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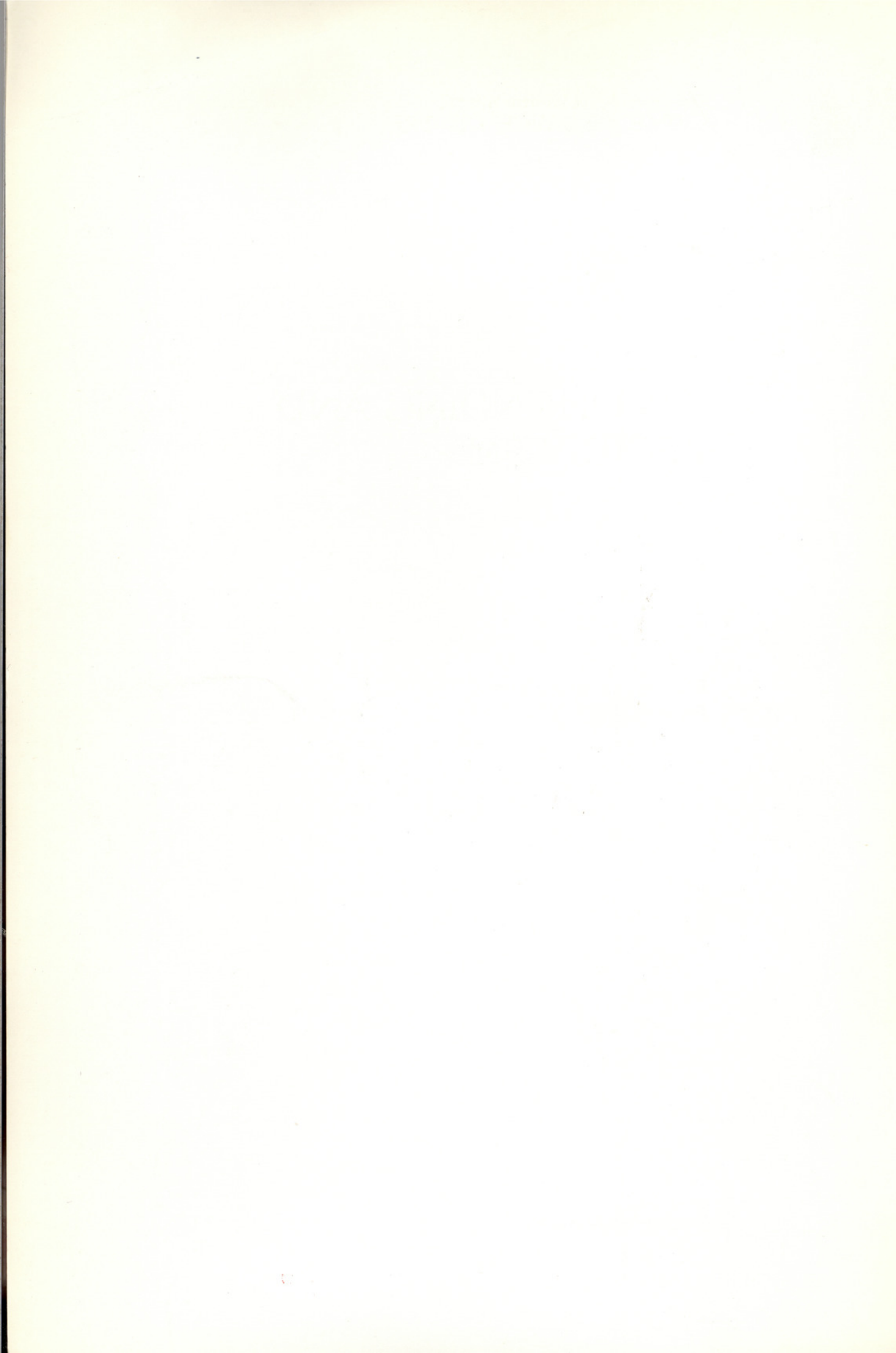
SEX OFFENDING AND RECIDIVISM

Roderic G. Broadhurst
Ross A. Maller

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Preface

This publication is the third in the Centre's Research Report series. It addresses a set of questions of great public concern and importance: are serious sex offences on the increase in Western Australia, and to what extent are such offences committed by specialist offenders? Answers to these questions in turn bear upon other important aspects of crime control and penal policy.

The short answer to the first question is: probably, serious sex crime rates are not on the increase, but the apparent increase is mainly attributable to increased willingness amongst the community to report such alleged crimes. Although there were some earlier signs of changing attitudes, this increased willingness can be principally traced to the important law reform changes of 1986 which were accompanied by significant administrative and attitudinal changes within police and prosecutorial agencies, as well as the further growth of victim support services. In other words, "success" in confronting such crimes is marked by apparent increases in crime rates. In an age when "law and order" is the electoral catch-cry of all political parties, this kind of success could, as Broadhurst and Maller point out, be a politician's nightmare. Fortunately, there has not so far been any retreat from the shift in crime control strategy epitomised by the 1986 changes.

As to the second question, there are two answers. The first is that the category of *offenders* consists primarily of generalists – people who commit other types of crime as well, particularly but not exclusively violent ones. The second answer is that a disproportionate number of *offences* are committed by specialists – offenders who commit sex crimes on several occasions. This emerges both from the general literature concerned with self-reports by convicted sex offenders as well as from the immensely powerful failure rate analysis which the authors apply to the Western Australian sample. The markedly higher failure rates for those with prior convictions is of particular interest.

This finding leads the authors to discuss the argument, fashionable in the 1980s and still not completely dead and buried, that sex offenders should be sentenced from the point of view of incapacitation, i.e. to take account of what they might do in the future rather than what they have been proved to have done in the past. They unhesitatingly reject this; obviously, the danger of false positives is extremely high, particularly when it is borne in mind that a large proportion of sex offenders are, as their data demonstrate, generalists rather than specialists. The injustice of such an approach is made graphically clear.

One of the greatest strengths of this work – indeed, a unique quality – is that the authors have been able to work from one of the most comprehensive databases ever accumulated for the purposes of failure rate analysis. As will be seen, their findings are thus able to be placed in the broader context of base rate failures for the imprisoned population at large.

This work fits interestingly into the literature on sex offending, and undermines that part of feminist analysis which would have us believe that “all men are potential rapists” (Brownmiller 1975). Stirring dialectic though this might have been in the 1970s and echoed as it was by acolytes into the late 1980s, this turns out to be arrant nonsense, at least in the Western Australian context. As the authors point out, a far more interesting question is “why so many men, the overwhelming majority of mankind in fact, do not commit rape”.

Some clue to this seems to be found in the general literature, particularly the recent social analysis of rape in America by Baron and Straus. One of the most striking findings of that study was that gender inequality within any given society tended to be associated with high rape rates and, conversely, gender equality with low rates. In that context, law reforms – such as those of 1986 – are highly significant in both reflecting and stimulating such equality before the formal law and with regard to its processes. Another favourite feminist myth – that law reform is inevitably patriarchal – can thus be seen as having no validity whatsoever, at least in Western Australia.

An interesting point which the authors make, very much en passant, in their discussion of medical treatments available for sex offenders is that there needs to be resource-sharing across correctional jurisdictions. The cost of developing such programs separately, State by State, is very considerable; and the number of prisoners in any given prison system who might be suitable to benefit from such treatment may not always justify this level of expenditure.

This point opens up, in my view, the whole question of the appropriateness of State-based corrective services. There have to be – from the point of view of efficiency, fairness to prisoners and cost-effectiveness – much improved systems for using *Australian* facilities in the optimum way. If an Aborigine from the Kimberleys needs to be gaoled for a serious offence, it is more appropriate that he be sent to Darwin than to Fremantle. If a specialist program for sex offenders is available in Victoria and there are vacancies, it should be possible for a Queensland rapist to be sent there.

Correctional administrators regularly discuss how to improve their standards and make them compatible between States. The time has now come to discuss seriously the question of sharing resources. The

throwaway point made here in the context of medical treatment of sex offenders thus opens up wider issues of correctional administration.

The objective of the Crime Research Centre is to try to ensure that its Research Report series touches upon key issues of our time, contributes to our understanding of those issues, and lays the groundwork for the development of suitable strategies for addressing the problems which are identified. This publication meets all of those criteria. It is an outstanding contribution to the immensely important community debate about the disturbing questions of sex offences and offenders.

R. W. Harding
Director
Crime Research Centre

flow-way point made here in the context of medical treatment of sex offenders must give up with issues of non-medical rehabilitation. The intention of the Prison Research Council is to try to ensure that its research reports make a contribution to the development of the framework for the development of suitable strategies for addressing the problems which are identified. This publication meets all of those criteria. It is an outstanding contribution to the literature on the treatment of sex offenders and it is a pleasure to recommend it to all those who are interested in the subject.

R. W. Harding
 Director

Some of the issues raised in this book are of a general nature and are of interest to all those who are concerned with the treatment of sex offenders. One of the most striking findings of the research is that the treatment of sex offenders is a very complex task and that the treatment of sex offenders is a very complex task and that the treatment of sex offenders is a very complex task.

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Abstract

In this report the nature and incidence of sex offending in Western Australia is examined using data from police and prison records, victim surveys and victim support services. Victims were predominantly female children although a significant proportion (15%) were male children. These data suggest that the incidence of sex crime has been relatively stable since the mid-1970s and that most increases observed in official records are the result of an increased willingness of victims to report. Significant changes to police recording practices occurred during the period covered by the data and there were important changes in the definition of offences. The impact of changes to the law of "rape" were analysed and found to have had a positive effect on reporting and crime control.

The relationship between the incidence of victimisation and the offending behaviour of known offenders is examined in terms of the attrition of cases from report, to arrest, trial, conviction and imprisonment. Self-report studies of sex offenders reveal substantial rates of offending and indicate that known offenders, including those in prison, constitute a more representative population than had previously been thought. The effectiveness of penal and "medical" interventions is also reviewed and a method for estimating the recidivism of sex offenders is applied to those released from Western Australian prisons (for any offence, for repeating another sex offence or for an offence of violence).

Five hundred and sixty sex offenders released from prisons over the period 1975-1987 were followed for up to 12 years. A failure rate analysis (Weibull "mixture" model) provided estimates of probabilities of recidivism (re-incarceration) for any offence of 0.35 (95% confidence interval .25, .46) for non-Aborigines and 0.80 (confidence interval .68, .88) for Aborigines. Estimates of probabilities of committing further offences of violence, including further sex offences, were 0.21 (confidence interval .08, .48) and 0.61 (confidence interval .13, .95) respectively, but these figures are imprecise. A method of covariate analysis for recidivist data demonstrated that prior record, age and race were crucial determining factors, but little evidence of specialisation was found. It is argued that the evaluation of interventions should proceed on the basis of estimates of violent rather than repeat offending. The utility of incapacitation strategies and problems of crime prevention are discussed.

1. Introduction

Despite the relatively few serious violent offenders found amongst prison populations, there is no doubt that their impact on public attitudes to crime and penal policy in general is profound and significant. Public fear and concern are largely conceived in terms of personal crime and violence (see for example, van Dijk 1978, Hough & Mayhew 1985, Roberts & White 1986, Indermaur 1987 and generally Walker & Hough 1988). In particular public fear, especially the female public's fear of the recidivist or repeat sexual offender or violent offender, warrants special attention to the prevalence and frequency of these events. A recent study of attitudes to crime in the city of Perth (Australia) revealed that as many as 75% of women reported feelings of being afraid, if out alone at night in the city (Indermaur 1987). Criminologists have tended to play down these fears (unsuccessfully one might add) on the grounds that the available research has stressed the rarity of these offences and especially the low likelihood of repetition (e.g. Butler Committee 1975, Phillpotts & Lancucki 1979). Such fears have been described as "irrational" by some because they do not appear to relate to objective rates of actual victimisation (Mugford 1984; Junger 1987; Box, Hale & Andrew 1988).

Reliance on official statistics clearly limits measurement of the extent of criminal behaviour. Various studies of the victims of sexual offences show that while rape/sexual assault is relatively infrequent compared to other offences, many if not most instances go unreported (Amir 1971; Australian Bureau of Statistics 1979, 1986; Hough & Mayhew 1983, 1985; U.S. Department of Justice 1989). High levels of under-reporting, however, are not peculiar to sexual offences alone; they are also common to other offences, including assault, robbery and theft. Yet recent studies also show that women experience high levels of less serious sexual offences such as wilful exposure (Kapardis 1984; ABS 1975), obscene telephone calls (Pease 1985; Clarke 1990), personal crimes in general (Worrall & Pease 1986) and other "incivilities" which approach the commonplace in their lives (Junger 1987; Human Rights and Equal Opportunity Commission 1990). Undoubtedly, the frequency of these "less" serious sexual "assaults" contributes to the fear of crime amongst women. While sex offenders make up a very small proportion of all known offenders, their impact is substantial and oppressive.

Some scholars have implicated the selective reporting of the media in the amplification of fear of crime in attempts to account for the difference between perceived and actual risk of victimisation (see, for example, Skogan and Maxfield 1981). In reality the likelihood of sexual victimisation may not

be as low and the fear as irrational as supposed, even if risks may be negligible for some (depending on age and situational factors).

(a) Comparative Extent of Sex Crime

It has been *claimed* on the basis of victim studies that 1 in 3 women in the U.S. will be victims of rape/attempted rape over a lifetime, corresponding to an annual incidence rate of 30 per thousand females (Russell 1982; Furby, Weinrott & Blackshaw 1989). However, differing survey methodologies and wide variance in estimates, especially for lifetime prevalence, have been noted. For example, estimates derived from the well-constructed probability samples of the U.S. Bureau of Census annual National Crime Survey, place the latest estimates at the much lower rate of 1.3 rape/attempted rape per thousand females for 1987, 1986 and 1985. In fact the U.S. National Crime Survey indicates that since the first victim survey in 1973 the rate of rape victimisation has declined from around 2 per thousand in the 1970s to the present level of 1.3 per thousand (U.S. Department of Justice 1989).

The Australian Bureau of Statistics (ABS 1986) estimated annual rape/sexual assault victimisation rates in Australia for 1983 higher than this at 5 per thousand (female population) but no lifetime rates are available. The U.S. Bureau of Census surveys employ the narrower definition, "forcible rape" and cover a younger population than the ABS crime surveys. Adjusting the ABS data to exclude sexual incidences other than rape, a comparative estimate of approximately 1.5 per thousand is calculated. Australian rates of sexual victimisation are, however, estimated to be considerably higher than for England and Wales (Walker, Collier & Tarling 1990). The evidence from crime victim surveys is discussed in greater detail below.

Official police records collected by Interpol show that indeed Australia has a relatively high incidence of rape reported to police as compared to other countries, and this appears to confirm the general picture given by victim surveys. In fact, the relative incidence of crimes, measured either by victim surveys or police records, is very similar and the measures themselves appear highly correlated (Hindelang 1984; Hindelang & Davis 1977; Baron & Straus 1989). While there are difficulties with cross-jurisdictional comparisons, particularly with regard to definitions and counting rules, Table 1 below cites available comparative data for 1984; robbery and homicide are included for context.

Table 1: Interpol-international comparison of reports of homicide, rape and robbery 1984 (selected countries)*

Country	Homicide	Rape	Robbery
Australia	3.4	13.8	83.6
U.S.A.	7.9 ^a	35.7	205.4
England	1.4	2.7	44.6
Canada	6.3	10.3	92.8
Denmark	5.8	7.7	35.6
France	4.6	5.2	105.6
Netherlands	1.2 ^a	7.	52.9
Germany W.	4.5	9.7	45.8
Italy	5.3	1.8	35.7
Greece	1.8	0.9	2.3
Sweden	5.7	11.9	44.1
Switzerland	2.2	5.8	24.2
Japan	1.5	1.6	1.8
Indonesia	0.9	1.2	5.1
Thailand	16.6	5.3	10.1
Philippines	42.5	2.6	33.0
New Zealand	2.5	14.4	14.9

* rate per 100,000 all population; rates for Canada and England refer to 1982 and 1983 reporting years; a. denotes "attempts excluded from count".
Source : U.S. Bureau of Justice Statistics 1989

In a recent international random telephone survey of about 2,000 persons conducted in 1988 in each of 14 countries, Australia ranked third in overall victimisation rates and highest for offences involving assaults and less serious sexual incidents. For Australia 1.6% of respondents reported sexual assault; this was third highest after the U.S. (2.3%) and Canada (1.7%), and only West Germany, with 1.5% of respondents, was comparable. The proportion of English respondents of the survey reporting a sexual assault was only 0.1%.

The authors of the Australian report of the study considered that the willingness of Australian women to talk about sexual incidents ("touching and grabbing") probably accounted for the differences. There has been lively community debate in Australia compared to some other surveyed countries where the subject was still taboo. The proportion of victims reporting sexual incidents to police was usually small (less than 10%) and compared to all other offences the least likely to become known to police (Walker, Wilson, Chappell & Weatherburn 1990; Van Dijk, Mayhew & Killias 1990), although it should be noted that half the Australian respondents who did not report the "sexual incident" to police did so because the incident was regarded as trivial or they would "solve it themselves".

Given the apparently low levels of reporting to authorities, it would seem premature to reject or denigrate subjective fears of crime when the extent of sexual aggression is substantial if not precisely known (see also Smith 1989, Hall 1985 and Fishwick 1988). Certainly the consequences of victimisation are severe (Burgess & Holmstrom 1974).

(b) The Feminist Critique and Rape

At least since Susan Griffin (1971) described rape as the "all American crime", many researchers have seen sexual offences as the offence *par excellence* defining gender relations in law (Brownmiller 1975; Clark & Lewis 1977; Scutt 1986; Smart 1989). These offences are actions "...which caricature both male and female sexuality and reassert the imbalance of power relations between men and women", (Fishwick 1988, p. 169). Arising from this view are the notions that all men are "potential rapists"¹ and that specialist offenders or pathological offenders need not be found to explain the incidence of sexual assault, as such behaviour arises "naturally" from existing social relations – particularly the unequal relations generated by patriarchy; and that in fact the law represents male power and acts to disqualify women's experience and define sexual aggression in male terms. It is argued that the salacious, exploiting nature of male sexual coercion and aggression is carried through by the law in the doctrine of consent and into the courtroom where women's powerlessness is celebrated by reaffirming "...deep-seated notions of natural male sexual need and female sexual capriciousness" (Smart 1989, p. 35).²

Feminists have consequently become disillusioned with the effectiveness of legal reform and, in particular, changes to the law of rape and allied matters. This argument implies that changes have been at best cosmetic and perhaps even worse – reinforcing male domination and definitions. Patriarchy, it is argued, continues to define sexual behaviour and control the means of enforcement. This seems at odds, at least in part, with what appears to be happening on the ground.

1 The feminist argument really stresses the fact that all men benefit from the oppression of women through sexual victimisation.

2 Some scholars take the argument further viewing the law as acting to reinforce male dominance and that "rape" law is the ideal mechanism because "The idea that law has the power to right wrongs is pervasive" (Smart 1989, p. 12). Legal method asserts an image of the law as a superior system of the truth/knowledge and hence having power and denying standing to other discourses (other disciplines). Yet as Carol Smart argues "... the law is so deaf to core concerns of feminism that feminists should be extremely cautious of how and whether they resort to law. Of course, issues like rape are already in the domain of law so it is hardly feasible to ignore its existence, but we do need to be far more aware of the 'malevolence' of law and the depth of resistance to women's concerns.... there is a congruence between law and what might be called 'masculine culture' and that in taking on law, feminism is taking on a great deal more as well. Ironically it is precisely for this reason that law should remain an important focus for feminist work, not in order to achieve law reforms (although some may be useful) but to challenge such an important signifier of masculine power" (Smart 1989, p. 2).

Feminist scholars thus argue that male-dominated institutions, such as the law and police, act to preserve male dominance over women. These male officials, rather than responding to female victims in terms of formal legal rules or the seriousness of the assault (the conventional interpretation for mobilising an official response), define their actions in terms of extra-legal considerations. In terms of gender, these extra-legal factors are: the status of the victim as a daughter or wife which defined their "sexual property value" by attachment to a significant male, and their conformity to "sex-role norms" such as modesty and chastity. Women who do not meet these criteria are afforded less protection if they are sexually assaulted.

Kerstetter (1990), using discriminant analysis, tested for these "gender conflict" factors amongst others (i.e. seriousness, instrumental and evidentiary factors, class and race) in police decisions to found reports and prosecute sexual assaults in Chicago for 1979 and 1981. He found that the willingness of the victim to prosecute was the most important factor in the police decision to found and prosecute and that this was mediated in part by the seriousness of the offence (e.g. weapon involved), injury to the victim, corroboration (e.g. presence of witness, medical evidence) and the degree to which the victim had "violated sex-role norms". He concluded that the willingness of the victim to prosecute was thus not simply a matter of free choice. Critically, Kerstetter distinguished between "identity" cases where the offender was a stranger and "consent" cases where the offender was known: in "identity" cases evidence of resistance and the willingness of the victim to prosecute was crucial but in "consent" cases the victim's sexual property value as wife or daughter was also significant in the decision to arrest. In summarising he argued, "... gender-conflict variables appear to be likely to influence the secondary, more informal decisions (the willingness to prosecute and apprehension decisions) rather than the primary decisions (the police founding decision and the prosecutorial felony filing decision)". (Kerstetter 1990, p. 312)

Essentially, Kerstetter found that instrumental/evidentiary or administrative factors defined, and were predominant in, the decision to found and prosecute sexual assault cases. Gender conflict, seriousness of the incident and the form of legal rules thus accounted for only part of the nature of official responses. Although pragmatism may be the governing principle of the police response to sexual assault, by definition it must also be open to influence. Hence changes to factors such as the nature of evidentiary rules, administrative rewards, the status of victims and the interpretation of seriousness remain potentially important sites for feminist struggle. The limitations of law reform can be seen as a consequence of the focus on changing abstract or formal legal rules, which, while important, cannot alone be expected to radically influence the actual nature of official behaviour.

As Allen (1990) observed, the cultural response to sexual violence, in inter-war and post-war Australia, was an obstacle to policing and was based on "wide acceptance of the representation of man as naturally 'animal' in

relation to woman, unable to be restrained by morality, delicacy, tenderness and other noble traits" (Allen 1990, p. 242). The issue does not only distil to finding the right legal and administrative recipes but also focuses on the character of male sexuality and conflicts between the sexes (sexual politics) in circumstances of extraordinary social change.

The available empirical data, reviewed below, tell us that in Western Australia there have been substantial increases in reports of sex crime without a decline in arrests. Offenders for the most part are "normal" and few demonstrate pathologies beyond the reach of existing interventions. Moreover, the "true" or "hidden" sex crime rate appears to be relatively constant, although current Australian research falls short of the ideal test for such a conclusion. In addition, increases in sex crime have occurred in the context of an extensive re-definition of offensive sexual behaviours, rapid growth of victim services and advocacy, and a near moral panic about "child abuse". Thus despite an impression of increasing risks for women and children in terms of "more" crime, there has been a significant change in the attitudes of victims and the practices of law enforcement agencies which imply increases rather than decreases in control.

The data suggest that traditional responses to sex crime and the victimisation of women and children are undergoing rapid change and that significant improvements in control have been achieved (Allen 1990, pp. 218-255). Under such circumstances it can be seen that dismantling some misogynist laws and practices has contributed to a rapid redefining of the scope and direction of male power. It would be wrong however, as Kerstetter (1990) and others (LaFree 1981; Baron & Straus 1989) show, to attribute too much significance to legal reform in attaining gender equality without a corresponding popular struggle (for example, victim advocacy) and change in the economic, political and other spheres of the status of women.

In order to test for this redefining of male dominance an important question must then be: how effective is present control? A specific evaluation of this is to measure the frequency of offending and the effectiveness of traditional interventions, aimed at deterrence and correction, on known offenders. Thus changes in the frequency of offending and the recidivism of offenders, especially the prevalence of specialist (repeat) sexual offenders (examples of the "animal in man"), can serve as a test of current controls. The proportion of specialist offenders indicates the validity of directing attention to the pathology of individual males rather than the mechanisms of male dominance which may generate sexual violence. The focus on "specialist" sex offenders also provides a distinction between the possibilities of social "engineering" and intractable human, specifically male, "natures". From a technocratic and enforcement perspective the extent to which prediction, prevention and control of such

offensive behaviour is possible can also be assessed. Consequently such a review enables the social changes and policies, driven by feminist demands for equal protection, to be considered in the light of observed changes to traditional male responses to sexual assault.

2. Incidence

(a) Recidivism and Incidence

This report describes the incidence of offending and the recidivism of offenders imprisoned for sex crimes in Western Australia. In particular we concentrate on the offence of rape or "sexual assault" – as a consequence of the feminist focus on legal reform, now more broadly defined as gender neutral sexual penetration. We are able to measure the incidence of this offence more readily than that of other sexual offences, as records of reports to police are available over a lengthy period and estimates of victimisation enable some calculation of under-reporting for this offence. Indecent assault, sexual relations with children (those under 16 years), incest and wilful exposure are also briefly examined in relation to the criminal careers of incarcerated offenders, but we are even less certain of the extent of these crimes and of how representative a population of incarcerated offenders may be.

The central question in this study is: how likely are these offenders to repeat sexual or other violent offences? We discuss now the difficult question of how representative of all sex offenders these prisoners may be. By examining the incidence of sex offending we are able to estimate the size of the problem, the efficiency of enforcement and consequently the role deterrence and correction are able to play in control.

(b) Incidence of Sex Offending

(i) *Victim Surveys*

The incidence of sex offences and other offences has been variously estimated by victim surveys which attempt to measure the "true" extent of crime by interviewing random samples of the population. Such surveys are useful in estimating the amount of crime that does not become known to police and give some guide to the reporting behaviour of victims.

Table 2 summarises information garnered from crime victim surveys conducted in Australia on the incidence of sexual crime. Despite differences in coverage and methodology the estimates of sexual assault victimisation appear consistent and relatively stable over time at around 5 per thousand female population and for "rape/attempted rape" 1.5 per thousand. However, because respondents are 18 years or older (the 1975 ABS survey asked those 15 years or older), and males are not surveyed on this question, it can be assumed that under-counting even by this means is likely.

The most reliable estimates are drawn from the two large surveys conducted by the ABS, one in 1975 and the other in 1983. Because of methodological differences in both design and administration, the results are unfortunately not generally comparable (see ABS 1986, p. 73).

The 1975 ABS survey asked all females in the sample over the age of 15 years the question *In the last 12 months have you been the victim of any of the following sex offences - peeping? - indecent exposure? - rape or attempted rape?* and for each positive reply *How often has this happened?*. This question yielded estimates of 16 incidents per thousand females for "peeping", 7 per thousand for "indecent exposure", and 2 per thousand for "rape/attempted rape". Using these estimates we calculate a raw figure of about 1,100 rape victims (plus or minus 26% at the 95% confidence interval) and 3,900 indecent exposure victims (plus or minus 16%) in Western Australia during 1975. Braithwaite and Biles (1980) in summarising the 1975 findings arrived at an estimate of 1.86 per thousand females for rape (they excluded the rural population in calculating rates to control for limitations in the survey coverage) which would place the weighted incidence slightly lower. They noted that younger, single or divorced/separated females, and those dissatisfied with their neighbourhoods, were at greater risk of victimisation.

Sexual assault, including threats as well as actual sexual assault, was defined in the 1983 survey as "any incident of a sexual nature considered by the respondent to be forced upon her" (ABS 1983, p. 2). In actuality the question differed to the extent that references to "peeping" and "indecent exposure" were discarded and replaced by a modified version of the 1975 question *In the last 12 months have you been the victim of - rape or attempted rape? - any other type of sexual assault?* Data on frequency of incidence were not collected but no additional element of force was introduced. Victimisation rates based on this question were estimated nationally to be in the order of 5 per thousand persons per annum. The rate in Western Australia was estimated to be 7 per thousand persons but a high standard error due to small numbers make this State-specific estimate very unreliable (i.e. a relative standard error between 25 and 50%). The survey resulted in a weighted estimate of 26,700 victims per annum nationally and 3,100 victims per annum in Western Australia. Of these about 8,000 were victims of rape/attempted rape nationally of whom some 930 were in Western Australia.

Table 2: Crime victim surveys – summary results for sex offences

Survey	Coverage	Method	% Report	Incidence per 1,000	Definitions
ABS 1975	age 15+ 16,000 sample	face to face	28%	2.0	rape/attempt
				7.0	indecent exposure
				16.0	"peeping"
ABS 1983	age 18+ 18,000 sample	face to face	28%	5.0	rape/attempt & any other sexual assault
				1.5 ^a	rape/attempt only
Inter-national 1988	age 16+ 2012 sample	telephone	n.a.	4.6 ^b	rape & sexual assault
			7.5%	180.0	"sexual touching or grabbing"
NSSS 1989	age 18+ 2534 sample	mail-out	n.a.	10.2 ^c	rape & sexual assault
				3.9 ^d	(5 yr rate)
Perth 1989	age 18+ 410 sample	face to face	*	4.7 ^e	sexual assault

Notes: a: calculated on the basis that 30% of victims described the offence as a rape or attempted rape; b: sample weighted; c: preliminary estimate based on unweighted sample of 2,534 respondents; d: annual estimate based on 5-year recall; e: unweighted sample; (*) the only case found, reported to the police. Confidence intervals are available only for ABS data. Rate per 1,000 female persons. Data for the 1989 Perth survey by personal communication David Indermaur and the National Social Science Survey (NSSS) sourced from the Australian Institute of Criminology. The NSSS, as a mail-out questionnaire with a high non-response rate and no control for time boundaries, provides an estimated range of between 4 and 10 per thousand females.

In contrast, nationwide, for the years 1982–83, 1,674 and for 1983–84, 1,844 reports of rape/attempted rape became known to police involving 731 and 913 offenders charged, respectively (Mukherjee, Scandia, Dagger & Matthews 1989, pp. 162–165).³ Based on these victim estimates, about 21% to 23% of victims report to police, but the proportion reporting rape/attempted rape in Western Australia was much lower. Additional numbers of other sex offences also became known, but national data on these offences are unavailable. Data in Western Australia on indecent assault and sex offences other than rape/sex assault are not available prior to 1983–84. In that reporting year 1,026 sex offence cases other than rape/attempted rape were reported at the approximate time of the national victim survey (Annual Report Western Australia Police 1983–84). Thus, relying on these records and those for rape (unconfirmed reports for 1983–84 and 1982–83 were 102 and 108 cases respectively), about one third of estimated sex offences victimisations in Western Australia become known to police.⁴

The difference between the two ABS estimates – 2 per thousand for rape in 1975 and 5 per thousand for rape and sexual assault in 1983 – may appear striking, but it must be recalled that a narrower definition was employed in 1975. Adjusting the 1983 estimate to equate with the 1975 definition of only rape or attempted rape, by extracting only the cases who responded to the first part of the sex offence question asked in 1983 (see above), we arrive at an estimate of 1.5 per thousand – somewhat lower than the 1975 estimate. This difference can be partly explained by the high standard errors (about 25%) calculated for these estimates by the ABS and by the difference in the age coverage (respondents aged 15+ in 1975 and 18+ in 1983) of the two surveys. The restricted age coverage in the 1983 survey would certainly act to reduce the estimate, given the very young ages of victims of sex offences that become known to police (see below).

Two estimates with different coverage and definitions will not provide a reliable picture of changes in incidence or risk over time. Given the similar estimates produced by very much smaller samples in recent times, there exists no strong evidence to suggest that there have been increases in victimisation rates for rape or sex assault offences between 1975 and 1989, although there have been dramatic increases in official reports of sex offending. This supports the view that it has been changes in the willingness of victims to report to police that account for the increases in

3 The corresponding national figure for 1974–5 was 825 reports of rape and attempted rape and, for 1975–6, 920 reports. The number of offenders charged in the same years were 493 and 558 respectively. In Western Australia confirmed reports to police in 1975–76 were 40, or only 10% of the estimated victimisations using the 1975 ABS survey.

4 National reports for rape had reached 2,259 by 1986–87. The number of sex offences other than rape that became known to Western Australian police were as follows: 1983–84, 1,026 reports and 419 alleged offenders charged increasing by 50% in 1986–87 to 1,516 reports and 573 alleged offenders. The latest figures, for 1988–89, place the number of reports at 1,717 with 505 alleged offenders charged – published summary data prior to 1983–84 are unavailable.

official records. Nevertheless reporting rates, like victimisation rates, have proven elusive quantities to estimate.

Data from the annual U.S. National Crime Survey when compared to official police reports provide comparative support for the proposition that the "true" crime rate may have been relatively stable and official increases can be attributed to changes in the willingness of victims to report and/or police to record. Table 3 shows the ratio of reports to victims has improved from one in four in the early 1970s to one in two by the late 1980s, and this accords with the relatively high reporting rates (in excess of 50%) indicated by the later U.S. National Victim Surveys. It should be noted that the U.S. estimates for both victim and police data are subject to considerable variation by age, race, region and other factors.

The U.S. victim surveys define rape as carnal knowledge through the use of force or threats of force and include both homosexual and heterosexual rape, but "statutory" rape is excluded. Thus in terms of definitions it is similar to the ABS prompt "any incident of rape or attempted rape considered by the respondent to be forced upon her" but excludes the follow up question "any other sexual assault?".

Regular ABS victim surveys equivalent to the U.S. example (and recommended by the National Committee on Violence 1990) are certainly required if the impacts of policy and social changes on the incidence of crime are to be properly assessed in Australia.

While the U.S. victim surveys have not been without criticism, especially for under-enumerating sex crimes, claims that "...the true incidence of rape is covered up by [Bureau of Crime Statistics] data" are unfounded.⁵ The critics have neglected to compare disaggregated U.S. victim data (which show substantially higher incidence for the young, urban, lower socio-economic status and black female populations) with their own samples; they often fail to adequately address definitions of time; they vary definitions of rape; and they do not always calculate incidence rates from adequately constructed probability samples. However, administrative aspects of the national survey implementation are open to criticism in that they fail to ensure that respondents (especially young females asked questions about "forced carnal knowledge") are always able to freely disclose. Nevertheless, the major advantage of the U.S. surveys is that they are *repeated* measures – the fundamental requirement if changes over time are to be understood.

5 Dr Mary Koss, University of Arizona Medical School (1990) quoted in the *Criminal Justice Newsletter* 21:171.

Table 3 : Rape: U.S. crime victim survey estimates and official reports to police (rates per 100,000 all population).

Year	Victims ^a	Police Reports ^b	Ratio:victims /reports
1973	100	24.5	4.08
1974	100	26.2	3.82
1975	90	26.3	3.42
1976	80	26.6	3.01
1977	90	29.4	3.06
1978	100	31.0	3.22
1979	110	34.7	3.17
1980	90	36.8	2.44
1981	100	36.0	2.77
1982	80	34.0	2.35
1983	80	33.7	2.37
1984	90	35.7	2.52
1985	70	36.6	1.91
1986	70	37.5	1.86
1987	70	37.4	1.87

a: survey includes males (a small fraction of respondents) and respondents 12 years and over; b: F.B.I. Uniform Crime Reports.
Source: U.S. Department of Justice (1989), Tables 3.2 and 3.115

Based on the estimates of incidence and reporting rates (discussed below) from Australian victim studies, a pattern similar to that shown by the U.S. studies can be found for Western Australian data shown in Table 4.

Table 4 : Victim estimates and police records in W.A.

Year	1975	1981	1983	1986	1989
estimated number of victims	1125	1260	930	1080	1140
number expected to report	281	315	232	275	285
number of complaints received by police	71	115	108	197	395
% of victims reporting	6.3	9.1	11.6	18.2	34.6

From the estimates in the above table it can be seen that reporting rates have improved from 1 in 15 in 1975, to 1 in 9 in 1983 and finally to 1 in 3 in 1989. By adjusting the 1983, 1986 and 1989 victim estimates to the same rate estimated in 1975 the trend is still observed but is less substantial. The trend shows an improving ratio until 1986; thereafter official reports may also reflect the introduction of a broader definition of sexual assault.

(ii) *Reporting Sex Offences*

About one in four of these incidents was said by respondents of the 1975 and 1983 ABS crime victim surveys to be reported to police. The triviality of the offence and the view that the matter was a private one were considered the main reasons for not reporting the incident to police. Nevertheless, a belief that the police were ineffective or would not be interested were also reasons often cited by respondents. A small number of respondents did not report because they were frightened or feared reprisal – monitoring the number of these cases will be a key indicator of the success of programs designed to increase reporting. Hindelang and Davis (1977) noted how "fear of reprisal" was a significant reason for not reporting amongst some groups, notably black women. Because of the few sexual assault cases found in victim surveys, no reliable account can be given of the principal barriers to reporting.

Moreover, the estimate that only about 25% of victims report may be unreliable. In the three sweeps of the British crime surveys (Hough & Mayhew 1983, 1985; Mayhew, Elliot & Dowds 1989) for example, very large differences in estimates of the proportion of victims reporting incidents were noted. Proportions varied from 28% for the first sweep, 8% for the second sweep and 21% for the last sweep, suggesting significant sensitivity to definitions and survey protocols.⁶ The U.K. Home Office (1988) Criminal Statistics 1987, however, note that the 8% estimate for the second sweep falls within a 95% confidence interval of 7–23% for the calculation of reporting levels, illustrating the difficulties of accurate estimation in this area. Chappell (1988) also reviews examples of divergent estimates including Canadian self-report data showing only 1 in 11 report to authorities. As previously noted, the reporting rates observed for sexual assault in the international victim survey also varied significantly by country and by seriousness of the sexual offence.

Thus it should be stressed that because of the relatively small number of respondents found, even in relatively large random samples, estimates of the proportions reporting cannot be regarded as reliable. The precise extent of under-reporting remains a matter of speculation and controversy, in part

⁶ The 1988 British Crime Survey conducted by NOP asks the question *Have you been sexually interfered with, assaulted or attacked, either by someone you know or by a stranger?* If the event coincides with a burglary and involves a sexual assault not involving force then the sexual assault not recorded as an additional offence.

due to problems such as the offence definitions used in victim surveys and problems of recall and "telescoping" (i.e. bringing forward events that take place prior to the counting period: see Turner 1981). Also, record check studies show that some events originally reported to police were forgotten or not reported to the survey interviewer (Hindelang & Davis 1977). Problems of recall or telescoping are likely explanations for the difference observed in the one year rate and the five year rate found in the preliminary results of the NSSS mail-out survey noted in Table 2. We also have little idea of how reluctant respondents are to report these incidents to interviewers, and how sensitive survey methods and protocols must be.

Based on raw data from the 1983 victim survey provided by the Australian Bureau of Statistics, 30% of these reports of "incidents of a sexual nature" related to rape or attempted rape and 29% of all reports related to verbal threats alone; but as few as 28% of these offences were reported or became known to police. A factor in this may have been that, in 42% of the sex incidents reported, the offender was known to the victim and furthermore most (79.5%) of these were related in some way. In Western Australia the proportions were higher for rape (46%) and reporting to police (36%), but lower for the proportion reporting only verbal threats (21%). Experience of victimisation was also sensitive to age (those under 29 were most at risk), to place of residence (more prevalent in large cities), to socio-economic status (higher educated more at risk or more likely to report), and to marital status (single/separated more at risk or less likely to report). These are findings common to victim studies in many jurisdictions.

Estimates of victimisation used here for Western Australia are derived from the last crime victim survey undertaken throughout Australia in 1983 by the Australian Bureau of Statistics (ABS 1986), involving 1/3 of one per cent of the population over age 15.⁷ We apply the national estimates of victimisation and reporting rather than State estimates because the latter are less reliable and based on a much smaller sample. Questions relating to sexual assault in this survey were confined to females over the age of 18; this may underestimate the incidence of such events since those under the age of 18 may be victims more frequently, while male victims are ignored.

(c) Police Records

(i) Estimates

The proportions and estimates from victim surveys must be treated with considerable caution, as they are based on very small numbers of cases and are subject to substantial standard error and to possible biases due to sampling and reporting inconsistencies. Nevertheless, we may use these

7 18,000 households were interviewed by the ABS and only 84 respondents reported a sexual assault. In a similar sized survey population of 16,000 households in Britain only one incident was reported to interviewers in the first sweep and 19 in the second (Hough & Mayhew 1983, 1985).

proportions to "guesstimate" from the per capita rate the "hidden" or unreported extent of rape/sexual assault occurring in Western Australia during the early 1980s (we assume the reporting rate is 28%). Discounting verbal threats (29% of victim self-reports) and sexual assaults not regarded as rape or attempted rape by respondents (70% of reports related to sexual assaults other than rape), we estimate from the 1983 ABS victim survey approximately 651 victims by these means, of whom approximately one in four or 182 are estimated to report to police.⁸

It should be noted, however, that the long-term trends for sex crimes may only be observed for rape but this series is broken by both definitional changes and methods of collection and recording. Table 5 shows the published *annual data* for rape from 1963 and sexual assault from 1986.

Table 5 below summarises cases of rape reported by Western Australian police since 1963: Column (1) gives all reports and Column (2) gives "confirmed reports". This shows that numbers of reports in 1982-83/1983-84 were 102 and 108, falling below the above figure of 182. By 1984-85 when reports were 197 (or 163 excluding "unfounded reports"), the estimates are close. This suggests that the increases recorded by police reflect a greater willingness by victims to report and/or by police to formally record. Furthermore it suggests that the estimate that one in four rape victims report to police appears also to roughly tally with official records.

Converting these figures to a per capita estimate, the rate of rape victimisation is 80-133/100,000 incidences per year, of which 20-33/100,000 are reported to police. Given the crudity of the calculations this estimate accords well with the 31-34/100,000 estimated for 1986 from official records, suggesting that in conjunction the available data are more reliable than expected. Only repeated and regular victimisation surveys will permit improved cross-validation with police records, and these may be further refined by the inclusion of alternative victim reports (e.g. hospital and victim support agencies) and of estimates derived from offender self report studies.

(ii) Trends - Real Increases?

Trends in respect to sexual assault/rape are difficult to interpret because there appear to be changes over time in the willingness of victims to report. There was also a significant recent change in the statutory definition of sex offending. An assumption by law enforcement agents has been that the new definition simply "shuffles the deck", and that increases observed for

⁸ The range is derived by calculating the estimate based on national responses to the crime survey and incorporates the standard error provided by the ABS. The proportions of W.A. victims reporting verbal threats was only 21% compared to 29% for the national sample, but 36% of W.A. victims said they had reported the offence to police compared to the national estimate of 28% - but as these W.A. proportions are based on only 15 cases the national estimates based on 84 cases are preferred.

Table 5 : Number of rape/sexual assaults known to W.A. police by year^a

	Reports	Adjusted	Cleared by Charge (%)		Persons Charged (U16)		Adults Imprisoned (%)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1988-89	395	358	215	60	154	(21)	53	40
1987-88	300	274	164	60	154	(16)	36	26
1986-87	248	221	121	55	109	(17)	30	33
1985-86*	197	163	88	54	78	(10)	26	38
1984-85	197	163	76	47	90	(18)	26	36
1983-84	102	73	39	53	44	(6)	35	92
1982-83	108	87	59	68	71	(5)	35	53
1981-82	104	82	32	39	35	(7)	27	96
1980-81	115	98	54	55	50	(8)	19	45
1979-80	112	84	40	48	62	(12)	"	"
1978-79	96	62	40	64	77	(13)	n.a.	n.a.
1977-78	98	56	40	71	57	(9)	n.a.	n.a.
1976-77	93	44	34	77	48	(14)	n.a.	n.a.
1975-76	71	40	31	77	38	(1)	n.a.	n.a.
1974-75	n.a.	43	36	84	61	(10)		
1973-74	n.a.	31	28	90	42	(7)		
1972-73	"	31	31	00	33	(2)		
1971-72	"	33	30	91	30	(4)		
1970-71	"	15	6	40	11	(2)		
1969-70	"	9	7	78	9	(0)		
1968-69	"	5	5	100	8	(0)		
1967-68	"	3	3	100	5	(1)		
1966-67	"	9	7	78	20	(3)		
1965-66	"	9	9	100	18	(5)		
1964-65	"	10	7	70	7	(0)		
1963-64	"	4	4	100	5	(0)		

Notes: (1) All reports to police. (2) "Unfounded" reports are removed. (3) The number of confirmed reports leading to person(s) being charged. (4) The percentage of reports cleared by charge. (5) The number of persons charged. (6) The number of persons under 16 years charged. (7) The number of adult offenders imprisoned - data prior to 1980 not available. (8) The percentage of those charged who were incarcerated after removing juveniles (under 16) from the count.

a: includes attempts; * denotes changes to the criminal code abolishing the offence of rape and replacing it with the offences of sexual assault and aggravated sexual assault.

rape/sexual assault reflect the incorporation of "lesser assaults" previously recorded elsewhere. Thus, monitoring of all sex offence reports over the relevant transition phase should enable observation of any such shifts arising from definitional changes. Fortunately, we have police reports for all sex offences recorded by police between 1984 and 1989 and thus can attempt to verify this hypothesis. It should be noted that the data we rely on for this purpose are extracted from the police computing system and reflect initial offence classification decisions made at the time of report which do not always coincide with published summaries. As the data for the period 1984-85 to 1988-89 show, however, such a reshuffling is not easily detected when strong increases in reports also coincide with definitional changes across the board.

Table 5 shows that there has been a 20-fold increase in the number of reports and a 9-fold increase in offenders over the 25-year period 1963-1988. Controlling for population size, we still observe a radical increase in reports and persons charged in the later period as follows in Table 6:

Table 6 : Per capita rate of reported rape/sexual assault in W.A.

Census Year	Reported Rapes per 100,000 Females	Persons Charged per 100,000 males
1966	2.2	4.2
1971	6.6	5.7
1976	9.9 16.2)*	8.2
1981	15.5 (16.2)*	5.4
1986	30.6 (34.3)*	14.8
1989	45.4 (50.4)*	19.1

* Figures in brackets refer to rates calculated including "unfounded reports" to police.

(iii) *Re-defining Sexual Crime: Impact Upon Offence Rates*

The 1985 amendments to the criminal code (implemented 1986) abolished the offence of rape, which specifically required penetration by the penis of the vagina, and replaced it by the offence of sexual assault. This was defined as penetration of any orifice of the victim (gender of the victim being irrelevant) by any part of another person's body or by an object manipulated by another person. Importantly consent was defined as "freely and voluntarily given and, ...is not freely and voluntarily given if it is obtained by force, threat, intimidation, deception or fraudulent means" (Criminal Code of Western Australia S324G). Consequently, failure to resist and/or the absence of physical injury could no longer be deemed presumptive or consistent with consent. The offence was classed as "aggravated" if the victim was very young or old or harmed bodily, if the offender was in company or was armed, and where the offender "...does an act which is

likely seriously and substantially to degrade or humiliate the victim" (Criminal Code S324H).

In addition there were four significant changes to the evidentiary rules applying to the prosecution of sexual assault offences. Firstly, the long-standing mandatory requirement that trial judges warn juries against conviction on the basis of the uncorroborated testimony of a single witness was removed from the Evidence Act. However, the "corroboration rule" still applies in circumstances where the victim is under 13 years and accounts for a significant proportion of cases not proceeded with by the police Child Protection Unit (Western Australian Law Reform Commission 1990). Secondly, the new law imposed barriers upon the use of information about the "sexual disposition" and "sexual experience" of the victim. In other words conformity to sex-role norms was ruled less relevant. Thirdly, delay in reporting the offence to police was no longer considered indicative that an allegation of sexual assault was false. Finally, restrictions on the publication of the names of the accused and the victim were imposed.

These changes would in theory help to remove some of the trauma of the prosecution process for the victim and indirectly to remove some of the disincentives seen by victims to the reporting of such offences. In so far as these refinements of legal process would be known to victims, it was thought that the changes would act to encourage victims to report. Moreover, the substantial weakening of the corroboration rule and the restrictions on "sexual character" evidence would be expected to increase police charges in accord with the improved prospects of bringing sexual assault cases to trial. In addition it was expected by the reformers that the chances of conviction would be increased.

Scott (1988), in an early review of the impact of the law on prosecution outcomes, noted no improvement in the conviction rate for contested trials, although there appeared to be an increase in guilty pleas. Table 5 (Columns 3 and 4) show the number of charges laid, and the ratio of charges (expressed as a percentage) to confirmed reports has indeed improved. The percentage of confirmed reports leading to a charge increased slightly, from 52% in the four years preceding the change to 57% in the four years after the change. The increase is even more marked for the proportion of charges from all reports (i.e. improved from 40% to 51%), although this partly reflects the decline in reports classed as unfounded. Additional support for the proposition that these changes in definition and related matters enhanced prospects of reports leading to a charge is found in improved clearance rates for indecent assault offences. These clearance rates were 51% of 1,026 cases in 1984 but 66% of 1,717 cases in 1989 (Annual Report, Western Australian Police, 1989).

It can be readily understood that this re-definition substantially broadened the scope of behaviours for which a report (and charge) of a sexual assault could be brought, and enabled aggravated sex offences to be distinguished

by additional penalties. A consequence of this definition was also to redefine the offence of indecent assault which up to the change included behaviours which could involve non penile "penetration". Under the new definition, indecent assault and the newly created class of "aggravated" indecent assault (aggravation being defined as for sexual assault), were confined to behaviours short of penetration as presently defined. Given these changes in the definition of offences, it would be expected that the number of behaviours defined as indecent assault would decline with the introduction of the new law whilst the number of rape/sexual assaults would increase relative to that decline. Before looking closely at changes within the category of sexual assault (Table 8), overall trends in all sex offences are examined for the period 1984-89 in Table 7 below.⁹

Table 7 : Trends in sex offences reported to police 1984-89

Year	Sex Assault ^a	Carnal Knowledge	Indecent Dealings	Incest Exposure	Wilful	Total
1984 ^b	212	65	117	13	347	762
1985	346	93	285	14	581	1319
1986 ^c	387	83	226	29	527	1252
1987	544	68	208	23	499	1342
1988	592	37	290	10	536	1446
1989	644	33	431	40	620	1766

a: includes rape and attempted rape. b: data from computer system – under-enumeration is acknowledged and data are not validated. c: new definition of sex assault effective early 1986.

Table 7 shows that there have been overall increases in sex offences over the relevant period, with most increases being observed in the category of sexual assault and indecent dealings (an offence predominantly against the very young and where consent is irrelevant). However, there was a significant short-term decline in the number of the latter offence and an increase in the former, at the time of the definitional change. This suggests that it was "indecent dealings" which was mostly affected by the definitional changes, although there also has been a steady decline in carnal

⁹ Note: computer data from police records at the time of writing could not be reconciled with police published records for sex offences other than aggravated sexual assault and sexual assault. While generally records from the police computing system coincide with the manual system used as the basis for published police statistics, substantial undercounting in the computing system is observed (or overcounting in the manual system) for the sex offence categories. For the purposes of rating and calculation the published data are used pending reconciliation of inconsistencies in the two recording systems. For analysis of definitional changes in sex offence laws and similar problems in South Australia see Sutton et al. (1983)

knowledge offences. Very large increases in reports occurred in 1984 prior to the change and again in 1987 following the change. Thus detection of any changes arising from altered recording practices are masked by general increases in sex offence reports to police. Closer examination of the categories of sexual assault confirms this picture, and no other clear evidence of re-shuffling emerges to account for the increases in reports of sexual assault. Table 8 details the sex offence categories classed as sexual assault in Table 7.

The incidence of the offence of "indecent dealings" has certainly increased (apart from the temporary effect of the new legislation) as a consequence of the emphasis on young victims of "child molesters". Vinson (1987) has shown that child abuse and sex abuse "campaigns" have substantially increased the likelihood of reporting by victims and social agencies (health, education, welfare) other than police recording. During the late 1960s and 1970s the feminist movement first exposed rape and the sexual exploitation of women and later, from the mid 1970s and 1980s, increasingly targeted abused children.

Similarly, reports of alleged child abuse in Western Australia have grown dramatically since they were first collected in 1981-82: from 478 cases to 3,699 in 1987-88, as various agencies began participating and recording. Reports increased very substantially when police and later community health staff (about 20% of reports) began contributing to this voluntary reporting scheme. Increased awareness in the community and the provision of services for victims have led to substantial numbers of reports coming from families themselves (27% of reports) and friends or neighbours (13% of reports).

The latest figures from the Western Australian Advisory and Co-ordinating Committee on Child Abuse, for 1987-88, show that sexual abuse (most often indecent dealings) is the largest category of abuse reported. Overwhelmingly, the alleged offender is a member of the family (57%), usually father or stepfather. A further 32% are known to the child in some way and only 11% are strangers or of unknown relationship. Given these results it is not surprising that sexual assault has been regarded as a sub-set of domestic violence.

Table 8 shows that the offence of rape, as expected, ceased to be recorded, although it continues in the 1986 transition year and continues to linger for a further year. Contrary to expectations there is no decline in indecent assault, although the new offence of aggravated indecent assault diverts some cases in the transitional and subsequent years.

Table 8 : Police reports of rape, sexual assault and indecent assault, 1984–85 to 1988–89

Year	Rape	Agg Sex Assault	Sex Assault	Agg Indecent Assault	Indecent Assault	Total
1984	111	0	0	0	101	212
1985	179	0	0	1	166	346
1986*	41	158	53	38	138	387
1987	6	218	87	59	180	544
1988	0	215	115	45	217	592
1989	0	246	117	84	197	644

* Legislation changes definitions of sexual offences.

The redefinition of sexual crimes altered the perceived seriousness of these behaviours by diminishing the significance of penile penetration but increasing the significance of any penetration. This change enhanced and legitimated the seriousness of sex offences other than rape and may also have acted to encourage reporting and recording of these offences.

Crime, and especially sex crimes, may be seen as a highly sensitive index of the civility of society – reflecting on social control, orderly relations between the sexes and fairness. The evidence reviewed so far suggests a stable hidden level of sex crime (albeit sensitive to definitions of “sex crime”) but changing attitudes to reporting, reinforced by legislative re-definitions of sex crimes, have increased the numbers noted in official records. Such increases do not automatically suggest a decline in “civilisation”, but rather suggest that social control agents and institutions have attempted increased control. To some extent this must be regarded as successful, for increases in reporting have not resulted in dramatic declines in “clear-up” rates. These have “suffered” or improved depending on whether the denominator is “all reports” or “confirmed” reports.

Table 5 shows that clear-up rates (on confirmed reports by charge) have changed from about 67% in 1975–80 to 55% in the period 1985–89, even though absolute numbers of reports have increased 400% from an average of 57 reports per annum for the 1975–80 period to about 236 per annum in the later period. For the same comparison, but using all reports, clearance rates have improved from 40% for 1975–80 to 48% for 1985–89, whilst reports have increased by 300%. Given that the proportion of reports “unconfirmed” (see below) has also declined significantly over this same period, these clearance rates indicate that law enforcement performance has improved in conjunction with increased reporting by victims. The latest

data for the period 1989–90 confirm the trend, with a clearance rate of 55% from 468 cases of all reports to police being cleared by charge.

(iv) *Recording Sex Crimes*

Table 5 has been adjusted by the removal of "unfounded" reports, or rather those "not confirmed" by police, to ensure comparable counting rules. The "unfounded" report is by no means unusual to Western Australian police, and is commonly used by police in many jurisdictions to record instances of offences reported which later prove not to have occurred or are false reports. (See McClintock & Wikstrom 1990 for Swedish and Scottish examples). The proportion of these "unfounded" reports as a total of all reports has decreased over the last decade from as much as 53% of all reports in 1976–77 to only 8% of reports in 1987–88, suggesting considerable sensitivity to attitudinal and policy changes in the reporting and recording of this offence over time. As Kerstetter (1990) observed, the police founding decision is a crucial gateway to justice for the victim and is dependent on the willingness of the victim to proceed, as well as the "facts" conforming to administrative/evidentiary criteria. These factors, as Allen (1990) has shown in the Australian context, interact with changing cultural standards and in particular attitudes to sex and relations between the sexes.

It should be noted that the inclusion of "unfounded reports" in police annual reports first occurred in the reporting year 1975–76 and coincides with increased pressure from feminist groups for improvements in police handling of rape victims. Frustration at the failure of police to adequately meet victims' needs had already led to the establishment of a special service to aid the rape victim. The police claimed that many reports could not be substantiated and some were malicious. Consequently the category of "unfounded reports" was published for the first time to vindicate these claims. As can be seen in Table 9 below, the proportion of reports recorded as "unfounded" has been halved every subsequent five years.¹⁰

While there has been a very substantial increase in the number of rapes/sexual assaults reported to police, we cannot as previously discussed assume that this necessarily reflects a real or actual increase in the offence rate. The willingness of victims to report and of police to record has from all accounts greatly increased, but much of the evidence for this is poorly documented (exceptions are the review of N.S.W. practices by Bonney [1985] and Smith's [1989] account of recording practices in two London boroughs). We assume the treatment of "unfounded" reports in Western Australia also reflects these sorts of changes.

¹⁰ The advent of a metropolitan sex assault victim service (and later limited regional services) may also have acted as a filter for unreliable or suspect reports of assault contributing to the decline in the proportion of unfounded reports to police. It is worth noting that McClintock and Wikstrom (1990) observed that in 1984 Swedish police found 5% of reported rapes "not proven" and 3% of rapes "no crime", and that this was similar to their "unfounding" rates for other offences including assault and even homicide.

Table 9. Percentage of sexual assault reports "unfounded" 1975-89

1975-76	43.6%	1980-81	14.8%	1985-86	18.3%
1976-77	52.7%	1981-82	21.1%	1986-87	10.8%
1977-78	42.8%	1982-83	19.4%	1987-88	8.6%
1978-79	35.4%	1983-84	28.4%	1988-89	9.4%
1979-80	25.0%	1984-85	18.3%		
1975-80	39.1%	1980-85	20.1%	1985-89	9.2%

Data of a corroborative kind from hospital and accident and emergency (A&E) records have been a neglected alternative source of information about the behaviour of victims and the epidemiology of violence.¹¹ For example, Shepherd, Shapland and Scully (1989), in a recent study of police recording of violence, found that only one quarter of victims of violence who sought treatment in a large Accident and Emergency department of the Bristol Royal Infirmary, were actually recorded by police even though half the victims claimed police awareness. It was found that female victims were more likely to be recorded by police and that the location and timing of incidents also affected the recording of offences (they were less likely to be reported if victimised on a Saturday night or if the violence took place in the street or a nightclub). These results reveal the behaviour of victims and police recording practice and corroborate reporting rates estimated by the British Crime Surveys. (Australian hospital data and recording practices warrant similar examination.)

Police recording practices have been shown to vary widely within and between police forces (e.g. McCabe & Sutcliffe 1978, Smith 1989), and can contribute in themselves to apparent increases in crime rates. Thus there has been a tendency to discount increases based on official statistics. Certainly, even small shifts in the willingness of victims to report, and/or improved or less discretionary recording practices by police, would contribute significantly to official increases. Possibly the charge rate, which shows a less clear but nevertheless steep increase, particularly since the introduction of wider definitions of sexual assault, better reflects behaviour.

11 Shepherd et al. (1989, p. 252) also observe "...it is surprising that, in contrast to road accidents, falls and industrial accidents for example, there has been as yet no attempt in Britain to tap medical sources of information concerning the epidemiology of violence", a point which is equally valid in Australia. Corroborative data provided by a specialist medical service for rape victims (the W.A. Sexual Assault Referral Centre) records that 42% of its 1987-88 clients were referred by police. As this service is mostly metropolitan based, has low utilisation rates by Aboriginal women, and all referrals are not officially reported, it is assumed this figure overstates police reporting. In addition some 69 victims of the 310 who visited the clinic in the same year referred themselves for assistance for assaults that had occurred prior to the reporting year. If we include these cases the proportion referred by police falls to about a third of all referrals.

We see no compelling reason, however, to discount these official figures so completely as to negate an increase in incidence. To do otherwise, and argue for stasis since the 1960s, would have at least required a very substantial suppression of reporting or frequent reliance on extra-legal interventions at that time. We have little or no evidence for this. While we can be certain that there have been real increases since the 1960s, we are unable to determine if this has continued into the 1980s. The latest official figures for sexual assault suggest a reduction in the rate of increases. This may reflect the fact that the willingness to report may have peaked.

It is worth noting that the population of Perth has grown very substantially, from 483,000 in 1961 to 1,161,000 in 1989, and it can no longer be regarded as a large provincial town. Increases in crimes of violence or against the person are more readily associated in the literature with the ecology of the large city. Anonymity and alienation reinforced by the fragmentation and dilution of everyday social control are often supposed characteristics of city and urban life. Attitudes to gender and sexual relationships have also changed over the ensuing years and may have significantly increased both the opportunity and risks of sexual assault (e.g. dramatic increases in female labour force participation, defining "rape in marriage" as a crime). Baron and Straus (1989) found, in their macro-level analysis of U.S. regional variations in the incidence of rape, that "social disorganisation" (measured by divorce rates, mobility, religious affiliation, single parent families, etc.) was strongly correlated with a higher incidence of rape (see discussion Chapter 7). These changes are reflected in the recording of the sex crimes by police (e.g. varying criteria for unfounding reports) and the willingness of victims to report to the police or victim support services.

The evidence from victim studies indicates that the "hidden" level of sex crime has probably been relatively stable, and when all sex offences (not only rape and sexual assault) are examined we find very large numbers of official records, which represent an underdetermined fraction (perhaps a third) of all such offences.

Some additional factors will also be examined in the next chapter by analysing reports to Western Australian police between 1984 and 1989 where information on the age, gender of victim, timing, location and nature of sex offence are recorded.

3. Victim Characteristics and Type of Victimization

Computer records of offences reported by victims provided by the Western Australian police between January 1984 and December 1989 were analysed for information on the characteristics of victims who report offences to police. Some 2,725 or 34.5% of the total of 7,900 sex offences reported over this time period (out of over three-quarters of a million reports to police) were categorised as sexual assaults. These include: "indecent" assault, "aggravated indecent" assault, "sexual assault", "aggravated sexual assault" and rape. One hundred and twenty-nine cases were reports of incest (1.6% of sex offences), 379 cases were of "carnal knowledge" (4.8%), 1,557 cases were of "indecent dealing" (19.7%), and 3,110 cases were of wilful exposure (39.4%).¹²

A significant proportion of sex offences (excluding wilful exposure) occurred in private dwellings, in the early hours of the morning and at weekends. "Wilful exposure" victims tended to be older than other sex offence victims, more at risk during the day time and more likely to be victimised in public rather than private locations (refer to Appendix 1 for details).

Incidents of sex offending (all sex offences) peaked in mid-summer, and this persistent seasonal variation appears to be a widely observed phenomenon (Cohn 1990). It is probable that Australian lifestyles, characterised by outdoor activity, high female labour participation, low density housing and high divorce and separation rates ("serial monogamy"), which increase situational opportunities for contact, enhance risk of sexual incident compared to other countries (Walker et al. 1990).

Figure 1 illustrates a trend for the per capita rate of sex offences excluding wilful exposure for each month since January 1984 to March 1990 (discussed below). A very strong seasonal effect is shown by the peaks, which coincide with each January. The rate per month has increased over the past six years from around 2 per 100,000 (all population) per month to over 4 per 100,000 per month.

12 As noted, rape and attempted rape have been redefined as sexual assault and aggravated sexual assault in revisions of the criminal code in 1986 and are treated in the reported offence data set as synonymous categories. The offences of "carnal knowledge" and "indecent dealings" relate specifically to sexual offences against a child under the age of 16 (or 17 years in the case of an accused who stands in loco parentis with the victim) or an "idiot or imbecile" and do not generally allow a defence of consent. These offences reduce penalty if the offender is under 21 and increase penalty if the victim is under 13. See generally Chapter 22 of the Criminal Code of Western Australia.

Figure 1a* : Sex offence rates 1984- 89

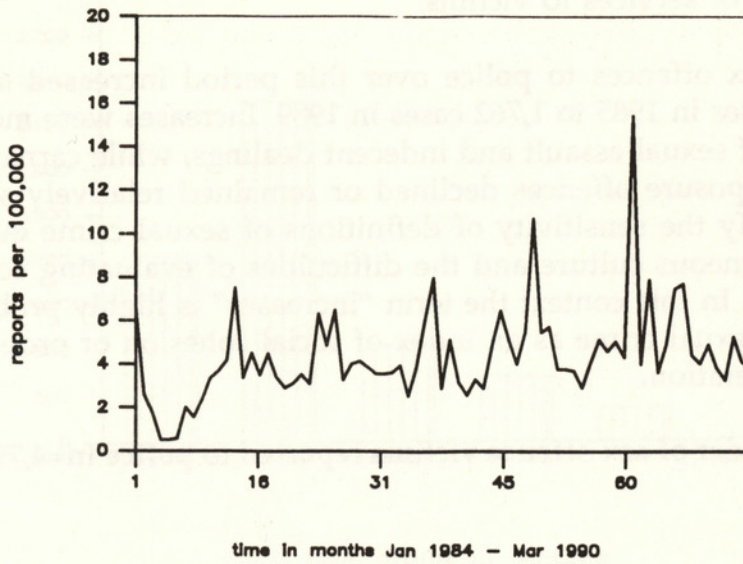
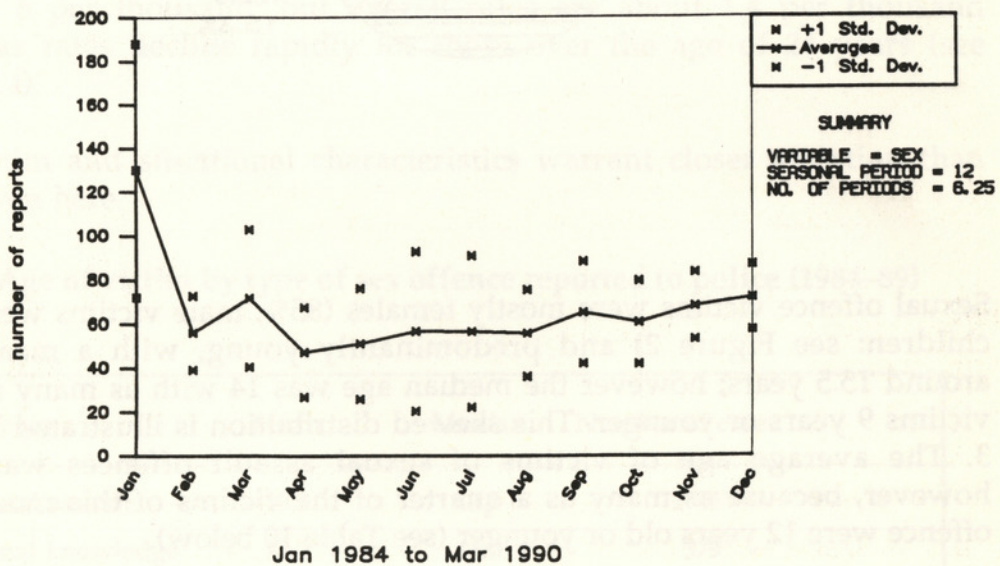


Figure 1b* : Sex offences – monthly averages

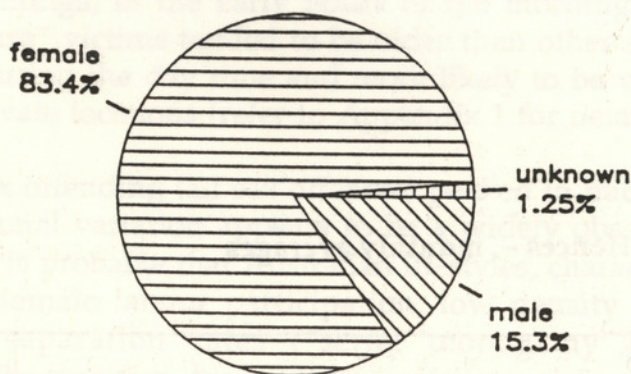


* Note Figures 1a and 1b exclude "wilful exposure" reports to police

Improvements in recording and reporting behaviour have also contributed to observed increases in sexual crime. Much of the spectacular increase observed in sexual crime in the 1970s and 1980s coincides with vigorous consciousness raising (especially aimed at women and children) and with the provision of services to victims.

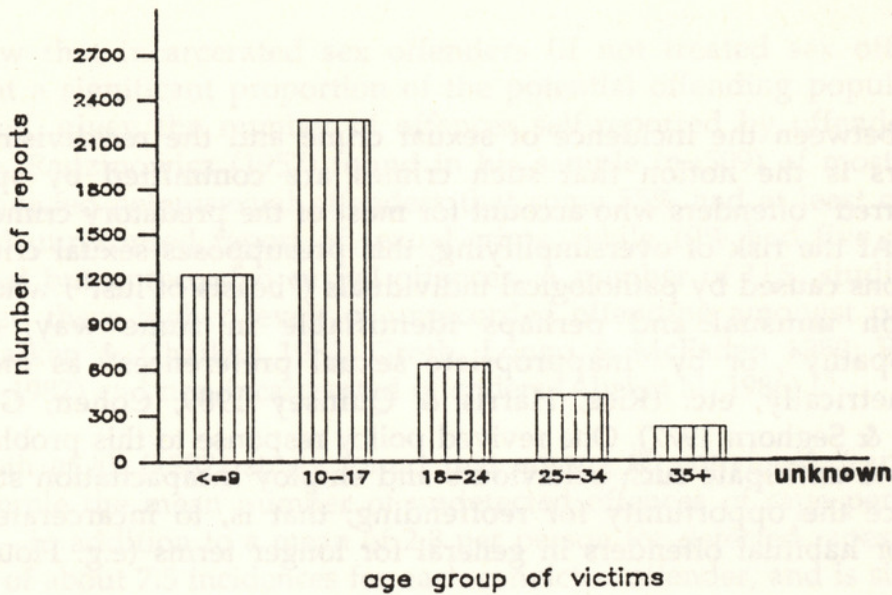
Reports of sex offences to police over this period increased significantly, from 1,319 cases in 1985 to 1,762 cases in 1989. Increases were most observed for offences of sexual assault and indecent dealings, while carnal knowledge and wilful exposure offences declined or remained relatively stable. These changes signify the sensitivity of definitions of sexual crime even within a fairly homogeneous culture and the difficulties of evaluating social policies in this sphere. In this context the term "increases" is highly problematic and incidence of sexual crime as an index of social cohesion or order vulnerable to misinterpretation.

Figure 2 : Gender of sex offence victims reported to police (n=4,790)



Sexual offence victims were mostly females (85%; male victims were mostly children: see Figure 2) and predominantly young, with a mean age of around 15.5 years; however the median age was 14 with as many as 25% of victims 9 years or younger. This skewed distribution is illustrated by Figure 3. The average age of victims of sexual assault offences was higher, however, because as many as a quarter of the victims of this more serious offence were 12 years old or younger (see Table 10 below).

Figure 3 : Age distribution of sex offence victims reporting to police 1984–89 (n=4790)



The age standardised rates of the incidence of sexual victimisation are remarkably high for young victims. Present estimates from police records alone place the annual incident rate for female victims under the age of 10 at around 2 per thousand. For those between ages 10 and 17 years the rate was near 6 per thousand; but overall rates are about 1.4 per thousand females, as rates decline rapidly for those over the age of 24 years (see Appendix I).

These victim and situational characteristics warrant closer attention than can be given here.

Table 10: Age of victim by type of sex offence reported to police (1984–89)

Offence	Mean	Median	Number of cases
sexual assault	19.1	12.4	2725
carnal knowledge	14.2	14.0	379
incest	13.5	14.0	129
indecent dealing	9.6	10.0	1157
wilful exposure	27.6	20.0	3110

4. The Offender – “Specialist” or “Generalist”

A link between the incidence of sexual crime and the recidivism of sex offenders is the notion that such crimes are committed by specialist “undeterred” offenders who account for most of the predatory crime of this nature. At the risk of oversimplifying, this presupposes sexual crimes are aberrations caused by pathological individuals (“beasts of lust”) who are by definition unusual and perhaps identifiable in some way, e.g. by “psychopathy”, or by “inappropriate sexual preferences” as measured phallometrically, etc. (Rice, Harris & Quinsey 1989; Cohen, Garofalo, Boucher & Seghorn 1977). One revived policy response to this problem is to attempt to anticipate such behaviours and employ incapacitation strategies to reduce the opportunity for reoffending; that is, to incarcerate repeat sexual or habitual offenders in general for longer terms (e.g. Floud et al. 1982).

A stimulus for renewed research interest in this area has been the work of Blumstein and colleagues on the “criminal career” paradigm (Blumstein, Roth & Visher 1986; Blumstein, Cohen & Farrington 1988). This work has demonstrated that a small proportion of known offenders seem to account for the majority of crime; in other words recidivist or persistent offenders commit most crime, especially serious crime. Thus identifying differences between “high” and “low” risk offenders is an important goal of criminal career research.

While the clinical literature gives detailed examples of specialist or compulsive sexually offensive behaviours and their treatment (e.g. Cohen, Garofalo, Boucher & Sighorn 1977; Groth 1979; Marshall 1979; Heim & Hursch 1979; Sturgeon & Taylor 1980; Ortmann 1980; Abel 1982; Greer & Stuart 1983; Rice et al. 1989, see also “*Archives of Sexual Behaviour*” etc.), we are unable to assume that these pathological behaviours are representative of offenders who commit sexual offences. Indeed the proportion of known offenders undergoing such treatment is in the minority (Marques 1980; Sturgeon & Taylor 1980; Quinsey 1983; Borzecki & Wormith 1984; Marshall & Barbaree 1988; Alford, Grey & Kasper 1988).

For examples of the 84 prisoners (about half of the prisoners currently incarcerated for sex offences in Western Australia) interviewed for participation in a sex offender treatment program conducted at the maximum security prison in Fremantle, only 35 were found to be amenable to the behavioural treatment offered. Of those found unsuitable for this form of treatment, about half were mentally handicapped, were “tribal” Aborigines or had denied the offence. The others refused treatment or were

considered unsuitable for a variety of reasons, such as that their prison sentences were too short (Department of Corrections 1990, personal communication).

(a) Self-Report Studies of Sex Offending

The view that incarcerated sex offenders (if not treated sex offenders) represent a significant proportion of the potential offending population is warranted, given the number of offences self-reported by offenders. For example, Radzinowicz (1957) found in his sample (n=509) of mostly first-time convicted heterosexual offenders that some 55% had at least one self-admitted unrecorded report of sexual crime, while 10% had five or more additional but unrecorded sexual offences. A number of U.S. studies have confirmed these higher levels of unrecorded offending amongst prisoners (e.g. Chaiken & Chaiken 1982; Groth, Longo & McFaden 1982; Rolph & Chaiken 1987) and non-incarcerated offenders (Abel et al. 1986).¹³

The Groth et al. (1982) study found that among 83 convicted "rapists" in their sample the mean number of undetected offences of rape per person was 4.7 – in addition to a mean of 2.8 per person for detected rapes – or an average of about 7.5 incidences for each convicted offender, and is similar to the average of 7 rapes per person admitted by the non-incarcerated sample described by Abel et al. (1986). Freeman-Longo (1990) reports that for a small treatment sample of 20 rapists a total of 5,090 undetected and detected sex offences (of all types) were admitted – 33 "child molesters" admitted 20,667 offences in total. For the rapists this was an average of 254 incidents per offender. Annual incident rates were not calculated from these admissions, but would be at least of the order of 12 to 13 per annum.

Further evidence comes from U.S. Bureau of Justice voluntary self-report surveys of inmates in juvenile and adult corrections (conducted in 1986), which show that approximately 15–16% of inmates currently incarcerated for rape involved multiple victims. One in five adults incarcerated for a current sexual offence other than rape committed offences against more than one victim. It is worth noting that, of the juvenile offenders, 46% of the victims of their current sex offence were under 12 years, 22% were male (or both genders) and only 15% were strangers. For adult rape offenders, over half their victims were strangers, predominantly female (94%), and most victims (70%) were 18 years or over. However, for adults convicted of other sex offences, victims were mostly under 18 (74%), known to the offender (72%), and more likely male (20%) (U.S. Department of Justice 1988).

13 Many of these studies of offender treatment programs note the high proportion of their clients with histories of sex assault as children, although recent research has noted that such claims require close scrutiny because some offender self-reports have not been substantiated. It should be noted that little is known about the reporting behaviour and effects of sexual assault on male children and adults.

These examples reinforce intuitive notions that known offenders commit more offences than are conventionally "cleared" by police and that significant proportions of offenders victimise more than one individual for a given conviction or arrest event. Furthermore, for some select sex offender populations studied, the per offender "lifetime" incident rates are extraordinarily high, especially for "child molesters". Clearly, if such data can be relied upon (certainly self-report studies require more attention), known offenders account for a significant proportion of offences, including no doubt those that also become known to authorities.

In the only random probability sample of self-report¹⁴ offending we have found (the U.S. National Youth Survey - Self-Report Delinquency), between 1% and 2% of the sample (annual average 0.75%), depending on age, reported committing a sexual assault. (*Had or tried to have sexual relations with someone against their will?*). This estimate is derived from a small probability sample of the U.S. youth population, and was conducted as an annual panel study which followed an 11- to 17-year-old cohort in 1976 until they reached the ages 21 to 27 in 1986. Of the 915 males in the 1976 survey 700 were still respondents by 1986.

Both prevalence and incidence rates in this study varied according to the year of survey and the age group progression. No cumulative incidence or prevalence rates were calculated, but an annual incidence rate of between 1 and 4 per hundred was estimated (annual average incident rate of 1.8 per hundred) for sexual assault. Additional questions in some subsequent panel follow-ups included reference to "physical threats for sex" (*physically hurt or threatened to hurt someone to get them to have sex with you?*) and "pressured for sex" (*pressured or pushed someone such as a date or friend to do more sexually than they wanted to do?*). While the former question elicited annual prevalence and incidence rates of less than 0.5%, the latter produced prevalence estimates of 3% or 2% (1.25 average prevalence rate per hundred) and incidence rates varying from 0 per hundred to 9 per hundred (average 3 per hundred per annum). From these U.S. data very rough annual incidence estimates of between 2.5 per thousand and 30 per thousand are yielded, depending on definition, for the age group 11 to 27 years. Generally, the older the age cohort became the more the rates for sex and other offences declined. Thus incidence rates for the entire population would be considerably lower than this (U.S. Department of Justice 1989). While these estimates are very crude, those calculated for the definition of

14 Kinsey, Pomeroy and Martin (1948) conducted one of the few self-report studies of male sexual behaviour but their work did not specifically examine offences such as rape or incest nor was it based on a probability sample. It is instructive to note, in the United States, that at the time of their work most sexual activity outside of marriage (including, of course, rape, and sex with minors and animals) was illicit, with penalties for masturbation, pre-marital sex, adultery, mouth-genital sex, homosexuality, prostitution, commonplace. The law was "committed to the doctrine that no sexual activity is justifiable unless its objective is procreation" (p. 265), and thus most males (they estimated 95%) were involved in sexual activities and relationships which were defined as illegal 50 or more years ago.

sexual violence most closely related to that used in the national U.S. victim survey are approximately comparable with each other.

The authors are unaware of any self-report studies of Australian offenders or adult prisoners, although such information is currently being gathered from sex offenders undergoing treatment in Western Australian prisons. From personal communication it is suggested that similar levels of unrecorded offending have been reported (see French 1988 and Indermaur 1988 for further details of the program).

A "triangulation" of victim self-report, offender self-report and official reports may provide the best estimate of the hidden crime rate, but no such current investigation is known to the authors. Self-report studies of non-criminalised males would also be useful in defining the representativeness of sex offender populations as distinct from the interesting self-report studies of non-incarcerated males undertaken by Abel and colleagues, many of whom have official justice or health institution referral sources.

The present report focuses on adult male offenders imprisoned for sex offences in Western Australia and follows their reincarceration over time. We attempt to estimate the risk of repetition and describe how it varies according to race, previous record and other factors of interest. In particular we concentrate on the offence of rape, although it is now subsumed by the wider definition of sexual assault. In fact, definitions of sexual offences and assault pose difficulties because they have changed over time and appear more prone to subjective interpretation and recording practices than perhaps other crimes. For example, Chappell (1989) has argued that the reformed legal term for rape, "sexual assault", is no less problematic because it too readily lends itself to narrow and incomplete definitions of sexual exploitation.

Indecent assault, sexual relations with children (those under 16 years), incest, and wilful exposure are also briefly examined in relation to the criminal careers of incarcerated offenders, but we are even less certain of the extent of these crimes and of how representative a population of incarcerated offenders may be. Many of these offences attract non-custodial interventions and penalties and we would assume those incarcerated to be a very select population.

(b) Previous Studies of Sex Offender Recidivism

A number of studies have followed up the "careers" of sex offenders either to assess the effectiveness of treatments, including castration (Heim & Hirsch 1979) and anti-hormone treatment (Ortmann 1980), or to measure the risks of re-offending. Some studies have relied on police arrest records, others on prison or court records, and a few treatment evaluation studies

have used offender self-report (Abel et al. 1986; Maletzky 1980; Langevin 1979).¹⁵

Furby, Weinrott and Blackshaw (1989), in a comprehensive and detailed review of 42 studies of sex offender recidivism, concluded that the wide variations in method (including objectives), samples and categories of sex offences studied, meant that few studies could be compared and little was known. (For an earlier review, see Quinsey 1983).

Furby et al. (1989) noted, firstly, that longer follow-up increased the number of men found to re-offend, and secondly that there was "...no evidence that clinical treatment reduces rates of sex reoffences in general and no appropriate data for assessing whether it may be differentially effective for different types of offenders". Thirdly, recidivism rates may differ for different types of offenders, with the data showing that factors such as age, criminal history and offence type are important (although classifications based on the "instant offence" could be misleading).

Finally, because of "vast" under-reporting of sex offences, Furby and colleagues concluded that many studies lacked sufficient follow up and recommended a minimum of 10 years "...until we are able to accurately project long term recidivism from short term data" and "... the shape of the recidivism function can be scrutinized" (Furby et al. 1989, p. 27). Failure or survival rate analysis as employed in this study enables just such scrutiny, and because of its efficient use of data renders fixed follow-up time unnecessary.

Soothill and Gibbens (1978) addressed the under-estimation of recidivism rates that occurs when insufficient account is taken of the need for long follow-up. They contrasted their work in this regard with that of the large study of Christiansen, Elers-Nielson, Lamaire and Sturup (1965). By applying "life-table" methods to take account of time at risk they were able to estimate a reconviction probability of .48 for 174 cases of serious sex offenders (reconvicted for any "standard list" offence), and of .23 for reconviction for sex or violent offences. Methods that did not take account of "time at risk" would have returned estimates of .39 (67/174) and .19 (32/174) respectively. While not greatly different, these results indicate the potential for bias that exists.

Most studies have noted the importance of long follow-up, but seldom are they adequately able to address the differential effect of prior record on the probability of recidivism (Christiansen et al. 1965; Soothill, Jack & Gibbens

¹⁵ We found only a few studies (Gagne 1985 n=87 unspecified sex offences, Langevin et al. 1979 n=37 exhibitionists, and Maletzky 1980 n=100 exhibitionists and pedophiles) reported by Furby et al (1989) which combine self-report with official records in following for about two years small samples of offenders treated with chemical inhibitors (Depo Provera) or in the Maletzky study "covert sensitization" and noxious odours. The proportions returning for a further sex offence were 28%, 41% and 12.5% for the Gagne, Langevin et al. and Maletzky studies respectively.

1976; Soothill & Gibbens 1978; Burgoyne 1979; Romero & Williams 1985; Grunfeld & Noriek 1986; Van Der Weff 1989). The application of failure rate analysis to a large data set is reported below, but even with a database of the size we analyse, the population of sex offenders is relatively small when broken down by key factors such as age, race and prior record, and this imposes limitations on full exploitation of the method.

(i) *Recidivism Base Rates*

We briefly summarise some major studies of base rate sex offender recidivism which have drawn on different samples and definitions of recidivism. These studies have mostly employed "frozen time" methods (cumulative percentage failing after a designated period of follow-up) or "life-table" methods.

The pioneer and detailed work of Radzinowicz (1957) set the example for subsequent attempts to measure sex offender repetition and recidivism. For example, of the 528 heterosexual class offenders in his population, 11.3% had subsequent sex convictions after 4 years follow-up. However, of those with prior records (for sex or other offences) as many as 36.4% had further convictions for sex offences.

In the only Australian study, 115 offenders imprisoned for rape were followed for five years, and at the cut-off date 58% had at least one subsequent conviction for any offence, while 31% had been convicted of 'violent' offences including possibly a further sex offence (Burgoyne 1979).¹⁶

In England, Soothill, Jack and Gibbens (1976) followed for up to 22 years a sample of 86 rape offenders (including attempts) convicted in 1951. Of these, 13 subsequently went on to commit further sex offences and 5 of these repeated the offence of rape. In all, 24 committed sex or other crimes of violence. Forty-four had no record of further convictions. It should be noted that in this sample 60 offenders had prior records and 14 had records of prior sex offences.¹⁷

In the United States, Romero and Williams (1985) followed for up to 10 years 231 adult sex offenders placed on probation in Philadelphia in the late 1960s, of whom 48 were exhibitionists and 39 pedophiles. The remainder

16 Broadhurst et al. (1988), in the only other Australian study, calculated recidivism probabilities using "failure rate" analysis for sex offenders released from Western Australian prisons for the first time and followed up for periods of up to 9 years. Recidivism was defined in that study as any return to prison. Rape or attempted rape recidivism was estimated at 23% for non-Aborigines (n=64) and 55% for Aborigines (n=46).

17 Soothill, Way and Gibbens (1980) followed for 13 years 200 "rapists" convicted in 1961 of whom 12% were reconvicted of a subsequent sex offence and 27% for a sex or violent offence. They also followed 58 acquitted "rapists" for the same period, of whom 14% were later convicted of a sex offence and 36% of a sex or violent offence. In another study Gibbens, Soothill and Way (1978) also followed up for 12 years 117 incest cases of whom 4% were reconvicted of another sex offence. See also Gibbens, Soothill and Way (1981).

were convicted of sexual assault, including what we class as carnal knowledge. Of this sample 168 (73%) had prior arrests and 61 had arrests for a sex offence, of whom 26 (11%) had committed rape offences. Over half (n=132) of the sample were re-arrested within the 10 years for some offence (11.3% for further sex offences) and sexual assaulters were found to be the most likely to be re-arrested. Romero and Williams considered that the most significant factors were the most obvious: young offenders, those with a prior history of sex offending and those with a low income were most likely to reoffend. They concluded "...individuals with a history of sex offences and sexual assaulters with a history of any violent offences are more likely to recidivate over a long time span than individuals with one sex offence" (Romero & Williams 1985, p. 63).

Grunfeld and Noreik (1986) followed for a similar period (9–14 years) 541 Norwegian offenders convicted of "felonies against public morals" for the first time between 1970 and 1974, of whom 83 were rape offenders. They found that across all classes of sexual offenders about 12.8% had been reconvicted of a further sex offence, while those convicted of rape had the highest reoffence rate, of 21.7%.

Finally, Van der Weff (1989), in a general study of the six-year reconviction rate of a sample of Dutch offenders prosecuted in 1977, found that, of 119 rape offenders, 66% were reconvicted for any offence, 17% were reconvicted of a sex offence and 10% were reconvicted for a further rape. In this study the alternative criterion, "re-appearance in court" rather than reconviction, revealed recidivism rates of 79% for any "re-appearance", 25% for re-appearing for a further sex offence and 15% for a further prosecution of rape. Significantly, of the sex offenders in this study, "rapists" had the highest recidivism (and number of reconvictions) for any further offence but those charged with "indecent" had the highest homologous recidivism.

All these studies consistently indicate low rates of homologous reoffending and lend little support to the proposition that sex offenders are "specialists". Base rate studies are summarised in Table 11.

Table 11 : Base rate recidivism studies of sex offenders

Recidivism						
Study	Subjects	Follow-up Criteria	Any Offence	Repeat Sex	Violence	Method & Comment
Radzinowicz 1957, UK	n=528, 'heterosexual offenders' convicted in 1947	4 years, reconviction	34.2%	11.3%	na	'frozen time' method employed includes subjects with prior records for any offence and 12% with prior conviction for sex offences
Christiansen et al. 1965, DENMARK	n=2, 934 – all sex offenders released from prisons 1929–39	22 years, reconviction	24.3%	9.7%	na	'frozen time' method employed includes subjects with prior records for any offence or sex offence
	n=88, rape offenders from above pop.		28.4%	11.6%	na	
Soothill & Gibbens, 1976, U.K.	n=86, convicted rape/attempted rape, 1951	22 years, reconviction	49%	15.1%	31.4%	'frozen time' method subjects had prior records for any offence or sex offence
Soothill & Gibbens, 1978, U.K.	n=174, convicted sex offenders against females under age 13 in 1951 or 1961	12-22 years, reconviction	38.5% prob. 0.48	15.5% na	18.4% prob. 0.23	'frozen time' and life-table methods employed, subjects with prior records
Burgoyne 1979, AUSTRALIA	n=115, rape offenders released from Victorian prison 1971–72	5 years, reconviction	58.3%	na	31.3%	'frozen time' method and subjects with prior records
Romero & Williams 1985, USA	n=231, adult sex offenders placed on probation in Phil. 1968–69 (sexual assault & child molesters)	10 years, re-arrest	57.1%	11.3%	na	'frozen time' method, 22% of subjects had prior arrest for sex offences
Grunfeld & Noriak, 1986, NORWAY	n=541, convicted of 'felonies against public morals' inc minor & serious sex offences 1970–74	9-14 years, reconviction	36.8%*	12.8%	17.8%*	first sanction for sex offences, 'frozen time' method
	n=83 rape offenders from above pop.		61.7%*	21.7%	32.7%*	
Broadhurst et al. 1988, AUSTRALIA	n=110, rape/attempted rape offenders released from prison 1975–1984	2-9 years, return to prison	23% for non-Aboriginals, 55% for Aboriginals	na	na	failure rate analysis employed, first imprisonment or sex offence
Van der Weff 1989, NETHERLANDS	n=440, all sex offenders prosecuted in 1977	6 years, reconviction	50%	18%	na	'frozen time' method employed includes subjects with prior records for any offence or sex offence
	n=119 rape		66%	24%	na	

estimates calculated by authors

(ii) Medical Treatment and the Recidivism of Sex Offenders

The above base rate studies refer to the recidivism of sex offenders released from incarceration or conventional criminal justice programmes. These studies show more consistent results than is suggested by Furby et al. (1989) review of treatment evaluation studies (where treatment samples were small and offence categories were diverse). It is instructive to compare base rate results with a follow-up study of 54 Canadian "rapists" released after treatment from Penetanguishene, a maximum security psychiatric hospital. After an average follow-up period of four years, 28% had been convicted of another sex offence, 43% of a sex and violent offence and 59% of any offence. The authors found that previous history of sexual aggression and "general criminal behavior" were the best predictors of recidivism although phallometrically measured "sexual interest in non-sexual violence" and "degree of psychopathy" were found to be equally good as predictors of failure. About two-thirds of those that failed were predicted by these variables. They concluded that rape for this sample was "...an act of sexual violence by men who exhibit a criminal lifestyle and exploitive approach to others" (Rice, Harris & Quinsey 1989a, p. 15).

In another study Rice and colleagues (Rice, Quinsey, & Harris 1989b) found similar results in a follow-up study averaging 6.3 years of 131 extra-familial child molesters. Some 31% were convicted of a new sex offence, 43% were convicted of a further sex or violence offence and 59% were convicted of a further offence or returned to Penetanguishene. Rice et al. (1989b) specifically report that behavioural laboratory treatment did not affect recidivism and that, although focus on changing sexual preferences was warranted, this alone was "...insufficient to reduce the likelihood of future recidivism" (Rice et al. 1989b, p. 22).

Given the generally poor treatment prognosis of sex offenders using conventional behavioural and related therapies, increased attention has been given to anti-hormone treatments – interventions initially developed to combat site specific cancers. These chemical interventions have generally superseded earlier medical interventions such as castration, psychosurgery, sedatives and neuroleptics (Kamm 1965; Dieckman & Hassler 1977; Helm 1981; Clarke 1989; Grigor 1990). The possibility of utilising hormones in the treatment of sexual deviation appears to have been suggested as early as the late 1940s (Golla & Hodge 1949) but has not been readily or widely accepted apart from a few notable advocates (Dietz 1983). This may partly be explained by the reluctance of the medical profession to perceive "sexual offending" as a psychiatric disorder and by clear proscriptions against compulsory treatment, in particular against treatments related to some "sexual preference" (Grigor 1990).

Progestogens (such as medroxyprogesterone MPA which is widely prescribed in the U.S. – in Australia it is better known as the proprietary drug Depo Provera) and oestrogens, while effective in reducing male sexuality, have significant side effects (Cooper 1986). These general hormone

treatments have been replaced by hormone analogues (including the unlicensed goserelin acetate), the steroid analogue CPA and the less well understood neuroleptic benepiridol. These newer treatments are reversible and are claimed to have fewer side effects (although sometimes inaccurately referred to as "chemical castration"). Licensed treatment intervention in the UK and recently Australia is with the preferred specific antiandrogenic cyproterone acetate or CPA (the proprietary drug Androcur) which reduces production of the male hormone testosterone and testicular androgens and hence sexual activity.¹⁸

Clarke (1989, pp. 142-143), in a recent review concluded that these drugs, including CPA, need "...to be assessed in double-blind, placebo-controlled trials with adequate numbers of patients, well defined inclusion criteria ...and defined, valid and reliable measures of outcome", yet describes CPA as the "treatment of choice" in pharmacological approaches to reduction of male sexual drive. Grigor (1990) also cites Clarke's criticism and stresses the need for long-term follow-up but similarly endorses CPA.

A number of studies have found significant declines in deviant or excessive sexual arousal amongst very select populations and small samples using antiandrogens. (See Ortmann 1980 and Berlin & Meinecke 1981 for a review of early studies of antihormone treatments.) For example Rooth (1975, 1980) successfully treated exhibitionists, Cooper (1978, 1981) treated a small number of "hypersexual" offenders and non-offenders, Baron and Unger (1977) treated a small number of incarcerated sex offenders, while Bradford and Pawlak (1987) reported successful control in the case of a brain-damaged "sadistic pedophile". Clark (1989) has recently emphasised the usefulness of the treatment in cases of mental retardation (where conventional cognitive/behavioural treatments are even less effective). Willingness of the patient/offender to undergo treatment and the use of hormone treatment as a component of other treatment/counselling appears vital to positive prognosis (Clark 1989; Grigor 1990).

Evaluation of these chemical interventions seems limited to the "paraphilias" - cases for which a clear preference for unusual sexual practice such as pedophilia, exhibitionism or fetishism is apparent. It is uncertain if the findings can be usefully generalised to all sex offenders. Further difficulties with these studies are the relatively short follow-up periods and imprecise or incomplete records of offending. Clinical studies of the effects of these "new" approaches are also inconclusive on key points and need further examination as noted by Clarke (1989). It is too optimistic to talk about induced "sexual calm" for most sex offenders (Laschet & Laschet 1975). In addition serious ethical and practical issues arise in the application of such treatments to prisoners (Gagne 1981; Weiner 1985; Melella, Travin & Cullen 1989). In the context of the administration of criminal justice the

18 The drug company Schering has been actively promoting CPA (Androcur) in Australia with success over other drugs notably Depo Provera. Important advantages of Androcur are that it is administered orally and that unwanted side-effects can be dealt with promptly.

issue of *free and voluntary consent* cannot be assured, for even indirect incentives can be experienced and seen as coercion. Moreover, at present we have little knowledge about the effectiveness of programs for offenders which include such hormone treatments.

In the light of this limited information, adoption of treatment (especially chemical treatment in conjunction with more orthodox measures) of sex offenders should be restricted to experimental programs. The suggestion recently made by the Victorian Director of Forensic Psychiatry, Dr Grigor (1990), that community-based voluntary programs be undertaken in a University setting under the auspices of the forensic sciences is perhaps the only mechanism that could enable such experimental (and controversial) treatment to occur.

For those treatment programs currently in place which do not rely on hormone treatments, the issue of consent must be adequately confronted and not linked to early release incentives for prisoners. In addition the quality of programs should be routinely evaluated (preferably by external agents) and the training of staff given high priority (Sargeant 1990). Claims that such programs divert resources away from more useful or more effective interventions on sex offending do not have cogency if the significant internal staff and other resources of Australian correctional services are appropriately husbanded. Nevertheless, ideally such programs should not be developed at the expense of programs that generally address aggression, violence and violation at the interpersonal level.

Because of the small size of correctional sex offender populations in Australia there is substantial need for research and development costs to be shared across jurisdictions. The burden of adequately developing programs and training personnel over the long time-frames required is substantial for one jurisdiction and would be better promoted if model programs were centered in one or two rather than several jurisdictions. Politicians and administrators responsible for correctional services could well look to some sharing of resources and the specialisation of some facilities in order to achieve worthwhile gains without diluting program integrity or research credibility.

5. The Present Study Population of Incarcerated Offenders

We focus on adult male offenders imprisoned for sex offences in Western Australia and follow their reincarceration over time. We attempt to estimate the risk of repetition ("specialisation") and describe how it varies according to race, previous record, age and other factors. In order to relate this specially selected population of offenders to the wider context, we review the available information on the incidence of sex offences through police, court and prison records, taking note of the attrition of cases from initial report to incarceration. We have relied on published records to estimate attrition, as individual case records across the criminal justice system are not available. Thus we rely on annual counts from each agency, and problems of comparison arise due to varying counting rules and definitions. While these signal the possible lack of representativeness of incarcerated sex offenders they do not detract from the need to adequately summarise what information we have on known sex offenders.

(a) Attrition

The total number of sexual assault/rape cases reported to the police during the period for which we followed up incarcerated offenders (between July 1975 and June 1987) was 1,541, of which 372 or 24.1% were classed as "unfounded" by police. Of the 1,167 confirmed offences known to police during this period, 654 (56%) were cleared by arrest/charge. These involved 759 distinct persons charged with rape/sexual assault (see Table 5). Of these a number were not prosecuted, not convicted or if convicted received non-custodial orders. As reports to police include offences by juveniles and we are unable to identify the precise number of juveniles incarcerated specifically for this offence, we calculate case attrition from charge to incarceration based on adult prison records. However, annual imprisonment for distinct persons by offence are only available from 1980 and thus attrition rates over the entire period must be inferred from current estimates. From the computerised prison record for this period we found 284 cases of incarcerated rape/attempted rape offenders and based on the attrition estimates calculated below this number accords with expectations.

If to this analysis we add the information from annual reports of higher court proceedings, the problem of estimating attrition becomes even more complex. We lack the detailed information for instance on multiple offences or multiple offenders (or combinations thereof) and there is a lag effect produced by differing annual counting rules. These difficulties are not

easily managed even when case by case data are available (Chambers & Millar 1986; Cashman & Horsky 1988).¹⁹

Clearly, calculation of attrition based on these data lacks precision and reliability; still it may serve as a useful guide. Court statistics show that a very high proportion of convicted offenders are incarcerated and that about three quarters (76.6%) of those eventually charged in court are in fact convicted. Walmsley and White (1979) and Lloyd and Walmsley (1989) report similarly high conviction levels for English "rape" offenders, somewhat higher than the 69% reported by Canadian researchers (Minch, Linden & Johnson 1987). It is worth noting that in contested "rape" trials the conviction rate is much lower, at approximately 55%, in Western Australia as elsewhere; (Chambers & Millar 1986; Scott 1988).

In summary, the best we can do is to compare the number of prisoners received for rape on an annual basis for the period 1980-89 ($n=287$) for which we have annual incarceration data for distinct persons with the number of offenders charged ($n=761$) less the 108 offenders under the age of 16 who if convicted would serve time in a juvenile facility. Thus an estimated overall average adult incarceration rate of 44%, with annual rates varying very widely from 26% in 1987-88 to 96% in 1981-82, can be deduced. The widely varying annual proportions can be attributed to fluctuations in activity, lag effects and the peculiarities of counting rules which count charges in court only on finalisation. Thus not too much weight should be attached to any one year. Fiscal year reporting practices also compound the problem.

Applying this average attrition rate to estimate the expected number of cases for the period (1975-76 to 1986-87) over which we collected subjects, approximately 294 would be expected to be incarcerated. Allowing for the difficulties set out above and the uncertainty about the inclusion of 17-year-olds (many also serve sentences in juvenile facilities) our sample from the prison computer record of 284 cases (42.5% of the cases charged by police over the same time period) is close to the average attrition rate of the offenders arrested/charged for rape during the later period. This average incarceration rate of 44% is somewhat higher than the 27-32% eventually incarcerated in the studies of the attrition of rape cases reported by Polk (1985) in the U.S., Wright (1985) in England and Chambers and Millar (1986) in Scotland.

To conclude: we can with confidence presume that offenders convicted of rape/sexual assault are imprisoned, but we cannot justifiably generalise beyond this group. Nevertheless, given the higher frequency of offending reported by incarcerated sex offenders and the fact that the majority of those

¹⁹ Part of our difficulties in reconciling these figures is that the population of 284 incarcerated rape offenders to be studied in this paper includes only those released from prison. Those not released on their first offence at the cut-off date 30/6/87 are excluded, and consequently our population cannot be expected to coincide exactly with the data reported by police over this period.

charged in court are convicted, we suggest that incarcerated sex offenders represent a substantial proportion of all serious sex offenders; most attrition appears to take place between arrest and prosecution. At present we cannot adequately estimate the amount of offending committed by incarcerated sex offenders, but Abel et al. (1985, 1986) and others have demonstrated that the lifetime incidences of sexual offending or offending in some populations are remarkably high (e.g. seven rapes per offender). One may speculate, on the basis of these estimates, that incarcerated sex offenders constitute a more substantial proportion than is suggested by victim data. But there remains a significant "unknown group" effectively able to avoid detection or evade investigation.

(b) The Study Population and Aboriginality

The subjects in this study are derived from a large computerised prisoner record comprising the complete records up to 30 June 1987 of all prisoners released for the first time from Western Australian prisons between 1 July 1975 and 30 June 1987; a total of 16,433 cases. Overall recidivism probabilities and statistical analyses of some aspects of these data have been described in previous work (Broadhurst, Maller, Maller & Duffecy 1988; Broadhurst & Maller 1990b). Probabilities of recidivism, defined as return to prison for any offence, were found to be about 75% for male Aborigines and 45% for male non-Aborigines, with considerably shorter times to return to prison for Aborigines. These probabilities of recidivism may be treated as the base rates for this population.

In previous work the focus was on identifying differences in recidivism between the races and in evaluating the effectiveness of penal interventions. Summary data had for many years identified a gross over-representation of Aborigines in the Western Australian prison system. For example, Aborigines comprise less than 3% of the total population but about a third of the daily average prison population. Our recidivism results have proven useful in estimating the amount of recycling involved in the very high rate of incarceration experienced by Aborigines.

This Aboriginal over-representation in the criminal justice system has generated a good deal of concern not only about the effectiveness of European control systems but about the iatrogenic effects of the law itself (Muirhead 1988; Broadhurst 1988; Hazelhurst 1987; Thorpe 1987; Australian Law Reform Commission 1986; Hanks & Cohen 1984). The origins, characteristics and responses to this phenomenon lie outside the scope of this paper; but, briefly, the rates and ultimate probabilities of failing have proven to be dramatically different for the races. This provides our basis for analysing them separately in the present report. Furthermore, gender, age, number of terms of incarceration, offence, actual time in prison and form of release have also been demonstrated to significantly affect the ultimate probability of recidivism, although to a much lesser degree than race. We also need to control for these group effects when analysing the recidivism of sex offenders.

The estimates of recidivism in the present and in previous studies on these data (Broadhurst et al. 1988; Broadhurst & Maller 1990) control for the potential bias associated with "censoring", i.e. the fact that released prisoners could only be followed up to the "cut-off date" (30 June 1987), beyond which those not having returned to prison still had the potential to do so.

The estimates derived here will be conservative because they do not take account of imprisonment in other jurisdictions, juvenile offences and non-custodial interventions. Furthermore, as the prison record file only counts the major offence per term of imprisonment (defined as the offence receiving the longest sentence), a small number of sex offences, especially less serious sex offences, will be under-enumerated. As well, a small number of murders involving sexual offences are classified as homicides and consequently are not included here as they require special attention (e.g. Holmes & De Burger 1988).

(c) Characteristics of the Prisoners

A total of 560 male offenders convicted and imprisoned for sex offences as their major offence at any stage of their recorded "careers" comprise the study population. They make up 3.7% of the male prison releasees in the entire computerised prisoner record. Of these 560 males, 284 had been imprisoned for rape, attempted rape or carnal knowledge of girls under 13 years of age, of whom 140 or 49% were Aborigines.²⁰

Of the remaining cases, 113 were imprisoned for indecent dealings (offences against minors) for whom the broad classification "child molestation" is appropriate for this group of offences. Just under 20% of these cases involved Aborigines. There were also 35 cases of indecent assault, which under the new legislation, would be classed as sexual assault and, of these 14 or 40% involved Aborigines. A further 63 cases of carnal knowledge or attempted carnal knowledge offences occurred, of whom 22% were committed by Aborigines. These less serious sexual assaults are included in our analyses. Small numbers of incest (n=31) and wilful/indecent exposure or exhibitionism (n=34) cases were also present but they were insufficient for accurate "failure rate" analysis and they will not be described beyond the present section.²¹ Sixteen of the recidivist sex offender cases in the database had more than one type of sex offence on record.

20 In the rape category we include four cases of carnal knowledge of a girl under 13 years of age, six cases of sodomy (involving males and females and distinguished from "unnatural acts" between males). The cases involving carnal knowledge of girls are included in the rape category because Western Australian law distinguishes them from other carnal knowledge offences by providing penalties of the same order as for rape.

21 Four cases of aggravated assault against a male child and two cases of "defilement by guardian" are included in the category indecent dealings. Some eight cases of gross indecency (homosexual offences) were found but are excluded because of the small numbers and only one case returned by the cut-off date. Seven female prisoners were also found, involving three cases of indecent assault, two of

The general characteristics of these 560 sex offenders did not differ markedly from the prison population as a whole, except that rape offenders were more likely to be single (only 28% of non-Aboriginals and 25% of Aboriginals reported being married or in defacto relations). As was typical of all Aboriginal prisoners, Aboriginal sex offenders were poorly qualified, with most (80%) not completing junior high school. Non-Aborigines were also poorly qualified (55% had not completed junior high school) but this was also typical of the data as a whole. Interestingly, sex offenders, especially non-Aborigines, were more likely to be employed at arrest (from 50% to 100% more likely) than was typical of the prison population as a whole.

On release, sex offenders appeared to have about the same chances of employment as the rest (32% of non-Aborigines and 22% of Aboriginals), but rape and incest offenders seemed to have less difficulty in finding work on release; for example, 44% of non-Aboriginal rape offenders were employed on release compared to 17% of carnal knowledge offenders and 22% of indecent assault offenders. Employment (either at arrest or on release) was associated with lower failure rates in previous work on the general prisoner population (Broadhurst & Maller 1990). These differences are noted for their descriptive purposes and, along with conditional release (parole), are analysed further below.

(d) Rape Offenders

In Table 12 (see page 51, below) we describe in detail the 284 prisoners incarcerated for rape at some time during their recorded careers. Their status as first or previous offenders and their subsequent status as recidivists for any offence, repeaters of sex offences, or repeaters of violence is given. We define an offence of violence as any assault, robbery, sex offence, homicide (excluding motor vehicle manslaughter) or other offence against the person. Certain good order offences and those against the administration of justice (i.e. resisting police) which often involve violence are excluded from this definition. In the case of prisoners with prior terms of imprisonment we also counted any prior term for a violent offence. In addition, some characteristics of the population such as age, time served and release form are described.

Nearly three-quarters (72%) of those incarcerated for rape were 25 years of age or younger at the time of receipt, but Aboriginal offenders were even younger on average. Again this was typical of the prison population as a whole.

The actual time served for the offence varied considerably within and between races and there was a tendency for Aboriginals to serve shorter sentences. A small number (7%) served less than six months, but the

carnal knowledge and two of wilful exposure. Only one of these females returned to prison for a minor offence and thus no analysis was attempted.

majority (57%) served sentences in excess of two years. Non-Aboriginal offenders, however, were much more likely to be released earlier from prison on conditional release (parole) than Aboriginal offenders (80% compared to 54%). This reflects the reluctance in this jurisdiction to apply conditional release to Aborigines because parole supervision is inadequate in rural districts or inappropriate for "tribesmen" (Broadhurst 1987).²²

Most of the offenders incarcerated for rape were "first timers" (n=168) and their subsequent records show that by the cut-off date 59 had returned at least once for a further term; of these 12 had repeated sexual offences and 5 of these had repeated the offence of rape (i.e. were "homologous" offenders). The other "repeaters" included 3 cases of indecent assault, 3 of carnal knowledge and 1 of indecently treating a child. A further 13 prisoners went on to commit other offences of violence, including 2 homicides. Thus just under half of those who had returned to prison by the cut-off date had returned for violent offences.

Of the "rapists" identified, 41% had prior records before being incarcerated for rape and 33 or 28% of these had four or more prior terms of prison. Of the 70 cases with prior records who had been released by the cut-off date, 37 were again incarcerated for any offence, 8 of whom had committed further sex offences, 5 being homologous offenders. A large proportion of those with prior records, 51 cases (including the homologous offenders), had committed an offence of violence against the person at some point, either before or after the offence of interest. The majority (42 cases: 9 non-Aborigines and 33 Aborigines) had completed terms of prison for offences of violence prior to their incarceration for rape.

To sum up Table 12: of the 238 rape offenders able to be followed up (subtracting those yet to be released but including those who died in custody – see statistical analysis below), 96 had returned at least once following their rape offence, and of these 10 had committed rape again. A further 10 had committed other sex offences by the cut-off date. Sixty cases had records of imprisonment for violent offences either before or after their imprisonment for rape. In all, 75 repeated an offence of violence or sex (or both), indicating high risks of dangerous re-offending, bearing in mind that we record only known transgressions punished by prison terms.

22 The distribution of sentences actually served by rape offenders for the first time:

Race	<3 mths	<6 mths	6 mths-1yr	1-2yrs	2-3yrs	3+yrs	
non-Aboriginal %		0.7	4.2	10.4	25.0	20.1	39.6
Aboriginal %		3.6	5.8	10.9	26.8	26.1	27.4

It should be borne in mind that remission or "time off for good behaviour" (which was either one quarter of the sentence for those sentenced before 1982 or one third of the sentence for those sentenced later), parole sentences, variation arising from whether the offence was an attempt or not and the effect of prior record all could account for the differences in sentences actually completed by offenders.

Table 12: Rape and sexual assault^a recidivism

Cases	Released	Repeat	Other Sex	Violence	Sex or Violence	Any Recidivism
Aborigines						
no prior prison						
68	68	2	5 ^b	10 ^c	16	40
prior prison record						
71	44	4	2	37	40	29
All Aborigines						
139	112	6	7	47 ^d	56	69
Non-Aborigines						
no prior record						
100	100	3	2	4 ^e	8	19
prior prison record						
45	26	1	1 ^f	9 ^g	11	8
All Non-Aborigines						
145	126	4	3	13	19	27
All Cases						
284	238 ^h	10	10	60	75	96

a: includes 4 cases of carnal knowledge of girls under 13 years of age; b: one case repeats twice; c: 12 terms of violence include one of homicide; d: 73 terms of violence (33 cases with prior record of violence); e: 5 terms of violence including one of homicide; f: case repeats offence of indecent dealings twice; g: 12 terms of violence (9 cases of prior record of violence); h: 6 cases died in custody and 3 were deported.

Table 13 : Summary – recidivism, all sex offences

Offence	Cases (1)	Released (2)	Repeat (3)	Other sex (4)	Violence (5)	Sex or Violence (6)	Any Recidivism (7)
rape	284	238	10	10	60	75	96
indecent ^a assault	35	26	2	2	9	11	13
indecent ^b dealing	113	112	7	2	17	23	2
carnal ^c knowledge	63	62	2	1	11	14	22
incest	31	30	0	1	1	2	3
wilful ^d exposure	34	34	5	0	7	11	16
all ^e offences	560	502	26	16	105	136	182

a: excludes 2 cases counted in rape; b: excludes 4 cases counted in rape, 1 in indecent assault and 1 in carnal knowledge; c: excludes 4 cases counted in rape and 1 in incest; d: excludes 2 cases counted in indecent dealings and 1 case counted in indecent assault; e: excludes 16 cases who repeated sex offences in more than one category and 8 cases of "gross indecency"; 7 female sex offenders are excluded from the study.

By contrast, Walker (1985) cites additional data supplied by Phillpotts and Lancucki (1979) on the six-year reconviction rates of indecent sex or rape offences. They report that as few as 1.5% (n=2,391) of such offenders with no prior record repeat the same class of offence. The rate of repetition estimated by them increases to 10% for those with one prior sex offence conviction (n=136) and 22% (n=27) for those with at least two prior sex offence records. Compared to other violent and robbery offenders from the same sample these rates were very low. The result also differs considerably from those obtained from our population: higher levels of repetition were observed for our first offenders as can be seen in Table 13, where the unadjusted rate (not allowing for censoring – see next Section) is 7.7% for reincarceration.

To summarise all sex offence categories, in Table 13 we identify the number of prisoners found in the population with at least one sex offence of interest (Column 1), and the number released from prison after serving time for that offence (Column 2). Of those released we count the number who repeat the same sex offence (homologous offenders) (Column 3) and, those who repeat another sex offence of a different category (Column 4). In addition we

count the number who have a record of violence either before or after their imprisonment for a sex offence (Column 5) and those who had either a sex or violence offence recorded (Column 6). Finally we count the number who returned to prison for any offence following imprisonment for the sex offence of interest (Column 7).

For the purposes of this summary we do not double count prisoners who serve terms of prison for more than one type of sex offence – 16 such cases were found in the database. Thus for offences other than rape some undercounting of cases occurs; the reader is referred to Appendix 2 for a full description of these sex offences.

The summary Table 13 shows that in all sex offence categories large numbers were re-incarcerated for any offence, notably for carnal knowledge and wilful exposure (exhibitionism).

6. Statistical Analysis

In the previous summary, descriptions of re-offending characteristics we have been careful to avoid making the simple but erroneous calculation:

$$\text{proportion of recidivists} = \text{number re-offending} / \text{number released.}$$

This is incorrect with data such as we have, since those released can only be followed up until the cut-off date (in extreme cases, for only a few days) and releasees not re-offending by that time always have the potential to do so after the cut-off date. Such observations are said to be "censored". The problem is well recognised in the criminological literature (e.g. Soothill & Gibbens 1978), and a methodology to properly account for them is now well established. The method is preferred over "frozen" or "fixed" time approaches because it utilises all observations, accommodates varying follow up and avoids the artificial limitations of a designated follow-up time.

In Maller (1990) this methodology has been extended to include "covariates", thus enabling valid statistical comparisons to be made between subgroups via a likelihood ratio test. This approach has also been utilised by Maltz (1984) and Schmidt & Witte (1988) in some forms to analyse recidivism data, and by Farewell (1982) in a medical context.

However there seems to have previously been no systematic attempt at analysis of cross-classified data such as given here, although recommended by Copas and Tarling (1988). In particular we can find no analysis of the recidivism of sex offenders using these techniques.

In this study we measured the time to failure of an individual for any offence or for a specified offence (in this study we stipulate an offence of violence) following commission of a sex offence. For those not failing, the "survival" time, i.e. the time from release to the cut-off date, was computed. The "failure rate" method described below calculates estimates of the probability of eventual recidivism using these data.

Experience with many sub-sets of the present data set has shown that the distribution of failure times can usually be well described by a Weibull mixture model which allows for the possibility that individuals may never recidivate (Broadhurst et al. 1988; Broadhurst & Maller 1990). This model specifies the cumulative distribution of failure times as:

$$P\{T < t\} = P.[1 - \exp(-(\lambda t)^\alpha)], t > 0, \quad (1)$$

where P , λ and α are parameters to be estimated. P gives an estimate of the ultimate probability of recidivating, λ measures the rate of recidivating and α specifies the "shape" of the Weibull (see for example Figure 7-6 in Maltz 1984, p. 83). In this way the recidivism function can be examined as suggested by Furby et al. (1989).

Covariates are easily introduced into this model by allowing the parameters P , λ and α to vary over the sub-groups of interest. "Fitting" the model to a data set consists of estimating these parameters for the particular set of covariates specified (e.g. race, age, gender, prior terms of prison), and is done by maximising the likelihood, or joint probability distribution, of the data under the specified model. Significance tests for the "effects" of the covariates are done by omitting them from the specification and calculating the change in the quantity $-2\log L$, where L denotes the likelihood of the fitted model evaluated at the fitted parameters. There are theoretical reasons for believing this quantity to be approximately distributed as chi-squared, with degrees of freedom equal to the number of omitted parameters. Differences between sub-groups may occur in P , α or λ with various interpretations.

The likelihood procedure, like any statistical procedure, requires data on a substantial number of individuals before reliable estimates can be obtained. In the present analyses this is sometimes achieved by pooling smaller categories of offence or other classes. Further discussion of the likelihood approach used here is given in Maller (1990) and is provided in Appendix 3.

(a) Results of Failure Rate Analysis

Of 306 non-Aborigines and 189 male Aborigines in our database who ever committed a sex offence (plus one incest case who also had a carnal knowledge offence and is included in this analysis although incest and wilful exposure offences are excluded), 57 cases were yet to be released from prison following their incarceration for these offences, leaving 439 cases available for analysis. Of these, 125 had at least one prior record and 164 (102 Aborigines and 62 non-Aborigines) had returned to prison at least once by the cut-off date. There were sufficient numbers to fit the Weibull mixture model and test for the significance of race, age, prior convictions (i.e. none or one or more) and offence type. These factors were thought to be most likely to show the major effects of interest in the light of our previous analyses. A number of subsidiary analyses were also undertaken, which concluded that other demographic variables in the computerised record, such as marital and employment status, had small but significant effects in the specialised sub-population analysed here.

For failure rate analysis, offences were grouped into a two level factor as follows:²³

- 1: carnal knowledge, indecent dealings and indecent assault (Sex Offences)
- 2: rape and attempted rape (including carnal knowledge of girls under 13) (Serious Sex Offences).

As previously discussed, the additional sex offences of incest and wilful exposure are not analysed here because of the small numbers.

(i) *Return For Any Offence*

In order to test for the effect of race on the probabilities and rates of recidivism, the best fit of model (1), as judged by $-2\log L$, required separate parameters for P and λ but not for α , as shown in Table 14. Equality of the P and λ parameters between races was rejected at the .001 significance level, demonstrating a much greater probability of reconviction and a much shorter time to reconviction for Aborigines. The Weibull models fitted to this data are shown in Figure 4, separately for Aborigines and non-Aborigines.

Goodness of fit can be assessed by comparing the model (smooth line) with the Kaplan-Meier empirical distribution functions (dotted "line"), calculated from the actual failure times, also shown in Figure 4. Given the variability of the Kaplan-Meier estimates, as demonstrated by the 95% confidence intervals (shown as bars in Figure 4), the Weibull model (1) is a reasonable description of the actual failures. Note also that the curves in Figure 4 appear to have levelled off after 5 and more years, demonstrating that the extrapolations required to estimate the ultimate probabilities of recidivism for each group are reasonable. This is reflected in the confidence intervals calculated for these estimates; for example, we are 95% confident that Aboriginal recidivism for any offence lies between .68 and .88, while for non-Aborigines it is between .25 and .46 with 95% confidence.

By contrast, a corresponding analysis did not demonstrate significant differences marginally, in the ultimate probabilities of failing between serious sex offenders (rape/etc.) and sex offenders (mostly imprisoned for offences against children) and the rate of failing was no faster for serious sex offenders than for the others. However when race was controlled for, small but significant differences between offence groups were found (see Appendix III). Note that we rely on legal definitions which obscure important victim variables as well as the exact nature of the sexual behaviour.

²³ In the statistical analysis those prisoners who died or were deported/extradited were treated as censored cases.

A joint analysis of race and offence types showed that there were no significant differences between offence categories for either race, and there was no suggestion of an interaction between race and the offence types under consideration. This vindicates our use of marginal estimates for race in Table 14. The estimates for the separate offence groups are given in Table 14 although they are significantly different only when races are controlled for.

Elsewhere (Broadhurst & Maller 1990; Maller & Broadhurst 1989) we have stressed the necessity to control for the number of recidivist events in studies of this kind, since failure probabilities (for any offence) increase dramatically for the second recidivism compared to the first, and for the third compared with the second etc. In the present data set we simply tested for the significance of prior or no prior term of imprisonment, as there were insufficient cases to classify the number of prior terms in greater detail. There were large significant effects; as expected those with prior terms had greater probabilities of failure and returned at a faster rate (Table 14 and Figure 5). There was no evidence of an interaction with race; that is, the differences applied for each race. Note that the failure curve for those with prior imprisonment in Figure 5 has not levelled, due to insufficient follow-up of such offenders. This imprecision is reflected in the 95% confidence interval of between .60 and .82 attached to the estimate of their recidivism, in Table 14.

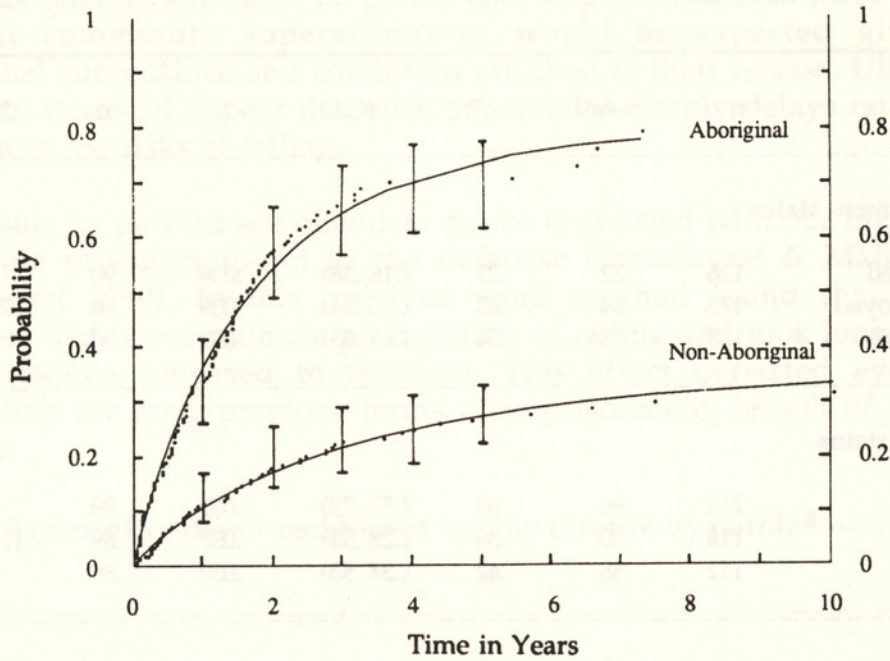
Further analysis using the covariate model showed also that there was a significantly higher ($P < 0.001$) overall probability of recidivism for younger offenders (those aged 24 years or less) as compared with older (aged 25 years or more) (see Table 14). This difference applied equally to the two races and to the two offence groups. There was, however, no difference between the rates of returning of younger and older offenders. A joint analysis with offence type revealed no significant differences in offence types for either younger or older offenders in rates or probabilities of returning.

Table 14. Sex Offenders – recidivism for any offence, analysis for race, age and prior record

GROUP	n	n-fail	P	C.I.)	λ	α	-2logL
non-Aborig	281	62	.35	(.25,.46)	.026	.90	1681.3
Aboriginal	158	102	.80	(.68,.88)	.048	.90	
no priors	314	93	.44	(.35,.53)	.028	.94	1717.3
1+ Priors	125	71	.72	(.60,.82)	.059	.94	
sex offences	201	68	.45	(.36,.55)	.047	.90	1758.3
serious sex	238	96	.55	(.45,.65)	.034	.90	
young	233	108	.60	(.51,.69)	.039	.90	1747.5
old	206	56	.38	(.30,.48)	.039	.90	
all cases	439	164	.51	(.44,.58)	.038	.90	1760.7

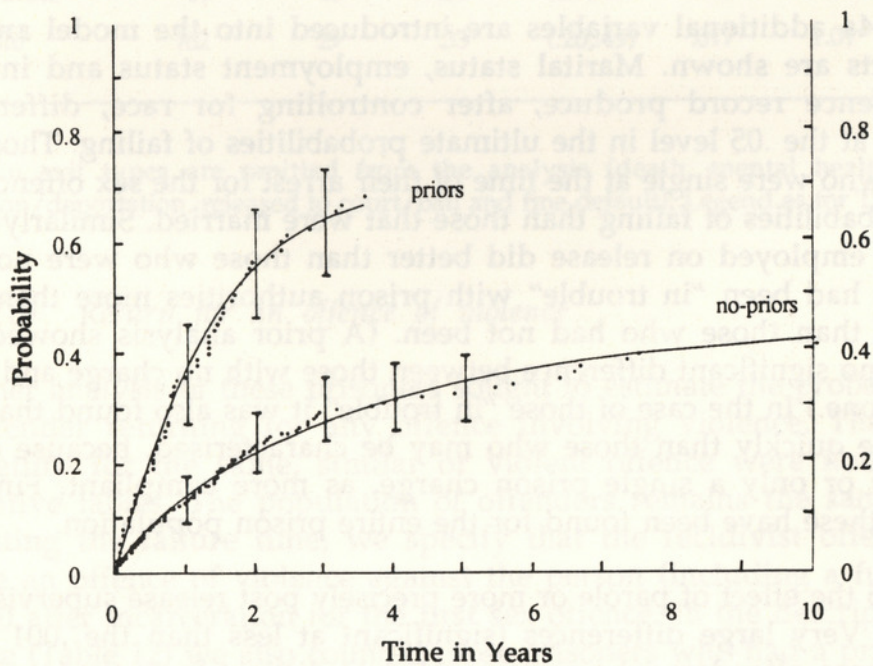
LEGEND The table shows the estimated proportion P , with 95% confidence interval (C.I.), of the 439 offenders incarcerated before 30/6/1987 for a sex offence, who will ultimately commit a further offence of any type. Estimates are given separately when the 439 subjects are subdivided into groups according to race (Aboriginal, non-Aboriginal), prison record prior to incarceration for a sex offence (None – 1 or more), type of sex offence (Sex offence, Serious sex offence), and age (Young, Old). For each group the values of $-2\log L$ can be used to assess the significance of the sub-dividing factor; thus $1760.7 - 1681.3 = 79.4$ is an approximate chi-square random variable with 2 degrees of freedom enabling differences between the Weibull parameters due to race to be tested; it is highly significant. Similarly the effects of prior record and age are highly significant but offence is not. Other columns: n = number of individuals in group; n -fail = number incarcerated for any offence subsequent to the sex offence, before 30/6/1987; P , λ and α are estimated values of the Weibull parameters.

Figure 4 : Failure time distributions, any return to prison after release for sex offences, for race



Actual time to fail: dotted lines = Kaplan-Meier estimator
 Estimated time to fail: full lines = fitted Weibull model
 Confidence interval at 95%: vertical lines = confidence interval

Figure 5 : Failure time distributions, any return to prison after release for sex offences, for prior/no prior record of prison



Actual time to fail: dotted lines = Kaplan-Meier estimator
 Estimated time to fail: full lines = fitted Weibull model
 Confidence interval at 95%: vertical lines = confidence interval

Table 14a : Sex offenders – recidivism for any offence

Group	n	n-fail	P	(C.I.)	λ	α	-2logL
Employment status							
employed	126	22	.27	(.18,.38)	.039	.90	1738.3
unemployed	178	74	.63	(.50,.74)	.039	.90	
unknown	135	68	.54	(.45,.63)	.039	.90	
Marital status							
single	212	96	.63	(.52,.73)	.037	.89	1746.7
married	115	30	.39	(.28,.53)	.037	.89	
other	112	38	.42	(.31,.53)	.037	.89	
Prison charge							
nil or one	352	126	.48	(.41,.46)	.036	.89	1754.0
2 or more	87	38	.70	(.50,.84)	.036	.89	

Legend as for Table 14.

In Table 14a additional variables are introduced into the model and the main effects are shown. Marital status, employment status and internal prison offence record produce, after controlling for race, differences significant at the .05 level in the ultimate probabilities of failing. Those sex offenders who were single at the time of their arrest for the sex offence had higher probabilities of failing than those that were married. Similarly those who were employed on release did better than those who were not and those who had been "in trouble" with prison authorities more than once did worse than those who had not been. (A prior analysis showed that there was no significant difference between those with no charge and those with only one.) In the case of those "in trouble" it was also found that they failed more quickly than those who may be characterised, because of the absence of or only a single prison charge, as more compliant. Findings similar to these have been found for the entire prison population.

In Table 15 the effect of parole or more precisely post release supervision is examined. Very large differences (significant at less than the .001 level) between those offenders who were paroled as distinct from those released directly to freedom were observed. (For the purposes of this comparison other release types [see Table 15] totalling 43 offenders were ignored.) The

difference is entirely attributed to the *rate of failure* rather than to differences in the ultimate probability of failure between the groups. Thus those sex offenders released on parole take longer to fail than those released without community supervision, as would be expected given the additional surveillance and conditions attached to their release. Ultimately, however, it would appear that such supervision simply delays rather than overcomes the risks of failing.

This result for paroled sex offenders can be contrasted with our findings for all parole prisoners found in the database (Broadhurst & Maller 1990; Broadhurst 1990). In this previous work we had found that paroled prisoners had lower ultimate probabilities of failing and took longer to fail than prisoners released to freedom. This effect persisted even after controlling for race, previous terms of imprisonment, length of sentence and age.

Table 15 : Sex offenders – recidivism for any offence by parole^a

Group	n	n-fail	P	(C.I.)	λ	α	-2logL
Aboriginal							
no parole	82	63	.82	(.72,.89)	.072	1.01	
parole	63	33	.85	(.39,.98)	.023	1.01	
non-Aboriginal) 1495.0
no parole	89	23	.34	(.25,.47)	.046	1.01	
parole	162	29	.33	(.20,.49)	.017	1.01	

a: certain exit types are omitted from the analysis (death, mental health transfer, extradition/deportation, released to court/bail and fine default). Legend as for Table 14.

(ii) *Return for an offence of violence*

A further analysis of these prisoners sought to estimate the probabilities of the offender returning for any offence involving violence. The number who return for the same, similar or violent offence were noted in the descriptive tables. The population of offenders remains the same; but in calculating the failure time, we specify that the recidivist offence must involve an offence of violence against the person (including a further sex offence) after incarceration for the first sex offence. In the descriptive table for rape (Table 12) we also counted those prisoners who had a prior record of violence, but here we count events after release for the first sex offence.

For this analysis small numbers were a problem but it was possible to do a limited analysis. Two aberrant observations (Aboriginals with prior records of incarceration failing after more than ten years for crimes of violence) were omitted from this analysis; their inclusion would tend to increase the differences in Table 16.

Table 16 : Sex offenders – recidivism for an offence of violence or sex analysis for priors and races

Category	n	n-fail	P	(C.I.)	λ	α	-2log L
no priors	312	41	.32	(.08,.71)	.009	0.84	
1+ priors	125	26	.62	(.07,.97)	.009	0.84	884.5
non-Abor	281	25	.21	(.08,.48)	.010	0.84	
Aboriginal	156	42	.62	(.13,.95)	.010	0.84	868.9
all cases	437	67	.34	(.14,.62)	.012	0.85	892.2

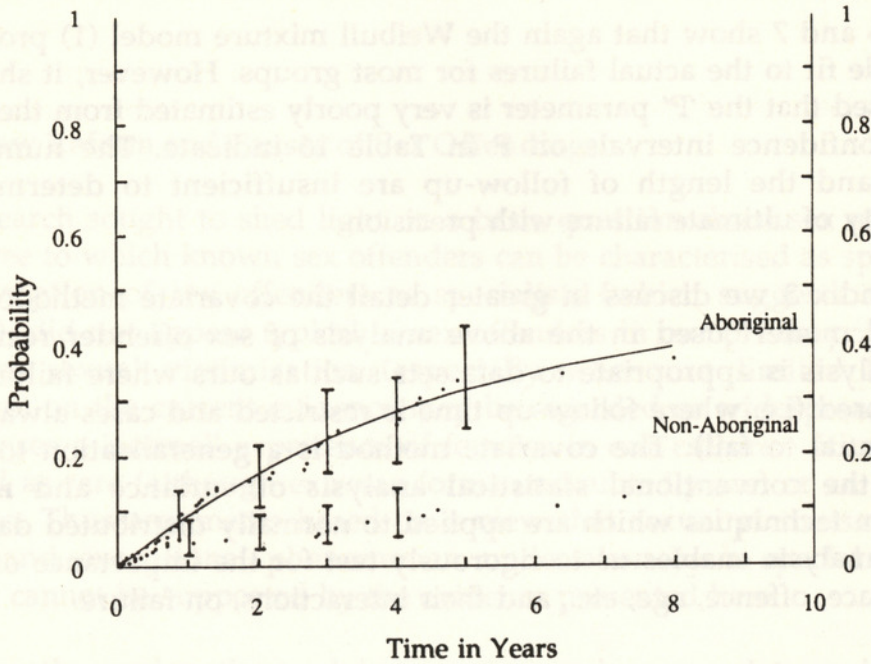
As for Table 14 except that n-fail = the number of sex offenders incarcerated for an offence of violence or sex subsequent to their first sex offence, before 30/6/1987, and P is the estimated proportion who will ultimately be incarcerated for a further offence of violence or sex.

It was possible to fit a model to describe the differences in race; the estimates of probabilities indicated much higher ultimate probabilities of failure by Aboriginal prisoners (see Figure 6). For this analysis we were unable to fit the covariate model to the offence groups – “serious sex” and “sex” offence, but a comparison of their respective Kaplan-Meier curves revealed no significant differences between them.

The number of prior terms of prison greatly affected overall probabilities of violent recidivism and those with prior terms also failed more quickly. Results of this analysis are provided in Table 14 and the fitted failure curves for these data are shown in Figure 7.

Figure 6 : Failure time distributions, return to prison for sex or violent offences after release for sex offences, for races

Note that the Weibull is not fitted for the non-Aboriginal group.



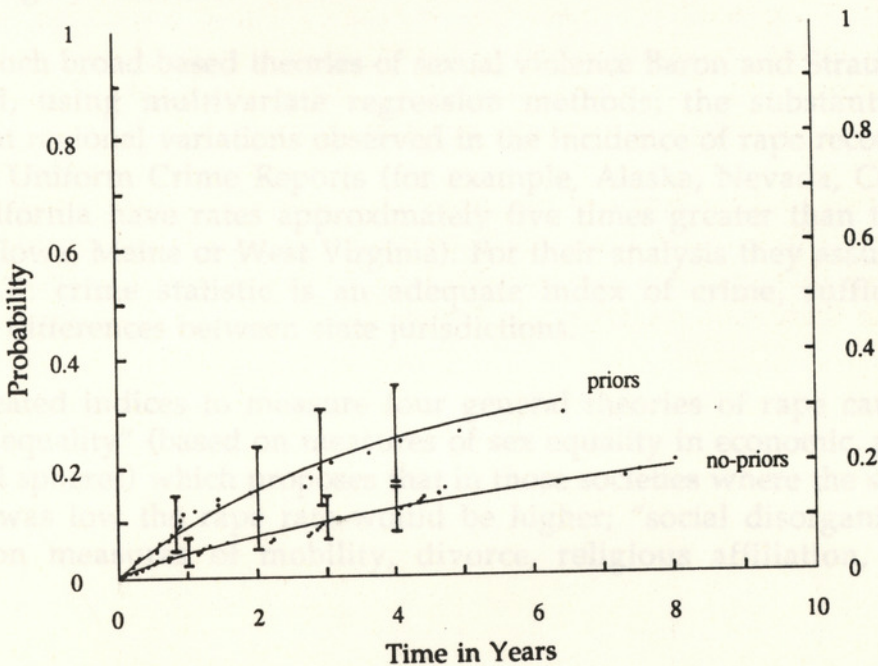
LEGEND Figures 6 & 7:

Actual time to fail: dotted lines = Kaplan-Meier estimator

Estimated time to fail: full lines = fitted Weibull model

Confidence interval at 95%: vertical lines = confidence interval

Figure 7 : Failure time distributions, return to prison for sex or violent offences after release for sex offences, for prior/no-prior record of prison



Over all cases, the probability of coming back for any offence following a sex offence is estimated to lie between .44 and .58 with 95% confidence. For a further sex or violence offence, our best estimate of the probability of returning is between .14 and .62 with 95% confidence.

Figures 6 and 7 show that again the Weibull mixture model (1) provided a reasonable fit to the actual failures for most groups. However, it should be emphasised that the 'P' parameter is very poorly estimated from these data, as the confidence intervals on P in Table 16 indicate. The numbers of failures and the length of follow-up are insufficient to determine the probability of ultimate failure with precision.

In Appendix 3 we discuss in greater detail the covariate methodology or "factorial model" used in the above analysis of sex offender recidivism. Such analysis is appropriate to data sets such as ours where failure times are censored (i.e. where follow-up time is restricted and cases always have the potential to fail). The covariate method is a generalisation to failure data of the conventional statistical analysis of variance and multiple regression techniques which are applied to normally distributed data. This kind of analysis enables us to rigorously test for the importance of effects such as race, offence, age, etc., and their interactions, on failure.

7. Policy and Research Implications

(a) Law Reform and Causes of Sex Offending

This research sought to shed light on a basic question about sex offending: the degree to which known sex offenders can be characterised as specialists. The perception of sex offenders as specialists (which suggests a unique etiology), did not appear typical of sex offenders in our prison population. Moreover sexual victimisation (especially when not limited by legal definition) on the current evidence may be regarded as widespread and in some senses a 'normal' experience of females in our culture – it cannot be regarded as rare (although extreme forms undoubtedly are) or an aberrant exception. Thus arguments based on a view that sexual victimisation is a limited and exceptional phenomenon undertaken by a special type of offender cannot be supported by the evidence presented here.

Consequently, explanations relying on poor or inappropriate socialisation and theories of under-control and conflict in gender relations would generally account for most offending. The causes of sex offending must therefore tend to have origins of essentially a social rather than psychological character and may, as some have suggested, combine cultural imperatives that endorse the use of violence to solve interpersonal conflict (Wolfgang & Ferracutti 1982) with a dominant male culture and misogynist-like legal system (Smart 1989). However, it is also clear that a small but important sub-group of offenders has been identified (as in previous studies) for whom clinical or "special" psychogenic explanations remain highly relevant.

To test such broad-based theories of sexual violence Baron and Straus (1989) analysed, using multivariate regression methods, the substantial and persistent regional variations observed in the incidence of rape recorded by the U.S. Uniform Crime Reports (for example, Alaska, Nevada, Colorado and California have rates approximately five times greater than those of Dakota, Iowa, Maine or West Virginia). For their analysis they assume that the U.C.R. crime statistic is an adequate index of crime, sufficient to measure differences between state jurisdictions.

They created indices to measure four general theories of rape causation: "gender equality" (based on measures of sex equality in economic, political and legal spheres) which proposes that in those societies where the status of women was low the rape rate would be higher; "social disorganisation" (based on measures of mobility, divorce, religious affiliation, female

headed families, etc.) which argues that social breakdown and disorder contribute to higher sexual violence; "legitimate violence" (based on measures of gun ownership, capital punishment laws, National Guard enrolment, circulation of violent magazines etc.) or "cultural spillover theory" which associates a high rate of violent crime "...to a diffusion or carryover of socially approved forms of violence into contexts and relationships in which the use of violence is considered illegitimate or illegal" (Baron & Straus 1990, p. 168) and consequently those regions or states with high legitimate violence measures would have a higher rape rate;²⁴ and finally "pornography" (based on sex magazine circulation) which posits that states with high pornographic readership would have higher rape rates because such material reduces women to sex objects, reinforces male dominance and incites sexual violence (cf. Dworkin 1981; Smart 1989, pp. 114–137).

The results of their analysis showed that with the exception of "legitimate violence" all indices of the other theories (gender inequality,²⁵ social disorganisation and pornography) were well correlated with states with high rape rates, even after controlling for important demographic variables and interactions (Baron & Straus 1989, pp. 173–185). Their analysis found support, in particular, for theories based on the relative equality of women and the degree of social cohesion or control. For "legitimate violence", they found an indirect relationship with rape because this was inversely related to "gender equality": "The fact that the status of women is lower in states that have high levels of legitimate violence indicates that women are devalued in more violent societies" (Baron & Straus 1989, p. 187). A further complicating feature was the relationship between gender equality and social disorganisation. Gender equality was higher in those states with high "social disorganisation" – changes in traditional structure appear concomitant with higher gender equality. Thus states with high social organisation and gender equality were those with the lowest rape rates; however, few states approached these conditions. They discounted direct support for a relationship between "pornography" and rape, arguing that it "...reflects confounding with an underlying variable such as hypermasculinity" (p. 186) for which they mean the proportion of males in the high violence age group, 18 to 24 years, and factors such as those measured by the "legitimate violence" index.²⁶

24 Allen (1990:130–156) provides a telling historical account of the "cultural spillover" effect in her analysis of the association between the consequences of war service on serving and returned servicemen and sexual violence in Australian society.

25 Note: Baron and Straus (1990) found that poverty and gender inequality were highly correlated.

26 The correlation of .64 between the sex magazine circulation index and the rape rate is intriguing and clearly applies to sexual violence and not violence per se, because correlations of only .17 for assault and .09 for robbery were found.

A review of the available empirical data in this jurisdiction demonstrates that feminist-inspired reforms of the law and the comprehensive redefinition of the meaning of sexual crime have transformed social control responses. While this has manifested principally as a sustained increase in the official incidence of sex crimes, it has to be interpreted in the light of data which indicate that the real level of victimisation has remained stable or increased only moderately. Enforcement performance (measured by police charge rates) at the same time has improved in absolute terms. We argue that, rather than signalling further failure of social control and law enforcement, this increase in both the incidence (mostly reporting and recording changes) and prosecution of sex crimes indicates more, not less, control.

Consequently, such law reforms cannot be seen as ineffective and contribute in themselves to improved control. Current efforts and policies need further reinforcement if we are to succeed in reducing the risk of sexual victimisation. Needless to say this requires continual struggle on all fronts. Measures designed to change attitudes, prevent or reduce opportunities for victimisation, support victims and prosecute, control and treat offenders, will all contribute. Specific attention must therefore continue to be given to measures that encourage reporting and enhance control of offenders.

(b) Findings

An important finding arising from this analysis of the repeat offending of incarcerated sex offenders (especially rape and indecent assault) is the relatively high proportion of those who eventually repeat sex offences or offences of violence (e.g. assault and robbery). This observation is even more true of those with prior terms of imprisonment.

This study also confirms previous findings, that long follow-up is required for sex offenders in particular. As failures may occur long after release, short follow-up periods will significantly under-enumerate recidivism.

Failure rate analysis showed that non-Aboriginal sex offenders had approximately a .35 chance of returning to prison for any offence while Aborigines had a .80 chance. Non-Aboriginal recidivism for these offenders was thus lower than the base rate of .45 but Aboriginal recidivism was a little higher than the .75 base rate. Having a prior record and/or being young significantly increased the probability and rate of failing for either race, but this was also true of the general prison population. These effects of race, age and prior record were independent of the character of the sex offence. Somewhat more disturbing is the fact that probabilities, although lower, remained high for sex offenders returning for another violent or sex offence.

While previous history and youth (maturation and hormone levels are often offered as explanations) are commonly found to have a bearing on recidivism outcomes, the question of race is less often analysed, especially in sex offender recidivism (but see generally Amir 1971; Chappell, Geis & Geis 1977; Steven & Willis 1979). In this jurisdiction the over-involvement of Aborigines as compared to non-Aborigines in the criminal justice system requires separate examination. In our previous work we concluded that the difference was so great that for Aboriginal prisoners "overwhelming cultural and environmental forces interact with law enforcement practice so as to mask and trivialize individual differences and pathology" (Broadhurst et al. 1988, p. 103). The difference in the risks of violent recidivism between the races is so great as to make it likely that it is due to the very poor socio-economic base of Aboriginal people, the chronic exploitation of Aboriginal women and the near total destruction of traditional and "natural" forms of social control in Aboriginal communities, rather than to increased numbers of specialised or pathological offenders amongst Aboriginal men. Thus, separate analysis of sex offenders by race provides further support for the notion that sex inequality and social disorganisation may account for high rates of sex offending in some communities.

The evidence shows that, except in a few cases, most recidivist offenders are likely to be committed for a variety of different offences. Thus recidivist sex offenders tend (on the basis of official records here) to be "generalists" rather than "specialists" in offence preferences. Considering the enhanced risks of re-arrest for known sex offenders, the small number of specialists found hardly suggests that these are typical of sex offenders. More typically, they show a pattern of aggressive behaviour – suggesting that aggression rather than perversion is the more salient characteristic of sex offenders. Nevertheless, large numbers of sex offenders (about a half) are estimated never to return to prison, and even larger numbers are estimated never to return to prison for a further sex offence.

However, it should be noted that those incarcerated for incest provide little evidence of histories of officially punished violence or other sexual offences, in agreement with previous findings (Furby et al. 1989; Gibbens, Soothill & Way 1978; Christiansen 1965; Radzinowicz 1957). This suggests that their behaviour can and should be distinguished from that of other sex offenders. We have too little data on incest offenders to analyse their "careers" if indeed the concept is applicable.

(c) Research Implications

Apart from the differences we have described between the general categories of age, race, sex and prior terms, prediction of individual re-offending is a goal that appears unattainable at present. Our data do not contain victim-offender related variables or information on treatment because no systematic programs operated until the late 1980s. There is

however sufficient evidence of repetition to warrant special attention being given to offender tracking, profiling and repeat offender programs by police and corrections agencies (Holmes & De Burger 1988; Martin & Sherman 1986; Dietz 1985).

While we have been able to address the question of how many previously imprisoned sex offenders are likely to continue officially recorded offending (and, with less precision, to continue sexual or other serious offences), we are of course unable to be sure what kind of a sub-sample of all sex offenders this may be. It is probable that known sex offenders may be a more representative sample than had previously been thought, simply because in emphasising the under-reporting of sex offending we have overlooked evidence from self-report studies which suggest that those convicted often reveal the commission of many more offences than are reported to authorities by their victims (Radzinowicz 1957; Groth, Longo & McFadin 1982; Abel et al. 1986).

Only with careful and repeated random surveys of victims, novel self-report research and analysis of official records can we hope to confidently address the problems of measuring this behaviour and the effectiveness of social controls. In addition, research integrating medical records and law enforcement data is likely to shed further light on the extent and character of sexual victimisation and may reveal control opportunities. Research focusing on these matters should have priority.

The need for extremely lengthy follow-up, as required by conventional "frozen time" methods, for reliable evaluation of sex offender treatment programs can be overcome by the adoption of failure rate analysis of the kind used here. This allows for estimates of the ultimate probability of failing with variable follow-up time on individuals, and enables more timely evaluation than permitted by "frozen time" methods. It also enables the shape of the recidivist function to be observed (Furby et al. 1989, p. 27). Generally, we expect that repeat incarceration will be infrequent in the short term irrespective of participation in special programs.

For the entire prison population, there is a tendency for those who "fail" to progress to more serious offences in their "criminal careers" (Maller & Broadhurst 1989; Stander, Farrington, Hill & Altham 1989; Blumstein, Cohen, Das & Moitra 1988; Kempf 1988). Thus a measure that evaluates interventions (treatments) on their capacity to reduce progression to more serious offences or repeat offending is of special utility. Adopting such an evaluation criterion for sex offender treatment programs might permit review earlier than otherwise, as the risks of repetition are related to prior history of offences against the person. Hence the need for the criterion re-imprisonment for a further sex offence, may be substituted with the equally persuasive criterion of re-imprisonment (or conviction or arrest if such data were available) for another offence against the person. Such a yardstick permits earlier review than that of homologous recidivism of sex offences,

which we have shown requires very long follow-up before accurate estimates of recidivism can be calculated.

However, based on the distributions shown in Figures 4-7, it seems unrealistic to subject special programs for sex offenders to meaningful evaluation until at least three and preferably more years have passed. In addition the existence of early failures, if they occur, need not be interpreted as signifying the complete failure of the intervention. Failure rate analysis makes unnecessary the need to wait for all cases to have a minimum follow-up before useful results can be obtained. Larger samples and longer follow-up will of course permit more precise estimates.

It is clear that sex crimes are a diverse and imprecise category of offensive behaviour (for example they overlap with "domestic violence") and require specific classification and analysis if they are to be interdicted. Prevention efforts, for example such as those using "Caller-ID" and "Call Trace" technologies in dealing with obscene telephone calls (Clarke 1990), screening techniques for the selection of child carers (Robinson 1989) and offender treatments, require disaggregated data and situationally sensitive analysis if prevention strategies are to move beyond broad proscriptions on female lifestyles.

(d) Policy Implications

At present we can discern two major responses to sex offending, one concerned with crime control (prevention and reduction) and the other with retribution or punishment ("just desert" and proportionality). These responses are not necessarily mutually exclusive but they do lead to differing priorities and concerns which are frequently in conflict. We illustrate these in our discussion of incapacitation which follows. Before doing so there are a number of related issues to consider.

Firstly, efforts to increase reporting of offences to authorities in order to sharpen enforcement and increase the certainty of punishment will be pointless as long as victims assess that, unless the case is "right", police are either inappropriate or ineffective in prosecuting and protecting them from reprisal (common reasons given by victims for not reporting). "Proof beyond reasonable doubt" is not the only criterion for intervention by law enforcement agents, and priority must also be given to the protection and safety of victims. In other words, where punishment of the offender is the prime concern the needs of the victim tend to be relegated, reinforcing their powerlessness, and may even extend the trauma in order to meet the special criteria required by law to punish. Encouraging victims to report is a fundamental element in achieving better crime control and should have priority. Current experience demonstrates that pursuing policies that increase reporting will also lead to gains in the apprehension and prosecution of offenders. Nevertheless, to further encourage reporting we need to be more inventive and ensure that actions are indeed sensitive to the

victims' needs and on their terms. Until additional means are found to further reduce under-reporting, new computer enhanced technologies such as offender tracking, repeat offender programs and profiling, will remain limited tools of enforcement. The prospects of improved deterrence and protection appear governed by the extent that victims are willing to report to police.

Because victims are often children, adolescents or young adults, programs aimed at increasing awareness and reporting must be sensitive to the different needs of these age groups – omnibus programs will be inadequate. It is also extremely important to target prevention and support programs at both females and males, not only because males and particularly male children are victims but because male attitudes must also be confronted. Policies that enhance reporting and increase the certainty of offender apprehension are preferred over policies that increase penalties but retard reporting, including self-reporting. The trade-off for politicians therefore looks unattractive: having to mitigate "getting tough" with "sex criminals" in order to improve control, while enduring increases in official reports of sex crime as a "success" measure. This approach may be beyond the reach of popular community leadership.

Secondly, reviews such as that of Furby et al. (1989) are reminiscent of the "nothing works" conclusion of earlier reviews of correctional effectiveness by Martinson (1974), Lipton, Martinson & Wilkes (1975) and others. But there are treatments that are effective for some offenders some of the time (Scherest, White & Brown 1979; Van Voorhis 1987). The use of ethical treatments should continue to be supported, although prison authorities and politicians must recognise that there are no "magic bullets" and that the effectiveness of these treatments, in the case of sex offenders, will by and large be confined to a relative minority.

Relatively new chemical treatments for sexual deviancy cannot be regarded as proven safe or effective except in very precise circumstances. For the immediate future such treatments must be regarded as warranting close attention and requiring thorough field experimentation. This is best contemplated in a setting independent of the criminal justice system where the fundamental issue of consent is uncontaminated by a penal context. The treatment approach should be persisted with because it holds out the possibility of helping to enhance reporting in circumstances where the victim's relationship with the offender is such that fear of the consequences of official response inhibit action. Furthermore it may also act to encourage self-reporting by mitigating the severity of punishment or the intrusiveness of control.

Such offender treatment programs do not alleviate the need to address broader matters such as the status of women, the need to reinforce extra-legal methods of female resistance to violence, or changing attitudes to violence and sexual behaviour in the community (National Committee on

Violence 1990). Similarly Baron and Straus's (1989) findings that gender inequality and social disorganisation theories were best supported by the data led them to advocate "primary prevention" measures such as ensuring equal rights for women, addressing poverty and reinforcing community cohesion. Although treatment of rapists and situational prevention need not be neglected, they specifically argue against the censorship of pornography (as distinct from ideographic violence including sexual violence) because research, including their own, suggests the relationship between rape and pornography is probably spurious and hence pornography is unlikely to be a fundamental cause of rape. Concentration on the legal suppression of pornography thus diverts attention and resources. However, Smart has argued "Denying that law is the solution to pornography, is not to deny that pornography is a problem". Rather the insidious extension of the pornographic genre into everyday representations of women may present more of a threat and consequently make control through legal remedy and attitude change even more remote (Smart 1989, p. 136). However, as Kelly (1988) and Allen (1990) remind us, surviving, resistance, coping and collective action have long been women's response and may be preferred to mobilising male authority, represented by the police and the law.

Thirdly, our work suggests that, rather than emphasise particular strategies and treatments for sex offenders, the focus should also be shifted to violent and aggressive offenders per se, as they appear to encompass many sex offenders.

Given the pessimism over treatment and a low risk of punishment it is not surprising that incapacitation has emerged as a major policy response to sex and other serious offending. If offenders cannot be deterred or treated and the prospects of prevention appear remote until there are major changes in social attitudes, warehousing of offenders has appeal by default.

(e) Incapacitation and Prevention

The goal (as expressed by the the National Academy of Sciences panel on criminal careers: Blumstein et al. 1986) of measuring not only the prevalence of participation in crime but the frequency of offending by active offenders and the duration of their "criminal careers", as the appropriate means for properly distinguishing between high risk criminals and low risk criminals, is an ambitious one. The panel argued that aggregate measures of crime rate obscure important differences and relationships which can only be explicated by analysis of individual level data. The problems in measuring these parameters are substantial and a reliance on official statistics (of arrest, conviction or imprisonment) inevitably requires the assumption that such records represent, albeit conservatively, a sample of offenders and offences. The method we have adopted provides estimates of the frequency of offending and the duration of criminal "careers", but can be relied upon only to the extent that official

records can be accepted as representing an index of the universe of offences. While we can reasonably expect to solve the counting problems, we cannot expect to adequately study "criminal careers", until comprehensive records, including self-report offending, are also available. Until this is the case we cannot rigorously test the assumptions, or crime control strategies such as selective incapacitation, which are stressed in "criminal career" research.

Our results predict that nearly one in five of non-Aboriginal subjects may return for a further offence of a violent or sexual nature while as many as three in five of Aboriginal offenders will do so. Those with prior records will have even higher probabilities of re-incarceration. Despite these very high rates of re-incarceration for continued sex or violent offending we cannot identify individuals who will actually fail. Thus the application of incapacitation strategies overall would disproportionately affect non-Aboriginal subjects and the prospect of making decisions based on race would be repugnant. Yet the need to protect Aboriginal communities from such high risks cannot be ignored. While we can hardly expect criminal penalties to correct racial disparities in our society we can reasonably expect such penalties to provide some protection and relief.²⁷

These results also show that the costs of incapacitation would certainly be very high, for not only would we need to lock up a large number of offenders who will probably never need to be re-incarcerated, but we would need to do so for very long periods. Thus in order to achieve crime control or preventative aims, only substantial additions to "just desert" or tariff penalties for high risk offenders would suffice. Such modifications would fall outside the range of permissible adjustments approved by most "just desert" advocates (e.g. Von Hirsch 1985) but not all (e.g. Monahan 1982). However, "categorical" or general incapacitation, which increases penalties for all offenders who commit any offence associated with high risks, is less readily rejected (Blumstein et al. 1986, chapter 5), although the use of offence class as the criterion for risk assessment is less precise than the use of the history of the offender.

At present preventative incapacitation (as a justification for punishment) has very limited application in Australia; indeterminate or long sentences justified on preventative grounds have fallen almost entirely into disuse and disrepute even though they remain in law.²⁸ In practice our current

27 Until recently it was held in practice that sentences for assault and other violent offences by Aborigines (often associated with drunkenness and with victims being other Aborigines) should be significantly lower than for non-Aborigines – but this approach was not always extended to include offences involving property. This sentencing practice was justified on "lifestyle" grounds and the additional burden that confinement caused because of Aborigines' nomadic nature (see for example *R v. Bulmer and others*, 1986, 25 A. Crim R. 155, and Broadhurst 1987).

28 For example in *Tunaj v. R*, 1984, W.A.R. 48 an order to be detained indefinitely at the "Governor's pleasure" was set aside by the appeal court on the basis that such orders could be made "...only in very exceptional circumstances and those circumstances must indicate and firmly indicate that the convicted person has shown himself to constitute a danger to the public." *Veen* (2), 1988, 14

use of imprisonment precludes the increased adoption of incapacitative sentences without further costly prison building, and only very rigorous exclusion of non-essential custody would permit incapacitation policies the required prison space. This "trade-off" will be attractive to those who advocate reduction of imprisonment by the "bifurcation" of penalties (i.e. the trading off of lesser penalties for less serious but more frequent offences, against greatly increased penalties for the less frequent but more serious offending). This process is already under way in many jurisdictions and will appeal to legislatures wishing to "get tough" on violent crime.

Pressure for very long sentences justified on desert and preventative grounds seems also the logical result of the confusion amongst retributionists (or just desert advocates) about the weight to attach to an offender's record. Having compromised the principle of proportionality by justifying increased penalties for past deeds as "deserved", it would be easy to smuggle in additional weight for anticipated deeds. It happens that the offender's record is one of the most powerful and objective predictors available. Hence, the effective difference between punishment for past or anticipated deeds may assume only theoretical importance, and punishment for past and future deeds need only be a question of calculation.

The solution offered by either categorical or selective incapacitation turns out to be a very costly one once enumerated, and once the limitations of predictive methods are understood. Improvements in predictive accuracy will eventuate, but unless we are prepared to sweep away time honoured notions of justice we are not likely to countenance increasing punishment in anticipation of subsequent offending no matter how likely. These sensibilities will not be shared by those communities who see the risks as too great, and pressure will remain for preventative measures irrespective of the cost.

ALR 465, *Chester v. R*, 1988, CLJ 155, express similar views but in *Yates v. R*, 1987, 25 A Crim R 361, an indeterminate sentence was upheld in the case of a borderline handicapped sex offender who was regarded as untreatable and whose prior record of sex offences warranted his detention at the "Governor's pleasure".

8. Conclusions and Possible Solutions

Despite the growth in scholarship and research on the subject of sex offending and victimisation (Chappell 1989) there is a dearth of recidivism studies and virtually none relevant to Australian conditions (Furby et al. 1989). Many of the available studies relate to small and highly select sex offender treatment populations from which generalisations cannot be confidently made.

This research arose out of the need to establish the probabilities of recidivism for sex offenders (in particular rape or sexual assault), especially the risks of repetition or returning for an offence of violence. Thus the research task was specifically designed to provide base failure rates of any recidivism or violent recidivism relevant to an increasing number of specialist prison/corrective services treatment programs being developed in Australia (see Nicol and Lee 1990 in Victoria, Fugler 1990 in South Australia, French 1988, 1990 in Western Australia, and Ward et al. 1990 in New Zealand). Data relevant to Australian conditions are essential if the effectiveness of these programmes is to be properly evaluated. Moreover such failure rate studies permit assessment of the utility of sentencing and penal policies. Clearly this study shows that imprisonment has limited deterrent and incapacitative effects, especially for Aboriginal prisoners.

A secondary aim was to ascertain the extent to which incarcerated sex offenders are representative or typical of sex offenders in general. This question led us to review the available information on the incidence of sex crimes, including the so called "dark figure" of sex crime. While we concluded that incarcerated rapists are typical of convicted rapists, those incarcerated for other sex offences are less likely to be typical, because fines and non-custodial orders are more common for these offences. Of course how typical such prisoners are of all sex offenders cannot be determined. On the basis of self-report studies we are confident that known offenders account (eventually) for a substantial proportion.

The expansion of custodial based treatment programs for sex offenders has not been without its critics. Scutt (1990), for instance, has argued that such programs are predicated on an etiology of sex offending that stresses uncontrollable "sexual drive" or "sexual urges". Such an assumption, she suggests, leads to ineffective control, diverts scarce resources and ultimately excuses offenders. Furthermore the emphasis on socio-biological causes abrogates male responsibility by characterising sex offending as an abnormality of male sexuality, rather than as a by-product of male culture.

Consequently, Scutt argues, the "medicalisation" of sexual offending serves to defuse concern at a societal level and encourages policies and practices that continue to focus on the role of the victim in precipitating sexual offences. This leads Scutt to argue that deterrence, punishment and incapacitation rather than treatment are the only appropriate criminal justice control responses. Such conventional interventions cannot, she argues, be diminished and, if coupled with a vigorous re-education of male attitudes to sexual violence, hold more promise than behavioural therapies and chemical interventions.

Programs that address male attitudes are readily endorsed and are clearly timely because, to date, most of the emphasis on "awareness raising" has been directed at women – the majority of victims. A logical but unexploited step is to mobilise males to be more proactive in the prevention of such offences and to create a climate that removes ambiguity, clarifies rights and explains the law. Reducing the "vast silences" about sex and sexuality that pervades the relationships between the sexes would impede sexual abuse and subjugation dependent on "sex secrets". Male resistance to changes in sexual culture "...depends on secrecy – on the silence, the shame, the fear and the "consent" or complicity of women. As such, it is resistance that can be weakened". (Allen 1990, p. 242)

However, the reliance on traditional measures clearly has limits (as the probabilities of violent recidivism show) and does not address the inevitable residuum of failures. It can be argued that strict retributive policies lack the flexibility needed to promote the untapped potential of offender self-reporting. Furthermore a purely punitive response may also act to repress reporting by victims and others because of the direct and indirect consequences for both victim and offender.

Alternatives to incarceration developed over the last decade could provide the mechanisms for a trade-off between severity of response and certainty of control. Innovation outside the criminal law also warrants consideration. Facilitating the use of civil remedies (for example tort-like actions), with their less onerous requirements of proof, could be more effective than traditional measures in some circumstances. For example, the role of victim compensation tribunals could be expanded to deal with cases that fall short of the necessary ingredients for criminal action but can be shown to cause harm to a claimant.

Finally, the distaste for treatment interventions assumes that their costs will be borne at the expense of other socially useful activities and that they fail to confront offenders. These criticisms may be true of some interventions but custodial costs are relatively fixed and any diversion of resources can be contained accordingly. There is ample evidence to show that treatment in custodial settings is not a soft option. In any event treatment need not be the principal approach, but can occur within the constraints of existing sentencing practice and penal policy. It would be

unwise (and no Australian jurisdiction appears to have contemplated such a move) to place too much reliance on such treatments, especially as they cannot and do not purport to guarantee suppression of sex-offending behaviour.

Generally psychological explanations have tended to down-play the importance of biological explanations, preferring to see rape as the sexual expression of aggression, and classifying it as being motivated by "anger", "power" and "sadism" (see for example, Groth 1983). In such accounts, the sex act itself is not of primary significance, except in sadistic rape, where aggression per se is eroticised. Thus sex, and the sexuality of the victim, are de-emphasised - rape is about power or anger, not about sex. This notion has been highly useful to victim advocates and to feminism because it focuses on the offender and diverts attention away from the personal and erotic aspects of the act so threatening to the victim. Without doubt this explanation has underpinned recent legal reforms and enabled the salacious aspects of legal proceedings and press reporting of sex offences to be curbed. It has also helped victims and law enforcement agents to avoid blaming victims themselves.²⁹

However, as recognised by some feminist scholars (for example, Smart 1989; Allen 1990 & Scutt 1990) this argument, like the biological argument, also (if more elaborately) suggests sexual offending is abnormal - the result of uncontrolled and perverse aggression. Although aggression can be seen as a direct product of masculine culture, sexual aggression expressed as rape is nevertheless an aberrant or at least inappropriately socialised expression of these male cultural norms. By taking the sex out of sex offences, largely in the service of the victim, we have neglected the opportunistic and situational character of these offences. Such opportunistic "causes", although recognised, usually receive cursory treatment in standard accounts, before the more "interesting" aspects of deviant sexual arousal, serial offenders etc., are addressed in detail.

Research into sex offending has been hampered by difficulties in the classification and definition of the behaviours of interest (a variety of legal or medical taxonomies are available) and this may account for the many inconsistencies apparent in empirical findings (Dietz 1983; Rosenberg &

29 Allen (1990:239-40) describes the subordination of sexuality to violence in recent law reform as problematic because "By redefining offences and evaluating their severity in terms of violence inflicted, the rapist was implicitly placed on the same footing as any other assailant. In a 'de-gendering' exercise, the crime of rape was desexed and curiously 'de-sexualised'. The very word has been struck from the statute, so that for its victims their experience in sexual terms has become literally unspeakable." The latter point is debatable (as current trial transcripts show) and the reformed law at least purports to protect males, especially male children. Drawing on the work of MacKinnon (1987), which argues that the "violence, not sex" approach is dishonest, abstract and inaccurately reflect male behaviour, Allen suggests that the stress on violence is confusing and mystifying (are sex offences not classified as assault non-violent, are other forms of male assault non-sexual?). (See also Chappell 1988, 1989.)

Knight 1988). Thus it is rarely appropriate or meaningful to talk about sex offences as if they were a homogeneous group of behaviours. This partly explains the absence of crime prevention strategies, especially situational strategies, and can only be remedied by disaggregating sex offences in terms of both offender and victim information. Until research can be based on well-constructed databases that include individual level information about the offender, the nature of the sexual behaviour and the victim(s), it is unlikely that preventative strategies of a sufficiently sensitive nature will emerge. In this regard the need for arrangements to co-ordinate, share and link data from justice, victim and medical sources is paramount.

In our population we certainly found many cases who appear to fit the "rape as aggression" theory (in fact most of the recidivists and those with prior or subsequent records of aggression did so) and we also found a small but significant minority of offenders who seemed to fit the "medical model". However, we found that the majority of our population do not fit readily into either category and have no discernible pattern of criminal behaviour to suggest that they either are driven by deviant sexual arousal or demonstrate a pattern of aggressive behaviour.

Our data cannot tell us about unrecorded offences nor can they shed enough light on the natural history of our population, but they do suggest that a substantial proportion of sex offenders may commit such offences purely in an opportunistic way. Thus looking for a specific cause(s) centred on the offender's nature tends to overlook situations and circumstances where external controls are absent. Rape frequently occurs in circumstances where the victim's vulnerability is maximised (victims, as we have shown, are usually very young) - in the context of an existing or prior "relationship", when alone and often at home. The ideal opportunities for obtaining forbidden or unobtainable sex by force coincide with circumstances which render the victim helpless and suspect on the key issue of consent.

Rape thus can also be seen as a form of theft of the forbidden or unobtainable in gender and inter-generational relations (Scully & Marolla 1985). Consequently the everyday social understanding of men and women about sexual relationships is central and we need not look for special biological or psychological explanations to explain all or even most sexual offending.

Thus sexual offending can also be seen as the result of sex as "object" and commodity as much as psychological or physiological pathology. Perhaps an inevitable outcome of selling sex is to make women only as safe as the cars (and other consumer goods) their bodies are enlisted to sell. Such an interpretation raises matters well beyond the confines of the correctional debate and injects questions about the formation of social attitudes, gender relations, culture-media roles in advertising and pornography etc. These

are matters that lie outside the scope of our work, except in one crucial respect, that is the size or extent of sex offending.

The right to be free of sexual abuse as an issue has become inextricably caught up with both the assumption and the need to prove that sexual violence is widespread and endemic. Advocates for change (and those resisting change) seem wedded to the notion that the "size" of the problem establishes its importance. On this crucial question the evidence is controversial and appears contradictory. Nevertheless, it is clear that many of the contradictions can be sheeted home to important variations in definitions, the sources of data, the sizes of samples and the comparative time frames employed.

Claims about the extent of sexual offending are highly polarised, with some scholars asserting that sexual offending is both frequent and widespread in all classes of society, while official police records and government-funded victim surveys suggest that amongst victims of crime such offending is relatively rare – although significant risks exist for certain age groups, social groups and locations. The related question of whether sex crimes are increasing is also controversial. Considerable confusion arises from very rapid changes in attitudes to reporting, coupled with significant changes in police (and other agencies') recording practices which contribute to the strong impression that a "crime wave" exists. Data based on independent repeated measures (victim surveys based on probability samples) taken over a considerable period do not suggest that the risks of sex crimes have increased substantially (if at all) over the last 15 years. However, there are insufficient data available for Australian jurisdictions to be certain of this, and the possibility exists that risks for certain groups may have indeed increased because present survey instruments are not sufficiently sensitive and/or samples are too small for reliable measurement of sub-groups.

To date the primary questions seem to have been: Why do men rape and who and how many are victims? Flowing from these questions we might reasonably expect to find solutions or means for prevention, but to date current legal and correctional interventions have given only partial relief. An equally interesting question providing a different perspective is: Why *don't* men rape? Even bleak assumptions about the extent of sex crime show that most men do not commit sex crimes, so we might reasonably ask: How is this so? – in the face of an aggressive male culture and misogynist legal system. As the historian Judith Allen observes, "Historians rightly reject monolithic representations of sexuality in any period of modern history as repressed and patriarchal, by instead counterposing historical evidence of diversity, women's agency, and quite unpredictable outcomes of negotiations of power between the sexes. Obviously, all post-war Australian women did not suffer from 'the animal in man', just as not all men pursued 'brutish' options. The extent of contentment, like the extent of abuse, cannot be known. It is important, however, to note that the option of abuse was a possibility almost built into

typical patternings of relations between the sexes, and that redress was extremely difficult when women and girls were victimized, while men's odds of detection, prosecution, conviction and punishment were small indeed. Despite the impact of contemporary 'feminism', the significance and possible effects of such options for abuse, the difficulties for complainants and the odds against deterrence must be remembered, if they are ever to be ended." (Allen 1990, p. 242)

Feminism has focused on reconstructing male economic, intellectual and institutional power as a means of asserting and establishing equality of the sexes in all spheres of human endeavour (and ultimately eradicating the excesses of male power manifested and exemplified by sexual offences). Such revision is essential; however it relegates the interpersonal reality to the minor play and substitutes "maleness" for powerfulness. Male attitudes and behaviours are not nurtured by men alone and masculinity is not so debased as to render male values immune to the needs of women (mothers, wives, sisters and daughters). Ancient patriarchal injunctions promoting the protection of women and children, while at the heart of the rhetoric of male domination, need not be jettisoned in pursuit of equality, but must be recast in terms of the perennial need for partnership in sexual relations.

It is possible that a thorough examination of the question of "maleness" in gender relations (but defined less by criminal manifestations or cultural determinism) may provide a better basis for developing adequate strategies for crime prevention than the present fascination with the sex offender as latter day "folk devil". It also suggests that it is time criminological research graduated from the "myth breaking" and expose phase which has to date been so important. While feminist scholars have begun to unravel the structural and cultural mechanisms of social control that govern gender and sexual relations, criminologists have yet to comprehensively exploit the opportunities sex differences present in the explanation and control of crime.

Appendix I

Supplementary Data on Victim Reports to W.A. Police 1984-89

Table A : Age standardised rates of sexual victimisation reported to police 1984-89 (excluding wilful exposure).*

Year	Age Groups per 100,000 All Population					All Ages
	≤9	10-17	18-24	25-34	35+	
1984	34.4	113.6	25.7	13.0	3.0	29.4
1985	94.1	178.5	55.2	18.6	6.6	52.4
1986	71.1	173.5	62.2	28.0	6.6	49.7
1987	97.8	174.7	73.7	33.8	7.8	56.3
1988	115.5	197.5	71.5	34.4	5.5	60.1
1989	110.8	298.0	72.4	37.6	6.0	72.1

* To convert rates to approximate number females per capita, multiply age groups, ≤9 and 10-17 by 1.9 and the rest by 2.0

Figure A : Wilful exposure and victim's age: offences reported to police 1984-89 (n=3,110)

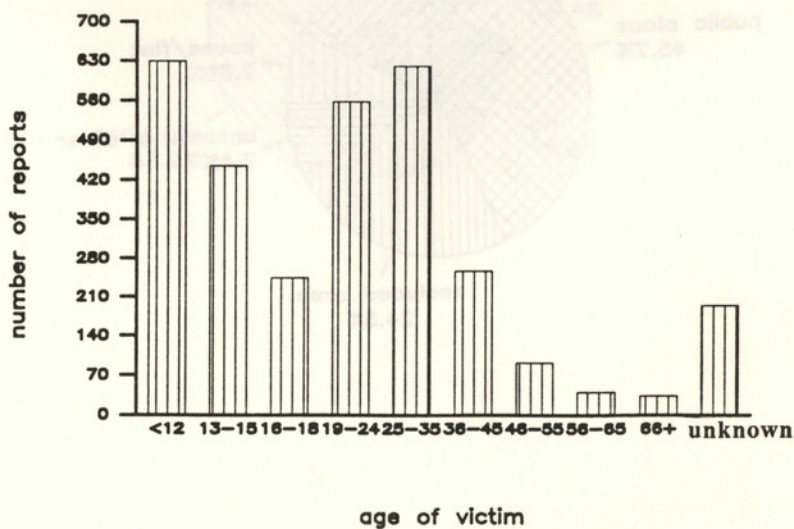


Figure B: Sexual assault – place of offence

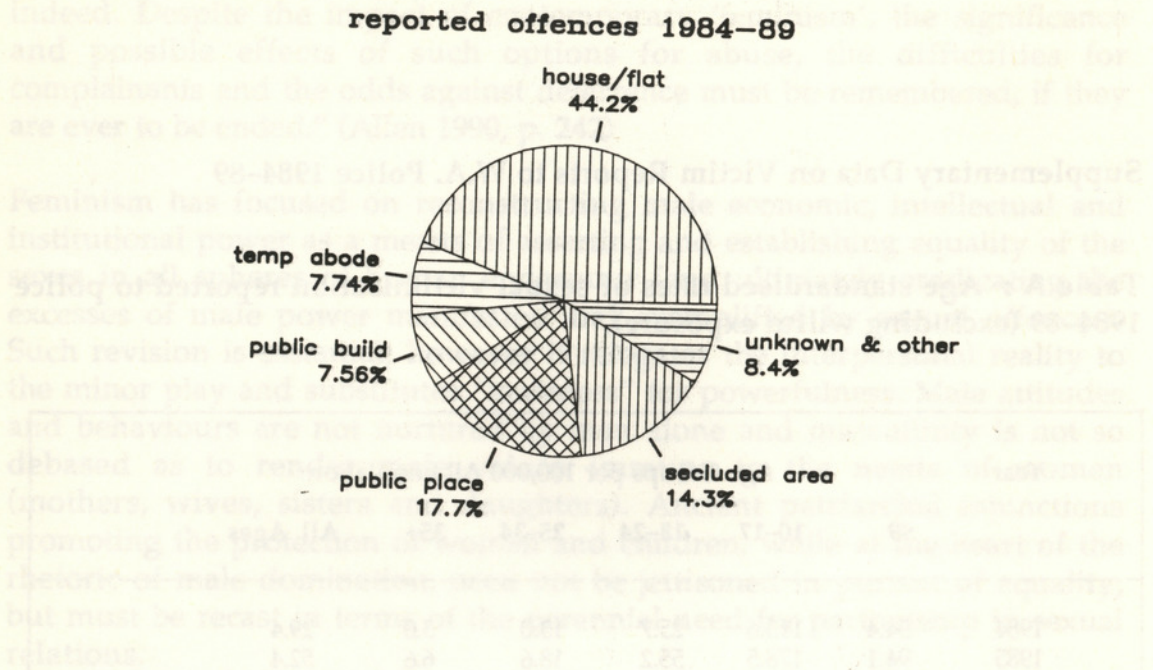


Figure C: Wilful exposure – place of offence

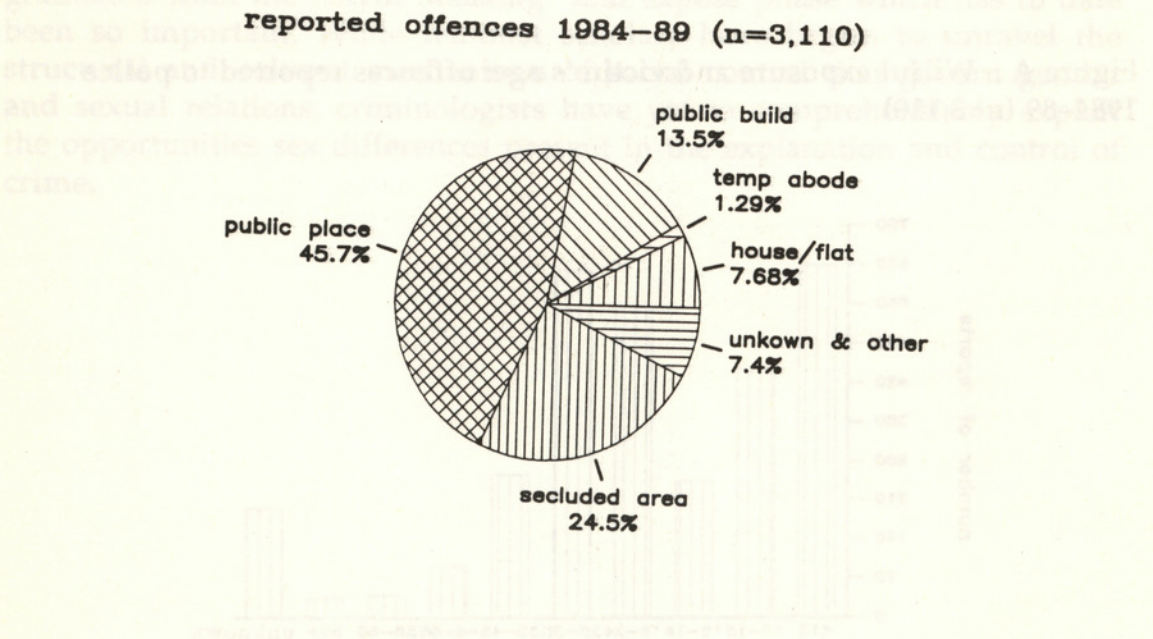


Figure D : Sexual assault – time of offence

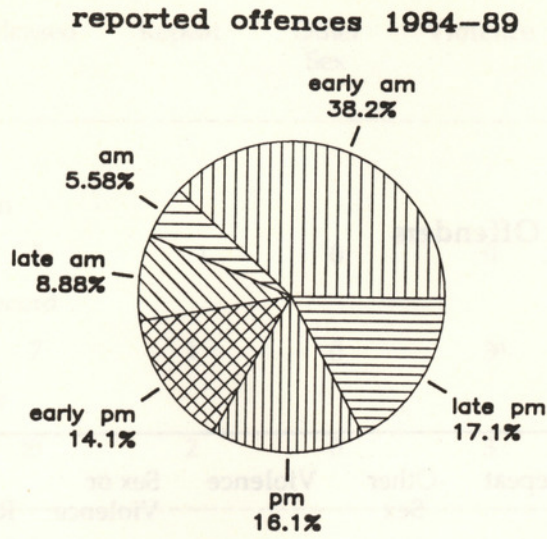
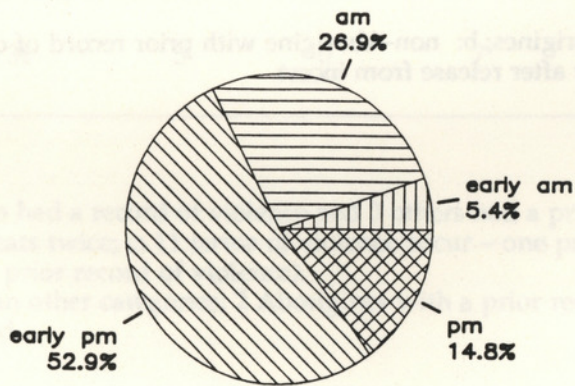


Figure E : Wilful exposure – time of offence



Appendix II

Recidivism of Other Sex Offenders

Table B : Incest^a

Cases	Released	Repeat	Other Sex	Violence	Sex or Violence	Any Recidivism
no prior prison						
29	29	0	0	0	0	2
prior prison						
2	1	0	1 ^b	1 ^c	2	1
all						
31	30	0	1	1	2	3

a: includes 2 cases of Aborigines; b: non-Aborigine with prior record of carnal knowledge;
c: Aborigine with robbery after release from incest

Table C: Wilful exposure*

Cases	Released	Repeat	Other Sex	Violence	Sex or Violence	Any Recidivism
Aborigines						
no prior prison						
3	3	1	0	0	1	2
prior prison record						
7	7	1	0	3 ^a	3	6
All Aborigines						
10	10	2	0	3	4	8
Non-Aborigines						
no prior record						
17	17	2 ^b	0	1	3	6
prior prison record						
7	7	1	0	3 ^c	4	2
All Non-Aborigines						
24	24	3	0	4	7	8
All Cases						
34	34	5	0	7	11	16

a: one repeater also had a record of violence and 3 others had a prior record of violence; b: one individual repeats twice; c: 11 terms of violence occur – one prisoner accounts for 9 of these (3 cases have prior record of violence).

*: 3 cases counted in other categories; 2 Aborigines with a prior record and 1 non-Aborigine with no prior record.

Table D: Carnal knowledge*

Cases	Released	Repeat	Other Sex	Violence	Sex or Violence	Any Recidivism
Aborigines						
no prior prison						
5	5	1	0	3	4	5
prior prison record						
9	9	0	0	4	4	5
All Aborigines						
14	14	1	0	7 ^a	8	10
Non-Aborigines						
no prior record						
37	37	0	0	1	1	7
prior prison record						
12	11	1	1	3 ^b	5	5
All Non-Aborigines						
49	48	1	1	4 ^c	6	12
All Cases						
63	62	2	1	11	14	22

a: 12 terms of violence found (3 cases of prior record of violence); b: One case of manslaughter (2 cases with prior record of violence); c: 4 terms of violence found.

* 3 Aboriginal cases counted in rape; 1 non-Aboriginal case counted in incest and 1 in rape.

Table E: Indecent dealings (offences against minors)*

Cases	Released	Repeat	Other Sex	Violence	Sex or Violence	Any Recidivism
Aborigines						
no prior prison						
7	7	0	0	1	1	3
prior prison record						
15	15	1	1 ^a	11 ^b	12	12
All Aborigines						
22	22	1	1	12	13	15
Non-Aborigines						
no prior record						
79	79	6 ^c	0	4 ^d	8	13
prior prison record						
12	11	0	1 ^e	1	2	4
All Non-Aborigines						
91	90	6	1	5 ^f	10	17
All Cases						
113	112	7	2	17	23	32

a: wilful exposure; b: 34 terms of violence found including one of homicide (10 cases have a prior record of violence); c: One case repeats offence twice; d: 2 repeat cases also have terms of violence; e: Wilful exposure repeated; f: 7 terms of violence found (one case of prior record of violence).

*: 2 cases of Aborigines counted in rape and 1 in indecent assault; 2 cases of non-Aborigines counted in rape and 1 in carnal knowledge.

Table F: Indecent assault*

Cases	Released	Repeat	Other Sex	Violence	Sex or Violence	Any Recidivism
Aborigines						
no prior prison						
5	5	0	0	2	2	4
prior prison record						
9	5	1	2 ^a	3 ^b	4	4
All Aborigines						
14	10	1	2	5 ^c	6	8
Non-Aborigines						
no prior record						
12	12	1 ^d	0	0	1	1
prior prison record						
9	4	0	0	4 ^e	4	4
All Non-Aborigines						
21	16	1	0	4	5	5
All Cases						
35	26	2	2	9	11	13

a: one case of 'wilful exposure' and one of indecent dealings; b: one repeater also with a term of violence (3 cases of prior record of violence; c: 16 terms of violence found; d: one individual repeated indecent assault twice; e: 7 terms of violence found (2 cases of prior record of violence).

*: 2 Aboriginal cases with a prior record of rape are counted in rape.

Appendix III

Covariate Analysis of Censored Data

Introduction

In this appendix we outline the methodology we use to fit factorial models to recidivism data consisting of the (possibly censored) time to "fail" of individuals, in order to test for differences between groups. Here "failure" means that an individual is reincarcerated following the sex offence and by a "factor" is meant an integer valued variable designating which of a number of groups the individual is in. For example, a prisoner may be in Offence Group 1 (Carnal Knowledge and Indecent Dealings), or in Offence Group 2 (Serious Sexual Offences – rape, attempted rape) and be either non-Aboriginal (Racial Group 1) or Aboriginal (Racial Group 2).

Similarly, values of a number of other institutional indicators such as release type (parole or not, for example), are known, along with demographic or descriptive variables (sex, place of birth, employment status, etc.), for each individual. We wish to fit "main effects" to test for differences between groups and "first order interactions" to examine the way factors interact together.

Useful models for the analysis of such data have been proposed by Maltz (1984) and Schmidt and Witte (1988), and discussed by Rhodes (1989). We adopt here a modification of the Maltz "mixture model" (Schmidt and Witte 1988 "split population" model), in which failure may be described essentially in two ways: by the probability P that an individual ever fails again ("probability of recidivism"), and by the rate of failure λ for those who do fail. A releasee who has not failed up to the date of analysis (the "cut-off date") always has the potential to do so, and a feature of recidivism data is that they will almost always contain a number of such "censored" observations.

The question we wish to address is: how do the factors of interest affect the probabilities P of ultimate failure and the rates of failure λ ? That is, are there statistically significant differences between these quantities for the groups which the factors represent? We can ask, for example, whether there are differences in recidivism due to Offence Type, due to Racial Group, or due to an interaction between the two.

Such "covariate" analysis of recidivism data has been considered in the papers referenced above, and also in Maller (1990). We showed earlier, for example, for the "Prior offence" and "Race" factors defined above, that there are significant effects of both groups but no significant interaction between them. These kinds of conclusions, which parallel those that would be drawn from an analysis of variance of normally distributed data, are of great criminological interest, yet seem not to have been directly considered in this form by previous authors.

Model and Methods

Our basic approach to modelling times to recidivate is now well established in the criminological literature although specific methods vary between authors. In this section we set out the distributional assumptions and our method of modeling the covariates or "explanatory variables". There is reasonable evidence to suggest, for the data set analysed in Chapter 6, that a Weibull mixture distribution of the form

$$P\{T \leq t\} = P \cdot [1 - \exp(-\lambda t)^\alpha], \quad t \geq 0, \quad (2.1)$$

is a suitable model. Here T represents the time to failure, P the probability of ultimate or long-term failure ($0 \leq P \leq 1$), $\lambda > 0$ is related to the rate of failure, and $\alpha > 0$ is the "shape" parameter of the Weibull. The distribution (2.1) has been successfully used in analyses of other subsets of the current data set (Broadhurst, Maller, Maller & Duffecy 1988; Broadhurst & Maller 1990).

Covariates representing the factors of interest can be introduced as in Schmidt and Witte 1988, Rhodes 1989, or Maller 1990, in a "general linear" manner by assuming that P , λ and α are functions of them in the following way:

$$P_i = \exp(\beta^T X_i) / [1 + \exp(\beta^T X_i)], \quad \lambda_i = \exp(\delta^T X_i), \quad \alpha_i = \exp(\gamma^T X_i) \quad (2.2)$$

Here "i" indexes the i-th individual in a data set of length n , X_i is a vector of covariates which in our example indicates which of the Parole or Racial groups the individual is in, and β, δ, γ are vectors of parameters relating the factors to the parameters of interest in (2.1). Estimation of β, δ, γ is equivalent to that of P_i, λ_i, α_i . The particular functional forms in (2.2) restrict P to the interval (0,1) and keep λ and α positive, as is natural. They also have (at least in the case of λ and P) a theoretical rationale in terms of "generalised linear models" (McCullagh & Nelder 1983).

Also associated with individual i is a "censor indicator" c_i which takes the value 1 if failure has occurred by the cut-off date, 0 otherwise. Thus, assuming that individuals fail independently, the likelihood can be written down in a standard way and an attempt made to maximise it numerically

for variations in β , δ , γ . This is what we mean by "fitting the model". If successful, the maximising values lead to corresponding maximum likelihood estimates of the P_i , λ_i , α_i parameters via (2.2), which give directly the estimated probabilities of ultimate failure, rates of failure, and shape of distribution, for the groups under consideration.

Tests for effects can be carried out as follows. Suppose that at a certain stage the covariate X_i contains indicators for Offence Type, Racial Group, and Offence Type by Race interaction. Fitting the model with such covariates gives a value of $-2\text{Log}(L_1)$, where L_1 is the likelihood evaluated at the fitted parameters. Next let X_i contain only indicators for Offence Type and Racial Group, and fit this more restrictive model, obtaining a corresponding value $-2\text{Log}(L_2)$. Then from the theory of likelihood ratio tests (e.g. McCullagh & Nelder 1983), the difference between the two values is approximately distributed as chi-square with degrees of freedom equal to the difference in the number of parameters between the two models, under the hypothesis of no real difference between the two. In this case, the extra parameters are those needed to describe the interaction between Offence Type and Racial Groups. Thus the difference in $-2\text{Log}L$ gives a rigorous test for significance of the existence of this interaction. In a similar way, chi-square tests for the main effects of the factors can be constructed.

So far we have assumed that the tests apply generally to P , λ , or α . More specifically, P and λ may differ significantly between groups, say, whereas α does not. Here again the significance of the differences may be tested by differences in $-2\text{Log}L$. We find in fact, for the sex offence data, that α does not differ significantly between groups, whereas P and λ may. The criminological interpretation of such a result is that the general shape of the failure distribution is the same for each group, only differences between ultimate probabilities of recidivism and rates of recidivism being significant.

For illustrations of the way the Weibull distribution depends on the shape parameter see Maltz (1984); in particular, the Weibull density for $\alpha \leq 1$ is concave and decreasing from high values near 0, while for $\alpha > 1$ it increases from low values near 0 to a maximum after which it decreases to 0 for large values of failure time. The parameter λ is inversely proportional to the median time to fail which is given by:

$$\text{median} = (\log(2)/\lambda)^{1/\alpha}$$

Note that the shape parameter α also affects the median time to fail but variations in λ are the most important determinant of this for our data where α is approximately equal to 1. Thus we speak, somewhat loosely, of λ as determining the "rate of failure"; in fact, λ is approximately proportional to the rate of failure.

Fitting the Model and Analysing the Data

The adequacy of the Weibull mixture model for subsets of this data and substantial differences in recidivism between subgroups, especially between races, sexes, and prior imprisonment groups, have already been established. We analyse in detail first the effects of the two most important factors Offence Type (i.e. Sexual Offences/Serious Sexual Offences) and Race (Aboriginal and non-Aboriginal groups).

In fitting models of the type given in Section 2 it is important to proceed systematically, otherwise problems with convergence of the iterative routine may occur. In order to distinguish the models we introduce the following nomenclature:

Model 111 – a model which allows different parameters for P , λ , α for whatever effect is under consideration. For example, if we are testing for the main effect of Offence Type, the 111 model fits 6 parameters, 2 for each of P , λ , α corresponding to the classifications Sexual Offence and Serious Sexual Offence.

Model 110 – a model which allows different parameters for P and λ but assumes α to be the same for each level of the factor. The difference in -2LogL between the 111 and 110 models gives a chi-square test for whether different α parameters are required, i.e. a test for whether α differs between the levels of the factor.

Model 100 – a model which allows different P s but the same λ and α . This provides a test for differences in rates between groups.

Model 000 – a model which has no differences in parameters. In this case a single Weibull mixture distribution is fitted to the whole data set, disregarding groups. We could also define 010 models, etc. but they will not be required here.

Table G : Offence by race recidivism analysis

	A:111		B:110		C = B-A		D:100		E = D-B	
	-2logL	no. par	-2logL	no. par	-2logL	df	-2logL	no. par	-2logL	df
(1.1) Offence	1758.2	6	1758.3	5	0.1	1	1759.8	4	1.5	1
(1.2) Race	1681.3	6	1681.3	5	0.0	1	1685.5	4	4.2	1
(1.3) O+R	1673.1	9	1674.0	7	0.9	2	1684.8	5	10.8	2
(1.4) O+R+O.R	1668.5	12	1673.6	9	5.1	3	1684.5	6	10.9	3
(1.5) Total (000)	1760.7	3								
(2.1) O.R.	0.4	2	0.3	2						
(2.2) Offence after Race	7.3	2	0.7	1						
(2.3) Race after Offence	84.3	2								
(2.4) Offence	2.4	2	0.9	1						
(2.5) Race	79.4	2								

Table G shows the values of -2LogL and some of the differences in -2LogL obtained by fitting the data systematically from the simplest model to the most complex. Row (1.5) contains the 000 model which produces 3 parameter estimates and an overall -2LogL value of 1760.7. Fitting extra parameters must reduce this value (increase the likelihood). Columns A, B and D contain the values of -2LogL obtained by fitting the 111, 110 and 100 models, for Offence Type, Race and their interaction. Thus Row (1.1), Column D, contains the -2LogL values for the main effect of Offence Type, i.e. the comparison between Sexual Offences/Serious Sexual Offences for the 100 model.

Similarly Row (1.2) contains the relevant output from fitting the Race effect. Row (1.3) contains the joint fit of the Offence Type and Race factors together, but without allowing for interaction, and Row (1.4) contains the fit when interaction parameters are also included.

These models, differing only in P parameters, are fairly easy to fit to the data by using standard Newton-Raphson techniques to maximise the likelihood. The major problem in fact is obtaining "starting estimates", i.e. initial

guesses of the parameters which are close enough to the maximum likelihood estimates that the iterative routine will converge. These values are not hard to "guess" for single factor models, and then the more complex models can be fitted by using as starting estimates the maximum likelihood estimates from the lower order models. A Fortran program has been written to do this in a fairly straightforward way. The estimates in Column D can be used as starting estimates for the next most complex model, the 110 model in column B, and these in turn can be used to obtain the 111 model in column A.

Having obtained rows (1.1)–(1.5), we can test for differences in P , λ and α . We are interested in the simplest description of the data consistent with maximum use of the information. First we ask if different shape parameters α are required, so we test for differences between the 111 and 110 models; the differences between columns A and B in -2LogL are given in column C, rows (1.1)–(1.4), and may be taken as approximately chi-squared with degrees of freedom given in column C. None of these values approaches significance, so different α s are not necessary.

Next we test for differences in λ in column E, rows (1.1)–(1.4), which give the differences in -2LogL between columns B and D. Here there is a significant difference between races (Row 1.2) and for Offence Type + Race (row 1.3) and Offence Type + Race + Offence Type by Race (row 1.4), suggesting that the 100 model is not adequate, and that there are significant differences in rates of failure, certainly for racial groups. Finally to test for differences between P , column D is subtracted from -2LogL for the 000 model, and a highly significant chi-square value is obtained, at least for races.

So far we have decided on the adequacy (and the necessity) of the 110 model for Races, and of the 100 model for Offence Groups. Now we can test for the effects of interest, and as in an analysis of variance we begin by testing for interaction between the factors. Row (2.1) gives the difference between rows (1.3) and (1.4), i.e. for the effect of fitting additional interaction parameters. It is not significant, so these parameters are not required for an adequate description of the data.

We can now go to testing main effects. Row (2.2) is the difference between rows (1.2) and (1.3), and gives the effect of Offence Type after controlling for Race; it is not significant for the 100 model, and moderately significant for the 110 model. The main effect of Race is highly significant after controlling for Offence Type or marginally, with a chi-square of the order of 80 on 2 degrees of freedom.

Let us summarise the conclusions so far:

- (1) There are moderately significant differences between P s and λ s for Offence Types, not marginally but when Race is controlled for.

- (2) There are large and significant differences between Ps and λ s for Race groups, which persist when Offence Type is controlled for.
- (3) There is no significant interaction between Offence Type and Race.

Table H : Offence by race parameter estimates

Group	CI		λ	α	nf	n	model
	P (Conf. Int.)						
(1.1) Sex Offs	0.45 (.36, .55)		0.047	0.90	68	201	
(1.2) Ser. Sex	0.55 (.45, .65)		0.034	0.90	96	238	110
(2.1) Non Ab.	0.35 (.25, .46)		0.026	0.90	62	281	
(2.2) Abor.	0.80 (.68, .88)		0.048	0.90	102	158	110
Overall	0.51 (.44, .58)		0.038	0.90	164	439	000

The estimates of P , λ , α , are shown in Table H. The differences summarised above are clearly displayed in rows (1.1)–(1.2) for Offence Type and in rows (2.1)–(2.2) for Race. The 110 estimates are given for Offence Types even though there are no significant differences in P , λ or α for this factor.

Translated into criminological interpretations these conclusions are:

- (1) The probability of ultimate recidivism is slightly but significantly lower for those imprisoned for Sexual Offences (indecent dealings etc.) as compared with those imprisoned for Serious Sexual Offences (rape etc.) provided race is controlled for. Recidivism of non-Aborigines is significantly lower than that of Aborigines.
- (2) Rates of failure differ between Offence groups 1 (Sexual Offences) and 2 (Serious Sexual Offences) when races are controlled for, i.e. those imprisoned for Sexual Offences (Indecent Dealings, Carnal Knowledge) failing more quickly than those imprisoned for Serious Sex Offences (rape etc.). The rates for non-Aborigines are significantly lower than for Aborigines whether or not offence groups are controlled for.
- (3) There are no significant interactions in these effects;
- (4) The distribution of failure time for all groups is described by a Weibull distribution by a shape parameter of $\alpha = 0.90$, which is exponential-like in appearance.

Note that so far we have determined the best set of parameters for adequate description of the data under the hypothesis that the data follow the Weibull distribution. The overall adequacy of the Weibull, i.e. the "goodness of fit" of the distribution, can be assessed from Figs 4–7.

Discussion

The analysis of recidivism data by the fitting of parametric survival mixture models has been well documented by Schmidt and Witte (1988), Maltz (1984) and Rhodes (1989). Further discussion, then, might usefully revolve around the types of model to be fitted and the criminological implications to be drawn from them. We consider 3 major points: (1) the type of distribution assumed for the data; (2) the method of modelling the covariates; (3) the mechanics of fitting the model to the data.

(1) Schmidt and Witte (1988) consider in great detail a number of possible models for data on the recidivism of North Carolina prisoners, especially the lognormal and the Weibull, with the exponential as a special case of the latter. They also consider in detail the differences between "mixture" versions of these distributions which allow a parameter P for the probability of ultimate failure (they refer to these as "split-population models"), and the same models with $P=1$, i.e. when ultimate failure is assumed for all. Since in all cases a mixture model fits their data far better than a single distribution, as also accords with our experience and that of Maltz (1984), we only consider mixture models in this paper. It is true, however, as emphasised by Rhodes (1989), that a set of data may not be extensive enough to distinguish between a mixture and an ordinary model – we discuss this further under (3).

Schmidt and Witte (1988) choose the lognormal mixture model as providing the best fit to their data, with its hazard function which first increases to a maximum and then decreases to 0. We on the other hand, along with Maltz, work with the Weibull, which better models our data, with its rapid initial rate of failure. In fact a significant number of releasees in our data fail within a few days of release, even on the first day of release. Subsets of our data, when recidivist events (release no. 1, 2, etc.) are controlled for, are almost always well described by a Weibull with shape parameter < 1 , with a distinct high hazard near 0, which decreases to 0 for large times at release. On the other hand the Schmidt and Witte (1988) data contain few failures in the first few months, presumably as a feature of the prison and legal system in North Carolina, or perhaps due to other factors in their data.

Apart from this the Weibull is a natural choice for failure data for theoretical reasons, in particular for its representation of the asymptotic distribution of a minimum of independent random variables. This leads to an interpretation of a "weakest link" theoretical model as discussed by Maltz (1984). Thus it plays a similar role in failure rate analysis as does the normal distribution in the analysis of "ordinary" data, via a central limit interpretation of the normal distribution as the limit of sums of independent "infinitesimal" random variables. Note also that the Weibull *mixture* model fits the Schmidt and Witte (1988) data almost as well as the

lognormal does, as judged by $-2\text{Log}L$, and that a Weibull mixture model (as opposed to an ordinary Weibull) does indeed have a *hazard* which increases from 0 to a maximum and then decreases to 0 for large values of failure time, when the shape parameter is > 1 ; and such a shaped hazard is found in the Schmidt and Witte (1988) data. In view of all this we feel that the Weibull mixture model is a good preliminary choice, at least, for recidivist or re-imprisonment data.

(2) Covariates or "explanatory variables" enter our model in exactly the way they do for Schmidt and Witte (1988) and Rhodes (1989), as functions of the linear combinations $\beta^T X$. (We also introduce the extra generality of allowing the shape parameter α to depend on the covariates.) But the difference in emphasis of our analysis as compared with those of Schmidt and Witte (1988) and Rhodes (1989) is analogous to the difference between analysis of variance and regression analysis of normally distributed data. That is, we emphasise tests for differences between groups, whereas the regression approach relates to the significance of particular regression coefficients and possibly to the prediction of failure from the values of the covariates.

But a danger with the regression approach is the temptation to interpret "significant" partial regression coefficients as representing the importance of the regressor variable. Yet correlations or confounding between these variables can lead to erroneous conclusions in this way, as is well known in the regression analysis of normally distributed data, see for example Mosteller and Tukey (1977, Ch. 13). Both Schmidt and Witte (1988) and Rhodes (1989) seem cautious with respect to interpreting the importance of the various variables in their data sets.

(3) This last point also relates to the numerical fitting of the models to data. Rhodes (1989) discusses difficulties in getting iterative fitting routines to work, at least in his more complex models. He documents reasons for this (see his Section 7) and makes a number of other good points which corroborate our experience: among them is that the failure data may sometimes be almost as well described by a model with P parameter equal to 1 (i.e. all individuals fail eventually) as by a model with $P < 1$, and a more rapid rate of failure (see his Figure 1). Whether such models can be distinguished for a given set of data depends on the size of the data set and on how the failures are configured; with enough individuals and sufficient follow-up (this is important), the models can be distinguished, otherwise problems with convergence of the iterative routine may occur.

Nevertheless we have been successful in fitting factorial models to some quite small data sets such as the current sample of sex offenders. The factorial approach minimises convergence problems since the data can be plotted for each level of a factor via a fitted Kaplan–Meier (1958) empirical distribution and the extent to which it conforms to a model can be assessed.

Again, the factorial approach allows a systematic procedure of building up complex models from simpler ones as outlined above. With a little practice the analysis of Table G can be done in a couple of hours on a reasonably fast computer.

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