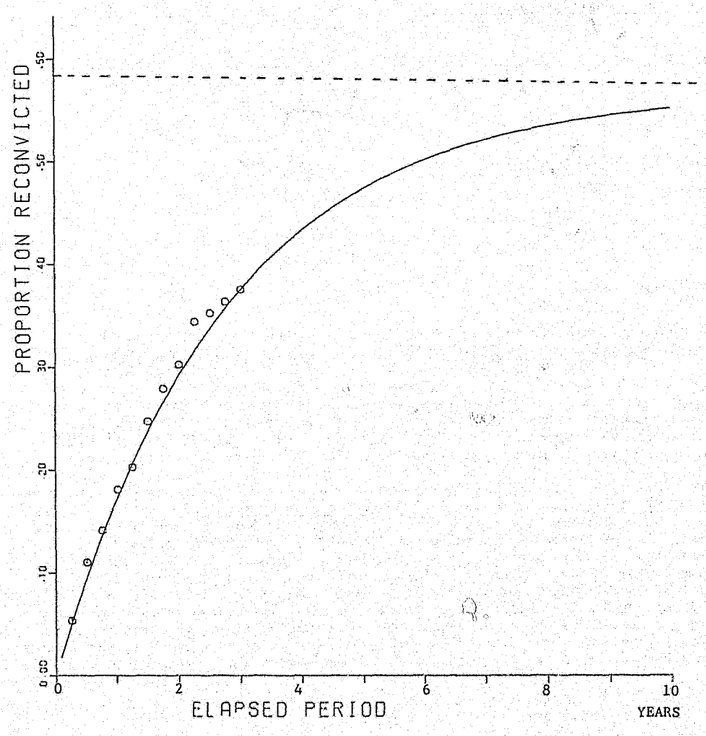
The data in Table 5.7 and Figure 5.1 shows that the method of estimation is fairly accurate over the first three years, for which actual reconviction rates are available. One can therefore have reasonable confidence in the estimates beyond the three years, despite the somewhat arbitrary assumptions which were made for missing data. Perhaps the main value of the extrapolations is to show that approximately 58 per cent of convicted drink/drivers will eventually be reconvicted for something.* Of these, nearly 90 per cent will be reconvicted within six years, and more than 50 per cent within two years.

These estimates are of some interest in view of a recent publication of the Bureau of Crime Statistics and Research (Two Studies of Reconviction) which documents rates of recidivism over a ten year follow-up period for a number of different categories of offenders. Unfortunately, there are a number of reasons why the estimates in the present report are not directly comparable. First the Bureau category of "Driving Offender," of whom there were 328 cases, included only 243 drink/drivers. The other 85 offenders were originally convicted for dangerous driving, or driving whilst disqualified. Secondly, the Bureau sample was drawn from records for 1965, some years before the introduction of the breathalyser. Thirdly, and most important, the present study includes as a reconviction a range of relatively minor traffic offences which may not be always recorded in CIB files.

* The standard error of this estimate is about six per cent. Given the time period over which extrapolation is being made, this is a relatively small error of estimation.

The Bureau found that 43 per cent of the driving offenders were reconvicted (had another entry on their CIB card) within ten years. This compares with an estimated 56.7 per cent of drink/drivers in the present study. The discrepancy can probably be attributed to the factors outlined above.

Figure 5.1. Estimated and actual proportions reconvicted for some offence over time (up to 10 years)



(c) Estimated rates of recidivism for drinking and driving.

The statistical methods described above can be used to estimate the number of offenders who will never return to court for a drink/drive offence. The importance of such an estimate is obvious if we are to arrive at a balanced assessment of the effect of penalties.

Analysis shows that the time period to reconviction for a drink/drive offence is strongly affected by the prior occurrence of a criminal offence. Offenders who commit a criminal offence and then a drink/drive offence take much longer to commit the drink/drive offence than other offenders reconvicted for drinking and driving: on average 726 days (2 years) compared with 460 days (1 year 3 months). For the reasons outlined in (a) above, this introduces a source of error into the estimation method. However, since only 22 offenders out of the 149 reconvicted for drinking and driving in three years committed a criminal offence first, the amount of error is relatively slight, as Table 5.8 shows.

Table 5.8 Estimated rates of reconviction for drinking and driving in the drink/driver population (actual reconviction rates shown in brackets)

Years	Estimated percentage reconvicted	Proportion of total reconvicted who were reconvicted within 1, 2, 3 years etc
1	6.5 (4.5)	0.28 (.19)
2	11.2 (9.1)	0.48 (.39)
3	14.6 (13.0)	0.62 (.56)
4	17.0	0.73
5	18.8	0.80
6	20.1	0.86
Ever	23.4	1.00

Notwithstanding the small error of estimation, it is apparent that something like a fifth or a quarter of drink/drivers will eventually be reconvicted for the same offence, the majority of them within five or six years.* Looking at it the other way, at least three-quarters of convicted drink/drivers will never appear in court again for the same offence. The figure of 20 or 25 per cent reconvicted is somewhat lower than the estimated reconviction rate of one in three for drinking and driving derived by Raymond and Santamaria (1978) (See Section 3.2). The discrepancy could be due to the different laws applying in New South Wales and Victoria. Victoria has a legal BAC limit of .05 compared with .08 in New South Wales, and also has random breath tests. There is a need for further research to establish if there are real variations between the states.

It would obviously be naive to assume that three-quarters of offenders will never commit the offence again, but it is probably a reasonable inference that many, perhaps a majority, of drink/drivers curtail their drinking and driving to some extent after conviction. This curtailment may or may not be due to the experience of conviction and punishment; it may equally reflect a process of maturation or changing social habits over time.

* The standard error of the estimate is about four per cent.

CHAPTER 6. PENALTIES AND RECONVICTION RATES FOR DRINKING AND DRIVING.

6.1 Reconvictions for any offence

The sample was designed to over-represent those offenders who received heavier than average penalties. Table 6.1 summarises the pattern for the sample; it should be compared with the data in Tables 2.7 and 2.8.

Table 6.1 Penalty distributions in the sample (N = 1000)

Fine

Minimum: zero
Maximum: $1200
Median: $170

Distribution ($)	
0	156
1- 100	133
101- 200	424
201- 300	195
301-1200	92

Disqualification

Minimum: zero
Maximum: 21 years
Median: 18 months

Distribution:	
Up to 3 months	185
Longer than 3 months, up to 1 year	239
Longer than one year, up to 2 years	145
Longer than 2 years, up to 3 years	271
Longer than 3 years	160

Prison/bond

1.	No bond or prison	602
2.	S.554 bond	136
3.	S.558 bond	57
4.	Prison up to and including three months	98
5.	Prison longer than three months, up to and including six months	70
6.	Prison longer than six months	22
7.	Probation	15

Number of S.556A cases = 8

The small number of cases dealt with under Section 556A is partly a reflection of the sampling scheme but is due more particularly to sampling fluctuations. Approximately 32 cases would have been expected, but too few cases were obtained either because an unknown bias was operating or because the particular sample chosen was "unlucky." Given the small number of cases, it is obviously difficult to say much about the effect of Section 556A as a penalty. For the record, seven of the eight 556A offenders were over the age of 35, none had additional offences, one had a criminal record, one had a previous drink/drive offence and all were C or D occupational status.

The main factors affecting the imposition of a heavy penalty were driving while disqualified and having a previous record, in particular a record of drink/drive offences. Since offenders who received heavy penalties have been over-sampled, there are many more offenders in the study who were dealt with for current or previous offences than would be expected in a simple random sample. In particular, many of the offenders in the sample had a concurrent conviction for one or more of a range of criminal or motoring offences. The analysis in later sections will make heavy use of some of this information (particularly a concurrent conviction for driving while disqualified), so it will be useful to set out the statistics for these offences. Table 6.2 presents the numbers in the sample as well as the estimated pattern for convicted drink/drivers as a whole.

Table 6.2 Types of offences dealt with at the same time as the drink/drive offence, in the sample and in the drink/driver population

	Sample (%) (N = 1000)	Population (%)
Criminal offences prior to or in addition to PCA	1.7	0.7
Non-traffic offences associated with PCA arrest	2.2	0.7
Manipulate or breach recognizance	3.7	0.9
Serious traffic offences associated with PCA	3.6	2.6
Drive while disqualified, suspended or cancelled	15.5	1.9
Drive while unlicenced	9.3	6.4
Less serious traffic offences associated with PCA	13.1	9.1

NOTE: Population percentages are weighted estimates from the sample.

It was shown in Section 5.1 that 378 offenders, corresponding to an estimated 37.5 per cent of the drink/driver population, were reconvicted for some offence within three years. These offences were most commonly motoring offences other than drinking and driving (Tables 5.2 and 5.3), but reconviction for criminal and drink/drive offences also occurred frequently. Before investigating each offence type individually, it seems reasonable to ask whether any penalty simultaneously acts as a deterrent to recommitting offences of all types. In other words, is there a penalty which not only discourages reoffending for drinking and driving but also reoffending for motoring and criminal offences?

Investigation of simple correlations reveals a *prima facie* relationship between penalties and overall reconviction rates, but the evidence is at first sight contradictory. There is a moderate but consistent trend for heavier fines to be associated with lower reconviction rates, but long periods of disqualification and imprisonment for any period at all correspond to very high reconviction rates. Offenders receiving probation or a S.554 bond appeared to have the lowest reconviction rates. The figures are set out in Table 6.3.*

Table 6.3 Correlations between penalties and overall reconviction rates.

Fine ($)	Percentage reconvicted	Disqualification	Percentage reconvicted	Prison/bond	Percentage reconvicted
0	47.4	Up to 3 months	37.3	No prison or bond	36.4
1- 100	45.1	Longer than 3 months, up to 1 year	38.3	S.554	24.3
101- 200	33.5	Longer than 1 year, up to 2 years	32.4	S.558	33.3
201- 300	35.4	Longer than 2 years, up to 3 years	33.6	Prison up to 3 months	46.9
301-1200	35.9	Longer than 3 years	49.4	Prison longer than 3 months, up to 6 months	57.1
				Prison longer than 6 months	77.3
		S.556A	12.5	Probation	26.7

NOTE: See Table 6.1 for base numbers for percentages

* It should be noted that the simple correlation presented in Table 6.3, as well as all later simple correlations are *not* adjusted for the stratified sample structure. The reason for this is that their primary purpose is to elucidate the meaning of the linear models analysis,in which the stratification variable was not significant. Nevertheless, the pattern of correlations presented in Table 6.3 and later tables is not markedly different from that which would be obtained after weighting. Those situations in which the weights make a substantial difference are noted in the text. In any case, the results of the linear models analyses are more reliable than simple correlations, whether weighted or unweighted.

For the reasons discussed at length in Sections 4.1 and 4.6, Table 6.3 conceals more than it reveals. In the first place, the high rate of recidivism among offenders who were not fined probably reflects the fact that many of them were *worse* risks than the remainder of the sample, since many of them were imprisoned. Magistrates often take the quite reasonable view that there is not much point fining an offender who is being sent to prison, since he can't pay the fine. Thus of the 156 people not fined, 110 or 70.5 per cent were sent to prison, of the 133 people fined up to $100, 41 or 30.8 per cent were sent to prison, but only 5.5 per cent of those receiving a heavier fine were imprisoned. The apparent deterrent effect of fines therefore really reflects the high reconviction rates of those sent to prison.

Looked at in this light, Table 6.3 does not encourage the expectation that heavier penalties will act as a deterrent. The most promising features of the table are the low rates of reconviction for the S.554 group and for those on probation, although the small numbers (15) in this latter group must be kept in mind. However, it should be clear from the discussion in Section 4.1 that even these effects could be a reflection of offender characteristics.

One additional point should be stressed in interpreting Table 6.3. Although the follow-up period has been adjusted to take account of the time an offender may have spent in prison (see Section 4.2), no such adjustment has been made for disqualification period. It is important not to assume that offenders do not drive during their disqualification periods - the literature summarized by Robinson (1977) indicates that as many as two thirds of offenders do actually violate the disqualification order. Therefore, any apparent deterrent effect of disqualification may reflect two things: it may reflect a diminished rate of driving during their disqualification periods by some offenders, or it may reflect a reform in attitudes which persists *after* the licence has been restored. The latter possibility can be investigated by following offenders for a fixed time period after the restoration of their licences (see Section 7.2).

Offenders who were convicted of one or more offences in addition to the original drink/drive offence were most likely to be reconvicted (see Table 6.2). However, a somewhat surprising finding was that the number of previous traffic or drink/drive convictions did not relate to the probability of reconviction, although there was a moderate correlation with previous criminal record.

Table 6.4 Percentages reconvicted among offenders with a previous and current criminal record

Average = 37.8 per cent

	Percentage	Base number	Convicted for:	Percentage	Base number
No criminal record	32.5	507	Larceny, B.E.S.	70.6	17
Criminal record	43.2	493	Breach recognizance	56.8	37
			Serious traffic		
No additional charges	32.3	632	offence	52.8	36
One additional charge	41.4	244	Drive disqualified	54.2	155
Two or more additional			Other traffic		
charges	58.9	124	offences	46.6	131

Younger offenders were more likely to be reconvicted than older offenders; 55.1 per cent of the 18-20 year old group were reconvicted for something, compared with only 28.9 per cent of those over 36. However, examination of the types of offences for which people were reconvicted shows that this correlation reflects mainly criminal convictions, young men being no more likely to be reconvicted for drink/driving or traffic offences than older offenders (see Section 6.2).

Married offenders were less likely to be reconvicted than those never married, consistent with the patterns for age. However, offenders who were widowed or living in a de facto relationship had higher than average reconviction rates - 73.1 per cent compared with 32.2 per cent of married offenders. Interestingly, only two of the twelve divorced people in the sample were reconvicted, but the number of such cases is too small to be able to draw any conclusions about the effect of divorce as opposed to separation.

Reconviction rates were not related to sex, occupational status (although only one of the seven A status offenders was reconvicted), area of residence or plea. Contrary to expectations, offenders with low BACs tended to have the highest reconviction rates, but this mainly reflects the fact that young offenders tend to record lower BACs, and these offenders commit more criminal offences.

In summary, Table 6.3 suggests that penalties are ineffective in simultaneously preventing reconvictions for drink/drive, traffic and criminal offences. Bonds and probation may have a positive effect, but prison appears to be counter-productive. However, these apparent effects may simply reflect differences between offenders receiving the different kinds of penalties. It is therefore necessary to test rigorously the hypothesis that penalties are unrelated to overall reconviction rates, taking offender characteristics into account. It is also of interest to determine whether any penalty effects depend on the characteristics of the offenders receiving them.

To investigate these issues, the methods described in Section 4.6 were used. A linear model was constructed, fitting variables in the order:

a. Offender characteristics (22 of these);

b. Penalties (including interactions of penalties);

c. Interactions between penalties and age and BAC.

The choice of interaction terms was somewhat arbitrary, in view of the wide range of characteristics which could have been incorporated. As explained in Section 4.6, the purpose of including interaction terms is to test the possibility that penalties have a different effect depending on the characteristics of the offender receiving them. Age and BAC were selected on the grounds that they were factors which entered into the sentencing process and were of direct interest to those interested in rehabilitation schemes. A wider range of interaction effects was investigated in the analysis of reconvictions for drinking and driving (Section 6.2).

The findings of the analysis may be summarised as follows:

(i) The interaction effects were not quite significant, indicating that if penalties do have any effect on overall reconviction rates, such an effect is not dependent on the age or BAC of the offender;

(ii) The penalty effects were not significant fitted after offender characteristics, indicating that the patterns in Table 6.3 can be attributed to offender characteristics;

(iii) Age, marital status and having a concurrent conviction for driving while disqualified were the only offender characteristics forming a "minimal adequate" model; that is, were the only offender characteristics necessary to "explain" reconviction rates.

Thus it appears that there is no "universal deterrent penalty," and that reconviction rates are best explained in terms of simple offender characteristics. This result is consistent with the findings of many previous studies into specific deterrence (Zimring and Hawkins, 1973), although it is of interest that previous criminal or drink/drive record did not emerge as significant factors. The three important factors are all "proximate"; that is, relating to the offender's present social circumstances and life style.

It should be emphasised that the specification of three variables as being sufficient to "explain" reconviction rates does not invalidate the correlations discussed earlier in this section. For example, offenders with a record of larceny offences, or break, enter and steal offences were much more likely than other groups of offenders to be reconvicted (Table 6.4). However, knowing that an offender had such a record does not add to our ability to predict his probability of reconviction, over and above the information provided by his age, marital status and record for driving while disqualified. The purpose of the analysis is to find a subset of variables which all contribute to the prediction of an individual's probability of reconviction, but which contains no "unnecessary" variables.

Interpretation of the model confirmed the patterns revealed by simple correlational analysis. The effects on probability of reconviction of marital status, age and having a record for driving while disqualified are displayed in Figure 6.1. This diagram is a pictorial representation of a statistical index which shows the extent to which the probability of reconviction is above or below average for people of a particular marital status and age and for people with or without a record for driving while disqualified. It shows this for each factor unadjusted for any other terms in the model, and also for each factor adjusted for other terms in the model. Thus the 12 divorced people in the sample had a lower reconviction rate than average (shown by the unshaded bar), but after adjustment for the effects of age and having a record for driving while disqualified, the "true" reconviction rate among divorced people can be seen to be closer to the average (shown by the shaded bar).

Figure 6.1 Probability of reconviction for an offence, represented by index of deviation from the mean, adjusted and unadjusted for other factors

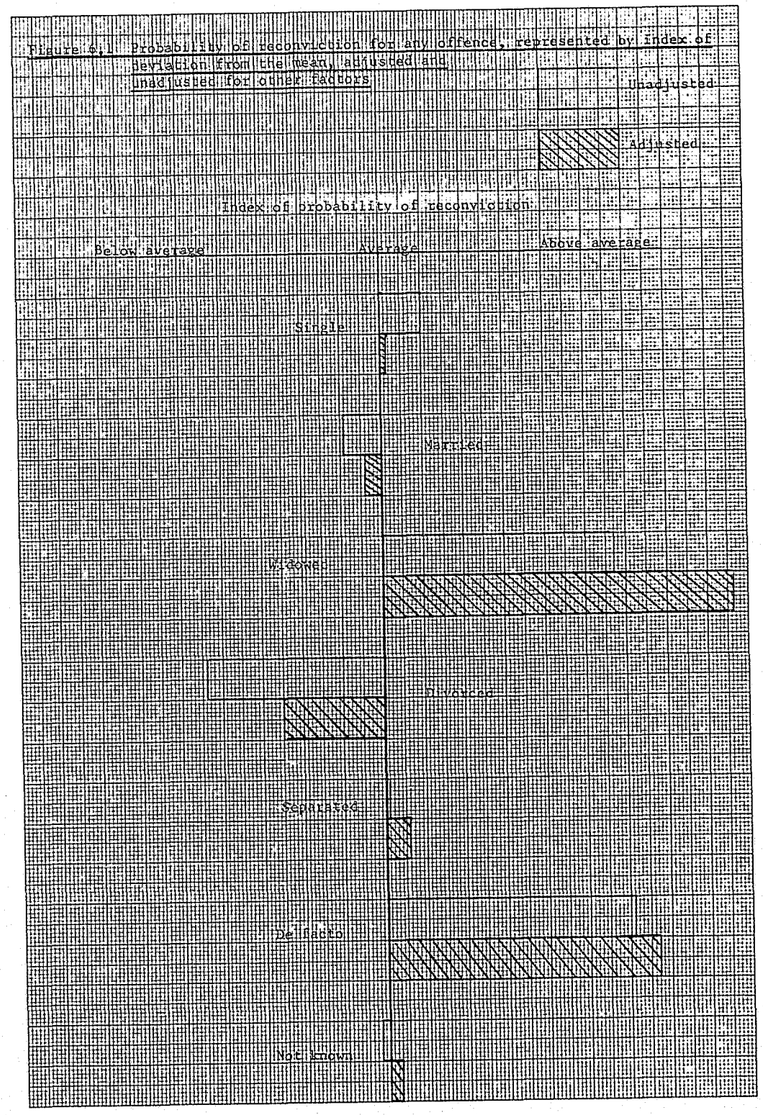
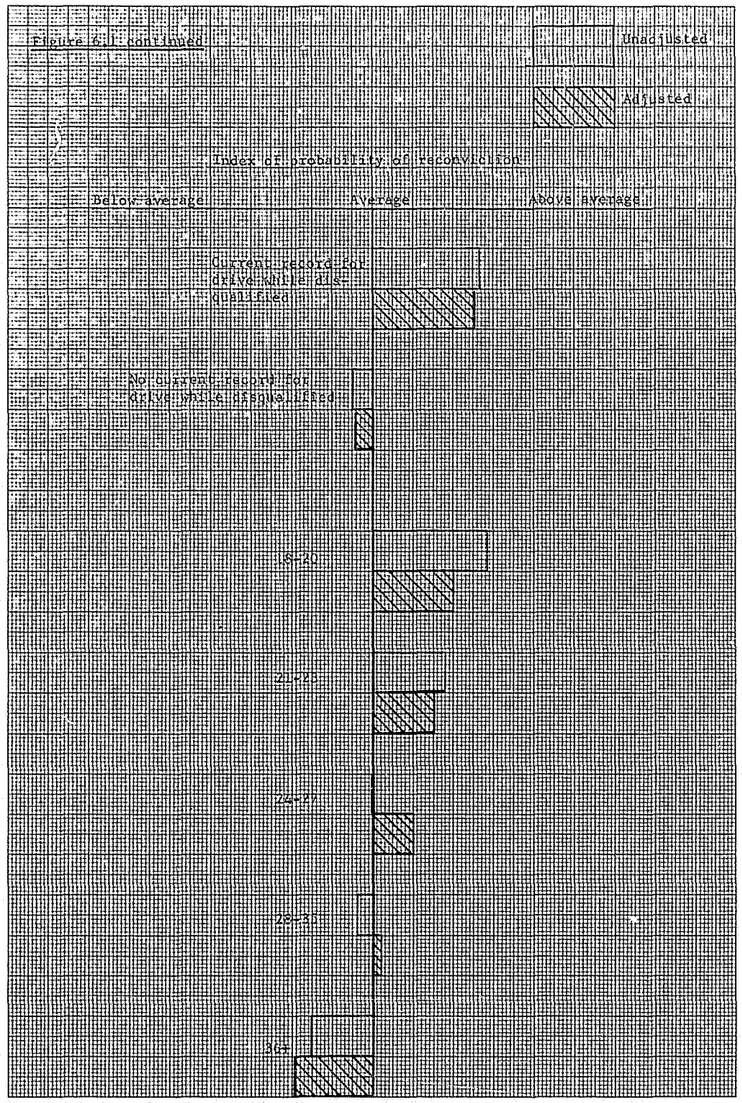


Figure 6.1 continued



Comparisons of the adjusted reconviction rates shows that in fact only widowed offenders and those living in a de facto relationship had reconviction rates which were significantly higher than other marital groups. Divorced offenders were not significantly different from single, married or separated offenders. This finding highlights the importance of information relating to the offender's current social relationships.

Drive disqualified offenders had a higher reconviction rate than non-drive while disqualified offenders, both before and after adjustment for the effects of other factors, although the rate was not as high as in the widowed and de facto groups.

Figure 6.1 shows that after adjustment for the other factors, the 18-20 age group was slightly less likely to be reconvicted, compared with other age groups, than before adjustment. The 24-35 age group was slightly more likely to be reconvicted after adjustment, while other age groups remained about the same. Nevertheless, using both adjusted and unadjusted figures there was a steady trend toward lower reconviction rates for older offenders.

Although age, marital status and driving while disqualified are important in predicting the probability of reconviction, many other factors not included in the analysis are also important. The predictive power of the model was low (R^2 = .08), which means that it is of limited usefulness in identifying high and low risk offenders. Much more extensive information relating to an offender's home life and social relationships would be necessary before a statistical model could be useful for such purposes. The low predictive power could also reflect the difficulty of modelling an outcome which combines such disparate phenomena as reconvictions for traffic, drink/drive *and* criminal offences.

Summarising the major findings of this analysis, penalties are not correlated with overall reconviction rates, taking into account the differences in offenders receiving various penalties. Moreover, there is no evidence that in terms of this global criterion of success particular penalties are effective with particular types of offenders. As an example of these findings, the high total reconviction rate of 77.3 per cent among those sent to prison for more than six months is attributable to the characteristic of those sent to prison - their previous record, current criminal convictions, age and so on - rather than to the negative effect of prison itself. Of course imprisonment may have many deleterious effects on an offender and on his family, but these effects, as measured by the global criterion of *total* rates of recidivism, appear to be no worse than the effects of other penalties. On the other hand, there is clearly no evidence for a deterrent impact of imprisonment (or any other penalty) again using the same global criterion.

6.2 Reconvictions for drinking and driving

The analysis presented in Section 6.1 has shown that penalties are not related to the probability of reconviction, using as criterion a reconviction for any type of offence. However, this analysis may have concealed important information. It has already been argued that convicted drink/drivers are quite likely to fall into a number of distinct categories (Section 2.3), and furthermore we have seen that they can be reconvicted for quite different kinds of offences. Consequently, a more profitable tack may be to examine separately reconvictions for each offence type (drink/drive, traffic and criminal).

Central to the present study is the question of whether convicted drink/drivers can be deterred from committing the same offence again. To answer this question an extensive analysis was carried out, using as criterion the simply outcome: was the offender reconvicted for drinking and driving? This analysis partly parallels the analysis reported in Section 6.1, but the focus on drink/drive reconvictions allows a more unambiguous investigation of the effects of penalties. If it is true that different penalties deter different types of offenders from different kinds of

offences, then the global analysis of Section 6.1 may have "cancelled out" important deterrent effects.

Preliminary analysis of the data (Homel, 1979), using a two-year follow-up period and a combined criterion of drink/drive and traffic reconvictions led to some encouraging results. For offenders in the "medium seriousness" group (see Section 4.1) penalties appeared to act as a deterrent, with disqualification emerging as the single most important component. The analysis reported in this section does not parallel these preliminary analyses exactly, for two main reasons. First, a simple criterion of reconviction for drinking and driving, excluding other traffic offences, is being adopted in the present analysis. Analysis of factors affecting reconvictions for non-drink/drive motoring offences is presented in Chapter 7. Secondly, penalties and offender characteristics are not being analysed in the same way (that is, using the schema of Section 4.3). However, we would expect the findings presented in this section and in the next chapter to be broadly consistent with the preliminary analysis.

The simple correlations between penalties and reconvictions for drinking and driving are of the same general form as the correlations in Table 6.1. Low fines and long disqualification periods corresponded to the highest reconviction rates, but for the reasons outlined in Section 6.1, these figures are probably produced by the same group of "high risk" offenders who were sent to prison. Once again, the relatively low reconviction rate among the 136 offenders given a S.554 bond provides the main ground for optimism.

Table 6.5 Correlations between penalties and reconvictions for drinking and driving

Fine ($)	Percentage reconvicted	Disqualification	Percentage reconvicted	Prison/bond	Percentage reconvicted
0	25.0	Up to 3 months	12.4	No prison or bond	12.6
1- 100	16.5	Longer than 3 months,		S.554	8.1
101- 200	13.0	up to 1 year	13.0	S.558	14.0
201- 300	11.8	Longer than 1 year,		Prison up to 3	
301-1200	10.9	up to 2 years.	13.1	months	20.4
		Longer than 2 years,		Prison longer than	
		up to 3 years	13.3	3 months,up to 6	
		Longer than 3 years	25.0	months	30.0
				Prison longer than	
				6 months	50.0
		S.556A	0.0	Probation	13.3

NOTE: Base numbers for percentages are set out in Table 6.1

The probability of reconviction for drinking and driving did not depend on the sex of the offender, his occupational status, BAC, plea, area of residence, whether he was legally represented or the number of previous (non-drink/drive) traffic offences he had recorded. Of great interest, in view of the analysis reported in Section 6.1, was the fact that the probability of reconviction for drinking and driving was also not related to the age of the offender. Table 6.6 shows the reconviction rates for offenders of various ages.

Table 6.6 Correlation between age and reconvictions for drinking and driving

	Age				
	18-20	21-23	24-27	28-35	36+
Percentage reconvicted	16.2	14.5	15.9	18.3	12.0
Total	136	138	164	213	349

($X^2_4 = 4.52$, P = .34)

The tendency for offenders older than 36 to be reconvicted for drinking and driving slightly less often is not statistically significant. As was mentioned in Section 6.1, the high overall reconviction rates of the younger offenders are primarily a reflection of reconvictions for criminal offences.

Consistent with the previous results, reconvictions for drinking and driving were related to marital status and previous and current criminal record. In addition, in line with what might have been predicted, offenders with a record for drinking and driving were more likely to be reconvicted for the same offence, although the relationship was not a strong one. These correlations are set out in Table 6.7.

Table 6.7 Factors related to reconvictions for drinking and driving

Average = 14.9 per cent

	Percentage reconvicted	Base number		Percentage reconvicted	Base number
No drink/drive record	12.9	356	No criminal record	11.0	507
			Criminal record	18.9	493
One previous drink/drive conviction	13.3	406	No additional charges	12.7	632
Two or more previous drink/drive convictions	20.6	238	One additional charge	16.0	244
Single	14.1	340	Two or more additional charges	24.2	124
Married	14.4	425			
Widowed	57.1	7			
Divorced	8.3	12	Larceny, B.E.S.	29.4	17
Separated	20.7	29	Breach recognizance	29.7	37
			Serious traffic	8.3	36
De facto	26.3	19	Drive disqualified	27.7	155
			Other traffic offences	18.3	131
Not known	14.3	168			

Note that offenders who were convicted of serious traffic offences at the same time as the drink/drive offence were less likely than average to be reconvicted for drinking and driving (8.3 per cent). The reason for this is that they were more than twice as likely as offenders without such a conviction to be reconvicted for a non drink/drive traffic offence (22.5 per cent compared with 10.0 per cent). This interesting outcome again suggests the existence of a particular subgroup of offenders; in this case, a group of offenders who are consistent traffic law violators, drinking and driving being merely one of a range of traffic offences in which they specialise (see Chapter 7).

An analysis parallel to that of Section 6.1 was carried out, but incorporating a wider range of interaction terms. Interactions between penalties and the following offender characteristics were considered:

* Age
* BAC
* Having a record for driving while disqualified
* Number of previous drink/drive convictions
* Number of previous traffic convictions

Other interactions could have been incorporated, but it was important not to "overload" the model with too many variables. It was considered that the offender characteristics listed above were sufficiently comprehensive to capture any important interaction effects which were occurring. The variables listed also have the practical advantage that they are all aspects of the offender and his background which are readily available. Driving while disqualified was included because of its importance in a number of other analyses (Section 5.2 and Section 6.1), with the implication that drive disqualified offenders are rather different from other groups.

The results of this analysis were very complex. Summarised very broadly they were as follows:-

a) The interaction between penalties and driving while disqualified was significant; that is, the relationship between penalties and probability of reconviction for drinking and driving depended on whether an offender was convicted for driving while disqualified at the same time as the drink/drive offence;

b) For the great majority (98 per cent in the population) of offenders who were not convicted of drive/disqualified there were few statistically significant correlations between penalties and reconvictions for drinking and driving, although there were some interesting trends;

c) Heavy fines and long disqualification periods (up to five years) were effective in reducing the probability of reconviction of drive/disqualified offenders from the very high rate reported in Table 6.7 to a rate approximately the same as other offenders;

d) The effect of imprisonment depended on the period of licence disqualification, but generally long periods of imprisonment corresponded to higher reconviction rates than short period (after adjustment for other factors), although the effect of adjustment was to reduce the relatively high reconviction rate among those sent to prison for longer than six months;

e) The only offender characteristics significantly related to reconviction (other than drive while disqualified) were marital status and being convicted for a serious traffic offence or driving while unlicenced.

The next three sections are devoted to amplifying these findings. Since the effect of penalties was different for the drive disqualified group and the rest of the sample, it is convenient to consider these groups separately.

6.3 Interpretation of statistical model for reconvictions for drinking and driving - the non-drive while disqualified group.

For offenders who were *not* convicted of driving while disqualified at the same time as the original drink/drive offence, the statistical model showed that except for a small group of offenders neither heavy fines nor long disqualification periods had any statistically significant impact on reconviction rates. Table 6.8 presents the simple correlation between amount of fine and probability of reconviction for drinking and driving. Although the model included a large number of variables, none of them altered the essentially null relationship summarised in Table 6.8.

Table 6.8 Correlation between amount of fine and proportion reconvicted for drinking and driving, for those not convicted of driving while disqualified at the same time as their original drink/drive conviction.

	Fine ($)				
	0	1-100	101-200	201-300	301+
Percentage reconvicted	13.0	12.5	13.1	11.7	11.1
Total	77	112	405	188	63

The effect of disqualification is more difficult to describe, since there was an interaction between period of disqualification and whether an offender received a bond or a period of imprisonment. In other words, the correlation between disqualification period and probability of reconviction depended to some extent on whether an offender went to prison or received a bond.* Figure 6.2 shows the predicted probabilities of reconviction for drinking and driving for periods of disqualification up to five years and for four groups: those not sent to prison or put on a bond, those given a S.554 bond, those given a S.558 bond and those imprisoned for up to three months. The plotted probabilities are for a "typical" offender who was married, was convicted for no offences in addition to the original PCA offence, and who received the average fine of $150.

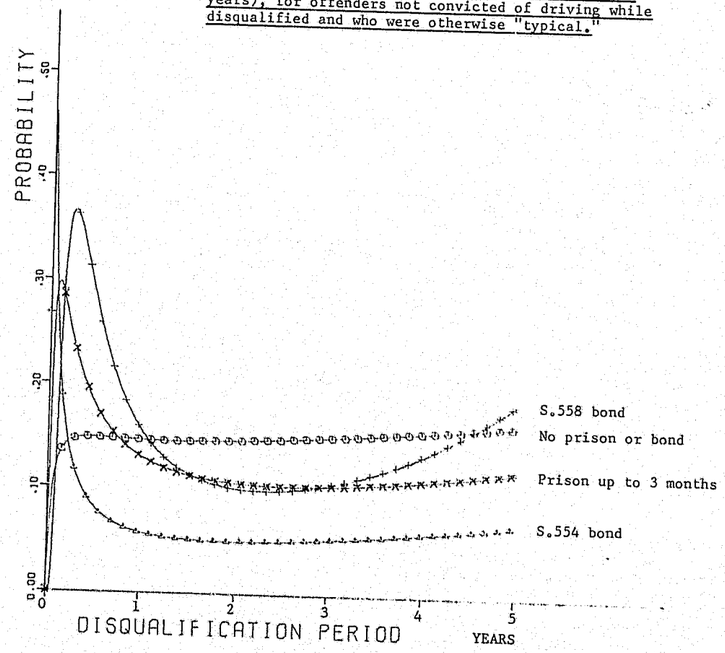
Despite some apparently dramatic increases in reconviction rates corresponding to short periods of disqualification (up to three months), Figure 6.2 demonstrates an essentially null relationship between disqualification and probability of reconviction. The high reconviction rates are based on small numbers of cases - five S.554 cases, eight S.558 cases and nine cases of imprisonment for up to three months - and hence are not statistically significant. Nevertheless they do indicate a trend for very short disqualification periods, of only a few weeks or perhaps two or three months duration, to correspond to a much higher than average propensity to re-offend.

Notwithstanding this tendency to high reconviction rates for short disqualification periods in the bond and imprisonment groups, offenders who received short disqualifications (up to two weeks) but who were *not* put on a bond or imprisoned had very low reconviction rates for drinking and driving. Of the 57 such offenders who received a disqualification of up to 26 days duration, only one was reconvicted for drinking and driving. This is a rate of 1.8 per cent, compared with 14.8 per cent among those disqualified for longer than 26 days but no longer than three months.

* It should be remembered that disqualification period was counted from date of release for those sent to prison.

This difference *is* statistically significant (P <.01). It is worth noting in addition that of the eight offenders who received a S.556A dismissal or bond (and hence were not disqualified at all), none were reconvicted for drinking and driving.

Figure 6.2 Probability of reconviction for drinking and driving, by prison/bond and disqualification period(up to 5 years), for offenders not convicted of driving while disqualified and who were otherwise "typical."



Thus although we are hampered by small numbers in some groups, we are faced with an apparent contradiction: short disqualification periods resulted in *high* reconviction rates for drinking and driving for offenders put on a bond or sent to prison for up to three months (although this was not statistically significant), but short periods resulted in *low* drink/drive reconviction rates for offenders not on a bond or imprisoned. This contradiction is resolved to some extent when reconvictions for non-drink/drive traffic offences are considered. The 57 offenders disqualified for no longer than 26 days and who were not imprisoned or put on a bond had a high rate of reconvictions for traffic offences (23 per cent). This point is expanded in Chapter 7 where traffic reconvictions are examined in more detail, but the traffic data serves the immediate purpose of confirming the impression that very short periods of disqualification are counter productive.

Several puzzling questions remain. Why for example were the bond and prison offenders who were disqualified for only a few months reconvicted for drinking and driving while the comparable group not sent to prison or put on a bond were reconvicted for traffic offences at a high rate? In addition, is it reasonable to infer a *causal* connection between short periods of disqualification and higher reconviction rates, whether for drinking and driving or for traffic offences?

Clearly it is necessary to compare the characteristics of the two groups. Offenders put on a bond or sent to prison were much more likely to have a previous record for drinking and driving (the sample percentages with such a record were 86.4 per cent in the prison/bond group and only 49.8 per cent in the remainder). Moreover, there was a tendency for the prison/bond group to have higher BACs than other offenders. These correlations add weight to the argument that the two groups reoffend for different kinds of offences because they are different kinds of people, the prison/bond group being more typical of what we might call the "confirmed drink/driver."

On the other hand, we might argue that since the statistical model was designed to take account of factors like previous drink/drive convictions and BAC, the difference between the prison/bond group and the rest is due to the effect of the penalties themselves. However, using this argument it is difficult to account for the different types of offences committed in both groups. Why should short disqualification periods encourage reconvictions for drinking and driving in the prison/bond group but not in the remainder of the sample? The most reasonable explanation is that there are more "confirmed drink/drivers" in the prison/bond group, and that a high BAC and a record for drinking and driving are only two indices of this.

Whether it is reasonable to infer that the short disqualification periods *cause* the higher reconviction rates is a matter for speculation. We can argue that since the statistical model takes account of a range of offender characteristics, the graphs in Figure 6.2 are closer to representing causal connections than simple correlations would be. Pursuing this approach, it would be possible to argue further that very short disqualification periods may encourage an offender's hopes that he can "get away" with driving without being detected and that he need not change his driving behaviour or drinking habits. This is the kind of conjecture which can only be tested satisfactorily by direct interviews with drivers.

Whatever the explanation, and bearing in mind the very small numbers in some groups, there does not seem to be a strong case on the grounds of deterrence for imposing very short disqualification periods - say up to one month, or perhaps up to three or four months in the prison/bond group.

However, it is obvious looking at Figure 6.2 that if short disqualifications are counter productive, long disqualifications (up to five years) have a negligible impact on reconvictions for drinking and driving. The no prison/bond group consisted of 589 offenders - by far the largest penalty group - and for this group and for disqualification periods beyond two months the curve was almost flat. The same general pattern is apparent for the other three groups. The rise in the curve for S.558 offenders for long disqualification periods is not statistically significant since it is based on only seven cases.* This finding is so important it needs to be emphasised:

> *For offenders not convicted of driving while disqualified, period of licence disqualification (beyond two months) had no effect on the probability of being reconvicted for drinking and driving, taking other factors into account.*

* There were too few offenders not convicted of driving while disqualified who were imprisoned for longer than three months or who were put on probation to include them in the present analysis.

This is perhaps the most depressing finding of the study, and is certainly contrary to the deterrence doctrine. Generally speaking, we may conclude that if an offender is going to drink and drive again, neither fines nor disqualification make much difference to him. Once again, it is not possible to be certain of why this is the case. Nevertheless, common sense would suggest that drink/drivers who are reconvicted either cannot control their drinking or are perhaps involved in a range of criminal activities or traffic law violations, including drinking and driving. Some evidence along these lines is presented in Section 7.4 Clearly, a completely satisfactory explanation for the failure of fines and disqualifications to deter drinking and driving could only be derived from a more intensive and direct study of drink/drivers.

Having seen that by and large heavy fines and long disqualifications do not work any more effectively than light penalties to prevent drinking and driving, it still remains to investigate whether bonds or imprisonment have any impact. The most promising feature of Figure 6.2 in this respect is the relatively low reconviction rates for the S.554 group. Reconviction rates for this group averaged 8.1 per cent, compared with 14.9 per cent for the whole sample of 1,000 offenders. No other groups had reconviction rates as low as this.* Unfortunately the difference is not large enough to be statistically significant for any disqualification period, even though there were 136 offenders who received a S.554 bond.

Despite the fact that the figures are not statistically significant, the low reconviction rate for the S.554 group at least suggests that good behaviour bonds (as opposed to suspended sentences) could be effective for some people. The essence of the penalty (see Section 2.4) seems to be that the dire consequences to the offender of reoffending for driving while disqualified are emphasised, by containing the threat that if he is caught he will appear again before the same Magistrate for some (unspecified) punishment. It might be argued that a good behaviour bond reinforces the effect of disqualification by making the consequences of breaking the order more real to the offender. It should be added, however, that analysis of rates of driving while disqualified did not demonstrate any impact of a S.554 bond (see Section 7.3).

An alternative explanation for the apparent effect of bonds under S.554 is that many magistrates may have required a sum of money to be deposited by offenders as surety. Although this was not required by the written form of the Section, magistrates may have made it a condition of the bond. There would therefore have been a financial incentive not to reoffend. This practice is probably the most likely explanation for any deterrent effect of good behaviour bonds.

Notwithstanding the tentative nature of the findings, there are at least some grounds for experimenting with S.554 (or S.558 in its new form) as a penalty for drink/drivers, probably together with a monetary surety. A good behaviour bond is generally regarded as a heavier penalty than just a fine and a disqualification, but the climate of judicial and public opinion is probably more open to heavier penalties now than in earlier years.

Certainly imprisonment is no deterrent. Table 6.9 compares the reconviction rate for imprisonment up to three months with the reconviction rate for imprisonment longer than three months. Despite the small numbers, the pattern is consistent with results found for the drive/disqualified group (see Section 6.4).

* The S.556A group had a zero reconviction rate, but since this was based on only eight cases, it is not possible to conclude anything definite.

Table 6.9 Correlation between imprisonment and reconvictions for drinking and driving, for offenders not convicted of driving while disqualified

	Not imprisoned	Prison up to 3 months	Prison longer than 3 months
Percentage reconvicted	13.3	11.9	34.8
Total	780	42	23

The 23 offenders imprisoned for longer than three months were reconvicted at nearly three times the rate as the under three months group, although this gap was reduced somewhat after adjustment for factors like previous record. The most cautious conclusion that can be drawn is that offenders sent to prison reoffend at the same rate as those not sent to prison - witness the rate for the under three months group. However, there is some evidence despite small numbers that long periods of imprisonment are counterproductive, which is not surprising given the disruptive effect of prison on family life and on social relations generally.

6.4 Interpretation of statistical model for reconvictions for drinking and driving - the drive disqualified group.

Offenders with a concurrent conviction for driving while disqualified were twice as likely as those without such a conviction to be reconvicted for drinking and driving: 27.7 per cent compared with 12.5 per cent. This suggests that the drive disqualified group consists of many confirmed law breakers who may be relatively impervious to penalties. Surprisingly, the statistical analysis showed that fines, and to a small extent licence disqualification, did have an impact on this group, although even heavy penalties failed to reduce their rate of reconvictions for drinking and driving to a level much below the average for the whole sample.

Figure 6.3 shows the predicted probabilities of reconviction for drinking and driving for fines between zero and $1200. The plotted probabilities are for a "typical" offender who was married and who was convicted of no offences in addition to drinking and driving and driving while disqualified.

It is clear from Figure 6.3 that low fines, and particularly no fine at all, corresponded to the highest reconviction rates. The reconviction rate among the 79 offenders who were not fined was 36.7 per cent, compared with 10.3 per cent among the 29 offenders fined more than $300. It is also apparent from Figure 6.3 that a fine of $300 or $400 had approximately the same effect as a heavier fine; in other words, if a genuine deterrent effect is represented here, then $300 is nearly as much of a deterrent as $1200.

The pattern summarised in Figure 6.3 is (not surprisingly) confirmed by an examination of the raw data. The advantage of the linear model analysis is that it takes into account all the known characteristics of the offenders as well as the other components of the penalties imposed (disqualification and imprisonment). This means that unlike the data presented in Table 6.3, the high reconviction rate among those not fined does *not* simply reflect the fact that they were mostly sent to prison and were therefore "bad risks." Table 6.10 presents the simple correlations between fine and proportion reconvicted for those imprisoned and not imprisoned separately. It is clear that small fines corresponded to the highest reconviction rates in both groups.

Figure 6.3 Probability of reconviction for drinking and driving, by amount of fine (up to $1200), for offenders convicted of driving while disqualified and who were otherwise "typical."

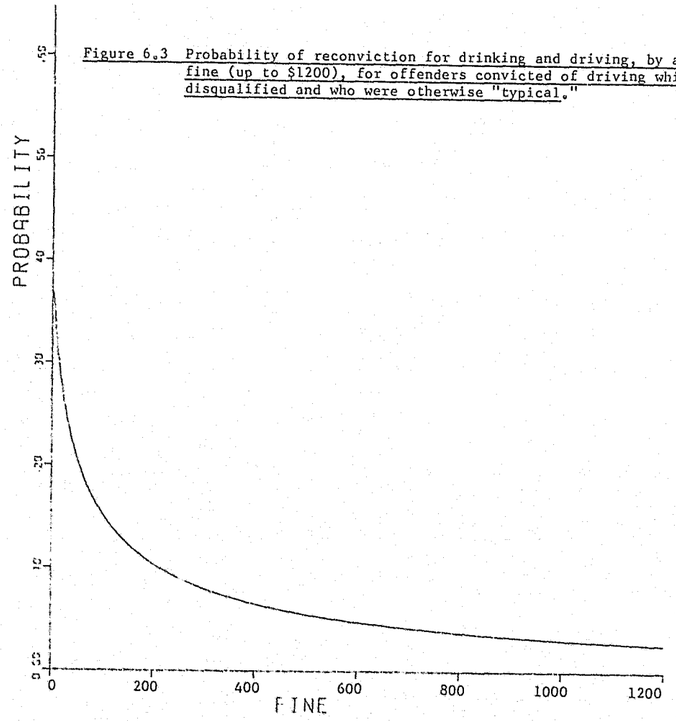


Table 6.10 Correlation between fine and proportion reconvicted for drinking and driving, for offenders convicted of driving while disqualified, and for those imprisoned and those not imprisoned.

Not imprisoned

	Fine ($)		
	0-200	201+	Total
Percentage reconvicted	21.4	6.3	13.3
Total in group	14	16	30

Imprisoned

	Fine ($)				
	0	1-100	101-300	301+	Total
Percentage reconvicted	36.5	35.0	21.4	11.8	31.2
Total in group	74	20	14	17	125

Note that relatively few offenders were fined more than $300, although the observed maximum was $1200. This means that in Figure 6.3 little weight should be attached to the slight decline in the probability of reconviction beyond $300. The linear model is essentially saying that small fines corresponded to the highest reconviction rates, but beyond $200 or $300 there was little effect. Translated into current monetary terms (1979), this analysis suggests that offenders with a concurrent conviction for driving while disqualified should be fined in the upper half, rather than the lower half of the range - that is, around $500 or $600.

Table 6.10 demonstrates that the reconviction rate among those imprisoned was more than twice that of those not imprisoned. However the linear model showed that the effect of imprisonment and bonds depended on period of licence disqualification, so disqualification, prison and bonds should really be examined together. Unfortunately, the great majority of drive disqualified offenders were imprisoned; only 15 received a S.558 bond, two were put on probation and 13 were neither imprisoned nor put on a bond. Consequently it is not statistically reliable to compare these groups with each other or with those sent to prison, especially since it is strictly necessary to make comparisons within particular disqualification periods. Grouping all those not imprisoned together, and comparing them with all those imprisoned (i.e. comparing 13.3 per cent with 31.2 per cent from Table 6.10), the difference in reconviction rates is significant at .05 but not at .01. It seems reasonable to conclude therefore that for drive disqualified offenders imprisonment tends to result in higher reconviction rates for drinking and driving, although larger numbers would be necessary to establish this as a firm finding.

It is perhaps significant (in the non-statistical sense) that none of the 13 offenders who were neither imprisoned nor put on a bond were reconvicted. In order to attract such a light penalty there must have been extenuating circumstances, and it would appear from the outcomes that the magistrate's decision in each case may well have been vindicated. Conversely, the 17 offenders who were imprisoned for more than six months had the highest reconviction rate of any group: 52.9 per cent were reconvicted for drinking and driving. This group clearly consisted of "high risk" offenders, although it is not possible to rule out prison itself as a cause of the higher reconviction rates.

No drive disqualified offenders were given a good behaviour bond under S.554, but of the 15 who received a suspended sentence under S.558, four (or 26.7 per cent) were reconvicted for drinking and driving. This compared favourably with the reconviction rate among those imprisoned for up to six months (see Table 6.11).

Figure 6.4 presents the predicted probabilities of reconviction for drinking and driving by disqualification period, for offenders imprisoned up to three months, offenders imprisoned for three months to six months, and for those imprisoned for longer than six months. The probabilities are for a "typical" offender who was married, was not fined and who was not convicted of any offence other than drinking and driving and driving while disqualified. The range two years to five years disqualification covers the majority of offenders.

Figure 6.4 Probability of reconviction for drinking and driving, by period of imprisonment and disqualification period (2 years up to 5 years), for offenders convicted of driving while disqualified and who were otherwise "typical" (no fine)

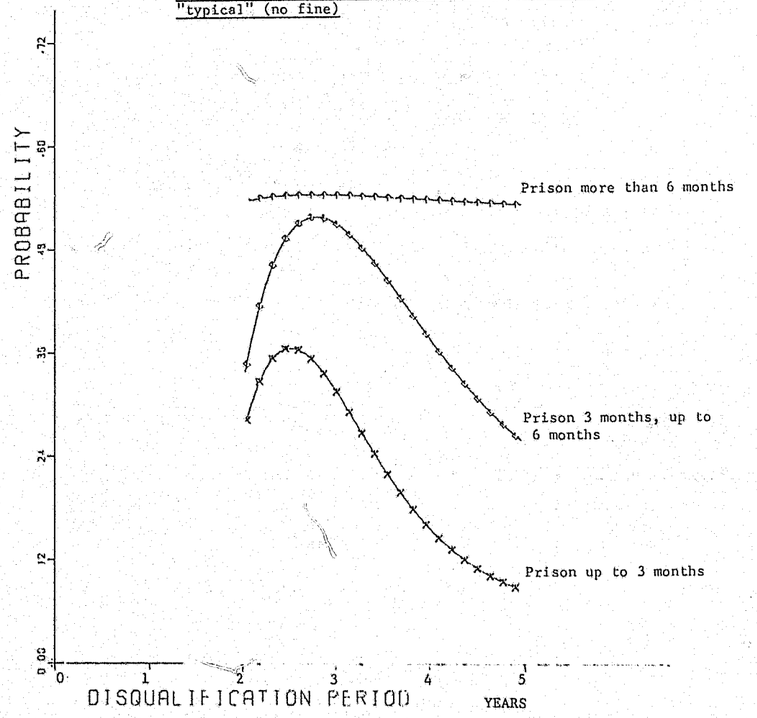


Figure 6.4 shows two main things: the longer the period of imprisonment, the higher the probability of reconviction, and for those imprisoned less than six months, longer disqualification periods tend to be associated with lower reconviction rates.

The differences between the reconviction rates for long and short periods of imprisonment, which are apparent even after adjustment for other variables, support the view that longer periods of imprisonment encourage reoffending for drinking and driving. This proposal may seem inconsistent with the conclusion in Section 6.1 that the correlation between length of imprisonment and probability of reconviction was attributable to offender characteristics rather than to the deleterious effects of prison, but it needs to be remembered that the earlier conclusion was based on a global criterion which appears to have blurred the distinctive effects of imprisonment and other types of penalties on particular types of offenders.

The simple correlations between period of imprisonment, length of disqualification, and proportion reconvicted are set out in Table 6.11. Figure 6.4 reproduces the general pattern evident in Table 6.11 while clarifying the fact that, after adjustment, imprisonment up to three months is associated with lower reconviction rates for all periods of disqualification, followed by imprisonment up to six months then imprisonment longer than six months.

Table 6.11 Correlation between period of licence disqualification and proportion reconvicted for drinking and driving, by period of imprisonment, for offenders convicted of driving while disqualified.

	Disqualification period				
	Up to 2 years	2-3 years	3-5 years	Longer than 5 years	Total
Prison up to 3 months					
Percentage reconvicted		30.4	29.2	11.1	26.8
Total in group		23	24	9	56
Prison longer than 3 months, up to 6 months					
Percentage reconvicted	0.0	55.6	25.9	27.3	28.8
Total in group	5	9	27	11	52
Prison longer than 6 months					
Percentage reconvicted		50.0	62.5	40.0	52.9
Total in group		4	8	5	17
All periods of imprisonment					
Percentage reconvicted	18.2	40.0	32.2	24.0	32.0
Total in group	11	30	59	25	125

The initially lower probabilities of reconviction for disqualification periods around two years shown in the graphs for each group should be ignored, since they are based on very small numbers. Generally consistent with the data in Table 6.11, the linear model predicts that for imprisonment up to six months, longer periods of disqualification correspond to lower reconviction rates for offenders convicted of driving while disqualified. The optimum period of disqualification appears to be around five years, although it is necessary to be cautious since as Table 6.11 shows, the numbers in each group, broken down by disqualification period, are not large.

The high predicted probabilities of reconviction for the group imprisoned longer than six months are consistent with the raw data, and moreover period of disqualification makes no difference to this group. This supports the view put forward above that they are largely "bad risks," impervious to even the most severe penalties.

Examination of their characteristics revealed that they were much more likely to have a criminal record than other offenders (90.9 per cent compared with 48.4 per cent) and were also more likely to have a concurrent conviction for criminal offences, such as larceny or break, enter and steal. Not surprisingly, they were also more likely to be reconvicted for a criminal offence than other offenders. They tended to be in their early twenties, although a number of them were over 35. Very few of them were legally represented, which may partly explain the long periods of imprisonment which they received, although an equally likely explanation was the large number of offences for which they were convicted (nearly three on average). Interestingly, they did not appear to be distinguished by an excessive number of previous drink/drive or traffic convictions, neither were their BAC's exceptionally high. This suggests that the "alcoholic or problem drinker" explanation may not fit as well as a "criminal or anti-social" label. These offenders seem to be characterised by a range of delinquent acts, drinking and driving being just one part of the pattern. This issue is taken up again in Section 7.4.

Summarising the discussion in this section, the analysis of the drive disqualified group suggests that fines in the upper half of the range (perhaps $600 in contemporary terms) together with a disqualification period up to five years may be effective, although the evidence with respect to disqualification is less clear than for fines. The figures suggest that prison may be counter-productive, and that shorter rather than longer prison terms are preferable if imprisonment is used as a penalty. Given that those who received a suspended sentence under S.558 performed no worse on average than those imprisoned, and given the encouraging results for non-drive while disqualified offenders put on a S.554 good behaviour bond (Section 6.3), the optimum penalty for drive disqualified offenders may be a bond combined with a heavy fine and a long disqualification period (up to five years).

Of all the penalties considered, fines had the clearest correlation with reconviction rates. It is important therefore to consider *why* fines may be a deterrent for the drive disqualified group but not for the remainder. Statistical correlations, no matter how refined, cannot prove causal relationships, and therefore unless statistical findings can be supported by external evidence they should be accepted only on a conditional basis. In this case a possible explanation for the result can be derived from an examination of the characteristics of those with a concurrent conviction for driving while disqualified. This analysis is set out in more detail in Section 7.3, but two or three observations are sufficient for our present purposes.

First, drive disqualified offenders tend to be younger than others, although the differences are not marked; one third of the drive disqualified group were under the age of 24, compared with a quarter of the non-drive disqualified group. Secondly, three quarters of the drive disqualified group (in the present sample) were unskilled in occupation, compared with 60 per cent of the remainder. Thirdly, drive disqualified offenders were less likely to be legally represented (30 per cent compared with 42 per cent). These characteristics together support the view that the drive disqualified offender is likely to be on a lower income than other offenders. Wages are usually related to qualifications and experience, and it is reasonable to suppose that young men in unskilled positions are disadvantaged in both these respects. Moreover, although there may be a variety of reasons why people are not legally represented (Section 7.1), low income would have to rank as one of the most likely causes.

If these suggestions are correct, then the results of the present analysis are more understandable. They imply that heavy fines were keenly felt by the drive disqualified offender, and that he was thereby discouraged from drinking and driving. The exact mechanism whereby he was discouraged is not clear; maybe the loss in income made him a more cautious driver for a while, or perhaps it simply meant that he could not afford beer or petrol!

The question of optimum penalties for drive disqualified offenders is important, given the high reconviction rate of this group, and should be a high priority for further research. The effect of different periods of licence disqualification is worthy of particular attention. It is puzzling that longer periods of disqualification should appear to have some effect on a group who have already proved that they are capable of ignoring licence disqualification or cancellation*. In any case, it would be wise not to be too precise about an optimum disqualification period which exceeds the period of follow-up (three years).

6.5 Interpretation of statistical model for reconvictions for drinking and driving - other factors

We have seen that having a concurrent conviction for driving while disqualified is an important determinant of the effect of penalties. There are a number of other factors which have a minor effect on the probability of reconviction for drinking and driving. These factors, and others, are discussed below.

(a) Offenders with a concurrent conviction for serious traffic offences or driving while unlicenced.

It was noted in Section 6.2 that offenders convicted of a serious traffic offence were less likely than average to be reconvicted for drinking and driving. The linear model also reflected the importance of this factor, and highlighted in addition the importance of a conviction for driving while unlicenced. Possessing either kind of conviction reduced the likelihood that an offender would be reconvicted for drinking and driving. Serious traffic offences were associated with a reconviction for motoring offences (and to some extent also for criminal offences), while offenders who were convicted for driving unlicenced specialized in criminal offences. Of the four offenders with a concurrent conviction for both a serious traffic offence and driving while unlicenced, two were reconvicted for a criminal offence and none for drinking and driving.

* The reader should remember that period of disqualification was counted from the date of release from prison. In addition, the possibility that offenders who received a long period of disqualification were reconvicted first for a criminal offence, thus reducing their period "at risk" of committing a drink/drive offence, has been taken into account in the linear models analysis.

(b) Probation as a penalty

So far the discussion of penalties has ignored probation. In 1972, 15 offenders were placed on probation and of these two were reconvicted for drinking and driving. The numbers involved are too small to conclude anything definite about probation as a method for dealing with drink/drivers, although it is interesting that the reconviction rate was 13.3 per cent, the average for the sample.

The linear model did highlight one characteristic of those placed on probation: the two who were reconvicted had BAC's around .22, which is a much higher reading than average. Although based on only two cases, this tendency to higher BAC's was statistically significant. The trend for higher BAC offenders to be more likely to be reconvicted for drinking and driving was not apparent for any other penalty group, and generally BAC was not related to the probability of reconviction.

(c) Social factors

We noted in Section 6.2 that on the basis of simple correlations the probability of reconviction for drinking and driving did not depend on the sex of the offender, his occupational status, BAC, plea, area of residence, whether or not he was legally represented or the number of previous motoring offences he had recorded. The linear model confirmed this pattern, with the exception noted in (b) above for BAC. In addition, the model showed that number of previous drink/drive convictions was not an important predictor, taking into account current convictions and other factors.

The only social factor which was necessary in the model was marital status. The simple correlation of marital status with probability of reconviction for drinking and driving is set out in Table 6.7. As in the earlier analysis of reconvictions for all offences combined, widowed offenders were most likely to be reconvicted, followed by those separated from their spouse and those living in a de facto relationship. The linear model did not affect these patterns substantially, and the effect of adjustment for other factors was not much different from that set out in Figure 6.1.

In addition to driving while disqualified, the linear model tested the possibility that penalties were differentially effective depending on a range of other factors. These factors were age, BAC, number of previous traffic offences and number of previous drink/drive offences. With the minor exception of BAC (noted in (b) above) no other interaction effects were found. There was no evidence that the effects of penalties were moderated by the age of the offender, his BAC, or previous traffic or drink/drive convictions. In fact we have seen that these factors did not enter into the analysis at all, and are therefore not directly useful in determining an appropriate penalty, using a deterrence criterion for sentencing.

(d) The predictive power of the model

It was stressed in Section 6.1 that the linear model constructed to "explain" overall reconviction rates could not be used for the purpose of classifying offenders as good and bad risks, since its predictive power was too low ($R^2 = .08$). The predictive power of the model used to analyse reconvictions for drinking and driving was somewhat higher, at $R^2 = .16$, probably because a more precise criterion was employed. However the power is still not high enough to allocate offenders reliably to high or low risk categories, even though the model includes details of penalties as well as offender characteristics.

To illustrate this point, the model was used to predict for each individual whether or not he was reconvicted in three years.* The error rate is shown in Table 6.12.

Table 6.12 Error rate in prediction of reconvictions for drinking and driving from linear model

	Prediction		
Actual result	Not reconvicted	Reconvicted	Total
Not reconvicted	768	83	851
Reconvicted	88	61	149
Total	856	144	1000

$\phi = .32$

Number of incorrect decisions = 83 + 88 = 171

Note that of those actually reconvicted, more than half were predicted to be not reconvicted. Similarly, the model made more mistakes than correct decisions among those predicted to be reconvicted. The predictive power of the model would be expected to drop even further if applied to a new sample, although the method of analysis employed (simultaneous test procedures and so on) should ensure that the drop, or "shrinkage," would not be large.

* The standard method of discriminant analysis was employed. The mean of the means of the predicted values for reconvicted and not reconvicted groups was used as the boundary point.

CHAPTER 7. PENALTIES AND RATES OF RECONVICTION FOR OFFENCES OTHER THAN DRINKING AND DRIVING.

7.1 Reconvictions for criminal offences

We began the analysis of reconvictions by considering a global criterion of success: was the offender reconvicted for any offence within three years? We saw that penalties were not related to the probability of reconviction, taking offender characteristics into account, but that this was chiefly because such an all-encompassing criterion failed to distinguish major differences between various types of offenders and the offences for which they were reconvicted.

A focus on reconvictions for drinking and driving remedied this defect but yielded mainly disappointing results. For the great majority of offenders who did not have a concurrent conviction for driving while disqualified, type or severity of penalty made very little difference to the probability of reconviction for drinking and driving. It would appear that if drink/drivers are intent on repeating the offence, penalties are irrelevant. These findings are generally consistent with previous research on specific deterrence, which has shown that penalty effects disappear when offender characteristics are taken into account (see Section 3.2).

Of all the offences which were recorded, drinking and driving is one of the most serious. However, we have seen that there is often a close link between committing a drink/drive offence and some kind of criminal offence, and the list of offences in Section 4.5 shows that some of these criminal offences can be quite serious. Consequently, having considered drink/drive reconvictions in some detail, it would now seem appropriate to examine reconvictions for criminal offences. By definition, the majority of non-drink/drive motoring offences which could be committed were less serious than drinking and driving (see Table 4.1), and were also less serious than many criminal offences (even summary offences), so an analysis of factors affecting the likelihood of reconviction for motoring offences is postponed until Section 7.2.

It was noted in Section 5.1 that the great majority of criminal offences for which reconvictions were recorded were summary offences, and so no distinction has been made between indictable and summary offences. Reconviction rates were not related to sex, area of residence, plea or number of previous drink/drive or traffic convictions. There was a pronounced trend for offenders of lower occupational status to be reconvicted at a high rate, although the differences were not statistically significant because of the small number of A and B status offenders None of the seven A status offenders and only three (10.7 per cent) of the B status offenders were reconvicted for a criminal offence, while 15.7 per cent and 20.5 per cent respectively of C and D status offenders were reconvicted. This pattern is similar to that for drink/drive reconvictions, although it is more sharply defined here. However, the correlation between youth and low occupational status should be borne in mind (and note Table 7.2 below).

There was a statistically significant trend for offenders with a high BAC to be reconvicted at a much lower rate for criminal offences than offenders with a low BAC. For example, only 8.1 per cent of the 222 offenders with a BAC over .230 were convicted of a criminal offence, compared with 21.3 per cent of the 141 offenders with BAC less than .115. However, as was noted in Section 6.1, this reflects the tendency for young offenders to record low BAC's and also to be reconvicted more often for criminal offences. The significance of this finding is considered at greater length in Section 7.4.

CONTINUED

1 OF 2

The most obvious feature of the correlation between penalties and reconvictions for criminal offences was the high reconviction rate among those sent to prison - twice as high as for other groups. This high reconviction rate for imprisoned offenders was also reflected in the high rates for those who received a small fine or a long period of disqualification (see Table 7.1).

Table 7.1 Correlations between penalties and reconvictions for criminal offences

Fine ($)	Percentage reconvicted	Disqualification	Percentage reconvicted	Prison/bond	Percentage reconvicted
0	25.6	Up to 3 months	8.6	No prison or bond	15.1
1- 100	20.3	3 months,up to 1 year	17.2	S.554	13.2
101- 200	15.6	1 year, up to 2 years	15.9	S.558	14.0
201- 300	17.4	2 years, up to 3 years	19.2	Prison up to 3 months	29.6
301-1200	18.5	Longer than 3 years	32.5	Prison 3 mths.up to 6 mths	37.1
				Prison longer than 6 mths.	40.9
		S.556A	0.0	Probation	20.0

NOTE: Base numbers for percentages are set out in Table 6.1.

We have seen that the age of an offender was not related to his chances of reconviction for a drink/drive offence. The same is not true for criminal offences - as Table 7.2 shows, there was a strong trend (noted in Section 6.1) for younger offenders to be reconvicted at a much higher rate. Nearly four times as many of the 18-20 year old group were reconvicted as those over 35.

Table 7.2 Correlation between age and reconvictions for criminal offences

	Age				
	18-20	21-23	24-27	28-35	36+
Percentage reconvicted	37.5	27.5	18.3	13.1	10.6
Total	136	138	164	213	349

(χ = 0.40)

In addition to age, a number of other offender characteristics were related to reconvictions for criminal offences. These are set out in Table 7.3. The pattern for most variables is familiar from previous analyses. The most important factors are those which relate to *current* criminal activities; previous criminal record is predictive, but at a much weaker level. The only factor which has not appeared in previous analyses is being legally represented; nearly twice as many of those not legally represented were reconvicted for a criminal offence as those who did obtain legal representation.

Table 7.3 Factors related to reconvictions for criminal offences

Average = 18.4 per cent

	Percentage reconvicted	Base number		Percentage reconvicted	Base number
Legally represented	12.4	404	No criminal record	14.6	507
Not legally represented	22.5	596	Criminal record	22.3	493
Single	24.7	340	No additional charges	12.8	632
Married	12.7	425	One additional charge	23.0	244
Widowed	14.3	7	Two or more additional charges	37.9	124
Divorced	0.0	12			
Separated	20.7	29	Larceny, B.E.S.	52.9	17
De facto	47.4	19	Breach recognizance	43.2	37
Not known	17.9	168	Drive disqualified	33.5	155
			Drive unlicenced	30.1	93

There are undoubtedly a number of reasons why offenders in 1972 were not represented. At that time legal aid was not readily available for drink/drivers, and we would therefore expect that many of the unrepresented group were in that situation by financial necessity rather than by choice. This view is supported by the rise in the level of legal representation since 1972, as several avenues of aid have become available. However, it is also true that many offenders would have regarded a solicitor as a waste of money, preferring to put up with whatever penalty they received. No doubt there are a number of such offenders even today, although research would suggest that they are often the kind of people who are fatalistic about their ability to influence the course of their lives (Vinson, Homel & Barney, 1976) and are often "at risk" in terms of family, health or educational problems. Moreover, it needs to be remembered, particularly in view of the relative youth of many offenders, that some people are not sufficiently experienced or sophisticated in negotiating the criminal justice system to appreciate the importance of obtaining the assistance of a skilled advocate who can put their case in the best possible light.

As with previous offence types, a linear model analysis was undertaken to test the hypothesis that penalties were related to the probability of reconviction. A model similar to that of Section 6.1 was constructed - that is, incorporating interaction terms between penalties and age and BAC. The results of this analysis were very similar to those of Section 6.1. In summary,

(i) The interaction terms were not significant; there was no evidence that penalties had a differential effect on offenders of different ages or BAC's;

(ii) Penalties were not significantly related to probability of reconviction, over and above offender characteristics;

(iii) Age, marital status, having a concurrent conviction for driving while disqualified and being legally represented formed a minimal adequate subset; that is, these offender characteristics were sufficient to "explain" criminal reconviction rates;

(iv) The covariate, being reconvicted for a drink/drive offence was significant (see Section 4.2), but being reconvicted for a non-drink/drive traffic offence was not.

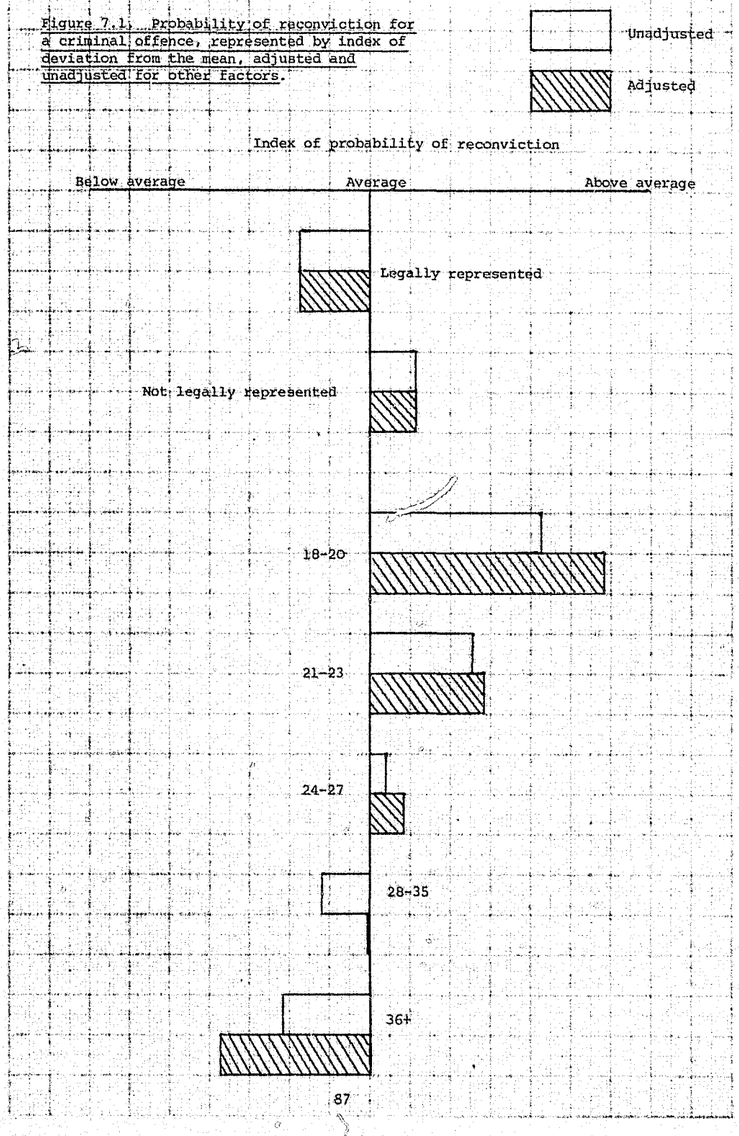
Therefore the main conclusion from this model is the same as for the drink/drive and "global" analyses - penalties do not affect the likelihood of a reconviction for a criminal offence after the characteristics of offenders receiving the various penalties have been taken into account.* The high reconviction rate among those sent to prison can be "explained" statistically by their characteristics - age, current criminal record, and so on. This further supports the argument that, at the very least, imprisonment is not a deterrent, while it undoubtedly has many other unfortunate effects on an offender and his family. Neither bonds, nor fines appear to be more or less effective than prison in preventing reconvictions for *criminal* offences, the figures in Table 7.1 notwithstanding.

It was noted in (iv) above that the covariate (or "nuisance variable") being reconvicted for drinking and driving affected the probability of a subsequent criminal offence, while having a non-drink/drive traffic conviction made no difference to the probability of a subsequent criminal offence. The effect for some categories of offenders was quite marked; for example, the predicted probability of reconviction for a single offender aged 20 who was not legally represented and who did not have a concurrent conviction for driving while disqualified dropped from .42 to .15 if he committed a drink/drive offence within the three years. The most likely explanation for this (as discussed in Section 4.2) is that a number of offenders reconvicted for drinking and driving were imprisoned, thus reducing the time in which they could be convicted for a criminal offence. Including the covariate in the analysis is one way of controlling for the effect of this reduction in the time period during which the offender was "at risk" of committing a criminal offence.

The simple correlations between age, marital status, driving while disqualified and legal representation are set out in Tables 7.2 and 7.3. The linear model analysis allows us to examine the correlation between each of these factors and the likelihood of reconviction, taking into account the contribution of all the other variables. That is, we can (as in Chapter 6) ascertain the effect of each of these factors "in itself," adjusted for inter-correlations between these and other variables. Since the pattern for marital status and driving while disqualified is not markedly different from that set out in Figure 6.1, they are not included in Figure 7.1. (The only differences of note were that widowed and divorced offenders were less likely both before and after adjustment to be reconvicted for criminal offences than for drinking and driving). Figure 7.1 shows the effects of age and legal representation on the probability of reconviction for a criminal offence, before and after adjustment for other factors. Although the pattern for age is the same as in Figure 6.1, the effect of adjustment in this case is to amplify rather than diminish the correlation between age and reconviction rates, young men being more likely, and older men less likely than before adjustment to be reconvicted. In fact, after adjustment age is the best single predictor of being reconvicted for a criminal offence. This could be because they commit more criminal offences or are more noticeable to the police, or both.

* It is possible that if an interaction term involving driving while disqualified (or some other offence type, such as breach recognizance or stealing) and penalties had been incorporated in the model, a result similar to that for the drink/drive analysis would have been obtained - that is, a penalty effect in particular subgroups. Such an hypothesis will be tested in later analyses.

Figure 7.1 Probability of reconviction for a criminal offence, represented by index of deviation from the mean, adjusted and unadjusted for other factors.



82056J—7

As we have already noted, offenders not legally represented had higher reconviction rates. The linear model analysis shows that this is an important variable, over and above such variables as an offender's age, criminal record or occupational status. Adjustment for inter-correlations with other variables makes no difference to the effect of being represented. It does not seem likely that the higher reconviction rate is *caused* by the lack of representation; a more plausible explanation is that legal representation is an indicator of other unmeasured characteristics, some of which were suggested in the discussion of Table 7.3. It is of interest that these characteristics (in addition to age) are related to reconvictions for criminal offences but not to reconvictions for drinking and driving. This implies (what has already been proposed at a number of points in this report) that different kinds of drink/drivers are reconvicted for criminal offences and for drinking and driving, and that the social circumstances and aetiology of these offence types are often distinct. In particular, young men are at risk of reconviction for criminal offences, while older men are just as likely as young men to be reconvicted for drinking and driving.*

7.2 Reconvictions for non-drink/drive motoring offences

So far we have found only limited support for the deterrence doctrine. There is some evidence that for some groups of offenders heavier penalties help to prevent reconvictions for drinking and driving, although the most promising result - the low reconviction rate among those put on a S.554 bond - was not statistically significant. Imprisonment has not been shown to be a deterrent for any offence, and may even encourage reoffending (Sections 6.3 and 6.4).

These findings, and the results of the drink/drive analysis in particular, appear to be generally inconsistent with the preliminary analysis reported by Homel (1979) and summarised in Section 6.2. However, this analysis employed a combined criterion of a reconviction for drinking and driving *or* any other motoring offence, and it is possible therefore that the positive results obtained in the preliminary analysis, especially with respect to the effect of licence disqualification, reflected reconvictions for motoring offences other than drinking and driving. To test this possibility a separate analysis of non-drink/drive motoring reconvictions needs to be carried out.

In analysing motoring reconvictions, it is clearly necessary to adopt a different approach to previous analyses. These does not seem much point in comparing those reconvicted for a non-drink/drive motoring offence with those not reconvicted for such an offence, since the non-reconvicted group would combine people who were reconvicted for drinking and driving or for a criminal offence with those who recorded no offence in three years - that is, it would lump the "worst" and "best" offenders together. We have already seen that penalties generally do not affect the probability that people will be reconvicted for drinking and driving or for criminal offences, and moreover (as was noted in Section 5.1) all motoring offences for which convictions were recorded in three years were less serious than drinking and driving, and therefore were less serious than many criminal offences.

For these reasons, it would seem appropriate to exclude offenders reconvicted for drinking and driving or for a criminal offence from the present analysis, and simply compare offenders reconvicted for motoring offences with those not reconvicted for anything. This means that the analysis is "conditional," excluding offenders who have proven by their performance that they are "bad risks." This method of analysis also gets around the technical problem that for a given

* The predictive power of the model was similar to that of the drink/drive model, with an R^2 of .16. The same comments with respect to prediction for individual offenders apply (see Section 6.5).

offender a conviction for a motoring offence was recorded only if it occurred before the drink/drive offence or if no drink/drive offence was committed by that offender in three years (see Section 4.2).

The reduced sample, which excluded people reconvicted for drinking and driving and criminal offences, consisted of 726 offenders. In this subsample the only penalty which was significantly related to the probability of reconviction for a traffic offence was period of disqualification, although once again offenders who received a S.554 bond were reconvicted at a lower rate than average. Contrary to results for other offence types imprisonment was not associated with higher reconviction rates, suggesting that "high risk" offenders tend to be reconvicted for drink/drive or criminal offences. Amount of fine was not related to reconviction rates and so is not shown in Table 7.4.

Table 7.4 Correlations between period of disqualification and prison/bond, and reconvictions for motoring offences, excluding offenders reconvicted for drinking and driving or criminal offences.

Disqualification	Percentage reconvicted	Base number	Prison/bond	Percentage reconvicted	Base number
Zero (556A)	12.5	8	No prison/bond	16.0	456
Up to 13 days	10.5	19	S.554 bond	8.0	112
14 days	23.5	17	S.558 bond	13.6	44
14 days up to 26 days	46.2	13	Prison up to 3 months	14.8	61
26 days up to 3 months	23.4	94	Prison longer than 3 months	16.7	42
3 months up to 1 year	16.5	176	Probation	0.0	11
1 year up to 2 years	11.7	111			
2 years up to 3 years	10.0	200			
Longer than 3 years	8.0	88			

Few offender characteristics were related to the probability of reconviction. Significant factors are set out in Table 7.5. We have already noted (in Section 6.2) the tendency for offenders with a concurrent conviction for a serious traffic offence to be reconvicted at a high rate for traffic offences, and to be under-represented among those reconvicted for drinking and driving. Excluding offenders reconvicted for drinking and driving and for criminal offences has the effect of making the contrast even sharper, with 32.0 per cent of the serious traffic offenders being reconvicted for a motoring offence. The reader will recall from Section 4.5 that the category "serious traffic offences" included driving dangerously, not stopping after an accident where damage was in excess of $50, and damaging street or property.

Table 7.5 Factors related to reconviction for traffic offences, excluding offenders reconvicted for drinking and driving or criminal offences

Average = 14.3 per cent

	Percentage reconvicted	Base number
Concurrent conviction for a serious traffic offence	32.0	25
No previous drink/drive convictions	20.1	269
Three or more concurrent convictions	21.5	65
BAC less than .12	25.5	94

Offenders convicted of three or more offences were more likely to be reconvicted, as were those without a record for drinking and driving, and those with a BAC below .115. The latter two correlations are somewhat puzzling, but are best understood as reflecting the high reconviction rate among those given a short period of disqualification (up to three months). Neither factor emerged in the linear models analysis.

It is of some interest that offenders with a concurrent conviction for driving while disqualified did not have a high reconviction rate for traffic offences. This was the only offence type for which this was the case. Significantly, the age of the offender was unrelated to his chances of reconviction, consistent with the finding for drink/drive offences. Table 7.6 shows the relationship between age group and proportion reconvicted. The slight tendency for younger offenders to be reconvicted at a higher rate is not statistically significant.

Table 7.6 Correlation between age and probability of reconviction for a motoring offence, excluding offenders reconvicted for drinking and driving or for a criminal offence.

	Age				
	18-20	21-23	24-27	28-35	36+
Percentage reconvicted	19.7	21.1	12.7	12.6	12.4
Total	76	90	118	159	283

($\chi^2_4 = 6.72$, P = .15)

The linear model took the same form as in previous analyses, except that only interactions between penalties and age were included. Age was selected since it is such an important factor in the sentencing process (see Section 2.4). The results of the analysis were:

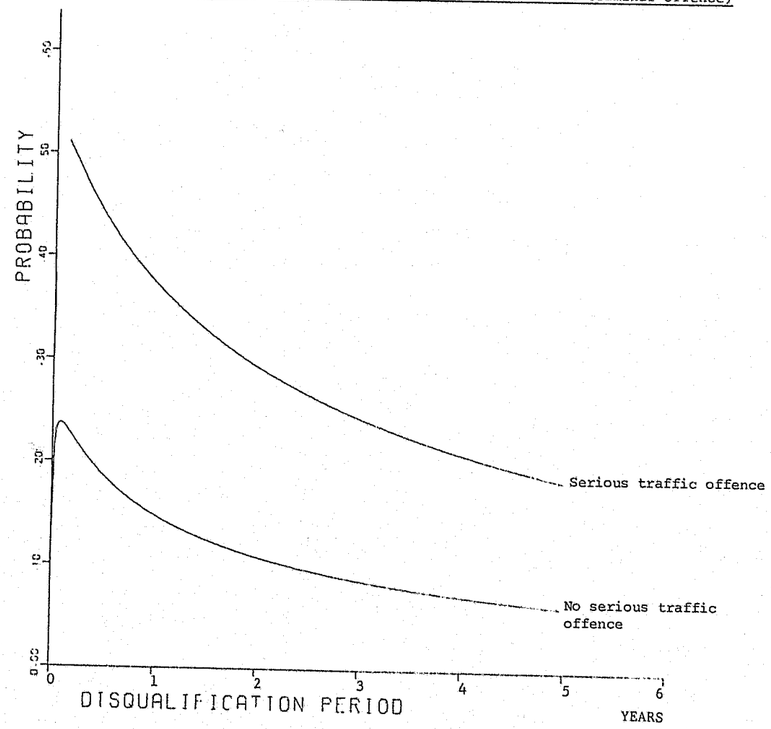
(a) There was no interaction between penalties and age - the effect of penalties was the same for all age groups;

(b) Period of disqualification was significantly related to probability of reconviction, over and above offender characteristics;

(c) The only offender characteristic related to reconviction over and above period of disqualification was having a concurrent conviction for a serious traffic offence.

The linear model is best interpreted by reference to Figure 7.2. This shows the probability of reconviction by period of licence disqualification (up to five years), for offenders with and without a concurrent conviction for a serious traffic offence. The graph for the serious traffic offence group should be read from one month, since this was the minimum disqualification which this group received. The figure shows that for both groups longer periods of disqualification are associated with lower reconviction rates, although after two or three years there is a levelling off, representing a point of diminishing return. The levelling off is most obvious for the majority of offenders without a concurrent conviction for a serious traffic offence.

Figure 7.2 Probability of reconviction for a non-drink/drive motoring offence by disqualification period, for offenders with and without a conviction for a serious traffic offence. (Probability conditional on not being reconvicted for a drink/drive or criminal offence)



The graph also shows that for all periods of disqualification, serious traffic offenders had a higher probability of reconviction than other offenders. The difference between the groups was a maximum for short disqualification periods. For example, at three months disqualification the serious traffic offence group had a predicted probability of reconviction of .48 while the remainder had a probability of .21, whereas at five years the figures were .18 and .06 respectively. The significance of the higher reconviction rates for motoring offences among serious traffic offenders has already been noted (Section 6.2). It suggests the existence of a group of "deviant" drivers who are persistent motoring offenders but who are only drinking drivers occasionally. It is also of interest that serious traffic offenders are no more likely than other offenders to have a concurrent conviction for driving while disqualified. This implies that while the two groups overlap they also consist to some extent of different kinds of offenders.

One apparent anomaly in the results is the low rate of reconviction among those who received a very short period of disqualification in the non-serious traffic offence group. This is also apparent from Table 7.4, where the 27 offenders who received a disqualification shorter than two weeks (including the eight 556A cases) had a very low rate of reconviction. There are three ways of explaining this result.

Firstly, because of the small numbers on which they are based these low rates are not statistically significant, and we can therefore argue that they should be ignored. Taking this approach, the graph shows a steady decline in probability of reconviction from about .21 for disqualification up to one month to .06 at five years disqualification. Secondly, we could take the low rates seriously and argue that they reflect the correct judgement of the magistrate that these 27 offenders were "low risk", and deserved another chance. (This provision is explicit in S.556A of the Crimes Act). On this view, although the linear model has corrected for such factors as previous record, "good character" involves a range of characteristics which have not been measured and corrected for in the model. Thirdly, it would be possible to argue that the low rates of reconviction are a direct result of the short disqualification. After all, we are dealing with a "low risk" group, since offenders reconvicted for drink/drive and criminal offences have been excluded, and it may be that all that is required to bring such offenders into line is an appearance in court, a small fine and a nominal period of disqualification.* Although this argument is an extension of the second, it is less plausible and would require further evidence in its favour before it could be accepted. In view of the small numbers involved, the safest view would seem to be the first, while keeping in mind the second and third arguments as hypotheses to be tested with a larger sample and with more comprehensive data.

It is not easy to infer a precise optimum for period of disqualification from Figure 7.2. It is clear that for both groups there is a diminishing impact the longer the period, but the selection of a particular time is to some degree arbitrary. Table 7.7 summarises the figures for both groups.

* These 27 offenders were more likely than others to be fined less than $100. None were fined more than $300, only two received a S.554 bond and none were imprisoned or put on a S.558 bond.

Table 7.7 Predicted probabilities of reconviction for a motoring offence, for offenders with and without a concurrent conviction for a serious traffic offence, and excluding offenders reconvicted for drinking and driving or for a criminal offence.

Disqualification period	No serious traffic offence	Serious traffic offence
0	.10	Not applicable
4 weeks	.24	.52
6 months	.19	.44
1 year	.15	.38
18 months	.12	.33
2 years	.11	.29
3 years	.09	.24
4 years	.07	.21
5 years	.06	.18

On the basis of Figure 7.2, Table 7.7 and Table 7.4, a disqualification period of around 18 months is probably close to optimum for the non-serious traffic offence group. This corresponds to a reconviction rate of .12 which is half the maximum of .24 at four weeks, and is comparable with the rate for the S.556A group. This rate of .12 can in turn be halved, but only by extending the disqualification period to five years. This is a period which would probably be unacceptable to the majority of magistrates for most offenders, and may have the disadvantage of encouraging the offence of driving while disqualified. This latter point is considered in detail in the next section, where it is shown that periods of disqualification up to 18 months probably do not encourage offenders to drive while disqualified.

The optimum period for the serious traffic offenders is probably longer than 18 months, but there do not appear to be good grounds for going beyond a total of three years disqualification for all offences for which the offender is convicted. Three years corresponds to a reconviction rate of .24, approximately half the maximum, but is nevertheless a long time and may well encourage driving while disqualified, especially among a group who have a proven record of motoring offences.

Summarising and emphasising the major finding of this analysis (which may be regarded as the second major finding of the study):

For offenders who have proven that they are "good risks" by not being convicted for drinking and driving or for a criminal offence in three years, longer periods of licence disqualification correspond to lower reconviction rates for motoring offences, taking other factors into account. The optimum period of disqualification is probably around 18 months, or up to three years for offenders with a concurrent conviction for a serious traffic offence.

It is important to recall the point made in Sections 3.1 and 4.1, that a statistical correlation between severity of penalties and probability of reconviction does not prove that penalties are a deterrent. Firstly, the correlation itself (in a non-randomized study) may conceal the operation of one or more unmeasured variables. This is a real possibility here, since the predictive power of the linear model was only $R^2 = .04$, indicating that there are a large number of factors related to probability of reconviction for a motoring offence which have not been included in the model. Secondly, even if there is a causal connection between period of disqualification and reoffending, the mechanism need not be that of deterrence. One alternative was suggested in Section 3.1.

It is also necessary to keep in mind the distinction mentioned in Section 6.1. Disqualification may be effective simply because it keeps an offender off the road to some extent during his disqualification period, thus reducing the time span during which he is "at risk" of conviction for a motoring offence even if after his licence has been restored he continues to commit traffic offences at the same rate as previously. Alternatively, disqualification may be effective because it has an additional effect on a driver's behaviour after his licence has been restored. The latter effect is presumably the one desired by the proponents of deterrence, since it implies a more long-lasting psychological impact. It suggests that an offender has "learned his lesson," whereas the first possibility implies that an offender is deterred only during his period of disqualification, and is restrained only through fear of being caught for driving while disqualified.

Although limitations of space prevent a full presentation of the data, the weight of evidence supports *both* explanations, at least for disqualification periods up to 18 months. Only eight out of 63 good risk offenders who were disqualified for up to 18 months and who were reconvicted for a motoring offence were reconvicted during their disqualification periods. Moreover, when offenders were followed up for a fixed period of 18 months from the date their licences were restored (and those who drove while disqualified were excluded), those who received the long disqualification periods were *less* likely to be reconvicted than those disqualified for a shorter period. This strongly suggests that for good risk offenders (as defined above) long disqualification periods (up to 18 months) have a greater deterrent effect than shorter periods, and that this effect persists *after* the licence has been restored.

It is clear that there is at least one further major question. How is it possible to determine at the time of sentencing which offenders are "good risks" with respect to criminal and drink/drive offences? It is all very well, on the basis of offenders' actual performances over the three years from conviction, to identify the group for whom disqualification appears to be a deterrent. But can this identification be made on independent grounds?

The simple answer to this question is that reliable identification of "good risks" *on an individual basis* cannot be made using the kind of data collected in this study. This was the point made in Chapter 1 and repeated in several places since - the models which can be constructed from official records do not have sufficient predictive power to label individual offenders correctly as "good or bad risks". At the very best they can be used to identify small subgroups of offenders at either extreme, most of whom either will or won't be reconvicted, leaving the majority in an "undecided" category.

However, it is possible as we have already seen to describe in general terms which factors tend to distinguish offenders reconvicted for drink/drive or criminal offences from the remainder. This does not amount to prediction, but does allow some light to be shed on the characteristics of the subsample of offenders for whom disqualification appears to "work." This information is of limited value to the sentencing magistrate, but it is useful for research purposes since it helps in the development of a typology which can be used for theory building or for suggesting hypotheses to be tested.

The factors which distinguish the two groups - those reconvicted for drinking and driving or criminal offences and those not reconvicted for either of these offence types - are listed below. Since the criterion being analysed here is so close to the combined criterion "reconvicted for any offence" which was discussed in Section 6.1, it is not surprising that these variables are similar to those discussed in Section 6.1. Offenders reconvicted for drinking and driving or for a criminal offence were more likely than other offenders to be:

* Younger - offenders under 21 in particular were much more likely to be reconvicted;
* Widowed, separated or living in a de facto relationship;
* Convicted at the same time as the drink/drive offence for driving while disqualified, breaching recognizance, larceny or break, enter and steal;
* Of lower occupational status, especially D status;
* Of low to average BAC (up to .15), reflecting their youth;
* Not legally represented;
* Recidivist with respect to criminal offences, although not with respect to traffic or drink/drive offences.

Conversely, "good risk" offenders (those not reconvicted for drink/drive or criminal offences) were more likely than others to be:

* Over 35;
* Married;
* Free of concurrent convictions in addition to drinking and driving;
* A or B status;
* High BAC (over .23);
* Legally represented;
* Free of previous criminal convictions.

Obviously these attributes are correlated. Linear models analysis identified age, marital status and driving while disqualified as sufficient to discriminate between the groups. The predictive power of the model was only $R^2 = .12$, which reinforces the comments made above about the unreliability of using this data as a guide to sentencing. To the extent that the analysis provides any guide to sentencing, it suggests that the older, married, white collar or skilled offender with a high BAC and no criminal record should be disqualified for much longer periods than is usual at present. He is relatively unlikely to be reconvicted for a drink/drive or criminal offence, and the longer period of disqualification may, on the evidence of the analysis presented in this section, discourage him from committing a motoring offence, at least for a period.

7.3 Driving while disqualified

The analysis in Section 7.2 implies that substantial periods of disqualification (up to 18 months for most offenders) may be effective in reducing the rate of reconvictions for non-drink/drive motoring offences. However, one clear danger in recommending longer disqualification periods is that offenders may be put under increased pressure to drive while disqualified. Eighteen months is a long time for anyone to be deprived of the use of a motor vehicle, and whereas it is not hard to accept that many offenders may try conscientiously to obey the disqualification order for the first few months, it seems likely their resolve will weaken as time goes by, especially when they realise that their chances of being caught are small.

We have already referred to the literature on disqualification (reviewed by Robinson, 1977 - see Section 3.2), and noted that the proportion of drivers who violate the sanction is probably somewhere between 32 per cent and 68 per cent. In a study of 1552 drivers disqualified in Victoria, Robinson (1977) found a curvilinear relationship between period of disqualification and reported frequency of violations, with the lowest violation rates corresponding to periods less than one month or more than twelve months.

In determining an "optimum" disqualification period, it is necessary to balance reconviction rates against rates of driving while disqualified. Therefore the crucial question is whether, on the assumption that it is undesirable to impose a period of disqualification which will be disobeyed by nearly everyone (since this brings the law into disrepute), it is possible to arrive at an estimate of a period of licence disqualification which has a deterrent effect but which does not itself encourage law-breaking.

It was reported in Section 5.1 that 134 offenders in the present sample were reconvicted for a drink/drive or motoring offence which was committed before the date their licence was to be restored. This represented 50.4 per cent of the 266 offenders in the sample who were reconvicted for a drink/drive or motoring offence. However, after adjusting for the disproportionate stratified sampling structure, the estimated rate of convictions for driving while disqualified drops to 15.4 per cent of those reconvicted and 4.3 per cent of the population of drink/drivers. In other words, if all drink/drivers convicted in 1972 had been included in the study and followed up for three years, about 4.3 per cent would have been reconvicted for some motoring offence (including drinking and driving) committed during their disqualification period. This represents 15.4 per cent of the 28.9 per cent of the population reconvicted for a motoring offence.

For the reasons set out in Section 5.1, the figure of 4.3 per cent underestimates the long term rate of reconvictions for driving while disqualified. Of course even a complete count of reconvictions would only be a small fraction of the number of offenders who actually did drive while disqualified, mostly without being caught. Robinson (1977) found that 30.4 per cent of serious motoring offenders (a category which included drinking drivers) admitted to driving while disqualified when contacted by mail within two or three weeks of their court appearance, but because of the low response rate even this figure should be regarded as an underestimate of the true rate of reoffending.

Official records obviously cannot yield estimates of the true rate at which any offence is committed, since most people aren't caught. However the purpose of the present study is to use official statistics as *indicators* of reoffending, adjusted for factors (such as age and social class) which are related to the probability of apprehension (see Section 2.2). Consequently, before addressing directly the main question - whether the probability of driving while disqualified is related to the length of the disqualification period - it may be profitable to compare the characteristics of offenders reconvicted for driving while disqualified with the characteristics of those who admitted to the offence in Robinson's (1977) study. This comparison could provide general guidance on the extent to which official records present a distorted picture of the offender who drives while disqualified, although the possible bias due to non-response in Robinson's (1977) study should be borne in mind (see Section 3.2).

There are two ways of examining the drive while disqualified offender in the present study. One way is to compare the offender who had a conviction for driving while disqualified at the same time as his drink/drive offence with those who did not have such a conviction. This comparison is quite possible, since although fewer than two per cent of offenders in the population of convicted drink/drivers have a concurrent conviction for driving while disqualified, the method of sampling in this study yielded 155 cases. This comparison is also of considerable interest in view of the results of previous analyses, in most of which the offender with a concurrent conviction for driving while disqualified figured prominently as a "bad risk." The other way of examining the drive while disqualified offender is to use as criterion the commission of a motoring offence before the expiry of the disqualification order. Many offenders with a concurrent conviction for driving while disqualified were also in this latter group, as Table 7.8 shows.

Table 7.8 (Sample) correlation between having a concurrent conviction for driving while disqualified and being reconvicted for a motoring offence committed during the disqualification period.

	Concurrent conviction for driving while disqualified	
	Yes	No
Percentage reconvicted for a motoring offence during disqualification period	36.1	9.2
Number in group	155	845

In interpreting Table 7.8, it is necessary to recall that the chances of being reconvicted for driving while disqualified are strongly related to the period of disqualification. In particular, offenders disqualified for more than three years who were reconvicted for a motoring offence were automatically counted as having driven while disqualified, and there were a number of such offenders among those with a concurrent conviction for driving while disqualified. Nevertheless, it is worth noting that a linear models analysis, using period of disqualification as a covariate, showed that the correlation reported in Table 7.8 is not a simple artefact, although it overstates the correlation. In other words, for a given period of disqualification (less than three years) the offender with a concurrent conviction for driving while disqualified was still more likely than other offenders to be reconvicted for the same offence.

For example, at two years disqualification drive disqualified offenders had a predicted probability of .25 of reconviction for the same offence, whereas other offenders only had a probability of .18. This finding is hardly a surprise, but adds to the list of offences for which drive disqualified offenders were at greater risk of apprehension during the follow-up period. The same linear models analysis also showed that offenders not legally represented were more likely to drive while disqualified, after allowing for the different periods of disqualification which represented and non-represented offenders received.

Table 7.9 summarizes the characteristics of Robinson's sample and compares it with the two groups of drive disqualified offenders identified in the present study. Rather than present all the statistics, which would be very tedious, the table highlights the predominate characteristics of each group (see also Section 6.4). The personal attributes listed were those which occurred most frequently; a majority of offenders would not have possessed all the characteristics simultaneously. Attributes which strongly differentiated drive disqualified offenders from the remainder are marked with an asterisk.

Table 7.9 Predominate characteristics of three groups of drive while disqualified offenders: (A) Offenders who admitted to driving while disqualified in Robinson's (1977) study; (B) Offenders with a concurrent conviction for driving while disqualified in the present study; (C) Offenders who were reconvicted for a motoring offence during their disqualification period in the present study.

(A) Robinson's study	(B) Concurrent conviction for driving while disqualified	(C) Convicted during three year follow-up of driving while disqualified
Aged 20-24	Aged 21-23	Aged 18-27
Single	Single or living de facto	Single or unmarried
Blue collar or unskilled, or in an occupation requiring a car (not professional or managerial)	Unskilled - not A status	Unskilled
Not legally represented	Not legally represented	Not legally represented
* Disqualified two or more times previously	* Two or more previous drink/drive convictions	* Two or more previous drink/drive convictions
	* Five or more previous motoring offences	* Five or more previous motoring offences
	Criminal record	Criminal record
	* Concurrent convictions for criminal offences (especially breaching recognizance)	Concurrent convictions for criminal offences
		* Concurrent conviction for driving while disqualified

Contrary to what we might expect, given the obvious biases of official data, there is a strong measure of agreement between the attributes derived from Robinson's (1977) study and those derived from an analysis of convicted offenders. In fact most of the correlations derived from the official records are stronger than those reported in Robinson's study, indicating that perhaps in his sample non-response bias or concealment in respondents' replies was operating to blur the contrast. All three analyses are agreed on the importance of a previous record of multiple motoring offences as a distinctive characteristic of drive while disqualified offenders and there is substantial agreement that the single, unskilled offender in his early twenties figures more prominently than other age groups or occupational groups. Given the different biases operating to produce the two sets of data, the agreement in the profiles of the person who drives while disqualified encourages the belief that both kinds of data have a certain validity as representations of the "true" situation.

A further point to note is that the attributes listed in Table 7.9 are generally those which were related to reconvictions for criminal offences. The exceptions are having a record for multiple drink/drive or motoring offences, neither of which was correlated with the probability of reconviction for a criminal offence. This similarity suggests that drive disqualified offenders bear an affinity to those with a propensity to commit criminal offences, but are differentiated from this group by having in addition a deviant record for serious motoring offences, including drinking and driving.

To complete our analysis, we need to address the issue of a causal relationship between disqualification period and driving while disqualified. Table 7.10 presents the (sample) correlation between the two variables.

Table 7.10 Correlation between period of disqualification and proportion reconvicted for driving while disqualified, based on three year follow-up from date of initial conviction and weighted for sampling structure.

	Disqualification period						
	Up to 26 days	27 days up to 3 months	3 months up to 1 year	1 year up to 2 years	2 years up to 3 years	Longer than 3 years	Total
Population estimate of percentage reconvicted for driving while disqualified.	0.0	1.9	2.8	6.3	15.7	38.1	4.3
Population estimate as percentage of all those reconvicted for a motoring offence.	0.0	6.0	11.1	18.8	95.3	100.0	15.4
Number in sample from which estimate derived	63	122	239	145	271	160	1000

It is in examining Table 7.10 that the limitations of the present methodology become most apparent. Despite Robinson's (1977) finding that relatively fewer of those disqualified for under one month admitted to driving during their disqualification period, it is hard to believe that none of the 63 offenders in the present sample ventured to drive a car before their licence was restored. A much more likely explanation is that the probability of apprehension is related to frequency of driving, and that two or three weeks is such a short time that the chances of getting caught are negligible, even if offenders do commit offences like drinking and driving. The steady increase in the known incidence of the offence with longer disqualification periods is perfectly consistent with this hypothesis.

Methodological problems of this kind are not peculiar to a study based on reconviction statistics. As Robinson (1977) notes, many of his offenders were disqualified for a year or more but were contacted for the survey within two or three weeks of their conviction. It is quite possible that many people in this group may have decided to drive at some stage after they returned their questionnaire. A survey can only (at best) represent the situation as it

exists for each offender shortly after his conviction.

Fortunately, using a reconviction methodology it is possible to go some way toward solving this problem. First, it is desirable to restrict our sample to those who were "at risk" of being convicted for driving while disqualified. Clearly the majority of the sample who were not reconvicted for a motoring offence in three years could not have been convicted for driving while disqualified in that period. Thus we have restated the problem: of all those reconvicted for a motoring offence in three years (266 cases),what distinguishes the offender who committed the offence within his disqualification period (134 cases) from the offender who committed his offence outside his disqualification period?

Secondly, having restricted the sample to offenders "at risk," we need to *equalise* the risk for each offender. This reduces essentially to equalising (for each individual who was reconvicted) the period "at risk" after the licence was restored and the period "at risk" before that date - that is, the disqualification period. To illustrate this point, consider an offender disqualified for one month. There is a one month period during which he was at risk of driving while disqualified, so we need to follow him for a total of two months after his conviction.

This means that in order to examine the relationship between disqualification period and probability of driving while disqualified, we need not only to restrict the analysis to those reconvicted for a motoring offence but we need to restrict it to those who either committed their offence during their disqualification period (i.e. drove while disqualified) or who committed it in an equivalent time period after their licence had been restored. That is, each offender in this subsample must fall into one or other group - reconvicted during their disqualification period or reconvicted in an equivalent time period afterwards. This implies a third restriction: the analysis can only apply to offenders disqualified for up to 18 months, since the follow-up period was only three years.

In fact there were 58 offenders who met all three conditions, covering periods of disqualification from one month to nearly eighteen months (542 days). Of these 58 offenders, 15 committed their offence before their licence was restored. The sample, being restricted to those disqualified for less than 18 months, excluded many of the more serious offenders. For example, there were only two offenders with a concurrent conviction for driving while disqualified. Twenty eight were reconvicted for drinking and driving.

Since by careful selection of offenders we have adjusted for the varying disqualification periods (up to 18 months) which offenders received, it is now possible to test the null hypothesis that disqualification period was unrelated to the chances of driving while disqualified. Table 7.11 sets out the relationship.

Table 7.11 Correlation between period of licence disqualification and proportion reconvicted for driving while disqualified, conditional on: (i) disqualification period being no longer than 18 months; (ii) offender being reconvicted for a motoring offence within a time period equal to his disqualification period.

	Disqualification period			
	Up to 6 months	6 months up to 1 year	1 year up to 18 months	Total
(Unweighted) percentage reconvicted for driving while disqualified	16.7	34.8	23.5	25.9
Base number	18	23	17	58

($\chi^2_2 = 1.80$, P> .10)

Table 7.11 shows that the correlation is not significant; that is, there is no evidence, on the basis of this sample of 58 cases, that length of disqualification (up to 18 months) is correlated with the probability of being reconvicted for driving while disqualified*. Although it is very interesting that the percentages follow the same curvilinear pattern as in Robinson's (1977) study, with lower reconviction rates for both short and long periods of disqualification, the sample is not large enough for this pattern to be significant.

It remains to determine which factors do distinguish the 15 drive disqualified offenders from the remainder. We listed a number of factors in Table 7.9, but these do not necessarily apply since the present analysis is conditional on offenders being reconvicted for a motoring offence and applies only to those who were disqualified for a period shorter than 18 months. Neither bonds nor fines had any impact on the probability of driving while disqualified, and systematic examination of all other variables showed that only BAC was significantly correlated. High BAC levels corresponded to the highest probabilities and BAC's below .14 to the lowest probabilities of driving while disqualified. For the 30 offenders in the range .15 to .25, there was no relationship between BAC and probability of driving while disqualified.

In summary, the data suggests that when adjustment is made for the variable periods for which offenders were "at risk" of driving while disqualified, there was no statistically significant relationship between disqualification period (up to 18 months) and probability of driving while disqualified. Given the relatively small numbers on which this analysis was based it would be unwise to be too dogmatic, and moreover it is not possible to conclude anything about the effects of disqualification periods longer than 18 months. Nevertheless, the great majority of drink/drivers are disqualified (at the time of writing) for a period considerably less than 18 months (the default or statutory period for a first offence in New South Wales is one year), and therefore to the extent that the present analysis is

* This was confirmed by maximum likelihood analysis, taking the actual period of disqualification as independent variable and driving while disqualified as a binary dependent variable. Fitting the logarithm of disqualification as a cubic polynomial, $\chi^2_3 = 3.34$. The biserial correlation between disqualification period and reconviction for driving while disqualified was .11.

reliable, the findings apply to all but a few offenders.

As Robinson's (1977) review of the literature made clear, the evidence from previous research into the effects of licence disqualification, based both on official records and on surveys, is contradictory with respect to the relationship between disqualification period and driving while disqualified. A careful examination of the methodologies of these studies would be necessary before any judgement could be made about the causes of these inconsistencies. If we restrict our attention to Australian data, then there is a broad measure of agreement between Robinson's (1977) findings and the data in Table 7.11, even though the latter is not statistically significant.

Perhaps the most important conclusion we can draw from both studies is that disqualification periods of one year or longer (up to at least 18 months) do not appear to be associated with as high rates of driving while disqualified as we might expect a priori. Thus our worst fears about the deleterious effects of periods of disqualification longer than a few months do not seem to be supported from the available Australian evidence. There would therefore seem to be no obvious grounds (from the standpoint of deterrence) for rejecting the suggestion in Section 7.2 that disqualification periods up to about 18 months could profitably be imposed on many offenders. Note however that it is necessary to reserve judgement about the effects on the probability of driving while disqualified of disqualification periods longer than 18 months. In any case such long periods are at best only marginally better as a deterrent than periods shorter than 18 months.

7.4 Towards a typology of the convicted drink/driver

Like all legal and administrative categories, a record for "drinking and driving" is a label which applies to people who are otherwise quite varied in characteristics and behaviour. Even on the basis of the limited data available from official records, it is apparent that convicted drink/drivers are a mixed group, with some responding (it seems) to penalties and some not responding. It would assist in our understanding of why people drink and drive if it were possible to abstract from the data a classification or typology of offenders which was capable of reducing the complexity of the observed correlations.

As was noted in Section 2.3, there is much debate in the literature about how convicted drink/drivers *should* be classified, and apparently little consensus. One aim of the present study is to contribute to this debate by suggesting a typology which is based both on offender characteristics and on reactions to penalties, while recognizing that much more sophisticated social and psychological data would be required to confirm (or correct) the suggested groupings. We will show that six groups of offenders can be identified in the present sample, although there is necessarily some degree of overlap between them. Groups can be identified by certain predominate characteristics, but in every case there are a number of offenders who could be assigned equally well to one or more categories. The essential "fuzziness" of the dividing lines between groups should be kept in mind.

We have already gone some distance towards reducing the complexity of the findings by constructing linear models which contain only the "essential variables," and it would therefore seem appropriate to begin by reviewing those aspects of previous analyses which are most pertinent to the problem of constructing a typology of offenders.

A comparison with the general driving population and with those convicted of criminal offences at Magistrates' Courts shows that drink/drivers are "mid-way" between these two groups in terms of age and criminal record (see Section 2.3). Convicted

drink/drivers tend to be younger than the average motorist but older than other criminal offenders, while fewer of them have a criminal record than is usual for Magistrates' Court offenders. This finding is consistent with the hypothesis that some drink/drivers are "normal motorists" who apart from their conviction for drinking and driving are otherwise law-abiding, or perhaps more preciseiy that there are more drink/drivers than offenders of other kinds who are otherwise law-abiding. It is equally consistent with the two further hypotheses that some drink/drivers are older problem drinkers or alcoholics who repeatedly drink and drive but who do not commit criminal offences, and that some drink/drivers are specialist motoring offenders.

The existence of a group of drivers who will henceforth "go straight" in all respects (or who at least will not get caught) is supported by the analysis of long-term reconviction rates reported in Section 5.2, where it was shown that somewhere around 40 per cent of offenders will never record another conviction for anything. The precise value of this figure is not important; it is sufficient for our present purposes to know that there are some offenders in this category. Of course only some of those who will never be reconvicted will never reoffend, and in theory it is possible that all of the 40 per cent will reoffend without getting caught. This is unlikely, however, especially if very minor traffic offences are excluded.

From the analyses of Section 6.1 and Section 5.2 we can infer that the "never convicted again" driver will (more likely than not) have no concurrent conviction for driving while disqualified or for serious traffic or criminal offences, and that he will tend to be a married man in his thirties or forties. However it is important to remember that as many as a third of the offenders with a concurrent conviction for driving while disqualified will never be reconvicted for anything, and that therefore at least some of them can be numbered among those who will henceforth "go straight." Nevertheless the "never convicted again" offender is generally similar to the "good risk" offender described in Section 7.2. He will tend to be white collar in occupation and legally represented, although again it is necessary to remember that 60 per cent of the unskilled offenders remained free of convictions for three years. Since he is older than average,he is quite likely to have previous convictions for drinking and driving or for motoring offences, and may well have recorded a high BAC at his last conviction for drinking and driving. He is less likely than average to have a *criminal* record.

It is possible that the "never convicted again" drivers learned their lesson after one or more convictions, but it is equally possible that they "grew up" or moved out of the social group which encouraged certain types of offences. A number of them would have received long disqualification periods (a year or more) but the low reconviction rate among the eight S.556A offenders should be kept in mind (only one was reconvicted, for not complying with a traffic light signal). Whether the "never convicted again" drivers have been deterred by penalties is ultimately a matter for conjecture in the absence of any information on a matched group of offenders who have never been caught or punished. (This is the distinction between "absolute" and "marginal" specific deterrence referred to in Section 3.1.) The analysis of Section 7.2 would suggest that "good risk" offenders, some of whom are among the "never convicted again" group, are responsive to disqualification and that it therefore acts as a deterrent. In view of the data presented in Section 2.2, an equally likely explanation is that the drivers who will never be reconvicted, being older and of higher occupational status, may be "less visible" to the police than younger lower status offenders, and may therefore escape detection even if they commit motoring offences (including drinking and driving) from time to time. In any case, the point of the present argument is that there is a group who have ceased to come to the attention of the law, regardless of the cause.

A group of "good risk" offenders closely related to the "never convicted again" drivers are those who continue to commit minor traffic offences, but who steer clear of criminal offences or serious motoring offences such as drinking and driving or driving while disqualified. We might label this group "minor motoring offenders." Since we are considering a wide range of common offences, such as negligent driving and speeding, the "minor motoring offender" is likely to be much more common than the "never convicted again" driver. Unlike the "never convicted again" driver, the "minor motoring offender" is indistinguishable from other offenders in terms of age, marital status, occupational status, BAC or likelihood of being legally represented. He is, in other words, the "average drinking driver" in many respects. He is unlike the majority only in that he is*less* likely to have a current conviction for criminal offences or driving while disqualified, and he is *less* likely to have a record of convictions for drinking and driving. He is average with respect to current or previous traffic offences, but appears to be responsive to licence disqualification.

Just as the data implies the existence of two "good risk" groups (minor motoring offenders and those who will never be convicted again) it is even more clear that at the other end of the spectrum some offenders are "dedicated or specialist drinking drivers"who are undeterred by penalties and are probably alcoholics. The analysis of Section 6.3 showed that for the majority of offenders without a concurrent conviction for driving while disqualified, neither type nor severity of penalty made much difference to the likelihood that an offender would be reconvicted for drinking and driving. "Dedicated drinking drivers" seem to be drawn from all occupational groups, and to the extent that legal representation is an indicator of income, from all income groups. Offenders who were separated, widowed or living in a de facto relationship were more likely than others to be reconvicted for drinking and driving, indicating the importance of domestic stress or unstable personal relationships, but contrary to what we might expect BAC was not particularly useful in differentiating those reconvicted from those not.

This latter finding appears to be inconsistent with the contention that "dedicated drinking drivers" are mostly alcoholics, if we take a high BAC reading as evidence of alcoholism. High BAC offenders were no more likely than those with a low BAC to be reconvicted for drinking and driving. However, there are a number of other indications that alcohol is a particular problem for this group. For example, offenders with two or more previous convictions for drinking and driving were nearly twice as likely as others to be convicted for the same offence again (see Table 6.7), indicating that for some offenders drinking and driving is a persistent behaviour pattern. In addition, those reconvicted for drinking and driving tended to record much higher BAC's than average at their second offence. Only 79 of the 149 offenders reconvicted for drinking and driving had their second BAC recorded in the Motor Transport or CIB records, but the mean BAC among these was very high, at .278. This compares with a mean of .16 for the drink/driver population and a mean of .18 for the 1000 offenders in the present study. Moreover, we noted in Section 7.3 that offenders with a high BAC were more likely to be reconvicted for driving during their disqualification period, indicating that they were probably not in control of either their drinking or their driving.

More direct evidence in support of the thesis that the persistent offenders are alcoholics is provided by an analysis of factors which distinguish one kind of offender from another. More precisely, we can examine the ways in which *reconvicted* drink/drivers (359 cases) differ among themselves. For example, what factors are related to being reconvicted for a criminal offence as opposed to a drink/drive offence? How do those who were reconvicted for more than one type of offence differ from those who were specialist offenders? This approach should provide information which complements the findings reported previously, all of which have been based on a comparison of those reconvicted with those not

reconvicted. It will also be useful for practical reasons to examine what kind of offender was reconvicted for which kind of offence *first*.

The factors which were most predictive of reconvictions for drinking and driving as a first offence were age, BAC, number of previous drink/drive convictions and having a record for driving while disqualified. Neither type nor severity of penalty made any difference to the kind of offence for which offenders were first reconvicted. For example, offenders sent to prison who were reconvicted were no more or less likely to be reconvicted for drinking and driving as a first offence than were other groups of offenders.

All age groups were equally likely to be reconvicted for a traffic offence as their first offence. However, young men were more likely than older men to be reconvicted first for a criminal offence, while older men were more likely to be reconvicted first for a drink/drive offence. These results are set out in Table 7.12.

Table 7.12 (Sample) correlation between age and type of offence for which a conviction was first recorded, for those reconvicted only

	Age (%)					
First reconvicted for:	18-20	21-23	24-27	28-35	36+	Total
Motoring offence	35.2	34.4	32.2	31.0	39.2	34.8
Criminal offence	47.9	47.5	39.0	23.9	26.8	35.9
Drinking and driving	16.9	18.0	28.8	45.1	34.0	29.2
Total reconvicted	71	61	59	71	97	359

The most likely explanation of this pattern is that young men commit a greater variety of offences than older men, particularly criminal offences. This explanation is supported by the fact that (of those reconvicted) 19.9 per cent of men aged 18 to 20 were reconvicted of more than one type of offence, while only 4.9 per cent of men older than 36 were reconvicted for more than one type. It is also possible that delinquent acts committed by young men (such as damage to property or assault) are more likely to come to police attention than the offence of drinking and driving.

If this explanation is correct, then it confirms the existence of a group of predominantly older men who specialize in drinking and driving, while suggesting the existence of another group of mainly young men for whom drinking and driving is merely one offence in their repertoire. This view is supported by two additional correlations. First, among those reconvicted, offenders with a high BAC were nearly twice as likely to be reconvicted for a drink/drive offence first as offenders with a low BAC. As Table 7.13 shows, there is a clear relationship between BAC and the probability of committing a drink/drive offence first. Moreover, high BAC offenders, being mainly older, are very unlikely (3.6 per cent) to commit a variety of offences - that is, they continue to re-offend for drinking and driving only.

Table 7.13 Relationship (in sample) between BAC and probability of being reconvicted for drinking and driving first, for those reconvicted only

	BAC				
	.080-.115	.120-.155	.160-.185	.190-.225	.230-.400
Percentage reconvicted for drinking and driving first	24.6	20.0	25.6	38.0	40.3
Total reconvicted	69	75	82	71	62

The second correlation, which is perfectly consistent with the typology suggested, is that offenders with a record of two or more drink/drive offences were rather more likely to be reconvicted first for a drink/drive offence. The relationship was not as strong as for BAC, but it was still clear: 38.1 per cent of offenders with two or more previous convictions fell into this category, compared with 28.6 per cent of those with one previous conviction and 24.4 per cent of first offenders.

What all this adds up to is a picture of the "dedicated drinking driver" as an older man with a high BAC, two or more previous drink/drive convictions and a strong tendency to commit no offences other than drinking and driving. This does not prove that he is an alcoholic or problem drinker, but it seems the most likely explanation.

Before leaving the "dedicated drinking driver" group it is worth noting that they are probably a minority among all convicted drink/drivers. We saw in Section 5.2 that only about a quarter or a fifth of drink/drivers will eventually be reconvicted for the same offence. This implies that only a minority continue to offend on a regular basis, since it is necessary to repeat the offence to have a high chance of getting caught. It is also quite possible that many drink/drivers are alcoholics who do not fall into the "dedicated drinking driver" category. However, in order to identify these offenders it would be necessary to have finer measures than BAC and previous drink/drive convictions. The converse hypothesis seems well established; namely, that the majority, if not all, the persistent drink/drivers are problem drinkers or alcoholics.

We noted above that there is evidence for the existence of a group of young offenders who commit a variety of criminal offences, drinking and driving simply occurring along the way. This fits with the analysis of Section 6.4, where it was suggested that offenders gaoled for more than six months were probably better described as "criminal" or "anti-social" rather than "problem drinkers," since they were not distinguished by an excessive number of previous drink/drive or traffic convictions, and they had only average BAC's but were very likely to have a past or current criminal record. It is also consistent with the findings of Section 7.1, where it was shown that the factors which were predictive of a reconviction for a criminal offence were generally *not* predictive of a reconviction for a drink/drive offence.

"Criminal offenders" share with the "dedicated drinking drivers" the characteristics of being unaffected by type or severity of penalty and also of being

more likely than other groups to be single, separated or living in a de facto relationship. Beyond this, however, there is a strong tendency for them to be young (under 20) with a criminal record and concurrent convictions for offences like larceny, break, enter and steal and breaching recognizance. In addition, they tend to record *low* BAC's, are mostly of low occupational status (especially unskilled) and are less likely to be legally represented than other offenders. This last characteristic probably reflects low income as well as attitudes of conflict with authority and a lack of sophistication in knowing how to negotiate situations to their best advantage. Finally, the "criminal offender" is likely to come into conflict with the law in a number of ways, and one has the impression that drinking and driving is often an incidental part of a much wider range of illegal or antisocial activities.

So far then we have identified the "never convicted again" driver, the "minor motoring offender," the "dedicated drinking driver" and the "criminal offender." Two other groups can be identified: the "serious motoring offender" and the "drive disqualified offender." The existence of the "serious motoring offender" was established in Sections 6.2 and 7.2, where the characteristics of those with a concurrent conviction for a serious traffic offence (dangerous driving etc) were noted. If we take these latter offenders as the most extreme examples of the "serious motoring offender," then we see that this group is less likely than average to be reconvicted for drinking and driving but is much more likely than others to be reconvicted for a non-drink/drive traffic offence. He is no more likely than others to have a past or current criminal record, despite the fact that he is considerably younger than other offenders (probably under 24), but he is more likely to have concurrent convictions for both minor traffic offences (speeding etc) and for offences like assaulting police, resisting arrest or offensive behaviour. He is drawn from all occupational and income groups (using legal representation as an index of the latter).

In discussing the "serious motoring offender" it is important to recall that we are describing a small minority of offenders. Only about 2.6 per cent of offenders record a conviction for serious traffic offences at the same time as their conviction for drinking and driving, and even allowing that a conviction for a serious traffic offence is only one manifestation of the "serious motoring offender," they are probably still relatively few in number. Most of them probably occur in the "good risk" group defined in Section 7.2, but are atypical of the majority of motorists in this group in that they are young and likely to record convictions for offences like resisting arrest. The reader will recall that young men were generally no more likely than older men to be reconvicted for a non-drink/drive motoring offence.

Apart from his tendency to commit motoring offences in preference to drinking and driving or criminal offences, the "serious motoring offender" is distinguished from the "criminal offender" and the "dedicated drinking driver" by being (apparently) responsive to licence disqualification. Although there are too few serious motoring offenders in the sample to establish firm conclusions, the analysis of Section 7.2 indicated that many offenders who did not commit drink/drive or criminal offences were deterred or delayed in committing traffic offences. On the other hand the "serious motoring offender" is like the "criminal offender" in being young, this being one of the major differences between both those groups and the "dedicated drinking drivers."

The relative youthfulness of the "serious motoring offender" and the "criminal offender" may be a partial explanation for their tendency to be convicted for offences like assaulting police and resisting arrest. As Macmillan (1975) notes:

> "The youngest drivers are more competitive and aggressive, they drive faster, and they are more tolerant of 'moving' motoring offences and non-motoring offences." (p 191).

It is reasonable to suppose that these attitudes, especially an aggressive stance, spill over from their road behaviour to their interaction with the police, particularly if alcohol is present as an aggravating factor. It is noteworthy that offenders reconvicted for drinking and driving, and by implication the "dedicated drinking drivers," were *not* more likely to record these kinds of convictions than other groups. This is consistent with our view of these offenders as older and "non-delinquent" in other respects than drinking and driving.

The final group which stands out in the present study is the "drive while disqualified" offenders. We have seen that these offenders tended to be reconvicted at a higher rate, and were reconvicted more quickly. They were particularly at risk of being reconvicted for drinking and driving and for criminal offences, although they were no more likely than other offenders to commit other motoring offences. They were also more likely to repeat the offence of driving while disqualified. A full description of this group is provided in Section 7.3, where it is shown that drive disqualified offenders seem to combine the characteristics of the "criminal offender" and the "dedicated drinking driver." They were, in short, the most "deviant" group to emerge in the study, although on the positive side they did not commit motoring offences at a higher rate and they did seem to be responsive to heavy fines (Section 6.4).

Having identified the six groups of offenders, it is possible to organise them into a pattern, as in Table 7.14.

Table 7.14 Overview of typology of convicted drink/drivers

	Increasing range and seriousness of offences for which offenders will be reconvicted →		
Never reconvicted for drinking and driving/generally responsive to licence disqualification	(A) Never convicted again driver	(B) Minor motoring offender	(C) Serious motoring offender
Eventually reconvicted for drinking and driving/generally not responsive to penalties	(D) Dedicated (or specialist) drinking driver	(E) Criminal offender	(F) Drive disqualified offender

The simplest way of distinguishing the groups is to separate those who will eventually be reconvicted for drinking and driving from those who will not (or who probably will not). This method of classification also corresponds (more or less) to whether or not offenders are responsive to penalties, although the apparent impact of fines among the drive disqualified group is an exception to this rule. Within each of these two categories there are three groups, which can be arranged in order according to the range and seriousness of offences for which their members will probably be reconvicted. Thus those offenders who will probably never be reconvicted for drinking and driving can be ordered from the "never convicted again" to the "serious motoring offender", while those reconvicted for drinking and driving can be ordered from the specialist offender to the drive disqualified offender who commits practically every kind of offence.

The detailed characteristics of each of the six groups are summarised in Table 7.15.

Table 7.15 Predominate characteristics of the hypothesised six groups of convicted drink/drivers

	(A) Never convicted again driver	(B) Minor motoring offender	(C) Serious motoring offender
Personal characteristics	* Married * Aged 35 and above * Recorded a *high* BAC * Tendency to be white collar and legally represented	* Drawn from all age groups and in most respects the "average" convicted drink/driver	* Under 24 * Drawn from all occupational and income groups
Previous and current record	* Has record for drinking and driving and for motoring offences * Has no previous or current criminal record * Not currently convicted of driving while disqualified * Not currently convicted of motoring offences	* Less likely to have previous drink/drive conviction * Not currently convicted of driving while disqualified or criminal offences	* Has current convictions for motoring offences, some of them serious. * Has current convictions for offences like resisting arrest and offensive behaviour * Has criminal record
Response to penalties	* May have been deterred by disqualification	* Responsive to disqualification * Likely to be reconvicted for a minor motoring offence	* Responsive to disqualification * Unlikely to be reconvicted for drinking and driving *Likely to be reconvicted for a motoring offence and for a criminal offence

Table 7.15 (continued)

	(D) Dedicated drinking driver	(E) Criminal offender	(F) Drive disqualified offender
Personal characteristics	* Possible marital disruption * Older than 30 * High BAC * Drawn from all income and occupational groups	*Single, separated or living in a de facto relationship * Under 24 * Low BAC * Low income and unskilled	* Single or living de facto * Under 24 * Unskilled and low income * All BAC levels
Previous and current record	* History of two or more drink/drive convictions * Doesn't commit criminal or motoring offences	* Previous and current criminal record * "Average" record for motoring and drink/drive offences * Concurrent convictions for driving unlicenced	* Two or more previous drink/drive convictions * Five or more previous motoring offences * Criminal record * Concurrent convictions for driving while disqualified * Concurrent convictions for criminal offences
Response to penalties	* Undeterred by penalties * Likely to be reconvicted for drinking and driving	* Undeterred by penalties * Likely to be reconvicted for a criminal offence * Likely to be reconvicted for drinking and driving	* Responsive to heavy fines * Likely to be reconvicted for *all* kinds of offences

In interpreting Tables 7.14 and 7.15, the reader should remember that the groups are "blurred" at the edges, and that some offenders may be able to be assigned to more than one group. This is where there is a need for more detailed data. The groups are also based mainly on the current and future behaviour of offenders, rather than on their previous records. Although the correspondence between previous record and group membership is generally what would be "expected," there is considerable overlap between the groups. For example, many offenders in all groups had a record for motoring offences or for drinking and driving, and therefore this information is of limited value in distinguishing one kind of offender from another.

Moreover, the typology revolves around "reconvictions" rather than "reoffending." It would probably be possible to substitute the latter for the former term without altering the typology drastically, but it seems more sensible, in a study based on reconviction data, to be cautious in what is claimed. Obviously some modifications would be required if the typology was reformulated in terms of reoffending. For example, the "never convicted again" group would have to be split into the genuinely reformed or deterred and those who reoffend without being caught.

Finally, it is not possible or desirable in the present study to determine exactly how many offenders there are in each group. This is partly because of the overlap between groups, and partly because reconviction rather than reoffending is used as a criterion. For example, offenders convicted for driving while disqualified are relatively few in number, but we have seen that surveys suggest that as many as 60 per cent of offenders may commit the offence (although as was shown in Section 7.3, the characteristics of those admitting to the offence and those caught are similar). The analysis at this point is intended to be qualitative rather than quantitative.

To conclude this section, it is instructive to compare the typology which has emerged from the present study with the groupings of offenders which Willett (1964) found in his study of British motorists. Willett studied 653 offenders who had been convicted of causing death by dangerous driving, driving while disqualified, driving under the influence of drink or drugs (104 cases), driving dangerously or recklessly, failing to stop after or to report an accident and failing to insure against third party risks. Although he did not attempt to divide offenders into groups as systematically as in Table 7.15, we can note a number of parallels with his findings.

Willett found that the drunken drivers were noticeably older than his other offenders (with the exception of those who failed to stop after an accident). The average age of the drunken drivers was 46, which is older than the average of 30 in the present study, but is consistent with our picture of the "dedicated drinking driver." Since Willett's(1964) study was carried out before the introduction of the breathalyser in England, it is likely that his drunken drivers would have repeated the offence many times to get caught, and would have been very obvious by their behaviour. In other words, they were probably the more serious drunken drivers at the time, and are therefore akin to our group of "dedicated drinking drivers."

The drive disqualified offenders in Willett's (1964) sample also seemed to be very similar to those in the present study. Of the 69 offenders in his study, 94 per cent worked in manual occupations, and 54 per cent in unskilled manual occupations. This parallels the present findings closely. Moreover, Willett found that his drive disqualified group, just like those in the present study, were the least law-abiding of the six offence groups, being involved in criminal offences such as taking vehicles without consent and a range of property offences.

> "However, they seemed to commit fewer of the "driving" offences (dangerous or careless driving, driving under the influence, or failing to stop etc) than the offenders in the other offence groups." (p 215)

With the exception of their tendency not to drink and drive, this is also generally consistent with the present study. Although drive disqualified offenders in the present study generally had a record of multiple motoring offences, they were no more likely than others to have current convictions for motoring offences, and were slightly less likely to be reconvicted for non-drink/drive motoring offences. The difference in propensity to commit drink/drive offences is probably explained by the fact that all the drive disqualified offenders in the present study have already been convicted for drinking and driving.

There is one further parallel with Willett's (1964) findings. He noted the existence of a group he called "recidivist motoring offenders," whose behaviour in respects other than motoring was generally lawful. In addition, he found that the dangerous drivers were most likely to have previous motoring convictions.

These results seem generally consistent with our picture of the "minor motoring offenders" and the "serious motoring offenders." Dangerous drivers were included in the present study in the category "serious motoring offender" and we have already noted the tendency of this group to be reconvicted for motoring offences.

The fact that at least some of the suggested groups appear in a study of a wider range of motoring offenders implies that they represent a pattern which is generally applicable to offenders convicted of serious motoring offences (using Willett's definition). If the proposed typology is validated by further studies, it should be relevant to those involved in sentencing or rehabilitating drink/drivers. At the very least, our early hypothesis (Section 2.3) that convicted drink/drivers are not all alike would seem to be confirmed.

CHAPTER 8. THE SUBJECTIVE EXPERIENCE OF PUNISHMENT

8.1 Perceived severity of penalties

The point was made in Section 4.3 that the severity of any penalty, regarded as an "absolute," may be quite different from its severity as perceived by a particular offender. To repeat the extreme example already cited, six months imprisonment is always a tougher penalty than a fine, but would probably be perceived quite differently by the first offender and the recidivist. More realistically, consider the example cited by Willett (1964, p. 283). One of the drink/drivers he interviewed was fined £50 and disqualified for two years. This particular offender thought his sentence was quite unjust, since he had only had a slight collision with one car, while another offender whose case had just been reported in the local paper had hit three cars and did not stop or report, yet had been fined only a few pounds and had been disqualified for three years.

"Surely my offence does not compare as closely with his as the two sentences would suggest?", was his comment.

Although we don't know the reactions of the second offender, it is quite possible that he regarded his punishment as "deserved" or even "lenient." This would mean that although formally he received the heavier penalty, in terms of the subjective experience he was treated less severely than the first offender who considered himself unjustly dealt with in comparison.

This is a point of great importance, and appears to have been ignored by many previous researchers. As Brody (1979) has commented (in the context of general deterrence):

"One serious omission in research is failure to investigate subjective assessments of unpleasantness, which need not necessarily coincide with legal standards."

As we pointed out in Section 4.3, a penalty is never imposed in a vacuum, but is imposed on a human being with a certain social background and probably a general feeling as to what he "deserves" in the way of punishment. People are not just organisms which respond to stimulii; rather they engage in a continuous process of interpretation and evaluation, acting toward things on the basis of the meanings that the things have for them (Blumer, 1969). There is an essential difference between an electric shock and a judicial penalty, since the judicial penalty is perceived in terms of an offender's "world taken for granted," which comprises both his previous experience and his understanding of the customs and rules operating in the society of which he is a member.

The only completely satisfactory way around this problem is to discuss with each offender his perception of the justice of the penalty which he has received, and in fact the whole meaning of his offence, conviction and sentence. This approach was not available in the present study, but an attempt has been made to develop a surrogate measure of "perceived severity" using the data available in Police, Motor Transport and Court records. This method, which was built in to the original design of the study, was outlined in Section 4.3, and is described in more detail in Section 8.2 below.

The justification for the analyses reported in Chapters 5, 6 and 7 is that we can probably assume a rough degree of correspondence between "objective" severity and severity of punishment as it is perceived by the offender. Imprisonment probably is perceived as a tougher penalty than fines by nearly all offenders, and a disqualification period of ten years is unlikely to be regarded by many drink/drivers as more lenient than a S.556A dismissal.

The purpose of the present chapter is to relate reconviction rates to the surrogate measures of perceived severity. To the extent that the results of this chapter agree with the findings reported in previous chapters, we may have confidence that the "actual" penalties generally reflect subjectively perceived severity. Conversely, any discrepancies between the results yielded by the two approaches should provide a warning that the situation is more complex, and that further research is required to establish the relationship between objective and perceived severity.

8.2 Constructing indices of the perceived severity of a penalty

In the absence of direct information on each offender's fcelings about the penalty he has received, it is necessary to make some assumptions about the sentencing process and how offenders evaluate their court experience. A clue to the present approach may be found in the comments of the drink/driver in Willett's (1964) study, quoted in Section 8.1.

It seems reasonable to suppose that each offender has at least a vague notion of what he "deserves" in the way of punishment, although what he would regard as a fair penalty may vary between wide limits. For example, a second offender could expect to receive a tougher penalty than he received the first time; an offender with a very high BAC might expect to be dealt with more severely than someone who was just over the limit. Furthermore, it seems reasonable to assume that this notion of a "fair" penalty is related to the "going rate" for an offence of a certain level of seriousness, seriousness being measured by BAC, previous convictions and so on.

Offenders will almost certainly not be aware of the latest statistics on penalties, but it would be surprising if their expectations of punishment did not, on average, have a reasonable correlation with the penalties actually imposed by magistrates. Of course there will be individual variations - Willett's drink/driver compared his sentence not with the "going rate" but with that received by one other individual. However, the present argument is essentially a statistical one; offenders who (say) receive penalties markedly in excess of the "norm," given their "entitlement," may be expected *on average* to feel they have been dealt with severely. In other words, although we cannot measure directly what an offender feels he deserved, we should be able to measure to what extent he received a penalty of above or below average severity given his personal characteristics and the circumstances of his offence. Provided we do not attempt to make too many fine distinctions, this latter measure, which we might call "relative severity," should reflect at least in part "perceived severity."

Fortunately we do not have to accept these arguments completely on faith. A number of ways of validating the hypothesised link between relative severity and perceived severity are available, and are presented by Homel (1976). However, one approach is particularly appealing. Using the method set out below, we can divide offenders into a number of categories, reflecting high, medium or low relative severity of penalties. If relative severity really does reflect perceived severity, the *appeal rate* should be highest in the high relative severity category, lower in the medium relative severity category and lowest in the low relative severity category. No doubt there are a number of reasons why people appeal against a sentence, including financial resources, self-confidence and the encouragement of a solicitor. Nevertheless, the perceived injustice of a penalty would have to rank as one of the major factors in the decision to appeal - it is hard to imagine an offender who thought he had been dealt with very lightly appealing against the leniency of the sentence (although the Crown might!).

The first step is to develop a measure of the "seriousness" of an offence and the severity of the penalties imposed, which leads directly to a consideration of the sentencing process. This is discussed in some detail in Homel (1976). For present purposes, we will assume that the sentencing process can be modelled very simply, by an extension of the "tariff" model discussed in Section 3.1. We will suppose that magistrates, in determining an appropriate penalty, assign weights to various features of an offender and his offence, these weights being mentally added to produce a composite score of the "seriousness" of an offence, or the offender's "entitlement for punishment." Similarly, we will suppose that the various components of the penalty - amount of fine, period of licence disqualification, period of imprisonment and so on - can be assigned "mental weights," and that these weights can be summated to yield a composite "severity score."

Since we will assume that magistrates seek to match "penalty severity" as closely as possible with "entitlement for punishment," it seems a reasonable procedure to estimate these "mental weights" on both sides of the equation by requiring the "offender/offence scores" and the "severity scores" to have maximum possible correlation over all offenders and all magistrates. An appropriate statistical technique for accomplishing this is called canonical correlation analysis.

The success of this method will depend both upon the adequacy of the assumptions on which it is based and the comprehensiveness of the information included in the calculations. The data available is familiar from previous chapters, and is derived from statistical summaries of each court appearance. Perhaps the most crucial data omitted from the statistical returns from the courts relates to what solicitors call "the facts" of the case - whether an accident was caused, how dangerous the police considered the offender to be, whether there were any extenuating circumstances, and so on. Since this data is missing from the present study, we would not expect perfect correlation between the measures of seriousness and severity. Nevertheless, we should arrive at meaningful weights for the data which is available, such as an offender's age, BAC and previous convictions.

Since much "subjective" data is missing from the analysis, all the data available - including factors which would not normally be considered relevant - have been included. Variables such as marital status and occupational status could well reflect aspects of the offender and his offence which the magistrate would take into account in determining an appropriate penalty, especially if he was considering granting a dismissal or recognizance under S.556A.

The relative weights derived from the canonical correlation analysis are presented in Table 8.1. The analysis was carried out on 15054 cases determined in New South Wales during 1972, and the correlation between the composite severity and offender/offence scores was found to be 0.70. This means that nearly half the variance of the severity index has been "explained" by the offender/offence or entitlement index. It also suggests that the assumptions on which the analysis was based are correct. A correlation at the level of 0.70 reflects a high degree of consistency between offender/offence characteristics and the penalties imposed and allows us to continue in confidence to investigate the properties of these variables.

Table 8.1 Weights derived from a canonical correlation analysis of 15054 breathalyser cases (1972)

INDEX OF OFFENCE SERIOUSNESS AND ENTITLEMENT OF OFFENDER FOR PUNISHMENT

	No. of cases	Weight
Age:		
18-24	4852	-.83
25-39	5798	-.51
40+	4404	.00
Marital status:		
De facto	93	-.35
Separated	269	-.20
Divorced	117	-.16
Single	4848	-.10
Married	6770	.12
Widowed	138	.17
Not known	2819	.00
Plea:		
Guilty	14905	-.12
Not guilty	149	.00
Number of charges:		
One only	13876	.00
More than one	1178	-.52
Defendant legally represented:		
Yes	7443	.42
No	7611	.00
Sex:		
Female	253	.00
Male	14801	.02
Occupational status:		
A	189	.21
B	1010	.14
C	6342	.06
D	7513	.00
Blood alcohol concentration (BAC):		
.080-.159	7853	.80
.160-.229	5715	.46
.230+	1486	.00
Previous traffic convictions:		
Yes	9041	-.19
No	6013	.00
Previous drink/drive convictions:		
Yes	3420	-1.88
No	11634	.00
Criminal record:		
Children's court only	136	-.35
Indictable	443	-.32
Summary, not indictable	4040	-.13
No criminal record	10435	.00

INDEX OF PENALTY SEVERITY

Fine ($)		
1-100	3557	.24
101-150	5993	.18
151-200	2415	-.31
201-400	1203	-.76
No fine	1886	.00
Period of imprisonment:		
1 month and under 2 months, under	45	-1.49
3 months	61	-1.17
3 months, up to 6 months	143	-1.39
6 months	34	-1.42
No imprisonment	14771	.00
Recognizance:		
S.554 or S.558	989	-.62
No recognizance	14065	.00
Period of licence disqualification:		
Rising of court, 24-48 hours	476	-.77
Over 48 hours, up to 14 days	678	-.59
14 days, up to 1 month	1274	-.76
1 month up to 2 months	1951	-.96
2 months up to 3 months	940	-1.03
3 months up to 6 months	1912	-1.19
6 months up to 12 months	1270	-1.51
1 year up to 2 years	3470	-1.76
2 years up to 5 years	1494	-2.97
5 years+	184	-2.75
No disqualification (S.556A)	1405	.00

It is important to note that for the offender/offence variable, the more *negative* the weight, the greater the contribution of that factor to the seriousness of the offence. Thus previous drink/drive convictions, with a weight of -1.88, is the single most important factor contributing to the offender/offence score. Similarly, for the severity variable, the more *negative* the weight, the greater the contribution of that factor to the severity of the penalty. Thus a disqualification period exceeding 2 years contributes more than anything else to a heavy penalty.

Generally, the weights agree with what would be 'expected.' On the offender/offence side, previous drink/drive convictions, more than one charge, being aged under 25, and having a low blood alcohol concentration weigh most heavily (only the last in the offender's favour). On the penalty side, long periods of disqualification and imprisonment weigh most heavily (far more so than fines). Note that a S.556 dismissal or recognizance would receive a weight of zero, since it corresponds to the absence of all penalties.

There are some apparent anomalies in the table. Why, for example does imprisonment weigh less heavily than long periods of licence disqualification? The answer is that the weights reflect *inter-correlations* between items, and should actually not be considered on their own. If we define a high severity score as a score in the top third of the total range, then 94 per cent of those sentenced to six months imprisonment had such a score, compared with only 76 per cent of those receiving a licence disqualification of more than five years. The *total* score is the important thing, and when it is calculated, all the apparent anomalies in the table disappear.

It is possible to conclude that the canonical correlation analysis has been highly successful in isolating patterns in the statistical data, and that the patterns seem to be meaningful. Using the entitlement and severity scores for each individual, we can construct Table 4.2 (see Section 4.3) and proceed to compare reconviction rates in the various cells of the table. However, as was explained above, it is necessary first to validate the procedure and justify, if possible, the link between relative severity and perceived severity.

The appeal rates in each category are set out in Table 8.2. The categories "high severity, average seriousness" and "high severity, low seriousness" have been combined, since there were too few cases in the latter category for reliable analysis.

Table 8.2 Percentages of appeals in different relative severity categories. (1972 Breathalyser statistics)

	Offender/offence index		
Severity index	Most serious	Average seriousness	Low seriousness
High	6.1 (485)	← 15.4 (400)	→
Average	7.9 (613)	7.9 (1385)	9.5 (534)
Low	2.7 (294)	3.4 (3185)	4.4 (8158)

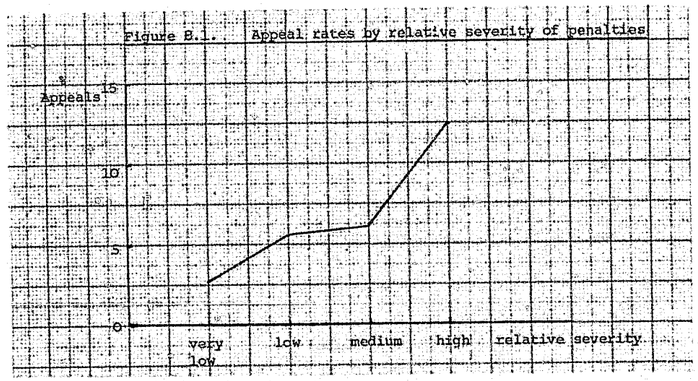
NOTE: The numbers in brackets are the totals in each cell. They add to 15054. The appeal rates were checked by random sampling and found to be higher than reported in the official statistics. The standard errors of the proportions are therefore not given by the cell totals.

Statistical analysis of Table 8.2 shows that the appeal figures support the linking of "relative severity" with "perceived severity." The appeal rate was highest among those offenders who received a heavy penalty relative to their "entitlement" (15.4 per cent), and was lowest among those who received a very light penalty relative to their"entitlement" (2.7 per cent). Using the groupings suggested by Table 4.2, the appeal rates are set out graphically in Figure 8.1. It is clear from this figure that as relative severity increases, so does the appeal rate.

Table 8.2 and Figure 8.1 suggest at least three ways of measuring "perceived severity." Figure 8.1 shows that we are justified in using the categories of Table 4.2; that is, very low, low, average and high relative severity. Secondly, we may combine cells in Table 8.2 which have very similar appeal rates to create three new categories; thus we would group the three low severity cells into one category, all the average severity cells together with the "high severity, high entitlement" cell into a second category, leaving the cell with the highest appeal rate separate ("high severity, low/medium entitlement"). Finally, we may simply use the appeal rates themselves as a direct index of perceived severity.*

Results are presented in the next section using all three methods.

Figure 8.1. Appeal rates by relative severity of penalties



* The reader is reminded that in the selection of the 1000 offenders for the present sample, all appeal cases were excluded. We are using appeal rates from the whole population of drink/drivers convicted in 1972 as an index of the average perceived severity of penalties in a number of categories.

8.3 Perceived severity and reconviction rates

The reconviction rates for drinking and driving, other motoring offences and for criminal offences are set out in Table 8.3*. As in previous analyses, reconvictions for non-drink/drive motoring offences are for the subsample which excluded those reconvicted for drinking and driving or criminal offences.

Table 8.3 Reconviction rates for specific offence types, for each relative severity category

Relative severity category		% reconvicted for drink/drive	% reconvicted for criminal	Base for percentages	% reconvicted for traffic	Base for percentages
Severity	Entitlement					
High	High	22.2	29.1	203	10.1	119
High	Medium/low	12.6	19.3	135	7.8	103
Medium	High	13.2	20.2	129	10.3	97
Medium	Medium	12.6	15.0	127	12.6	95
Medium	Low	9.0	9.9	111	14.1	92
Low	High	16.0	12.8	94	17.1	70
Low	Medium	16.0	21.0	100	32.9	70
Low	Low	12.9	9.9	101	17.5	80

Statistical analysis** shows that there is no evidence for any relationship between perceived severity of penalties and reconviction rates for drinking and driving, no matter which index of perceived severity is used. This is consistent with the broad findings of Chapter 6, and in fact may be regarded as a confirmation of them. Since the present analysis is based on broad measures of severity it is not possible to isolate subgroups (such as drive disqualified offenders) for whom this general result may not hold. However the fact that the same general result has emerged, using a quite different method of measuring penalties, strongly supports the main conclusion of this report, which is that drink/drivers intent on repeating the offence are not deterred by the nature or severity of the penalties which they received.

The most obvious feature of the figures for criminal reconvictions is the high rate among the high severity, high entitlement group (29.1 per cent). Many of these offenders were imprisoned, and we have already commented in Section 7.1 that offenders sent to prison had reconviction rates for criminal offences which were much higher than average. Statistical analysis shows that the relationships between the various indices of perceived severity and reconvictions for criminal offences are significant, but that this significance is due entirely to the high rate in the high severity, high entitlement group. Apart from this group, there are no statistically significant relationships between the three indices of perceived severity and reconviction rates. Once again, therefore, the present analysis may be seen as having confirmed the earlier analyses, and our general conclusion that the probability of reconviction for a criminal offence is unaffected by type or severity of penalty remains unaltered.

* For purposes of the present analysis, offenders in stratum 10 (see Section 4.4) have been redistributed to the other nine categories.

** Maximum likelihood in the logit scale.

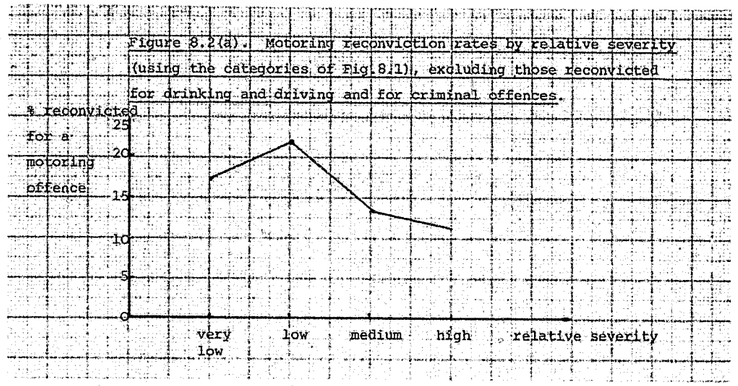


Figure 8.2(a). Motoring reconviction rates by relative severity (using the categories of Fig 8.1), excluding those reconvicted for drinking and driving and for criminal offences.

Finally, the relationships between traffic reconvictions and two of the three indices of perceived severity are statistically significant. Figures 8.2(a), (b) and (c) illustrate the relationship graphically. Figure 8.2(a) shows that as the relative severity of the penalties increases, the reconviction rate for motoring offences generally declines. The differences just fail to reach statistical significance, primarily because the low relative severity category combines two cells (medium severity, high entitlement and low severity, medium entitlement) which have very different reconviction rates (10.3 per cent and 32.9 per cent). If the low severity, medium entitlement group is considered on its own, the pattern becomes highly significant.

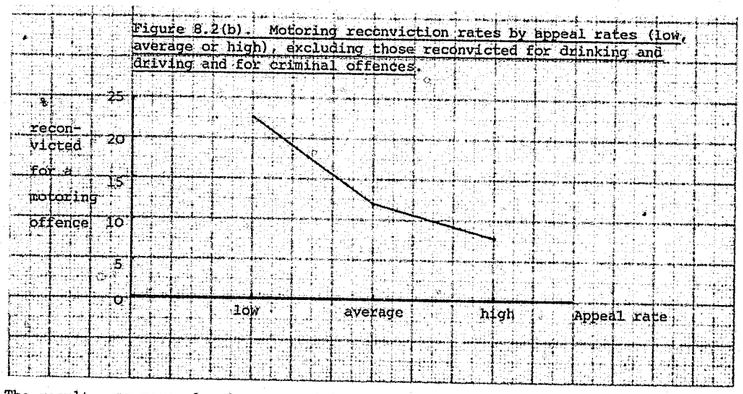
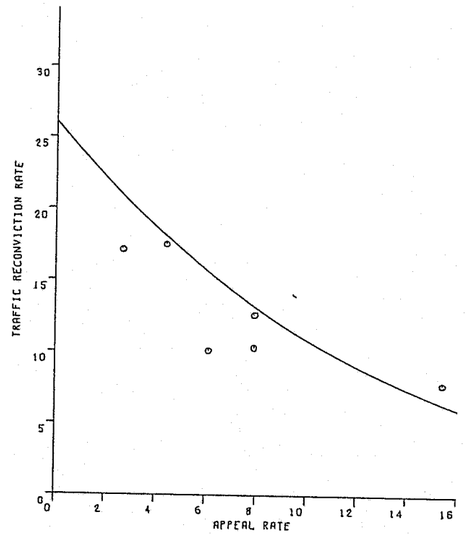


Figure 8.2(b). Motoring reconviction rates by appeal rates (low, average or high), excluding those reconvicted for drinking and driving and for criminal offences.

The results are more clearly revealed in Figure 8.2 (b), which is based on combinations of cells with very similar appeal rates. It is very clear using this index that the higher the perceived severity, the lower the reconviction rate. Figure 8.2(c) presents the direct relationship between appeal rates and traffic reconvictions. The curve which is drawn through the points represents a statistically adequate fit,* and confirms that as the appeal rate increases, the rate of traffic reconvictions declines.

* Linear in the logit scale.

FIGURE 8.2(C). MOTORING RECONVICTION RATES BY APPEAL RATES(X). EXCLUDING THOSE RECONVICTED FOR DRINKING AND DRIVING AND FOR CRIMINAL OFFENCES. (CURVE SHOWS FITTED RELATIONSHIP).



Once again therefore the results of the present analysis support the earlier findings. Offenders not reconvicted for criminal or drink/drive offences are responsive to penalties, primarily licence disqualification if we rely on the earlier analysis.

The general agreement between the findings based on indices of perceived severity and analyses based on direct penalties is encouraging, since it implies that both approaches are valid. The analysis based on direct penalties has the advantage that effects operating in small subgroups can be isolated and crucial components of the penalty can be identified, while the approach in this chapter would seem to represent the subjective dimension of punishment more adequately. Further research could profitably be undertaken, based on direct interviews with offenders, to obtain a more direct index of perceived severity which could then be analysed in a manner similar to that reported in Chapters 6 and 7.

CHAPTER 9. REVIEW OF FINDINGS

9.1 The effects of penalties

In a radical review of the American criminal justice system, Reiman (1979) argues that avoidable acts where the actor had reason to know that his or her acts were likely to lead to someone's death or injury should be treated as forms of murder or assault. Many people (even other motoring offenders) would view drinking and driving as one such act, and would argue that the penalties should match the seriousness of the crime. If a purely punitive approach is adopted, the data presented in this report is of limited value, beyond providing documentation on the present level of penalties. However, even those groups who advocate penalties such as mandatory imprisonment emphasize the general deterrent value of such measures - that is, they argue that the threat of imprisonment would deter potential offenders. Moreover, even mandatory imprisonment is seldom viewed solely as punishment of offenders, since proposals are usually made that incarcerated drink/drivers should also be educated or rehabilitated so that they will not repeat the offence. Thus there seems to be general agreement that a purely punitive approach is insufficient, and that judicial penalties or "treatment" of offenders should also serve the purposes of general deterrence, specific deterrence and rehabilitation.

It is common for researchers in the field of drinking and driving, including many criminologists, to be sceptical about the usefulness of traditional penal sanctions in controlling the problem. Willett (1964), Macmillan (1975) and Robinson (1977) are all very critical of licence disqualification as a sanction, while authors such as Gibbs (1975) and Anderson (1978) who have undertaken more general reviews of the literature on deterrence and treatment of offenders are equally pessimistic about the value of other traditional measures. The brief review of the literature presented in Chapter 3 tends to support this general position.

However, one has the impression on reading some authors that conclusions are sometimes based on insufficient evidence. Even a writer as careful as Gibbs (1975) who claimed that the doctrine of general deterrence has been dismissed prematurely by sociologists, tends to dismiss the doctrine of specific deterrence on the basis of research (such as that of Shoham, 1974) which, although suggestive, incorporates only limited controls in the comparisons of penalty categories.

It has been a consistent theme of this report that there are unlikely to be any simple answers. From the outset, it has been emphasized that drink/drivers are probably a very mixed group who will respond to penalties in a variety of ways. The mass of data presented in previous chapters should persuade most readers that there is no "magic bullet" which will solve the drink/driver problem. It has also become clear on working through the statistical evidence that penal sanctions as a deterrent cannot be dismissed out of hand. The most important findings are negative, but there are also some positive relationships which suggest ways in which the impact of penalties could be strengthened.

The major purpose of the analyses reported in previous chapters has been to answer one central question: "Do penalties affect the likelihood of reconviction?" We have seen that this question is easier to ask than to answer, and that even experiments of the classical kind in the biological sciences or psychology would be unlikely to provide a solution, given the practical, ethical and conceptual problems involved.

When considering the subject of specific deterrence, it is essential to keep in mind the distinction introduced in Section 3.1 between marginal and absolute specific deterrence. It is not possible to conclude from this study that licence disqualification , for example, is a deterrent to committing the offence of drinking and driving, since we have no information on people who have committed the offence but who haven't actually been convicted. Thus we know nothing by comparison, about the *absolute* specific deterrent effect of licence disqualification on those who have received it. All that can in principle be determined from the present data is the *marginal* specific deterrent effect of,say, long disqualification versus short, or suspended sentences versus imprisonment.

Nevertheless there is one piece of evidence derived from the present study which allows a slightly more informed guess about absolute specific deterrence than would otherwise be possible. We saw in Section 5.1 that about 58 per cent of offenders will eventually be reconvicted for some offence, and that about 22 per cent will be reconvicted at some time for drinking and driving. The errors involved in these estimates appear to be sufficiently small to take them as accurate to within, say, plus or minus 11 per cent at the very worst (the maximum error for drink/drive reconvictions is closer to eight per cent). Thus while the majority of offenders will eventually be reconvicted for some offence, for many this will simply be for minor motoring offences. On average only about a quarter, and certainly fewer than one third, will ever be reconvicted for drinking and driving, although the rate will obviously be higher in some groups (e.g.: those imprisoned - see Table 6.5).

As we remarked in Section 5.2, there are a number of plausible explanations for this finding. One possibility is that the chances of detection are so low that even if someone is caught once he has a small probability of being detected again even if he continues to offend at the same rate. On the other hand, it does seem reasonable to infer that many, perhaps a majority, of drink/drivers curtail their drinking and driving to some extent after conviction. Raymond's (1972) survey of Melbourne drivers found that only 2.5 per cent had a drink/drive record, while Macmillan (1975) found only 0.5 per cent (four out of 809) for a random sample of British motorists. Thus the subsequent record of convicted drink/drivers is much worse than we would expect for a random sample of motorists, but it is a matter for speculation as to whether it is worse than that of the population of motorists who have committed the offence of drinking and driving without being caught. Only this latter comparison would tell us about the effects of arrest and conviction in themselves, apart from the marginal effects of penalties.

The author's hypothesis is that if samples were matched in terms of age, sex, social class, employment status, type of vehicle driven and frequency of drinking and driving, there would be a difference in the short-term but not in the long-term drink/drive records of the convicted and non-convicted groups, with the convicted group performing better in the short-term. In other words, it is suggested that there would be a short-term but no long-term absolute deterrent effect, except possibly for some categories of "good risk" offenders. Nevertheless, the fact that definitely fewer than a third of convicted offenders will be reconvicted for drinking and driving suggests that for many offenders a process of "growing up" or changing social habits over time may account for a diminution in the rate at which they commit the offence. It is important to keep the long-term reconviction rate of 20 or 25 per cent in mind as a background to the discussion of the marginal effects of penalties.

Even the determination of a marginal specific deterrent effect is fraught with difficulties. Despite the repeated claims of criminologists that reconviction

should be the main criterion of the "failure" of judicial penalties or treatment programs, it is clear that what is actually meant is that *reoffending* is the crucial thing. For example, in arguing for reconviction rates as a criterion, Hood (1971) states that treatment is not given to make an offender "a better person" simply on the grounds of humanity but because a "better person" is less likely to offend again.

"The acid test is his ability to 'go straight' ." (p. 171).

The trouble is, we only usually know if an offender hasn't "gone straight" if he gets caught for some offence. The data presented in Section 2.2 was intended to show that certain kinds of offenders - notably young, unskilled males who drive conspicuous vehicles or in a conspicuous manner - are probably more likely to come to police attention than others. Since we only have reconviction data available as a criterion, and since we really wish to establish a relationship between penalties and *reoffending*, it is necessary therefore to introduce age, social status and employment status as statistical controls in any analysis. By introducing these controls, we hope to correct some of the biases inherent in conviction data.

In addition to correcting for biases in official data on convictions, statistical controls allow a more valid comparison of the effects of different penalties. The focus of the present study has been on offenders who commit the most serious offences and who receive the heaviest penalties, since (presumably) these offenders represent the biggest threat to traffic safety and the road accident rate could be significantly reduced if they were more effectively deterred. However at the heavy end of the penalty spectrum comparisons are more difficult, since in many ways imprisoned offenders are different from those given a suspended sentence or good behaviour bond, and all these groups differ markedly from those simply fined and disqualified, no matter how heavy the fine or long the disqualification. Indices such as age, BAC and current and past criminal record serve as partial controls, although it is necessary to recognize that there are many other more subtle variations between the different penalty groups.

Despite the difficulties inherent in a correlational study, some results seem fairly clear. The major finding is essentially negative: with one or two exceptions, neither type nor severity of penalty affects the probability that an offender will be convicted again for drinking and driving. The implication is that if an offender is intent on repeating the offence, it doesn't matter whether he is fined lightly or heavily, disqualified for a short or long period, put on a bond or even imprisoned; none of these things, by and large, appear to be more effective than any other in influencing his behaviour.

Given this overall negative finding, it is all the more important to examine those groups who appear to form an exception to the rule. The most hopeful sign among an otherwise dismal array of findings is the relatively low reconviction rate for drinking and driving which was recorded for those put on a good behaviour bond under S.554. We saw in Section 6.3 that 8.1 per cent of this group were reconvicted (for drinking and driving), compared with 14.9 per cent of the whole sample. Although this difference is not statistically significant, the full analysis showed that it persists even after allowance is made for the characteristics of the offenders receiving a bond. In other words, although there is only evidence for at best a small difference between those put on a S.554 bond and others, what difference there is is due to the effects of the bond rather than the characteristics of the offenders receiving it. The low reconviction rate is the more impressive in view of the fact that many of the S.554 offenders had committed more serious offences.

Thus, despite the non-significance of the statistical test, the low reconviction rate among the S.554 group could reflect a real effect. As was argued in Section 6.3, it seems plausible that offenders who were put on a bond were made aware by the magistrate of the consequences of breaching the conditions of the recognizance, and were more aware in particular of the dangers of driving while disqualified. On the other hand, many offenders who are simply fined and disqualified may not be clear about the penalties for driving while disqualified, and may never give a thought to the possibility of appearing before the same magistrate charged with disobeying his sentence. It is also possible that a S.554 bond carried extra punch as a penalty by involving a monetary surety. It appears that although practice among magistrates varies, some magistrates may have required offenders put on a recognizance under S.554 to deposit a sum of money as a condition of the bond. There would therefore have been a financial incentive not to reoffend.

The validity of the explanations needs to be tested by direct discussions with offenders(and magistrates). One difficulty with the first explanation which suggests itself immediately is that offenders who were given a suspended sentence under S.558 should have had a similarly low reconviction rate, since they would have known that the consequence of breaching their recognizance was imprisonment. In fact their reconviction rate was close to the average at 14.0 per cent. Moreover after adjustment was made for differing offender characteristics, the reconviction rate of the S.558 group was indistinguishable from that of those who actually went to prison for a short period. This suggests either that the proposed explanation is incorrect, and bonds have none of the hypothesized psychological effects, or that the S.558 offenders were "worse risks" than the S.554 group in a number of ways not covered by the statistical records (perhaps by having been imprisoned previously). Further research is needed to decide the issue. In the meantime, there would seem to be sufficient grounds for experimenting more widely with good behaviour bonds (see Section 9.4).

The second sign of hope with respect to reconvictions for drinking and driving was the apparent deterrent effect of heavy fines on the group with a concurrent conviction for driving while disqualified. This finding was a surprise, given the "deviant" nature of this group which has been documented throughout this report, but it is possible (as is suggested in Section 6.4) that a financial penalty was keenly felt by this group of young, low income offenders. No deterrent effect of heavy fines was demonstrated for any other group, which suggests that fines may be effective only if they are calculated to be quite heavy relative to the offender's financial resources.* An individualised rather than a tariff model should be employed here.

Thus although the type or quantity of penalty appears generally irrelevant to an offender's chances of reconviction for drinking and driving, there is the possibility that under some circumstances certain penalties may be more effective than others. A second major finding of the study is more positive. For offenders classified as "good risk", in the sense that they were not reconvicted for drinking and driving or for a criminal offence in three years, long periods of licence disqualification appeared to be a more effective deterrent to committing motoring offences or infringements than short periods (see Section 7.2). The data suggested that a period of at least a year, and preferably around 18 months, is optimal in terms of reconviction rates. The evidence certainly seems clear that very short periods of disqualification (a week or two) should be avoided, since these corresponded to the highest rate of reconviction for motoring offences (24 per cent).

* The evidence with respect to the effects of licence disqualification on the drive disqualified offenders was less clear than for fines, and is not pursued further here.

The analysis of Section 7.3 showed that there was no evidence that periods of disqualification up to 18 months encouraged driving while disqualified; in other words offenders disqualified for a short period (around a month) were just as likely as offenders disqualified for a long period to drive during their disqualification period. This suggests that one of the main fears in imposing longer disqualification periods - that they would encourage law-breaking - is not in fact a problem, at least for periods up to 18 months. Driving while disqualified seems to be more a function of an offender's age, lifestyle and attitudes than the accual time period involved.

It has to be admitted that this outcome is weaker than would be desired by proponents of the deterrence doctrine. Certainly long periods of disqualification appear to deter "good risk" offenders, but these drivers are by definition not the ones who are the greatest dangers on the road. Since none of them were convicted in three years for drinking and driving, their actual rate of committing this offence over that time must have been lower than for those who were caught. It appears that long periods of disqualification at best prevent motoring offences less serious than drinking and driving. It could be argued therefore that disqualification has failed in its main aim, which is to keep the most dangerous drivers off the road.

A number of authors emphasise the serious consequences of disqualification for many offenders, and question its deterrent or reformative value. Willett (1973) notes that it tends to have only a temporary effect, and that many offenders simply resume driving when it is realised that it is based mainly on "bluff." In his earlier study, Willett (1964) documented the effects of disqualification for some individuals, pointing out that several drivers had to pay increased fares to work and some had to employ drivers or rent a room because they could not commute. Moreover, periods as long as 18 months could cost many offenders their jobs. Willett (1964) concluded that there should be more emphasis on retraining and retesting and that periods of disqualification longer than a year should be applied with much more discrimination:

"...to cases where the first consideration must be to protect the public from drivers who are a 'menace' on the roads. For other offenders, a shorter period of suspension, coupled with a re-test, might prove a more effective solution" (p. 307).

Macmillan (1975) supports Willett's general position, but goes further. He states that:

"Disqualification, especially mandatory disqualification, is a particularly crude and futile measure. Not only is it ineffective, because it is so difficult to enforce, but it is inequitable unless full background reports are available to the court. The driver with social problems will not, by disqualification, be magically cured and thereby become a safe driver." (p. 206).

He goes on to echo Willett's call for retraining of drivers in combination with disqualification.

Perhaps the major value of the analyses presented in this report is to show that disqualification is not necessarily a "futile" measure, although it may be crude. The fact that drink/drivers who are not reconvicted for drinking and driving or for criminal offences - and these are in the majority - can be discouraged from committing other motoring offences or infringements by periods of disqualification around a year or 18 months would seem to demonstrate that disqualification can be

a useful tool in reducing the road accident rate. The serious consequences for many offenders of disqualification of a year or more must be balanced against the seriousness of the offence they have committed and the demonstrated possibility that they can be thereby discouraged from committing further (non-drink/drive) motoring offences. Although not rated to be as "serious" as drinking and driving, motoring offences such as speeding, driving dangerously and the various acts of negligence listed in Table 4.1 have all been shown to be associated with death and injury on the road. In this respect then disqualification may be counted a success.

One suggestion for strengthening the deterrent effect of disqualification which dates back to a paper by Margaret Fry as early as 1951 (cited in Zimring and Hawkins, p. 357) is to label an offender's vehicle in some way. Apart from reinforcing the stigma (if any) associated with a drink/drive conviction, this measure would presumably facilitate identification of offenders who drive while disqualified. It is not difficult to imagine some of the problems which would be associated with this scheme. There would be technical problems in preventing offenders from removing the label; any device invented by men is not beyond the wit of men to subvert. Moreover, the label would identify not only the offender but his family and anyone else driving his car, and in any case would not prevent him drom driving another vehicle. The fact that (to the author's knowledge) the method has never been tried perhaps suggests that it is not practical. If a decision is made to implement such a scheme in Australia, it should be subjected to careful evaluation.

An important finding with respect to the operation of licence disqualification (reported in Section 7.2) is that longer periods of disqualification seem to have a deterrent effect which persists *after* the licence has been restored. A preventive effect during the actual period of disqualification could have been expected (and was in fact found for good risk offenders), but the deterrent effect for at least 18 months after the restoration of the licence is an additional bonus (consistent with the findings of Hagen (1977)).

However, further research is required to enable more accurate predictions to be made about which offenders will respond to licence disqualification as a penalty. The analyses of Sections 6.5 and 7.2 showed that the present data cannot be used for such purposes, since the statistical models do not have sufficient predictive power to be used in sentencing. Nevertheless, given the complexity of human behaviour it is probable that no matter how extensive the data or refined the analysis, models with very high predictive power will prove elusive

The fact that period of licence disqualification does *not* affect the likelihood that an offender will drink and drive again strongly suggests that other measures are required for many offenders. Since the results of this study imply that heavier penalties such as imprisonment are most unlikely to have any deterrent or reformative value, it would seem more sensible to concentrate on approaches which have an educational or rehabilitative emphasis or which involve physical prevention (see below). The recommendations of Willett and Macmillan for "retraining" have in fact been implemented in N.S.W. since 1976, through the various drink/driver rehabilitation schemes. An evaluation of these schemes is published separately, although the recent findings of Hagen et al (1978) in the United States suggest that rehabilitation schemes may be less effective than traditional penalties unless they are combined with licence disqualification.

Almost without exception the analyses in this report have shown that heavier penalties correspond to reconviction rates which are the same or *lower* than those corresponding to lighter penalties. The exception is period of imprisonment; the evidence, if anything, is that longer periods encourage reoffending, at least for drinking and driving (see Sections 6.3 and 6.4). This finding is perfectly

consistent with many previous studies in criminology. In reviewing the results of a number of studies, Hood (1971) concludes that lengthy institutional sentences are no more successful than shorter alternatives. Very few drink/drivers go to jail at any one time for more than six months, but those who do have worse reconviction records than any other group, including those imprisoned for a short period. This worse record persists for drink/drive reconvictions even after some allowance is made for the "high risk" nature of this group. The implication is that prison periods longer than two or three months help to cause reoffending for drinking and driving, although we must be cautious in drawing this conclusion because of the small numbers involved.

Criminologists have tended to focus on the effects of periods of imprisonment longer than a year. Some researchers have concluded that few who are incarcerated for any length of time escape the dependence, the loss of self-responsibility, which are common adaptations of institutional life (Clemmer, 1971). However, not all prisoners are equally involved in the sharing of antisocial attitudes or behaviour;the nature of a man's links with the outside world, the position he occupies and the contacts he makes in prison, are all important.

Brody (1979), commenting on some work by Hammond (1977) notes that:

"...it is during the first few weeks of a prison sentence that a deterrent effect is most noticeable (Hammond, 1977); after that time, there seems to be a hardening of attitude and an increasing feeling of resentment. If this is generally true, perhaps prison sentences could be quite drastically reduced."

If, as seems likely, repeated offences of drinking and driving indicate personal and social maladjustment, it is hard to see how imprisonment is likely to act as a deterrent. In fact it is quite plausible that by contributing to the disruption of an offender's personal relationships it makes his situation worse. One's conclusion from the analyses reported in this study must be:

(a) that at best long periods of imprisonment are no more effective than short periods;

(b) that at worst longer periods help to cause reoffending for drinking and driving and

(c) that neither short nor long periods of imprisonment are any more effective than good behaviour bonds or fines.

One practical implication of these findings is that drink/drivers who would in the normal course of events go to prison for a few months may be dealt with more effectively and cheaply through a special rehabilitation scheme tailored to their needs and social circumstances. Such a scheme could hardly produce worse results than imprisonment.

Alternatively, physical prevention by means of devices such as breathalysers attached to ignition systems of cars is worthy of serious attention. Such countermeasures may be particularly suited to the high risk offender for whom (it must be admitted) even intensive rehabilitation schemes may well be ineffective. They would work by requiring the offender to blow into a breathalyser (or perhaps complete a test) before the car could be started, although the precise mode of operation is a technical problem which needs further development.

There are obvious problems with such an approach (such as a sober friend being used to get the car started), but given the threat this group poses to public safety, and the apparent ineffectiveness of other countermeasures, it is surely worthy of a trial. It should also be remembered that even "successful" methods of preventing drinking and driving (such as heavy fines imposed on some young offenders) do not work perfectly. Moreover, it is likely that many of the problems which have been envisaged with physical devices will not apply to many offenders (how many high risk offenders are likely to have sober friends available at the right time and place?). The promise of physical preventive measures is all the greater if we accept the recent theorising by criminologists (Mayhew et al, 1976) concerning the importance of situational and environmental factors in facilitating the commission of crime.

The results of the present study are somewhat unusual in showing that any types of penalties have any effect at all on reconviction rates. The conclusion of most criminological studies which have looked at reconvictions for criminal offences is that overall results are not much different as between different treatments (Hood, 1971). In fact if we restrict the analysis to reconvictions for criminal offences the present study has yielded identical results - after account is taken of the characteristics of the offenders receiving the various penalties, there is no relationship between criminal reconviction rates and type or severity of penalty. In other words, the likelihood that a drink/driver will be reconvicted for a criminal offence is not affected by the penalties imposed.

As discussed in Section 7.4, drinking and driving for many offenders is only one aspect of a "deviant" life-style. There appears to be a group of mainly young, lower status offenders who are convicted for a variety of motoring and criminal offences, drinking and driving being an almost incidental part of their activities. Since other pressures, such as that of their peer group, are likely to be far more powerful than any influence the law can bring to bear, it is not surprising that judicial penalties are ineffective. As with the problem drinker or alcoholic, a more "all encompassing" approach would seem to be appropriate. Whether drink/driver rehabilitation schemes geared to the needs of this group of offenders would reduce their reconviction rate for criminal offences is a matter for further research.

In summary, there is no universal deterrent; that is, there is no penalty or combination of penalties which is more effective than any other in simultaneously preventing reconvictions for drink/drive, motoring and criminal offences. Licence disqualification, fines and good behaviour bonds are effective for some offenders in reducing the rate of motoring and drink/drive reconvictions. Moreover, we come to much the same conclusions whether we examine penalties directly or use the approach of Chapter 8, where the subjective experience of penalties was analysed by means of appeal rates in various penalty categories.

9.2 Who gets reconvicted?

A review of the effects of penalties leads inevitably to an examination of offender characteristics. We have seen that offenders react in a variety of ways to penalties, and that some offender characteristics are more important than others in predicting reconviction rates. It is important therefore to consider briefly those offender attributes which help us to understand why people drink and drive and the impact which penalties might have on them.

First of all, a number of offender attributes were not related to the probability of reconviction for any type of offence. There were statistical reasons for the non-significance of some of these variables. The sex of an offender, his plea and his occupational status all fall into this category. Although each of these variables correlated in interesting ways with reconviction rates, there were too few females, too few pleas of "not guilty" and too few A and B status offenders to make the correlations reliable. Occupational status in particular would probably be of far greater importance in a study which incorporated more high status offenders.

The 'environmental factors' described in Section 4.5 - whether an offender lived in the city or the country and the 'risk score' of his area of residence - appeared to be too remote from the immediate experience of offenders to help predict their reconviction records. These variables help us to understand the social environment of drink/drivers, but are too "large scale" to predict reconviction rates.

Two further variables which failed to emerge as significant in any analyses were the time period between arrest and sentence and the estimate of the relative toughness of the magistrate who determined the sentence. There is a *prima facie* case for including the first variable since it can be argued that penalties have greater impact if they closely follow the arrest. However the only real evidence for the operation of such an effect comes from the psychological literature where times are measured in seconds rather than days or weeks, so the non-significance of this factor is not surprising. The fact that the measure of magistrate toughness is not significant is probably because the outcome measures in this study are based on reconviction statistics rather than measures of attitudes. It is also likely that the actual penalties imposed had more impact on the offender than his perception of the magistrate.

It is of some interest, in view of their importance in many previous studies, that indices of previous motoring, drink/drive or criminal record were not more important in predicting reconvictions. Previous convictions *did* correlate with reconvictions, but they were not as important as variables which related to offenders' *current* social circumstances and criminal activities. Even an index as crude as marital status proved more useful in predicting reconvictions for drinking and driving than did previous drink/drive convictions.

Offenders who were widowed, separated or living in a de facto relationship were more likely than others to be reconvicted for drinking and driving and for criminal offences. This is in line with previous criminological research, and is also consistent with the observations of Willett (1964) and Macmillan (1975). Willett observed that many of the drink/drivers in his study exhibited signs of domestic and business stress. One offender had had a nervous breakdown after his wife had left him and become pregnant by another man. Another offender - a professional man in his fifties - appeared to drink heavily as a result of discord at home. Macmillan in his comprehensive study of British motorists concluded that motoring offences were strongly associated with exposure to risk, deviant attitudes *and* serious personal or social problems, the latter including marital distress. This merely highlights the point made a number of times previously, that many drink/drivers need help rather than punishment.

Other offender attributes which were strongly related to the probability of reconviction included age, driving while disqualified, having a concurrent conviction for a serious traffic offence and being legally represented. The

group with a concurrent conviction for driving while disqualified consistently emerged as being more likely to be reconvicted for all kinds of offences except less serious motoring offences. They also tended to be reconvicted more quickly, but paradoxically appeared responsive to heavy fines (Section 6.4). The characteristics of this group are described in detail in Sections 7.3 and 7.4; by way of summary, it should be noted that they could as well be described as "serious criminal offenders," given the high correlation between driving while disqualified and committing other categories of criminal offences.

The small group of offenders with a concurrent conviction for a serious traffic offence were at risk of conviction for further motoring offences *not* including drinking and driving. These offenders could well be part of a larger group of motorists who have been studied by psychologists for a number of years, and who exhibit poor social and psychological adjustment as well as a high accident record. According to Tillman and Hobbs (1949), drivers with a high accident frequency are characterised by aggressiveness and inability to tolerate authority, originating from an unstable family background. It would seem that alcohol is not necessarily a major problem for this group.

The meaning of legal representation as an index was discussed in Section 7.1. Summarising the discussion, we may conclude that young men on low incomes and from unskilled occupations are most likely to be reconvicted for criminal offences. These offenders are probably relatively unsophisticated in negotiating the criminal justice system, and negative attitudes may be as important as low income in explaining their failure to seek legal representation.*

Although an offender's age was important in predicting criminal reconvictions it was not correlated with reconvictions for drinking and driving. In fact young offenders were no more likely than older offenders to be reconvicted for motoring offences of any kind. This may seem surprising, in view of the fact that convicted drink/drivers tend to be younger than the average motorist and given the well known correlation between youth and traffic accidents. One of Macmillan's (1975) clearest findings was that:

"Among the young drivers (under 30) it seems to be a combination of youthfulness, aggressiveness and competitiveness, with a lack of driving experience, which is a particularly lethal combination so far as both accidents and offences are concerned." (p. 194)

We saw in Section 2.4 that magistrates in N.S.W. seem to have this kind of picture in mind when sentencing the young drink/driver, since he attracts particularly heavy penalties. What then can we make of the research finding that among convicted drink/drivers, age is not an important predictor of motoring and drink/drive reconvictions?

First of all, it must be remembered that convicted drinking drivers are not typical of the motoring population. Although among "ordinary" motorists the young driver may be the most dangerous, among drinking drivers this may not be the case. In fact an examination of the correlation between age and previous drink/drive convictions among the 15454 offenders convicted of driving with the prescribed concentration of alcohol in 1972 reveals a very interesting pattern. Compared

* Legal aid for drink/drivers was not readily available in 1972.

with the population of licence holders, first offenders were much more likely to be under 25 (35.8 per cent compared with 24.3 per cent), but among recidivist drink/drivers offenders under 25 were *under-represented* (20.4 per cent compared with 24.3 per cent). Conversely, the percentage of recidivist drink/drivers older than 35 was 51.5 per cent, which is much higher than the figure of 35.1 per cent for first offenders but is about the same proportion (52.0 per cent) as in the general motoring population. Of course one reason for these figures is that it takes time to accumulate convictions; we would therefore expect that recidivists would be older on average than first offenders. Nevertheless this data is consistent with the findings in the present study.

The typology of offenders developed in Section 7.4 goes a long way towards completing the explanation. The essential point to notice is that offenders reconvicted for drinking and driving tend to be of two types: young, unskilled offenders who commit a variety of offences in addition to drinking and driving, and older, high BAC offenders with previous convictions. Both groups are "high risk", and their existence means that age tends to cancel out as a predictive variable. One implication is that being young, in itself, should not influence the severity of the penalties imposed. Both from the standpoint of fairness as well as from considerations of deterrence, the older drink/driver (who is at least as much of a danger on the roads) should not be dealt with less severely than his younger counterpart for offences of similar seriousness.

The typology also helps to explain why BAC on its own was not useful in predicting drink/drive reconvictions. Young offenders tend to record lower BAC's than older offenders, and since all age groups are reconvicted equally often, BAC doesn't show up as a predictive variable. To understand reconviction patterns, factors such as BAC, age and previous convictions need to be considered together rather than separately.

Since the typology developed in Section 7.4 is based both on offender attributes and on their reactions to penalties, it provides the best overall summary of the discussion in this and the previous section. It also helps to identify those groups who are most in need of help. The "serious motoring offenders" and the "dedicated drinking drivers" are probably the two groups with the most serious psychological problems, while the "drive disqualified" and "criminal offender" groups are probably influenced more by peer pressures and by social attitudes which emphasize "play, daring, excitement and adventure" (Macmillan, 1975). Different kinds of approaches to rehabilitation are probably required for these two classes of offenders. For the remainder (who for one reason or another will never be reconvicted for drinking and driving or for a criminal offence) licence disqualification may be the cheapest and most effective tactic, since it has at least been shown to discourage the commission of further non-drink/drive motoring offences.

9.3 Directions for further research

A number of suggestions for further research have been made throughout this report. It may be helpful if these suggestions and some others were summarised.

(a) Interviews with carefully selected offenders need to be carried out in order to test hypotheses concerning the effects of licence disqualification, good behaviour bonds, fines and imprisonment. These interviews may help to verify and explain findings in the present study, as well as provide valuable data in their own right.

(b) The way in which offenders perceive penalties should be examined in detail through interviews, and related to their subsequent record.

(c) Accident data should be merged with data on reconvictions. Self-reported offences, attitudinal measures and aspects of life-style should also be used to evaluate the effects of penalties.

(d) The present study, using official police, court and motor transport records should be repeated in N.S.W. and in other states. Sufficient funds should be made available so that these studies can be completed quickly.

(e) Given that different states in Australia have markedly different legislation and methods for dealing with drinking drivers, systematic comparisons of the general and specific deterrent effects of these policies should be carried out.

(f) The absolute specific deterrent effect of arrest and conviction should be investigated, by comparing a sample of first offenders with a matched sample of offenders who drink and drive at the same rate but who have not been caught. The samples should be "matched" in addition on age, sex, "exposure to risk," social status, employment status and type of vehicle driven. (The research design needs considerable study and modification in the light of the availability of data from official records and from sample surveys).

(g) The typology developed in Section 7.4 needs to be expanded, corrected and clarified by means of additional social and psychological data and by means of better statistical techniques (such as latent structure analysis). High risk groups, such as drive disqualified offenders, should be studied in detail to better understand their behaviour. Diagnostic tools for distinguishing high risk from low risk offenders need to be developed, although the medical analogy cannot be pushed too far.

(h) The impact of rehabilitation schemes on different groups of offenders needs to be monitored on a regular basis, using reconviction data, accident records, attitudinal and life-style measures. In particular, the effects of penalties (especially licence disqualification) in combination with rehabilitation schemes needs to be determined.

(i) Given that the present study focusses on the serious offenders, more attention should be paid to the subsequent records of S.556A offenders and those disqualified for very short periods (say up to two weeks). In particular, it needs to be determined whether these offenders do have better subsequent records than other offenders, and if so whether this is due to the light penalty or to the "low risk" nature of this group.

(j) Following (i), the sentencing process needs to be examined in more detail, and factors which magistrates take into account compared with factors related to reconviction.

(k) The way in which drink/drivers are caught and charged needs more attention, both from the point of view of assessing the adequacy of reconviction statistics and from the perspective of deterrence. Offender attitudes to the police need to be assessed, and incorporated with data on their court experience.

(l) The relationship between drinking and driving and social and personal problems, alcoholism and marital and other kinds of stress needs more research in order to better understand why people drink and drive (or why they don't) and to devise more effective ways of preventing the offence.

(m) The feasibility of small scale sentencing experiments, involving random allocation of offenders to some penalties, should be explored. Provided such experiments can be reconciled with practical and ethical objections, *and provided they can be carried out without the knowledge of court staff, lawyers, probation officers and all others except the magistrates and researchers,* they could constitute the only tool whereby the effects of penalties can be determined with any certainty. Point (b) above should be kept in mind in this connection.

(n) Physical methods of preventing drinking and driving (such as ignition interlock devices) should be developed and evaluated, both for high risk and low risk groups of offenders.

9.4 What shall we do with the drunken driver? Some implications of the research findings

It is convenient to draw together the main suggestions for dealing with drinking drivers which have been made throughout this report. The recommendations listed below are restricted to those which can be directly supported by evidence presented in this report.

Penalties as specific deterrents

(a) Periods of licence disqualification imposed on convicted drinking drivers in N.S.W. should generally be of the order of one year or 18 months. The present statutory period for a first offence is one year, although until 1979 the average disqualification actually imposed on all offenders was only three months.

The basis for this recommendation is the finding that among good risk offenders the longer periods were associated with lower rates of reconviction for a range of motoring offences less serious than drinking and driving. There is no direct evidence from the research that longer periods reduce the rate of drinking and driving. However, since in practice it is very difficult to distinguish good risk and high risk offenders, the longer periods would need to be imposed on all offenders.

Periods longer than 18 months are not recommended, since they appear to have little more deterrent effect than one year or 18 months. There is no evidence that periods of 18 months are associated with higher rates of driving while disqualified than shorter periods.

Note that this recommendation concerns the *total* period of disqualification imposed on an offender for all the offences for which he is simultaneously convicted.

(b) Good behaviour bonds (under S.558)*, in addition to fines and licence disqualification, should be used more widely in an attempt to reduce the rate at which offenders repeat the offence of drinking and driving. Although some experimentation will be required in the exact form of the bond, it is likely that requiring the offender to deposit a sum of money as surety will be an effective measure.

The basis for this recommendation is the finding that offenders dealt with under S.554 (old legislation) were reconvicted at a slightly lower rate for drinking and driving than other offenders.

* Note the changes in the Crimes Act since 1974, discussed in Section 2.4.

(c) Drink/drivers also convicted for driving while disqualified should receive a total fine of about $600 (or a fine at least in the upper half of the range). The basis for this recommendation is the finding that for this group heavy total fines were associated with lower reconviction rates for drinking and driving than lower fines.

No evidence of a deterrent effect of heavy fines was found for any other group, possibly because other offenders had higher incomes. Thus although it is not possible to make a formal recommendation for all offenders, it is possible that if a fine were felt to be heavy relative to an offender's financial resources, it would have a greater deterrent impact. This line of argument would require high income offenders to be fined at least $600, and in any case much more heavily than low income offenders.

(d) Imprisonment should be used only when all other measures have failed. In particular, it should not be justified as a penalty on the grounds that it is a more effective deterrent than other penalties, since the research evidence is to the contrary. If imprisonment is imposed as a penalty, the possibly deleterious effects of periods longer than a few weeks should be considered.

The basis of this recommendation is the finding that reconviction rates for drinking and driving for those imprisoned for up to three months were no better than those given a suspended sentence, and that those imprisoned for longer periods had higher reconviction rates.

(e) Young men should not receive heavier penalties than older men for offences of similar seriousness, since the argument that young men are more likely to be reconvicted for motoring offences (including drinking and driving) is not supported.

Alternatives to penalties

(a) Given that one kind of penalty is generally no more effective than any other in reducing the rate of drinking and driving, alternatives to traditional penalties should continue to be pursued. In particular, specialized rehabilitation schemes and physical devices on cars should be treated as priorities.

(b) Alternatives to penalties are most urgently required for high risk offenders. These offenders are, for practical purposes, best identified by the criteria presently in use: a blood alcohol level of .15 or higher, *or* one or more previous drink/drive convictions.

(c) Those involved in sentencing and rehabilitating drink/drivers should recognize that they are not all alike. In particular, only some are problem drinkers or alcoholics. Others are "typical criminal offenders," others are "deviant drivers" in the sense that they specialize in motoring offences other than drinking and driving, some have a proven record of deviance in all fields (drive disqualified offenders), while many will never be reconvicted for anything and may possibly have learned their lesson from a single court appearance.

Rehabilitation schemes specializing in the needs of these particular groups should be developed and evaluated.

(d) Ignition interlock devices or their equivalent should be developed and evaluated as a matter of urgency. Priority should be given to fitting these devices in cars of high risk offenders.

(e) The cost of developing alternatives to penalties could be covered by revenue from fines imposed on convicted drink/drivers. Such revenue is currently of the order of six million dollars per annum in N.S.W.

9.5 Conclusion

There is increasing research evidence that the bulk of crime is committed by quite ordinary people in the face of particular temptations and opportunities. A minority, however, account for a disproportionate share of all crimes committed, and it is these who are the most difficult to deter. Many of these offenders are lacking in a sense of the consequences of their own actions, are prone to impulsive rather than reflective action, and have neurotic difficulties and attitudes of conflict with authority (Zimring and Hawkins, 1973). The findings presented in this report suggest that this pattern - of "ordinary people" mixed with a group of "high risk" offenders - is true of the offence of drinking and driving. Three quarters of convicted drink/drivers will never appear in court again for the same offence, and at least a third will never again be convicted for anything, including minor motoring offences and infringements.

Given that many good risk offenders are "normal motorists" who commit the offence as a normal response to stresses, temptations and opportunities which may be quite temporary, three broad approaches may be effective in dealing with them. The first (and most promising) approach entails physical prevention, using mechanical devices on cars to prevent drunks starting them. The second approach entails a community health and education program which would provide people with information about the effects of alcohol and assist them to cope with temptations to drink and drive arising from peer group pressure or from marital difficulties and other kinds of stress. Rehabilitation schemes may be regarded as one aspect of a community health program. The third approach (deterrence) involves increasing the perceived "cost" of drinking and driving relative to the immediate "gains" - that is, making people think twice before hopping into their cars and driving home.

For the good risk offender, licence disqualification does appear to possess deterrent properties. The methodology of the present study does not allow conclusions to be drawn about why good risk offenders do not repeat the offence of drinking and driving, but it is reasonable to assume (in view of the effects of licence disqualification on their motoring reconviction rates) that licence disqualification is at least part of the explanation. However, we *can* conclude on the basis of fairly clear evidence that long periods of disqualification (up to 18 months) are more effective than shorter periods in preventing reconvictions for motoring offences and infringements and that this effect is probably due to the deterrent (as opposed to other preventive) properties of long disqualification periods.

It is not clear what methods will be effective for dealing with high risk drinking drivers. By definition, these are the offenders who are likely to drink and drive again, almost certainly on a regular basis, either because they have a drinking problem or because they are involved in a "deviant" life-style characterised by criminal offences and driving while disqualified. Rehabilitation schemes may be effective if they can involve offenders' families and peer groups or even whole communities, but this has yet to be demonstrated. Licence disqualification may be imposed as a punitive measure but would appear to have little deterrent value for the high risk offender unless combined with a bond. On the basis of the present data, a good behaviour bond (possibly with a

monetary surety) combined with 12 to 18 months disqualification and a heavy fine is the "optimum" penalty, but the impact on reconviction rates for drinking and driving is likely to be small, except that heavy fines may have a marked effect on some young offenders. Ignition interlock or similar devices fitted to the cars of high risk offenders promise more effective control of the problem.

Although the present study is restricted in its scope to specific deterrence, it seems reasonable to suppose that the existence of a group of high risk offenders is relevant to the question of general deterrence. In other words, it seems very plausible that the introduction of countermeasures such as the breathalyser itself, or heavier penalties, or random breath tests, will have an impact on the majority of the driving population, but not on a small group of drivers who drink and drive regularly and who have a high rate of accident involvement. This group could be expected to remain impervious to the threat of arrest and punishment, no matter how widely the operation of heavy penalties or random breath tests was advertised.

Some evidence in support of this position comes from Norway, where Bø (1978) has stated:

> "Although Norway's present alcohol countermeasures do have an inhibiting influence, at least generally speaking, on the average non-accident driver, the facts show that those countermeasures are not at all effective against heavy drinking among accident-involved drivers. The possibility thus exists that those drivers represent a high risk group, towards which another type of drinking-preventing measures may be necessary."

It should be noted that Norway's traffic-alcohol legislation imposes - virtually without exception - 21 days' imprisonment as well as licence disqualification on drink/drivers. If Australian research into general deterrence confirms the existence of this kind of high risk group of motorists, it will constitute a strong argument for the fitting of ignition interlock devices or their equivalent to all cars as a standard feature. The evidence already seems to be clear that measures like this are required for those high risk motorists who continue to be caught for drinking and driving.

REFERENCES

AITKIN, MURRAY (1978). "The Analysis of Unbalanced Cross-classifications," The Journal of the Royal Statistical Society, Series A (General), Volume 141, Part 2, pp. 195-223

ANDERSON, MARY (1978). "What shall we do with the 'Drunken' Driver?" Australian and New Zealand Journal of Criminology, Vol. 11, pp. 132-140

BIRRELL, J.H.W. (1970). "A Preliminary Note on the Drinking Drivers in Victoria, Australia, since 1966." Medical Science and Law, Vol. 10

BIRRELL, J.H.W. (1972). "Alcohol and the young driver," in Proceedings of National Road Safety Symposium, Canberra, 1972. (Canberra: Australian Government Publishing Service)

BLUMENTHAL, M. AND ROSS, H.L. (1973). Two Experimental Studies of Traffic Law. Volume 1: The Effect of Legal Sanctions on DUI Offenders. (U.S. Dept. of Transportation.)

BLUMER, H. (1969). Symbolic Interactionism: Perspective and Method. (Prentice-Hall)

BØ, OLAV (1978). The Enigma of the Present Evidence on Drinking-driving in Norway." Journal of Traffic Medicine, Vol. 6, Pt. 1, pp. 10-12

BORKENSTEIN, R.F., CROWTHER, R.F., SHUMATE, R.P., ZIEL, W.B. & ZYLMAN, R. (1964). The Role of the Drinking Driver in Traffic Accidents (the Grand Rapids Study). (Bloomington, Ind.: Department of Police Administration, Indiana University)

BOCK, R.D. (1975). Multivariate Statistical Methods in Behavioural Research (Chapter 8). (McGraw Hill, New York)

BOYCE, LORINNE & DAX, E. CUNNINGHAM (1977). "The Police and the Less Intelligent Driver," Australian and New Zealand Journal of Criminology, Vol. 10

BRODY, STEPHEN (1979). "Research into the Efficacy of Deterrents," in Walmsley, Roy and Smith, Lorna (Eds.) Home Office Research Bulletin, No. 7. (Home Office Research Unit, London)

BUREAU OF CRIME STATISTICS AND RESEARCH (1975). Court Statistics 1974 (N.S.W. Dept. Attorney General and Justice)

BUREAU OF CRIME STATISTICS AND RESEARCH (1977). Court Statistics 1976 (N.S.W. Dept. Attorney General and Justice)

BUREAU OF CRIME STATISTICS AND RESEARCH (1979). Two Studies of Reconviction. (N.S.W. Dept. Attorney General and Justice)

CLARKE, R.V.G. AND SINCLAIR, I. (1974). "Towards More Effective Treatment Evaluation," in "Methods of Evaluation and Planning in the Field of Crime," Collected Studies in Criminological Research Vol. XII (Council of Europe, Strasbourg)

CLEMMER, DONALD (1971). "The Process of Prisonization," in Radzinowicz, Leon and Wolfgang, Marvin E. (Eds.) Crime and Justice. Vol. III: The Criminal in Confinement. (Basic Books, New York and London)

COCHRAN, W.G. (1963). Sampling Techniques. (John Wiley & Sons, 2nd Edition)

CONGALTON, A.A. (1969). Status and Prestige in Australia. (Cheshire, Melbourne)

COONEY, G.H. (1979). "Estimation in the Multinomial Logit Model," (School of Behavioural Sciences, Macquarie University, N.S.W.)

DEMPSTER, A.P., LAIRD, N.M. & RUBIN, D.B. (1977). "Maximum likelihood from incomplete data via the EM algorithm (with Discussion)", J. R. Statistic Soc., B, 39, pp. 1-38

DIJKTERHUIS, FOKKE P.H. (1974). "The Specific Preventive Effect of a Prison for Drunken Drivers," Sociologia Neederlandica, Vol. X, No. II pp. 194-200

ELLIOTT, D.W. AND STREET, H. (1968). Road Accidents. (Penguin Books, London)

EPPERSON, W.V., HARANO, R.M. & PECK, R.C. (1975). Final Report to the legislature of the State of California in accord with resolution Chapter 152, 1972 legislative session (Senate Concurrent Resolution 44 - Harmer). (Sacramento, Ca.: Dept Motor Vehicles)

FORTHOFER, RONALD N., STARMER, C. FRANK, GRIZZLE, FRANK (1971). "A Program for the Analysis of Categorical Data by Linear Models," Journal of Biomedical Systems, Vol. 2, No. 6, pp. 3-49.

FREEDMAN, K., HENDERSON, M. AND WOOD, R. (1973). Drinking and Driving in Sydney: A Community Survey of Behaviour and Attitudes. (Report 1/73, Sydney: Department of Motor Transport Traffic Accident Research Unit)

GIBBS, JACK P. (1975). Crime, Punishment and Deterrence. (Elsevier)

GRIZZLE, J.E., STARMER, C.F. & KOCH, G.G. (1969). "Analysis of categorical data by linear models." Biometrics, 25, pp. 489-504

HAGEN, R.E. (1977). Effectiveness of license suspension or revocation for drivers convicted of multiple driving-under-the-influence offenses. (Sacramento, Ca.: Department of Motor Vehicles)

HAGEN, R.E., WILLIAMS, RICKY L., McCONNELL, EDWARD J., AND FLEMING, CHARLES W. (1978). An Evaluation of Alcohol Abuse Treatment As an Alternative to Drivers License Suspension or Revocation. (Ca.: Dept. of Motor Vehicles and Dept. of Alcohol and Drug Abuse)

HAGGER, RONA AND DAX, E. CUNNINGHAM (1977). "The Driving Records of Multiproblem Families," Soc. Sci. & Med., Vol. 11, pp. 121-127

HAMMOND, W.H. (1977). "A Study of the Deterrent Effect of Prison Conditions," Howard Journal of Penology and Crime Prevention, Vol. XXVII, No. 3

HERSEN, M. & BARLOW, D.H. (1977). Single Case Experimental Designs. (Pergamon Press, U.K.)

HOMEL, ROSS (1975). "How Effective are Present Operations?" Proceedings of the Institute of Criminology, University of Sydney: Motoring Offences. No. 24, pp. 39-58.

HOMEL, ROSS (1976). "The Deterrent Effect of Penalties on Drink/drivers," Paper presented at the Conference of the Australian and New Zealand Association for the Advancement of Science, (Hobart, Tasmania.)

HOMEL, ROSS (1979). "The Deterrent Effect of Penalties on Drink/drivers," Proceedings of the Seventh International Conference on Alcohol, Drugs and Traffic Safety (Aust. Govt. Publishing Service, Canberra), pp. 536-546.

HOOD, ROGER (1971). "Some Research Results and Problems," in Radzinowicz, Leon and Wolfgang, Marvin E. (Eds.) Crime and Justice Vol. III: The Criminal in Confinement. (Basic Books, New York and London)

HOOD, ROGER (1972). Sentencing the Motoring Offender. (Heinemann, London)

HYMAN, MERTON M., HELRICH, ALICE R. & BESSON, GWEN (1972). Ascertaining Police Bias in Arrests for Drunken Driving," Quarterly Journal of Studies on Alcohol, V. 33, No. 1, pp. 148-159.

JANKE, M.K., PECK, R.C. & DREYER, D.R. (1978). Medically impaired drivers: An Evaluation of California policy - Final Report. (Sacramento, Ca.: Department of Motor Vehicles

McLEAN, N.J. & CAMPBELL, I.M. "The Drinking Driver - A Personality Profile," Proceedings of the Seventh International Conference on Alcohol, Drugs and Traffic Safety (Aust. Govt. Publishing Service, Canberra), pp. 145-153.

MACMILLAN, JOHN (1975). Deviant Drivers. (Saxon House/Lexington Books, U.K.)

MARSHALL, HARVEY; PURDY, ROSS (1972) "Hidden deviance and the labeling approach: The case for drinking and driving," Social Problems, Vol. 19 (4), pp. 541-553.

MAYHEW, P., CLARKE, R.V.G., STURMAN, A. AND HOUGH, J.M. (1976). Crime as Opportunity (Home Office Research Study No. 34, London, H.M.S.O.)

MIDDENDORFF, W. (1968). The Effectiveness of Punishment, Especially in Relation to Traffic Offences (Rothman)

RAYMOND, A.E. (1970). "Characteristics of drivers breathalysed in Melbourne in 1967." Proc. 5th Conf. Aust. Rd. Res. Bd. Vol. 5: (3), pp. 209-228.

RAYMOND, A.E. (1972). "Characteristics of breathalysed drivers," National Road Safety Symposium, Canberra

RAYMOND, A.E. (1973). A Review of Alcohol in Relation to Road Safety. (Aust. Govt. Publishing Service, Canberra)

RAYMOND, A.E. AND SANTAMARIA, J.N. (1978). Evidence presented to House of Representatives Standing Committee on Road Safety, Melbourne, 25th September,1978 (Official Hansard Report), pp. 397-431

REIMAN, JEFFREY H. (1979). The Rich Get Richer and the Poor Get Prison (John Wiley & Sons, New York)

ROBINSON, C.D. (1977). The Operation of Driver Licence Disqualification as a Sanction (Dept. of Criminology, University of Melbourne)

ROSS, H. LAURENCE & BLUMENTHAL, MURRAY (1975). "Some Problems in Experimentation in a Legal Setting," The American Sociologist, Vol. 10 (August), pp. 150-155.

ROSS, H. LAURENCE & BLUMENTHAL, MURRAY (1974). "Sanctions for the Drinking Driver: An Experimental Study," Journal of Legal Studies, Vol. 3: 1, pp. 53-61

SHOHAM, S. GIORA (1974). "Punishment and Traffic Offences," Traffic Quarterly, 28 (Jan.), pp. 61-73.

SIMON, FRANCES H. (1971). Prediction Methods in Criminology. (Home Office, London: Her Majesty's Stationery Office)

TILLMAN, W.A., & HOBBS, G.E. (1949). "The Accident-Prone Automobile Driver," American Journal of Psychiatry, Vol. 106, No. 5, pp. 321-33

TOMASIC, ROMAN (1977). Deterrence and the Drinking Driver (The Law Foundation of N.S.W.)

TURNEY, H.M. AND KEMP, E.D. (1976). "That people of lower socio-economic status will be disproportionately highly represented among people charged with PCA offences," Student Project, University of Newcastle, N.S.W.

VENARDOS, M.G. (1975). A Descriptive analysis of drunk drivers: demographic, behavioral and psychometric characteristics. 213 pp. Ph.D. dissertation, University of New Mexico (University Microfilms No. 76 - 7963)

VINSON, T. & HOMEL, R. (1973). "Legal Representation and Outcome," Aust. Law Journal Vol. 37, pp. 132-135

VINSON, T. & HOMEL, R. (1975). "Crime and Disadvantage: The Coincidence of Medical and Social Problems in an Australian City," British Journal of Criminology, Vol. 15, No. 1 (Jan.)

VINSON, T. & HOMEL, R. (1976). Indicators of Community Well-Being. (Canberra: Aust. Govt. Publishing Service)

WARREN, CAROL A.B. & PHILLIPS, STEPHEN W. (1976) "Stigma Negotiation: Expression Games, Accounts and the Drunken Driver," Urban Life, Vol. 5, No. 1 (April).

WILLETT, T.C. (1964). Criminal on the Road. (Tavistock Publications, London)

WILLETT, T.C. (1973). Drivers After Sentence. (Heinemann, London)

ZIMRING, F.E. AND HAWKINS, C.J. (1973). Deterrence. (The University of Chicago Press, Chicago & London)

ZYLMAN, RICHARD (1972). "Race and Social Status Discrimination and Police Action in Alcohol-affected Collisions," Journal of Safety Research, Vol. 4, No. 2, (June)

D. West, Government Printer, New South Wales -- 1980

END