

**A THREE MONTH PROSPECTIVE AND FOUR MONTH
RETROSPECTIVE STUDY OF "OBSERVATION PATIENTS" ADMITTED TO
STERKFRONTEIN HOSPITAL FOR FORENSIC EVALUATION. A
COMPARISON OF CRIMINAL CHARGE WITH EVENTUAL PSYCHIATRIC
DIAGNOSIS. THE CONTRIBUTION OF SPECIAL INVESTIGATIONS
TOWARD A DIAGNOSIS.**

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**A dissertation submitted to the Faculty of Medicine in Part Fulfilment of the
Requirements for the Degree of Master of Medicine in Psychiatry at the University
of the Witwatersrand**

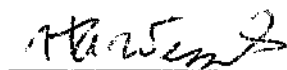
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ABSTRACT

Ninety-one patients referred for observation were evaluated by means of a data sheet which covered demographic, forensic and psychiatric data, as well as special investigations performed during the admission period. A significant number of patients ($P = 0,005$) involved in crimes of theft were found to be psychotic. A significant number of patients ($P = 0,024$) involved in murder/attempted murder/culpable homicide were found to be apsychotic. None of the special investigations had a significant bearing on the diagnosis or legal destiny of the patients. It is clear that we should have a high index of suspicion towards psychosis in those patients who were allegedly involved in crimes against property and in particular crimes of theft. Special investigations should only be performed where there is a clear clinical indication. This approach will save considerable time and money without compromising the assessment.

DECLARATION

I declare that this dissertation is my own, unaided work. It is being submitted for the degree of Master in Psychiatry at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination at any other university.



H. A. Wessels

25th day of November, 1992

To my father, whose remarkable example never fails to inspire.

To my lovely wife, Ronel.

PREFACE

In the sometimes dishearteningly vague field of psychiatry, forensic psychiatry is relatively well defined. It is thus a suitable field for the inexperienced researcher. The obvious question "Which type of crime is likely to be committed by which type of patient?" has been addressed internationally but not as far as we know, locally. In view of the dwindling financial resources in our country we thought it important to answer the question, "Which special investigations in the forensic patient turned out to be of practical value to us?". We will thus attempt to answer the above two questions as accurately as possible.

I would like to thank Dr Merryll Vorster for her unfailing assistance in the writing of this dissertation.

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1. CRIMINAL CHARGE IN RELATION TO EVENTUAL PSYCHIATRIC DIAGNOSIS . INTRODUCTION

If it were possible to establish a link between crime and diagnosis, the treatment approach towards the mentally ill offender or would-be offender could be rationalized considerably. The best prediction of future violence is past violence (Jeffrey, 1985). In order to avoid unnecessary incarceration on the one hand and discharging dangerous individuals into society on the other hand, it is necessary to categorise the mentally ill offender according to the type of crime he is likely to commit in future. Thus certain diagnostic groups prone to crimes against the person (violent crimes) would be viewed in a much different light from those diagnostic groups prone to crimes against property. These factors would be especially relevant in the decisions surrounding the issue of parole, duration of hospitalization, the need for medication, in-hospital treatment (rehabilitation and crime prevention) and the duty of informing or warning third parties, which includes the court of law.

If we are to create a treatment/prevention model, we must deal with behaviours which occur in the future. The criminal justice model is past-orientated, based on a backward looking stance involving the notion of just retribution. The criminal justice model punishes past behaviour, the medical model treats and prevents present behaviour in order to change future behaviour (Jeffrey, 1985). The law in most instances does not allow us to control behaviour that has not occurred (Sherman, 1985). Establishing certain diagnostic groups of patients who constitute a risk of future dangerous behaviour might eventually change the law's retrospective attitude towards the mentally ill offender. A link of this kind may also lead to preventative therapy for those in-hospital patients who are at risk for future violent behaviour. These patients may then be treated in the same ward and/or participate in group or supportive therapy (Monahan, 1988).

1.1 THE PSYCHIATRIST AND DANGEROUSNESS : PREDICTING VIOLENT BEHAVIOUR

Dangerousness in an individual is a pivotal issue in both criminal and civil cases. Its detection or prediction remains a key question for disposition or commitment of offenders and mentally ill persons. Doctor Bernard Rubin, from the University of Chicago states that "the major mental illness rates are not comparable to violence rates and the distribution of major mental illness is not the same as the distribution of violence. It is unlikely that dangerousness can be predicted in a person who has not acted in a dangerous or violent way." (Sadoff, 1988). Bluglass (1989) states that "the prediction of potentially dangerous behaviour in those who appear before courts or inpatients admitted to hospital or released into the community continues to be a notoriously unreliable process". One of the best-known studies to demonstrate this notorious "unreliability" is that of the "Baxtrom patients" made by Steadman and his associates (Sadoff, 1988; Bartholomew, 1986). As a result of a legal decision by the United States Supreme Court, 967 patients who were involuntarily committed to Dannemora and Matteawan State hospitals as dangerous persons were released to 18 civil facilities in their respective communities in New York State. Four years later, only 2,7 % of these patients were returned to the hospitals to which they had originally been committed. A more intensive follow-up study of a subsample of the patients found that 17 % had been arrested and 7 % of those arrested were convicted. Not all of the convictions resulted in confinement. In summary, the vast majority of these supposedly dangerous patients were not in fact dangerous when released into the community within the 4 years of the follow-up study (Gable, 1986).

The Baxtrom case was later criticized by Kozol who found that 65 % of those predicted to be violent were not violent (false positives) whereas 35 % of those predicted not to be violent were violent (false negatives). The trend towards deinstitutionalization has resulted in a great many mentally ill people on the streets, and perhaps entering the criminal justice system. Although the overprediction of violence has been viewed as the problem, the reverse, that is, the false negative identified as harmless who when released kills several people, is even more of a problem (Gable, 1986).

The professional literature almost uniformly affirms low predictive accuracy with regard to the dangerousness of mental patients.

1.2 OFFENDER GROUPS AND THEIR DIAGNOSTIC PROFILE

Rodenhauser (1988) conducted a study in a 116-bed maximum security forensic hospital to which all admissions are involuntary, most of which through a criminal commitment process. The majority of patients were admitted for treatment as incompetent to stand trial, not guilty by reason of insanity or as mentally ill or dangerous. Considerably fewer admissions were for evaluation for competency to stand trial or for criminal responsibility. This study of linkage between clinical and legal characteristics of forensic hospital patients is one of the very few, if not the only available. Studies of clinical variables in the criminally committed or detained patient population are usually limited to subgroups defined primarily by single offence or legal categories such as arson, homicide, sexual offences or incompetency to stand trial.

Applying the findings of such studies to the South African situation is virtually impossible. Patient groups, legal categories and diagnostic criteria vary to such an extent that any comparison is made meaningless. These factors all contribute to the wide range of findings and indeed conclusions the authors arrive at.

Rodenhauser (1988) in his legally and clinically heterogeneous population of 380 patients, using DSM III R diagnostic criteria found 72,4 % of patients to be psychotic and 58,7 % to be suffering from a personality disorder. Fifty-two percent of patients were found to be drug abusers and 55,8 % to be alcohol abusers. Unfortunately a diagnostic breakdown of the Axis I diagnosis was not made available.

Morgan (1988) who interviewed 30 patients with guilty but mentally ill verdicts in South Carolina found 37 % of his sample to be schizophrenic. Zonana (1990), using a longitudinal database compiled from docket books from superior courts and mental health records from the state hospitals in Connecticut beginning in January 1970, obtained detailed life span information on 354 insanity acquittees. He found 48,6 % of the patients to be schizophrenic.

Other studies and a more detailed comparison of other diagnoses merely confirm the wide range of findings.

1.3 OFFENDER GROUPS AND THEIR CRIMINAL CHARGE PROFILE

Because of the marked difference in offender groups and legal categories, the criminal charge profile of the different studies differ tremendously. Morgan (1988) for example finds 30 % of his sample to be charged with criminal sexual conduct while Zonana (1990) finds 9,9 % of his sample charged with sexual assault. It is not clear in the reader's mind as to what the technical difference between these two legal categories are. Providing long lists of the different criminal charge profiles fails to contribute to our understanding of the matter but only serves to emphasize the fact that each study should be interpreted in the legal and clinical setting in which it was written.

1.4 THE LINK BETWEEN PSYCHIATRIC DIAGNOSIS AND TYPE OF CRIME

As mentioned Rodenhauser's (1988) study is one of the very few to compare clinical and legal characteristics of a clinically heterogeneous population of patients. He found the type of charge to be significantly related to his Axis I diagnostic group as well as to the Axis II diagnostic group. The following table summarizes the descriptive statistics.

TYPE OF CHARGE	COUNT	% DIAGNOSED	% DIAGNOSED
		AS	AS
		PSYCHOTIC	P.D.
Arson and related charges	34	61,8	76,5
Assault and menacing	73	82,2	57,5
Burglary offences	113	70,8	61,1
Homicide	46	73,9	60,9
Kidnapping and Coercion	12	91,7	58,3
Miscellaneous	50	72,0	46,0
Possession of Weapons/ criminal tools	22	77,3	31,8
Sexual offences	50	43,5	73,9

Abbreviation:

P.D. = Personality Disorder

Note from these figures that the highest proportion of individuals diagnosed as psychotic occurs among those charged with kidnapping/coercion (11 of the 12, or 91,7 %) and assault (82,2 %). The lowest occurs among those charged with sexual offences (43,5 %) and arson (61,8 %). The overall proportion of individuals diagnosed as psychotic is 72,4 %. The groups with the highest proportion of personality disorders are arson (76,5 %) and sexual offences (73,9 %). The overall proportion of diagnosed personality disorders is 58,7 %. The large sample group (n = 380) and sophisticated statistical analysis makes this study relevant to later discussions.

Morgan (1988) found that of the five individuals convicted of manslaughter in his study, four suffered from paranoid schizophrenia. These four individuals' paranoid delusional system appeared to be directly related to the crime.

1.5 SPECIFIC DIAGNOSES AND CRIMES

a Schizophrenia and Crime

(i) Homicide

The wide international variations in homicide rates suggest that the epidemiology of schizophrenic homicide might not be straightforward. Coid (1983) therefore compared data from 10 countries with homicide rates ranging from 0,39 per 100 000 per year (England and Wales 1950-1959) to 6,10 per 100 000 (Philadelphia 1948-1952). He found a remarkable consistency in the absolute rates for mentally abnormal homicides, of the order of 0,1 per 100 000, and concluded that the factors which determine the overall rate of homicide are not those that influence the rate for the abnormal. It is not known whether the rate for schizophrenic homicide is stable over time and place, but that it may not be is suggested by the finding of Gillies (1965, 1976) who identified 10 schizophrenics accused of homicide in Scotland between 1953 and 1964 but only one convicted in the following 10 years.

Various authors have studied the homicide populations admitted to state psychiatric hospitals. Studies from the United States [Cruvant and Waldrop (1952); Gibbens (1958); Lanzkron (1963); Cole et al (1968)] from Canada [Mc Knight (1966)], Nigeria [Asuni (1969)] and Hong Kong [Wong and Singer (1973)] reveal wide variations in the incidence of schizophrenia in homicide populations. These variations are probably due to regional differences in legal systems, psychiatric services and practice, rather than a true difference in incidence.

(ii) Other Crimes of Personal Violence

For obvious reasons murder has attracted a great deal of research but lesser degrees of violence have not done so until recently. Taylor and Gunn found that 8.9 % of those convicted of violence other than homicide were schizophrenic compared with an expected rate of 0.4 % or less. Taylor (1985) found that the violence of the psychotics was almost always unprovoked, their illnesses were active at the time and in 46 % of cases they were driven by their psychotic symptoms, particularly in cases of serious violence.

(iii) Sexual Crimes

No study could be found of schizophrenics charged with rape.

(iv) Crimes against Property

Crimes against property do not figure prominently in the literature on crime committed by schizophrenics, no doubt because of their usual triviality. Another reason might be that there are neither the resources nor the time to screen these numerous offenders for mental illness, so that those with negative symptoms or handicaps and those who can keep their symptoms to themselves will pass through the courts and prisons undetected and only florid cases will be recognised. Most offences by schizophrenics are in fact acquisitive and most of these are dealt with penally (Bluglass, 1990). The offender is more often than not a single or socially isolated person of no fixed abode, unable to manage his own affairs or cope with the complexities of society and his thefts are for survival. There is usually a history of chronic serious illness with previous hospital admissions and in many cases the patient has reached the point where medication has little effect, asylum is not offered and appropriate supervised aftercare is not available. These cases therefore represent the failure of the psychiatric services to provide for seriously damaged people and can be seen as a sensitive barometer of their effectiveness (Walker and McCabe, 1973). Nevertheless acquisitive offences form a substantial proportion of

the offences which lead to hospital orders. Thus Rollin (1969) found 43 % and Walker and Mc Cabe (1973) found 37 % of these offences to be committed by non-paranoid schizophrenics and 22 % by paranoid schizophrenics. Coid (1987) found 31 % of thefts and burglaries and a further 7 % of frauds and deceptions to be committed by schizophrenics.

b Affective Disorders and Crime

(i) Murder-Suicide and Homicide

West (1965) states that if the contribution of affective illness to homicide is limited to those brought to trial, then the estimate will be far too low. The contribution of those who kill and then commit suicide will be neglected. Of his group of murders followed by suicide, 28 of the 78 (36 %) were depressed and in the 70 homicides brought to trial, 50 % were thought to be psychiatrically abnormal and depression was "very frequent" but no specific figures are given. At an anecdotal level the principal features of his cases are reflected in all the other studies in this area, early middle-aged women killing their children or a man of similar age killing his wife or cohabitee for altruistic reasons in the setting of an extended suicide. Rosenbaum (1990) compared twelve couples . . . cases of murder-suicide to 24 couples in cases of homicide during the period 1978-1987 in Albuquerque. He found the perpetrators of murder-suicide to be depressed in 75 % of the cases, while perpetrators of homicide were not depressed. His data indicate that the murder-suicide and homicide groups are two different populations. In a study of murder followed by suicide in the USA by Allen (1983) 18 % were thought to be depressed. D'Orban (1979), in a study of women remanded in custody charged with killing their children, found only 14 (16 %) of the 89 women to be psychotic and only one to have a depressive psychosis, though seven others had puerperal psychosis with mixed schizo-affective symptomatology.

These studies generally use the term depression very loosely and it is therefore difficult to determine the validity of the findings. In the cases of murder-suicide a psychiatric diagnosis had to be made in retrospect on individuals who in many instances had no psychiatric history. In some of the studies little mention is made of concomitant psychiatric manifestations such as substance abuse or personality disorder which might have had a major influence on the nature of the offence.

(ii) Crimes against Property

Gibbens et al (1971) followed up a sample of 886 shoplifters who had appeared in the magistrate's court, 532 of whom were women and all but seven of whom were subsequently traced. Of those who subsequently required psychiatric treatment, 24 were said to have shown depression, including suicidal attempts, but only a further two a manic depressive illness. Gibbens and Prince (1962) remarked that shoplifting is associated with depressions not necessarily of a morbid degree, suggesting that the contribution of "endogenous" depression or depressive psychosis to this offence is indeed small. This view is confirmed by Bradford and Balmaceda (1983) who described 21 of their sample of 50 shoplifters as suffering from a depressive illness, an identical proportion to their control groups of general forensic and general psychiatric patients.

c Senile Dementia

Available literature suggests that there is no clear statistical association between senile dementia and crime. "Absent-minded" shoplifting which might be expected with severe memory impairment, occurs infrequently. Petrie et al (1982) examined 222 consecutive admissions to a hospital psycho-geriatric unit, of whom 18 had shown violence with guns or knives and 121 shown verbal aggression or violence without weapons. Two of the weapon - using group and 37 of the non-weapon users were diagnosed as suffering from senile dementia. A further three of the weapon-users were diagnosed as having "atypical organic states" and two as alcoholic dementia. Thus a total of 7 out of 18 (39 %) were suffering from some organic impairment. This study confirms the predisposition of demented patients to aggression of a usually, but not always, relatively trivial kind.

d Epilepsy

Contrary to popular belief recent epidemiological research suggests that the relationship between epilepsy and violence is extremely tenuous. Prison surveys in the U.K. find the prevalence of epilepsy among prisoners to show a two-to fourfold increase compared with the normal population (Bluglass,1990). Epileptic prisoners were not more likely to have committed violent offences than other prisoners, nor were they serving longer sentences. The prison prevalence rates for epilepsy are similar to those found among those socially and economically underprivileged classes from which most prisoners come and probably reflect the increased prevalence of certain etiological factors for epilepsy, such as inadequate prenatal care among poor people. Epilepsy and criminal behaviour are epiphenomena, both conditions being over-represented in certain population groups. Treiman (1986) states that epilepsy as a defence is often used inappropriately, at least in U.S. courts. Ictal violence may occur but it is exceedingly rare and is spontaneous and undirected.

e Mental Retardation

Walker and Mc Cabe (1973) studied 1160 offender patients who were the subject of hospital orders over a 12 - month period. There were 942 male and 218 female offender patients: one third were identified as mentally retarded. The one third of the male sample identified as mentally retarded accounted for 59 % of the sex offences. This over-representation was even more significant for severely mentally retarded males. In the majority of cases the victims of the sex offences were children. The sexual offences of mentally retarded females tended to involve soliciting, prostitution and incest, and these crimes thus render them as much victims as offenders. An association between arson and mental retardation was confirmed and half of the offences of arson were committed by the one-third of the men and women who were most mentally retarded.

Robertson (1981) found that the usual criminal history of a mentally retarded offender was one of juvenile larceny, developing into acquisitive offences of breaking and entering, with a generally higher incidence of sexual offending as

compared to the general criminal population. He reported a similar pattern for female mentally handicapped offenders. More recently Gostason (1985) concluded from a large-scale survey in Sweden that there was no association between mental retardation and criminality, apart from a lower incidence of traffic offences in retarded people.

This discrepancy might be due to the different social attitudes toward mentally retarded individuals and/or due to the level and quality of psychiatric community services in different parts of the world. In the United States there is currently a drive towards the deinstitutionalization of the mentally ill, with the result that many individuals in need of supervisory care eventually find themselves in situations where they cannot cope or survive. Inappropriate social behaviour or desperate attempts at survival might thus be expected. Sweden with its high per capita income, superior social services and conservative psychiatric attitudes represents a clearly different environment.

f Substances

(i) Alcohol and Homicide

Gillies (1976) studied 400 individuals (367 males and 33 females) accused of murder and concluded that 58 % of the males had been intoxicated at the time of their crimes and 30 % of the females. Wolfgang and Strohm (1956) reviewed data from the homicide squad of the Philadelphia Police Department. They concluded that out of the 588 cases, alcohol was present in both victim and offender in 44 % of cases, in 11 % of cases in the offender only and in 9 % in the victim only.

(ii) Alcohol and Sexual Crime

Amir (1967) who also studied the files from the Philadelphia Police Department, found that alcohol was present in the rapist and victim in 21 %, in the victim only in 9,6 % and in the offender only in 2,9 %. Rada (1975) using a selected sample of rapists found that 50 % were drinking before the rape.

(iii) Alcohol and Violent Crime

Gerson (1978) in a Canadian study on alcohol and violent crimes, found that in 35 % of the acts the offender alone had been drinking, in 29 % the victim alone and in 36 % both had been drinking.

(iv) Cannabis and Crime

The links between cannabis use and offending are complex. Trafficking in illegal drugs, including cannabis, is widely recognised to be associated with crime. It is widely believed that cannabis takers are much less delinquent than other drug abusers such as takers of heroin, cocaine and morphine. Kraus (1981) found criminal involvement was less among cannabis takers than among opiate and sedative-drug abusers. In Greece a study comparing psychiatric morbidity in heavy cannabis takers with a matched control group, revealed that cannabis takers had more often antisocial personalities, criminal records and poor work performances than control subjects. The cannabis abusers also had a more extensive criminal record than the control group.

Studies on crime and substances are difficult to interpret as most of the studies have an oversimplified approach to the matter. Concomitant psychiatric illness such as affective disorder, personality disorder or mental retardation might easily be overlooked especially in retrospective studies where files are reviewed to gain information. Substance abuse is more prevalent amongst the criminal population which makes interpretation even more complex. Substance abuse per se may lead to a decrease in social and mental functioning or the induction of a psychotic state.

g Psychopathy and Crime

No study could be found linking psychopathy to specific crimes. Many criminals may be incorrectly diagnosed as psychopaths or antisocial personality disorders purely on the grounds of the character of the offence. Only in the presence of clear evidence of abnormalities of development, adaptation, behaviour and interpersonal relationships does the possibility of psychopathy arise.

1.6 CONCLUSIONS

Gunn (1977) stated that the main problem in discussing any relationship between criminal behaviour and mental disorder is 'that the two concepts are largely unrelated. The drawing of any direct relationship between any diagnosis and offence category or behaviour is thus most hazardous. It is therefore not unexpected that the literature is very sparse, consisting for the most part of small and anecdotal studies of highly selected population groups, with markedly different criteria of selection, lacking in diagnostic rigour and statistical sophistication, and fixed in the diagnostic habits of their time and country of origin.

In reviewing the data available to us we are left with a daunting amount of figures, defying comprehension and interpretation for the reasons stated above. In most of the studies the patient group consisted of people judged to be incompetent to stand trial, not guilty by reason of insanity or guilty but mentally ill. Only a small portion of Rodenhauser's group of patients were referred for observation purposes. Some of the findings are clearly contradictory e.g. Walker and McCabe's study (1973) revealing an association between mental retardation and arson and between mental retardation and sexual offences. Rodenhauser (1988) on the other hand finds a relation between arson and personality disorder as well as sexual offences and personality disorder. Other studies, although not clearly contradictory, reveal such a wide range of statistical findings as to render them practically useless. A case in point is the number of schizophrenics found in murder cases with the percentages ranging between 43 % and 70%. Because of these significant regional differences, international studies should be interpreted in the specific forensic milieu they were written in. Most of the studies cannot be applied to the South African situation. Ongoing local studies with strict adherence to international diagnostic criteria and sophisticated data interpretation should therefore be encouraged.

2. THE CONTRIBUTION OF SPECIAL INVESTIGATIONS TOWARD A DIAGNOSIS : INTRODUCTION

Two schools of thought exist in psychiatry; one is psychoanalytically based on cognitive views of human nature, the other is biologically based on a medical model of disease (Jeffrey, 1985). The new model of biological psychiatry which is emerging is one closely associated with biology, neurology and medicine (Restak, 1983). In order to submit a meaningful psychiatric report on a patient to a court of law, there is an increasing demand for valid scientific data instead of the vague, subjective and controversial data typical of the psychoanalytical approach. Earlier criminology was dominated by sociological criminology, but the impact of biology on criminology is increasingly felt with the introduction of new technology. Psychiatry is today searching for the answers to mental illness and behavioural problems within the brain, especially in the neurotransmitters and brain chemistry (Snyder, 1980). Technology now available for the study of the brain include the EEG, evoked potential, CAT scan, PETT scan, nuclear magnetic resonance (NMR), electric stimulation of the brain and the biochemical analysis of the neurotransmitter systems.

2.1 CRIME AND BIOLOGY

Early criminology was dominated by the work of Lombroso, a biologist and medical doctor, and by geneticists. However by 1924 sociological criminology had taken over and biological and psychological aspects of behaviour were ignored and ridiculed. In fact as late as 1978, when a session on biology and crime was included at the annual meeting of the American Society of Criminology those representing a psychobiological position were referred to as the "new neo-Lombrosians". The impact of biology on criminology is now increasingly felt (Jeffrey, 1979).

Criminal behaviour has been related to a number of neurological and endocrinological defects or disorders, including defects in the autonomic nervous system. Some of the disorders discussed in the literature include sociopathy, temporal lobe epilepsy, brain dysfunctions, left hemispheric dysfunction, trauma and head injuries, alcoholism and drug abuse. Hormonal defects, including testosterone defects in males and the premenstrual syndrome in females, dietary defects, including hypoglycemia, lead and cadmium poisoning also have enjoyed much attention.

a Biological Factors related to Crime

The following relationships are postulated to exist:

GENETIC: Studies on male children with biological fathers who have a criminal record, revealed these children to have a greater rate of criminality, even if adopted by a non-criminal family. If the biological father is criminal an estimated 36 percent of the sons are criminal. In the case of the biological father being non-criminal, but the adoptive father criminal 11 % of the sons are estimated to become criminal. (Mednick and Christiansen, 1977; Wolfgang and Weiner, 1982).

SOCIOPATHY: Sociopaths suffer from an underaroused nervous system, and do not condition to punishment as do normal subjects. Because of this condition, sociopaths do not learn social responses and antisocial behaviour becomes a pattern of life (Mednick and Christiansen, 1977; Wolfgang and Weiner, 1982; Hare and Schalling 1978; Reid 1978; Guze 1976). Barnes (1983) was able to differentiate various types of criminals with regards to their impulsivity by means of a study of brain waves with the use of evoked potentials.

EEG ABNORMALITIES: It has been estimated that between 50 % and 65 % of violent offenders have abnormal EEG readings (Wolfgang and Weiner, 1982; Monroe, 1978; Mark and Ervin, 1970; Lewis, 1982). Lewis (1988), in a neuropsychiatric evaluation of 14 juveniles condemned to death in the United States, found definite EEG abnormalities in 8 of the subjects and possible EEG abnormalities in another 2 of the subjects. For a variety of reasons the subjects' vulnerabilities were not recognized at the time of the trial or sentencing, when they could have been used for purposes of mitigation.

Howard (1984) conducted a 5 year retrospective study on the clinical EEG and personality in mentally abnormal offenders. He found an incidence of atypical EEG features in 60 % of the cases which is in agreement with previous studies of the EEG in abnormal offenders. His attempt to relate paroxysmal EEG features to personality, legal diagnosis and offence variables resulted in only one significant relationship, between the presence of a bilateral paroxysmal EEG abnormality and a tendency to attack strangers.

BRAIN DYSFUNCTION: A high number of criminals suffer from various brain disorders and injuries. It has been stated that between 50 % and 80 % of the criminal population has one form of brain disorder or another including epilepsy, hemispheric dysfunction, and brain trauma (Monroe, 1978; Lewis, 1982; Haus, Roberts, and Solway, 1981; Wolfgang and Weiner 1982, Yendall, 1979).

HORMONAL DEFECTS: Male sex criminals experience hormonal defects to a greater degree than the population in general, including testosterone imbalances. Females often suffer from premenstrual tension, which can be related to violent acts (Hays, Roberts, and Solway, 1982; Wolfgang and Weiner, 1982; Money, 1980).

DIET AND NUTRITION: It has been discovered that 50 % or more of the delinquent/criminal population suffers from hypoglycaemia, lead or cadmium poisoning, or other nutritional and dietary defects (Lewis, 1981, Fishbein and Thatcher, 1982; Fishbein, 1982, Rimland, 1981; Reed, 1983; Schauss, 1981). Fishbein and Thatcher (1982) found that the I.Q.'s of school children declined from 110 to 80 as the concentration of lead in the body increased. Since low I.Q. has been characteristic of delinquent populations (Gordon 1976; Hirshi and Hindelang, 1977) a possible link between social class, I.Q. and delinquency would be the lead and cadmium levels in the brain.

b Biological Factors related to Violence

Violence has been associated in several interdisciplinary studies with a vast variety of genetic, biological, biochemical, neurological and social variables. (Wolfgang and Weiner 1982; Hamburg and Trudeau, 1981; Mark and Ervin, 1970; Hays, Roberts, and Solway, 1981; Svare, 1983).

Violent and aggressive behaviour has been related to the chemical neurotransmitters noradrenaline and adrenaline. These chemical neurotransmitters control the autonomic nervous system and the flight or fight response. Noradrenaline is associated with anger and aggression, whereas adrenaline is associated with fear and anxiety. When the noradrenaline-adrenaline ratio is high the effect is the underarousal of the autonomic nervous system with little anxiety and a great deal of aggression and antisocial behaviour. The high noradrenaline level, the low arousal level, and the low anxiety level are consistent with and basic to the theories of sociopathy propounded in the literature (Hinton, 1983).

A biochemist, William Walsh (Raloff, 1983) used hair analysis to establish the chemical content of the brain and he found that violent offenders had high levels of lead, cadmium and iron. He also found that the antisocial personality had low levels of sodium and potassium (two basic chemicals involved in neurotransmission). The lack of sodium and potassium could help to explain the absence of excitation in the nervous system of sociopaths (Groves and Schlesinger, 1982). Although these findings should be treated with reserve they are nevertheless worth mentioning.

2.2 TWO FAMOUS CASES ILLUSTRATING A POINT

A dramatic and famous case illustrating the importance of special investigations in the field of forensic psychiatry is that of Charles Whitman (Jeffrey, 1985). Charles Whitman was a young University of Texas student who one day climbed to the top of the University of Texas library tower and shot and wounded a number of people, killing fourteen. Whitman had complained for several years of severe headaches, compulsive and violent feelings, irrational feelings and other behavioural problems. He had been to the university clinic on several occasions, but had never received a complete medical examination or any real medical help. Whitman was killed by the police during the shooting spree and an autopsy on his brain revealed a malignant tumor in the amygdala area of the brain, the area of the brain controlling violence and aggression (Wallace, 1979). Another famous case, The Crocodile Man, (Mayer and Wheeler 1982) illustrates how sophisticated knowledge employed by the defence led to biochemical investigations not routinely done which resulted in a suspended sentence for the accused. It was established that the defendant had an enzyme defect which made him extraordinarily vulnerable to the effects of alcohol. (He assaulted and seriously injured two females after the ingestion of a small amount of beer). These cases might be especially relevant to the South African situation where a large proportion of the population are unable to afford a professional defence and thus rely on the psychiatrist to pick up subtle pathology by means of special investigations.

2.3 CONCLUSIONS:

Bartholomew (1986) states that the problem of "misdiagnosis" due to missed organic pathology stems from the not infrequent reluctance of a psychiatrist to examine the patient physically. McIntyre and Romano (1975) published an article with the tell-tale title: "Is there a stethoscope in the house (and is it used)?" From the available literature it is clear that special investigations may be vitally important in the evaluation of a patient, even if the patient's physical examination proved to be normal.

The literature search proves that there is a paucity of information with regards to the relevance of special investigations in mentally abnormal offenders. A computer-ran international literature search revealed two articles on the clinical EEG in mentally abnormal offenders. Although there seems to be general consensus about the high prevalence of abnormal EEG findings in offender groups, the relevance of these findings are not clear at all. No reference or source could be found dealing with the relevance or use of other special investigations e.g. blood investigations, X-rays or brain scan. At this stage the investigation of the mentally abnormal offender seems to be conducted in a random way, no doubt because of the controversial nature of some of the previous postulations (e.g. hair analysis, cadmium, lead and iron levels), thus wasting both time and money. This haphazard approach may lead to obvious medical causes of mental illness being overlooked. It seems reasonable that at least those physical factors that are known to cause mental illness, should be investigated in a logical, systematized way. Much further research is required to cast light on this clearly neglected facet of forensic psychiatry.

3. METHODOLOGY

3.1 THE SAMPLE

The subjects involved in the study were "observation patients" detained at the forensic unit, Sterkfontein Hospital in terms of a magistrate's order under Section 79 (2) of the Criminal Procedure Act. The prospective study stretched over a 3 month period between the 14th March and the 14th June 1991. Forty-nine consecutively admitted patients were interviewed over this period of time. The retrospective study was conducted over the 4 month period 1 June 1990 to 30 September 1990 by reviewing the detailed file of every patient admitted during this period of time. Forty-two patients are included in this sample. The study as a whole thus includes 91 patients admitted over a 7 month period.

3.2 DATA COLLECTION

a General

Prior to filling out the data sheet each patient was handed a subject information sheet which explained the purpose of the study. It was clearly explained to each patient that the information would be kept strictly confidential, that participation was voluntary and that they were free to opt out without incurring any penalty or loss of benefits. To those patients unable to read, the information sheet was verbally explained. In the case of psychotic patients, where there was reason to believe that they would not grasp the content of the information sheet, either permission was obtained from family members or the exercise was postponed until the psychosis cleared, usually under treatment.

On agreement the patient then signed the informed consent form.

b The Data Sheet (See Appendix A)

c Information Retrieval

Information recorded in the data sheet was largely obtained by direct questioning and then substantiated with collateral information and the social worker's report. The court report was used to obtain the reason for referral as well as the criminal charge and background of the patient (when available). Details about previous criminal offences accompanied the court report whenever possible.

d Aims of the Data Sheet

As can be seen in Appendix A the data sheet attempts to record patient information in a relatively concise but hopefully holistic way. The range of information thus covers demographic details, the more important forensic details including the criminal record, diagnostic details (both on admission and discharge), psychiatric history, history of substance abuse as well as behaviour during the observation period. The data sheet concludes with a list of the special investigations routinely used in the evaluation of patients.

e Difficulties in the Interpretation of Data

1) District of abode

With the phenomenon of many patients, especially amongst the black population, earning a living as migrant workers, it was decided to record the district of abode as that area in which they resided in the 3 month period immediately prior to their arrest.

2) Initial and Final Diagnosis

In this particular subsection the term "no diagnosis made" might be confusing. If the patient could not be "labelled" with any psychiatric diagnosis he was categorised as "no diagnosis made."

3) Family Psychiatric History

A patient was regarded as having a positive family history if any of the biological family members were exposed to any mode of psychiatric treatment, whether it be Western or traditional.

4) Personal Psychiatric History

A patient was regarded as having a personal psychiatric history if he was exposed to any mode of psychiatric treatment, whether it be Western or traditional.

5) Previous Hospitalisations

Only inpatient hospitalisation in a Western hospital strictly for psychiatric treatment was recorded in this subsection.

6) Suicide attempts

Only actual attempts were recorded in this subsection and suicide ideation is thus not included.

7) History of violent behaviour

A patient was regarded as having a positive history of physical aggression if he had struck somebody else either with a weapon of any kind or if he had purposefully struck somebody with any of his limbs. A patient was regarded as having a positive history of verbal aggression if he had threatened to strike anybody with a weapon of any kind or with any of his limbs.

8) History of depression

A history of depression was regarded as being significant if the patient had fulfilled the DSM III-R diagnostic criteria for a Major Depressive Episode at any time in the past.

A history of depression was regarded as being "not significant" if the patient had subjectively felt depressed at any time in the past but without fulfilling the DSM III-R diagnostic criteria for a Major Depressive Episode.

9) Substances

The patient's use or abuse of substances was recorded only with regard to the 3 month period immediately prior to his arrest.

10) Intelligence

Formal psychometric testing was only carried out on those patients who gave the clinical impression of having either a low or borderline intelligence.

11) Need for confinement

Confinement in addition to the usual was recorded in this subsection (e.g. side-room or high-security ward).

12) Special investigations

In the prospective study all of the investigations listed on the data sheet were performed routinely on all the patients, except when refused by the patient or in the rare event of the patient having been discharged without all the investigations being completed. In the retrospective study the following investigations were not included as routine investigations : thyroid function tests, liver function tests, brain scan, urine cannabis and HIV test. All the abnormalities detected were recorded whether they were regarded as significant to the case in question or not.

3.3 DIAGNOSIS AND RECOMMENDATIONS

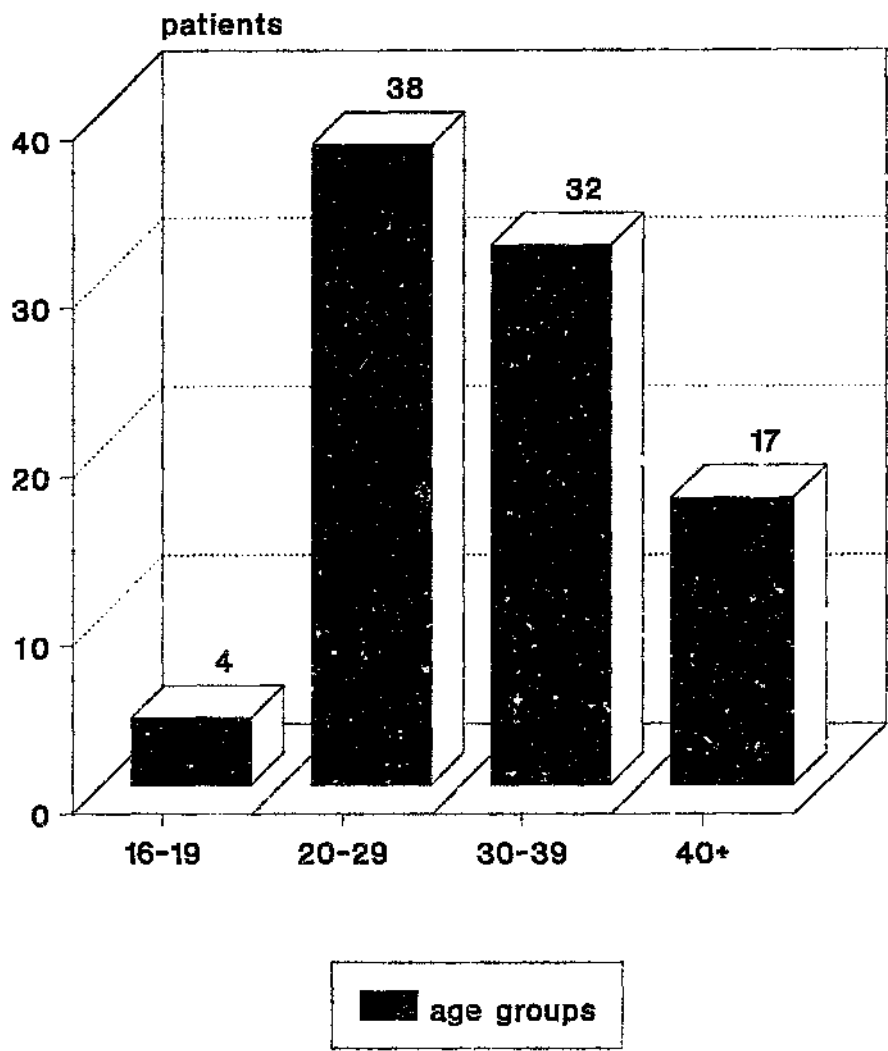
DSM III-R diagnostic criteria was used throughout. Prior to the compilation of the final report to the court of law each patient was presented to the forensic conference which is attended by all the consultants, registrars and psychologists working at Sterkfontein Hospital, providing adequate opportunity for the critical discussion of each case. During this discussion collateral information in the form of a social work report is presented as well as the ward staff report on the patients' behaviour since admission. Psychological testing was available on request.

4. BASIC FINDINGS

4.1 DEMOGRAPHIC DATA

AREA OF ABODE / AREA WHERE CRIME WAS REPORTED

Nine patients (9,8%) were of no fixed abode or had no known address. Of the remainder, 49 patients (59,8%) were of the greater Johannesburg area and 33 patients (40,2%) were from areas other than Johannesburg; 71,3% of the alleged crimes were committed in the greater Johannesburg area.

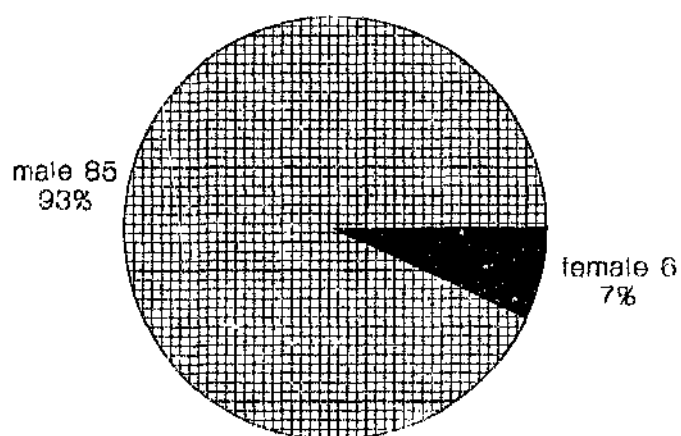


N=91

Figure 1

AGE GROUPS

The age range of the sample (N=91) was found to be between 16 and 54 years with a mean of 31,59 and a standard deviation of 8,69.

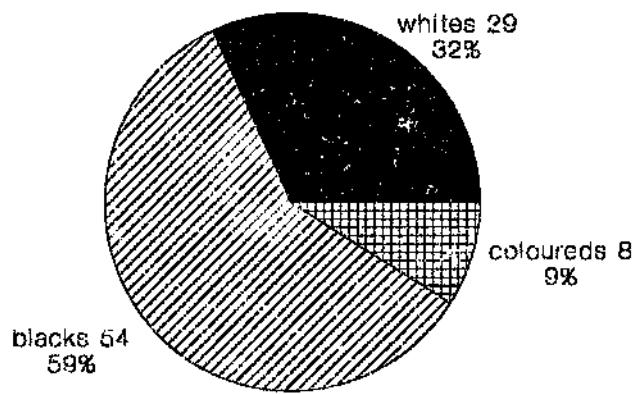


n=91

Figure 2

SEX PROFILE

The male : female ratio in this sample was 14:1.



no asians

Figure 3

RACE PROFILE

4.2 SOCIAL CHARACTERISTICS

MARITAL STATUS

Nine patients' marital status were unknown. Of the remainder, 48 patients (58,5%) were single, 21 patients (25,6%) were married, 2 were widowed and 11 (13,4%) were divorced.

EDUCATION

Eight patients' level of education were unknown. Of the remainder, 40 patients (48,1%) had an education of Std 5 or less, 28 patients (33,7%) had an education of Std 6 - 8 and only 14 patients (16,8%) had an education of Std 9-10. Only 1 patient had a post-matric qualification.

OCCUPATION

Five patients' occupation were unknown. Of the remainder 49 patients (56,9%) were unemployed, 15 patients (17,4%) were labourers, 14 patients (16,2%) were artisans, 7 patients (8,1%) office workers and only one patient held a professional/managerial position.

TYPE OF DWELLING/PEOPLE SHARING ACCOMMODATION WITH PATIENT

Because of the migrant nature of the sample and a large number of unknown findings the above particulars could not be utilized in a meaningful manner.

HISTORY OF SUBSTANCE ABUSE

(Seven patients' history unknown.)

ALCOHOL

	<u>FREQUENCY</u>	<u>PERCENTAGE</u>
None	26	30,9%
Occasional	40	47,6%
Heavy/Dependent	18	21,4%

DAGGA

	<u>FREQUENCY</u>	<u>PERCENTAGE</u>
None	49	58,3%
Occasional	14	16,6%
Heavy/Dependent	21	25,0%

OTHER (Benzodiazepines, Analgesics, Wellconal, Mandrax)

	<u>FREQUENCY</u>	<u>PERCENTAGE</u>
None	74	88,0%
Occasional	1	1,2%
Heavy/Dependent	9	10,7%

In order to make any meaningful deductions, the above data should be compared to substance abuse statistics for the general population or a criminal population, or preferably both. A specific pattern of substance abuse might be found to be related to a specific pattern of crime but this would require a separate study.

4.3 PSYCHIATRIC DATA

In this subsection difficulty was experienced in the retrospective gathering of information. Where no detail was recorded it was assumed that the history was negative. The figures mentioned below probably incorporate a certain number of false negative findings.

FAMILY PSYCHIATRIC HISTORY

Nine patients' family psychiatric history was unknown. Nineteen patients (23,18%) had a positive family history and 63 patients (76,82%) had a negative family history.

PERSONAL PSYCHIATRIC HISTORY

Six patients' personal psychiatric history was unknown. Forty-five patients (53%) had a positive personal history and 40 (47%) a negative history. With this relatively high percentage of patients with a personal psychiatric history it would be interesting to compare this group with their eventual diagnoses and legal destiny. A positive correlation might act as an incentive for the courts and doctors alike to actively search for psychiatric histories in marginal or difficult cases.

PREVIOUS HOSPITALISATIONS

Three patients' history in this respect was unknown. Forty-six patients, (52,2%) had no previous hospitalisations, 18 (20,4%) a history of 1 hospitalisation, 8 (9%) a history of 2 hospitalisations and 16 patients (18,1%) a history of 3 and more hospitalisations. Almost 48% of the sample thus had a history of previous hospitalisations and as mentioned, investigating this finding further might prove worthwhile.

PREVIOUS TREATMENT

Treatment history was unobtainable in a large number of the retrospective sample because of lack of details in the patient file. Of the 71 known cases, 21 (29,5%) had a history of previous neuroleptic treatment, 4 (5,6%) had a history of previous antidepressant treatment, 5 (7%) a history of benzodiazepine treatment, 9 (12,6%) a history of anticonvulsant treatment and 2 (2,8%) a history of other prescribed medication.

SUICIDE ATTEMPTS/HISTORY OF DEPRESSION

Four patients' history in this respect was unknown. Eight patients (9%) had a history of a previous suicide attempt. As mentioned suicide ideation was not included in this subsection. Five patients had a history of significant depression and 7 patients a history of non-significant depression (as defined earlier).

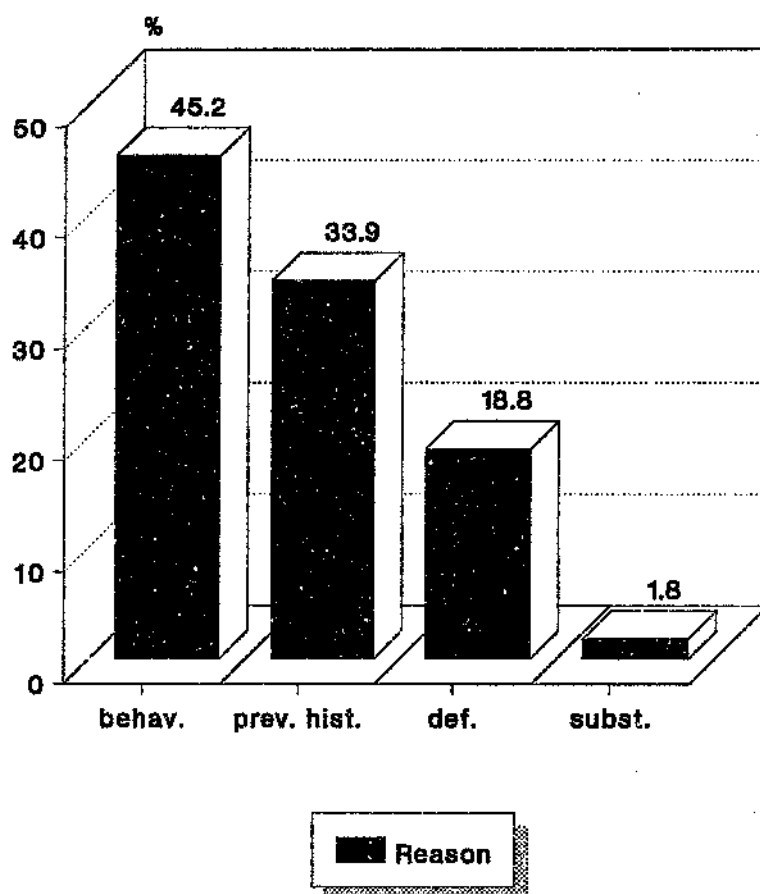
HISTORY OF VIOLENT BEHAVIOUR

Five patients' history in this respect was unknown. Twenty-two patients (25,5%) of the sample had a history of violent behaviour with 23% a history of physical aggression and 18,7% a history of verbal aggression.

4.4 FORENSIC DATA

CRIMINAL RECORD

Five patients' criminal record was unknown. Thirty-five patients (40,6%) of the remaining 86 patients had a criminal record. Of these 35 patients, 16 (45,7%) had a history of 1 previous charge, 9 (10,4%) had a history of 2 previous charges and 10 (28,5%) had a history of 3 and more criminal charges. Sixteen of these 35 patients (45,7%) had a history of crime against the person and 23 (65,7%) had a history of crime against property. Four cases thus had a history of both crime against the person and crime against property.



N = 106

Figure 4

REASON FOR REFERRAL

Abbreviations:

behav.	= appearance/behaviour in court
prev. hist	= previous medical/psychiatric history
def.	= views of the defending counsel
subst.	= alleged crimes involving substances

We might postulate that a high percentage of those patients referred because of appearance/behaviour in court are black, where a more crude system of detection and referral might exist, while those referred because of the views of the defending counsel are mostly white. This aspect needs to be further investigated.

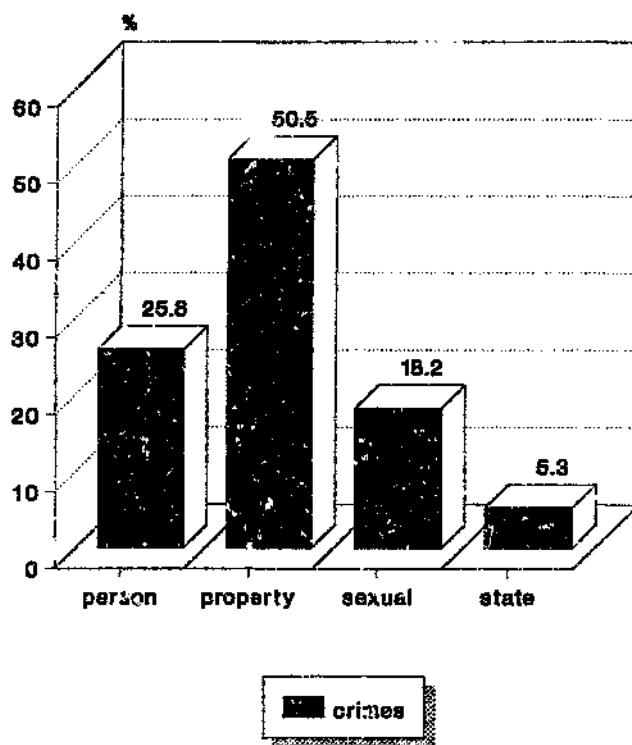
CRIME PROFILE

As indicated on the data sheet the criminal charge was divided into two broad categories with the following findings

CRIME:	NUMBER OF PATIENTS	PERCENTAGE
Crime against the person	39	42,9%
Crime against property	52	57,1%

There were 2 cases with an additional charge of indecent assault in the one case and an additional charge of malicious damage to property in the other, resulting in a total number of 93 charges for the sample as a whole.

THE CRIME PROFILE WAS SUBDIVIDED AS FOLLOWS:



N = 93

Figure 5

CRIME PROFILE

Abbreviations:

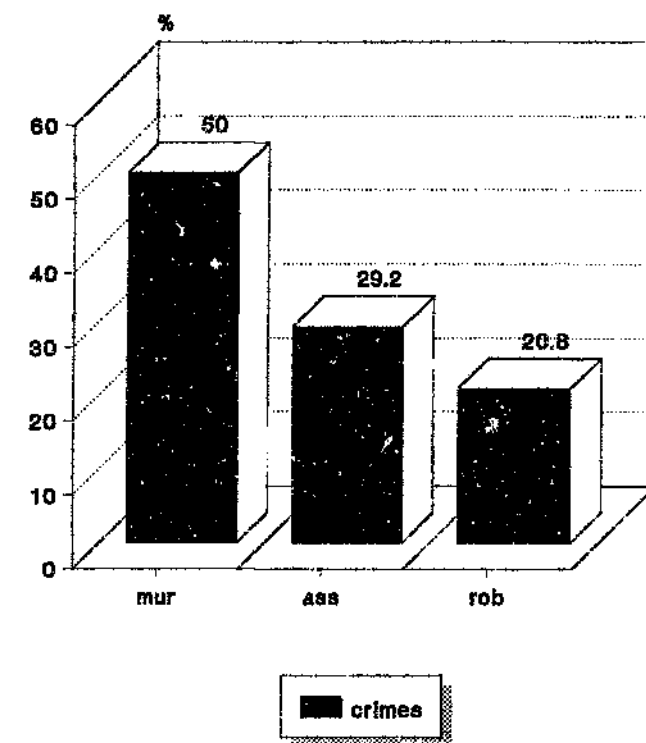
Person = Crime against the person (crimes against life and bodily integrity)

Property = Crimes against property.

Sexual = Sexual crimes.

State = Crime against the state.

CRIMES AGAINST THE PERSON WAS SUBDIVIDED AS FOLLOWS:



N = 24

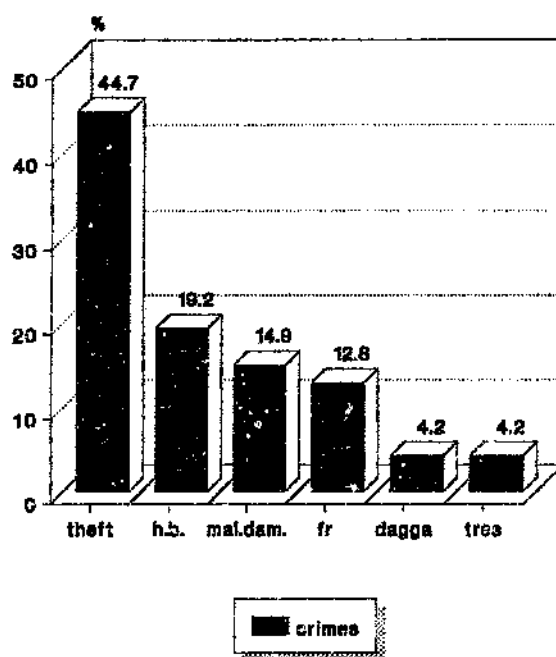
Figure 6

VIOLENT CRIMES

Abbreviations

- Mur = This category includes murder, attempted murder and culpable homicide
- Ass = Assault
- Rob = Robbery

CRIME AGAINST PROPERTY WAS SUBDIVIDED AS FOLLOWS:



N = 47

Figure 7

CRIMES AGAINST PROPERTY

Abbreviations

theft = theft/attempted theft

h.b. = housebreaking with intent to steal and theft.

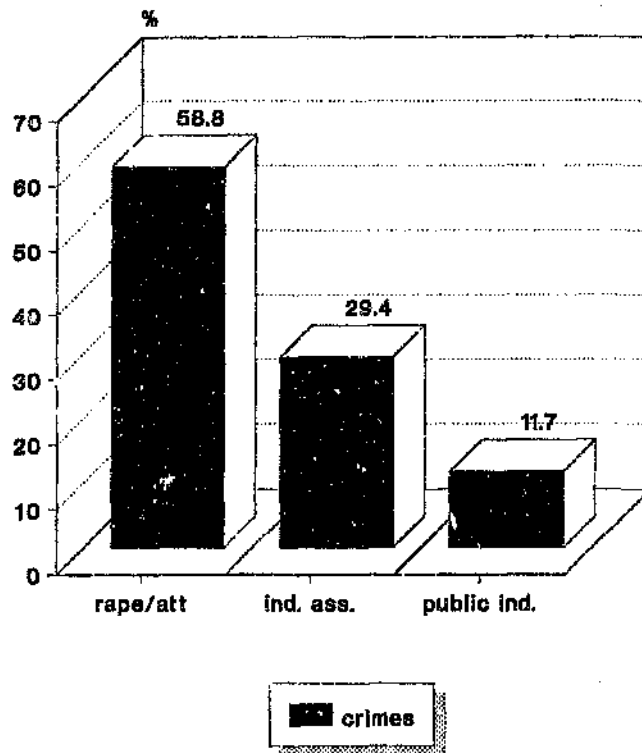
mal. dam = malicious damage to property.

fr = fraud

dagga = possession of dagga

tres = trespassing.

SEXUAL CRIMES WERE SUBDIVIDED AS FOLLOWS:



N = 17

Figure 8

SEXUAL CRIMES

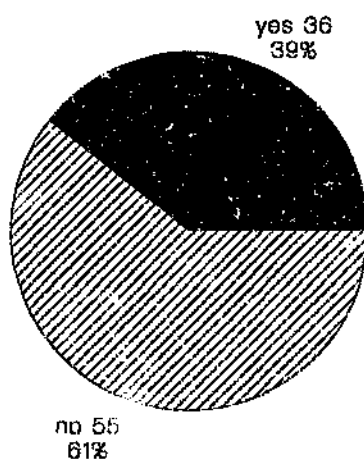
Abbreviations

rape/att	= rape/attempted rape/sodomy
ind ass	= indecent assault
public ind.	= public indecency

CRIMES AGAINST THE STATE

Five patients were involved in this category which included the following offences:

1. Desertion
2. Perjury
3. Escaping
4. Impersonating the police
5. Bomb threat to a police station



n=91

Figure 9

PSYCHOTIC ON ADMISSION

Thirty-six patients (39,5%) were found to be psychotic on admission and 55 (60,5%) were found to be apsychotic.

DIAGNOSTIC PROFILE - INITIAL DIAGNOSIS

Three patients had a secondary diagnosis of substance abuse.

Seven patients had a secondary diagnosis of organic brain syndrome.

Nine patients had a secondary diagnosis of mental retardation.

Three patients had a secondary diagnosis of personality disorder.

	FREQUENCY	PERCENTAGE
Functional Psychosis	33	29,2%
Substance Abuse	22	19,5%
Organic Brain Syndrome	16	14,2%
Mental Retardation	12	10,6%
Personality Disorder	5	4,4%
Sexual Deviations	1	0,8%
No diagnosis made	24	21,2%

Thus a total of 113 diagnoses made in 91 patients.

DIAGNOSTIC PROFILE - FINAL DIAGNOSIS

Seven patients had a secondary diagnosis of substance abuse.

Six patients had a secondary diagnosis of organic brain syndrome.

Fourteen patients had a secondary diagnosis of mental retardation.

One patient had a secondary diagnosis of personality disorder.

Thus a total of 119 diagnoses in 91 patients.

	FREQUENCY	PERCENTAGE
Functional Psychosis	33	27,2%
Substance Abuse	30	25,2%
Organic Brain Syndrome	20	16,8%
Mental Retardation	17	14,3%
Personality Disorder	2	1,7%
Sexual Deviations	1	0,8%
No diagnosis made	16	13,4%

As mentioned it was not useful to compare above diagnostic profile to the overseas data because of the widely divergent methods of selection, the differing legal systems and different diagnostic criteria.

n=91

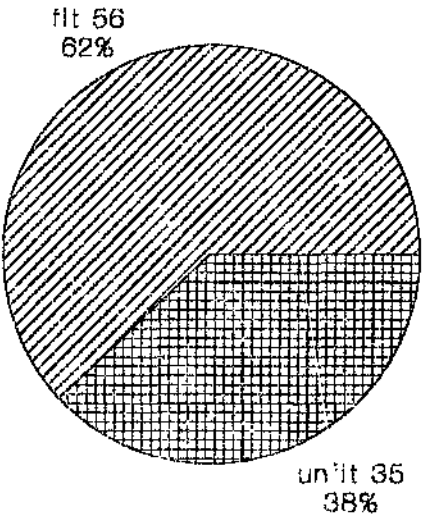
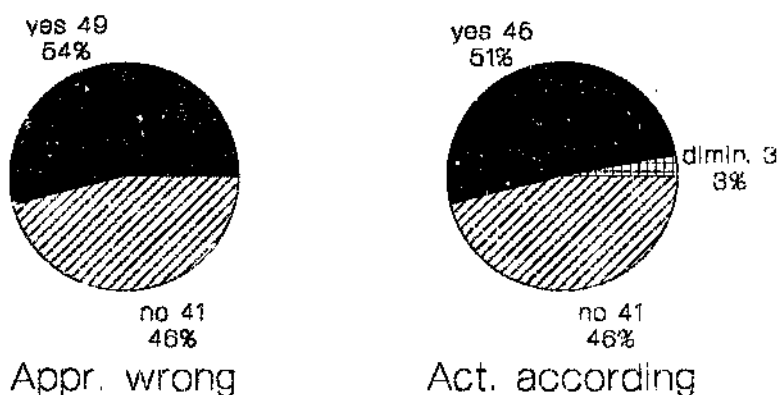


Figure 10

FITNESS TO PLEAD
whole sample



N = 90 (1 mute)

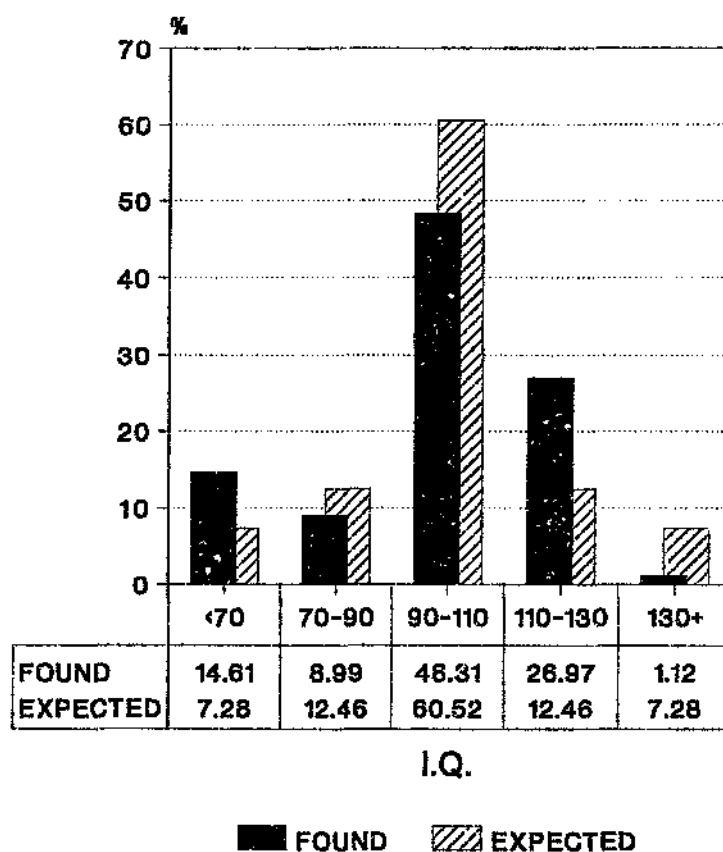
Figure 11

RESPONSIBILITY

Abbreviations

- | | |
|---------------|--|
| appr. wrong | = The patient was able to appreciate the wrongfulness of the act in question |
| act according | = The patient was able to act in accordance with such an appreciation. |
| dimin. | = The patient had a diminished ability to act in accordance with such an appreciation. |

4.5 DATA OBTAINED SINCE ADMISSION



N = 89

Figure 12

INTELLIGENCE PROFILE

Clinical Assessment

The above chart clearly indicates that the intelligence profile of the sample group differs markedly from the normal bell-distribution curve expected in the general population and this was found to be a statistically significant deviation from the

norm ($p < 0.001$). The low and high IQ ranges are overrepresented while the borderline, average and superior IQ ranges are underrepresented. Again it would be interesting to compare this phenomenon with that found in a prison population. In a larger patient sample it would be feasible to examine the type of crimes committed by the patients falling into the extremes of the IQ scale. As mentioned, Gostason (1985) in his Swedish study failed to find an association between mental retardation and criminality which is contrary to the trend demonstrated in the above chart.

BEHAVIOUR

Nine patients needed seclusion in a side room during their period of admission (9,9%) and 9 patients claimed amnesia with regards to the offence.

4.6 DISCUSSION OF BASIC FINDINGS

Demographic data revealed that the typical patient was a black urban male in his early thirties, single, unemployed with an education level of Std 5 or less. More than half of the patients had a psychiatric history and slightly less than half of the patients had been hospitalized for psychiatric treatment. One quarter of the patients had a history of violent behaviour and forty percent of the patients had a criminal record. Forty-three percent of patients were involved in crime against the person and 57 % in crime against property. The majority of patients were referred because of their behaviour in court or because of a psychiatric history. Almost 40 % of patients were psychotic on admission and the majority of this group were found to be schizophrenic. The group of patients found to be unfit to plead (38 %) correlates well with the psychotic group. The intelligence profile revealed particular characteristics as discussed.

Examining the demographic data in further detail we find the tendency of rural people, especially black males, to seek employment in the urban areas reflected in the data, with more than 70 % of the alleged crimes committed in the greater Johannesburg area and less than 60 % of patients living in this area. One might speculate that a certain number of crimes committed by mentally ill offenders in rural areas are dealt with penally because of a less sophisticated system of detection and referral existing in these areas.

The age range of patients revealed few surprises. It correlates well with similar patients samples overseas as well as a previous unpublished study done at Sterkfontein Hospital (Vorster, 1986). The male : female ratio of 14:1 seems to be higher than most figures quoted in the international literature. It correlates well however with Vorster's 1986 study where the male : female ratio was found to be 13:1. This then seems to be a fairly unique South African phenomenon and may be ascribed to various local factors e.g. females having more extensive support systems available and the male proclivity to substance abuse.

Considerably more blacks (59 %) than whites (32 %) were admitted to the forensic unit. We may however safely assume that the blacks are proportionately underrepresented in this sample, if the race profile of the population in general is considered. Factors which may contribute to this phenomenon may be the fact that the white population is legally more sophisticated and/or has more sophisticated legal representation at their disposal. The large number of black offenders dealt with in the already overburdened courts of law may lead to obvious psychopathology being overlooked and the mentally ill offender thus being dealt with penally. We are thus left with a situation where a certain number of especially the white population are referred unnecessarily whereas a certain percentage of black mentally ill offenders forego a very necessary referral. The race profile in South Africa cannot be compared to the overseas literature, which largely originates from the United States or Europe.

With regards to the marital status of the sample, these figures might be misleading, especially in the black population where a considerable number of blacks are not legally married but are married by tribal law. They may then either view themselves as being married or single.

The poor level of education of the sample (48 % of patients with an education of Std 5 or less) not only reflect the fact that most South African blacks are poorly educated but that many of the white patients in the sample have a less than average level of education. The high level of unemployment may be a reflection of the current national high levels of unemployment and/or a reflection of the downward drift the mentally ill experience in society. Crime and unemployment are of course closely associated with one another.

In the analysis of the crime profile more than half of the crimes were found to be crimes against property. For accurate interpretation of this finding one would need to compare this with the crime profile the referring courts of law deal with. Taking this finding at face value one might postulate that the mentally ill offender resorts to a desperate and ineffectual attempt at survival and thus comes to the attention of the law.

This postulation is perhaps further supported by the fact that 44,7 % of the crimes against property are in fact crimes of theft. Looking at violent crimes in isolation it is obvious that a disproportionate number of murder cases are involved in this category (50 %). This phenomenon might be explained by the fact that crimes involving the possibility of the death penalty usually involve an attempt at the generation of psychiatric evidence which might influence the sentencing or at the very least serve as mitigating factors in the trial. In murder cases the court of law is usually intent on clarifying any psychiatric details which might have a bearing on the case. At an anecdotal level there seems to be an unacceptably large proportion of unnecessary referrals in this category which might be eliminated by a screening process prior to admission.

The quality of referrals might be judged by examining various factors. The fact that 39 % of patients were found to be psychotic on admission indicates that at least a fair proportion of referrals are soundly based. We are however not sure how many psychotic offenders are overlooked in court. Examining the non-psychotic group we find that 83,6 % of this group are fully responsible for their deeds. There is thus much room for improvement in the non-psychotic category of patients, which might be achieved by educating the individuals involved in the referral process and/or instituting a screening process prior to admission.

Guojonsson (1989) in his sample of 64 offenders found 22 (34 %) subjects to be claiming partial or complete amnesia for their offence. This is considerably higher than the 9,9% of patients claiming amnesia in this study. The reason might be that a full 25 % of his sample were charged with homicide/attempted homicide. Guojonsson found amnesia to be common in homicide cases and to be almost invariably associated with alcohol intoxication.

4.7 SPECIAL INVESTIGATIONS

General Screening Tests

The vast majority of tests were found to be normal or negative. Abnormal or positive results were insignificant in many of the cases and/or had no bearing on the case as such.

The full blood count test was normal in 93,4 % of cases, erythrocyte sedimentation rate in 87,9 % of cases, urea and electrolytes in 98,7 % and thyroid function tests in 84,3 % of cases. Fasting blood glucose was normal in 96,7 % of cases. The few abnormalities detected were usually insignificant findings that needed no further medical attention. If found to be medically significant the patient was given a referral letter and advised to have the problem followed up, once discharged. These tests are clearly appropriate for a general medical screening and one could argue that any inpatient should have the benefit of such general tests. The forensic unit's primary concern on the other hand is to assist the court of law in the decisions surrounding sentencing and should perhaps not concern itself with the general health of observation cases. It is thus recommended that these general screening tests should only be requested where there are clear medical indications for such tests.

Liver Function Tests (N = 49)

The liver function test is usually requested where substance abuse and alcohol abuse in particular is suspected. If an abnormality is detected it is more often than not very difficult to interpret and at its best it serves as a vague guideline. Abnormalities were detected in 58,5 % of cases with raised serum LDH being the most common single abnormality (20,7 % of cases). Measurement of serum LDH is not very helpful in diagnosing liver disease because it is present in all organs and released into the serum from a variety of tissue injuries.

Raised LDH with or without raised AST and ALT were found in 26,4 % of cases. High AST and ALT levels suggest liver cell damage but these are non-specific tests. It may be useful to compare the study sample's liver functions with that of a prison population in order to guide the interpretation of such non-specific results.

Raised GGT was found in 5,7 % of cases. GGT is a very sensitive enzyme for the detection of minimal hepatocellular damage and elevated levels are often observed in the serum of heavy drinkers before other liver function tests are abnormal. The blood results taken in hospital are thus influenced by the substance abuse in prison, which is a very common phenomenon.

Results of the liver function tests, although yielding a relatively high number of abnormalities had to be treated with reserve. At best they may serve as general guidelines with regards to a history of substance abuse, but this non-specific test will certainly not prove or disprove any argument in a court of law.

Abbreviations:

LD = Lactic Dehydrogenase

AST = Aspartate Aminotransferase

ALT = Alanine Aminotransferase

GGTP = Gamma Glutamyl Transpeptidase

Alk. Phos. = Alkaline Phosphatase

Chest X-ray (N=88)

The Chest X-ray could also be seen as a general medical screening. Eighty percent of the films were normal with chronic bronchitis/inflammatory changes being the most common abnormality (9,1 % of cases). Other noticeable abnormalities were previous TB lesions (3,4 %) and cardiomegaly (3,4 %).

Skull X-ray (N=86)

With accurate non-invasive neuro-imaging techniques like the CT SCAN and MR. SCAN available, the plain skull x-ray has become almost redundant. Skull x-rays were normal in 80,5 % of cases with an osteoporotic appearance of the sella tursica/clinoid process being the most common abnormality (8,0 % of cases). Other abnormalities usually only served to confirm which was already gained in the history taking and clinical examination e.g. old fractures, previous surgery etc.

EEG (N=88)

EEG testing was found to be normal in 89,8 % of cases. Three patients (3,4 %) had a mildly abnormal EEG and 6 patients (6,8 %) an abnormal EEG. The 6 patient with abnormal EEG's were all diagnosed as organic brain syndrome (epilepsy). Two of these patients had the additional diagnosis of borderline mental functioning. One patient suffered from temporal lobe epilepsy. Two of the 3 patients with mildly abnormal EEG's were found to be schizophrenic and the third suffered from post-traumatic epilepsy. In most instances the EEG merely confirmed what was suspected in the history. It remains however an important baseline investigation in all patients with a suspected history or clinical presentation of epilepsy. Failure to conduct the test in these cases could lead to unnecessary embarrassment for the forensic psychiatrist especially in the courtroom situation.

Brain Scan (N=66)

The findings were as follows:

	FREQUENCY	PERCENTAGE
Normal	46	68,7%
Mild Cerebral Atrophy	4	6,0%
Bilateral Necrosis Basal Ganglia	1	1,5%
Mildly Dilated Ventricles	2	2,9%
Previous Injury/Infact with underlying Atrophy / Gliosis	5	7,5%
Cysticercosus Granuloma	3	4,4%
Calcifications of the Falx Cerebri	5	7,5%
Previous Surgery	1	1,5%

No studies on Brain Scans on a forensic population could be found in the international literature. The thirty-two percent of abnormal findings is certainly higher than would be expected in a "normal" population. These abnormalities were associated with such a wide variety of diagnoses that it would be pointless to list them in detail. The sample size was insufficient to even postulate a possible relationship between abnormal findings and diagnosis. Many of the abnormal findings such as previous injury-infarct and previous surgery could be diagnosed by taking a thorough history and conducting a physical examination. The significance of these abnormalities are not clear, but in this study none of the abnormalities had any influence on the diagnosis or legal destiny of the patient. With no other studies to refer to as yet, the legal implications of such abnormalities would be very uncertain. Once again it is recommended that this investigation should only be conducted in those cases where a clinical or neurological indication exists.

Cannabis Screening (N=72)

Eighteen percent of cases had a positive urine cannabis test. It was found to be valuable in those patients considered to be unreliable historians or the psychotic patient with a lack of collateral information. The relatively high positive yield, and the important psychiatric and legal implications of a positive finding, makes this a mandatory test in the evaluation of observation cases.

Syphilis Testing (N=90)

Two (2.2 %) patients were RPR positive and four patients (10,8 %) TPHA positive. CSF studies were conducted on 5 patients all of which were negative. The relatively high positive yield on TPHA testing and the psychiatric manifestations of a possible concomitant neurosyphilitic disease makes this a mandatory test.

Abbreviations:

RPR = Reiter's Protein

TPHA = Treponema Pallidum Haem - Agglutination Test

CSF = Cerebro-spinal Fluid

WR = Wasserman's Test

HIV (Human Immuno-Deficiency Virus) (N=50)

All the HIV tests were found to be negative. The insidious onset of the disease, possible early neuro-psychiatric manifestations and increasing incidence makes this another mandatory test for evaluation.

5. ANALYSED DATA

DIAGNOSTIC PROFILE - A COMPARISON BETWEEN INITIAL AND FINAL
DIAGNOSIS

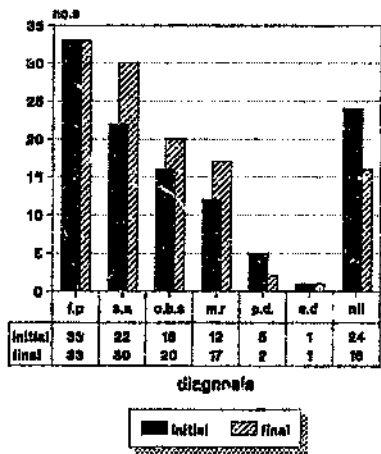


Figure 13

DIAGNOSTIC PROFILE
Comparison - Initial vs Final

Abbreviations:

- f.p. = functional psychosis
- s.a. = substance abuse
- o.b.s. = organic brain syndrome
- m.r. = mental retardation
- p.d. = personality disorder
- s.d. = sexual deviations
- nil = no diagnosis made.

The total number of diagnoses made increased from 113 in the initial diagnosis to 119 in the final diagnosis. Special investigations (e.g. urine cannabis; EEG) probably contributed to the increase in the number of patients diagnosed as substance abusers and organic brain syndromes in the final diagnosis. It is interesting to note that there is an absolute correlation between the initial and final diagnosis in the functional psychosis category; those patients who were obviously psychotic were thus correctly diagnosed at an early stage. Psychometric testing probably contributed to the increase in the number of mentally retarded patients in the final diagnosis. The decrease in the number of patients diagnosed as personality disorders probably indicate a high index of suspicion especially in certain types of crime. As could be expected more patients were eventually "labelled" with a subsequent decrease in the "no diagnosis made category" in the final diagnosis.

THE DIAGNOSTIC BREAKDOWN - CRIMES AGAINST THE PERSON AND CRIMES AGAINST PROPERTY.

The following patient numbers and percentages were found in the above two categories.

CRIMES AGAINST THE PERSON

	FREQUENCY	PERCENTAGE
Functional Psychosis	11	28,21%
Substance Abuse	9	23,08%
Organic Brain Syndrome	9	23,08%
Mental Retardation	2	5,13%
Personality Disorder	1	2,56%
Sexual Deviations	1	2,56%
No Diagnosis Made	6	15,38%

CRIMES AGAINST PROPERTY

	FREQUENCY	PERCENTAGE
Functional Psychosis	22	42,31
Substance Abuse	14	25,92
Organic Brain Syndrome	5	9,62
Mental Retardation	1	1,92
Personality Disorder	0	0
Sexual Deviations	0	0
No Diagnosis made	10	19,23

The following bar chart illustrates the above mentioned trends to good visual effect:

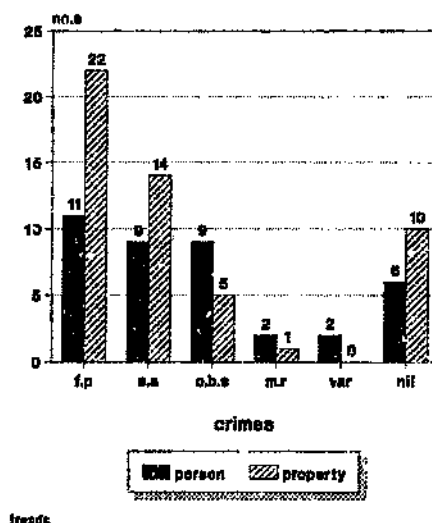


Figure 14

PERSON VS PROPERTY Diagnoses

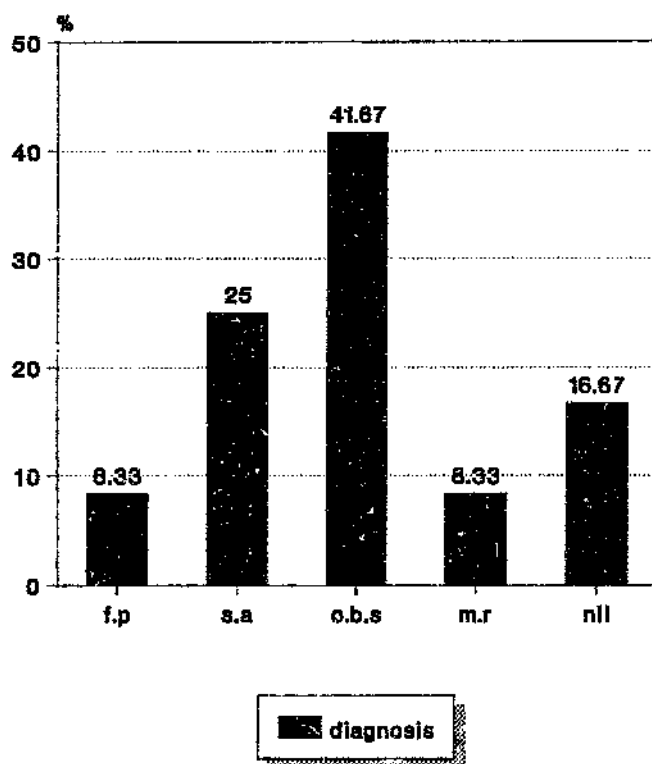
Abbreviations:

- f.p. = functional psychosis
- s.a. = substance abuse
- o.b.s. = organic brain syndrome
- m.r. = mental retardation
- var. = various (personality disorders and sexual deviations)
- nil = no diagnosis made.

We thus find that 66,67 % of the functional psychosis group and 60,87, % of the

substance abuse group were involved in "property" crimes, while 64,29 % of the organic brain syndrome group were involved in "person" crimes. Above figures were subjected to Chi-Square analysis and it was found that the organic brain syndrome group involved in crimes against the person approached statistical significance at the 0,05 level (Chi-Square = 0,078). None of the above findings were thus statistically significant and should thus only be seen as trends.

The trends found when the specific charge was compared to the specific diagnosis were examined, but in most instances the numbers involved were much too small to provide any clear picture. Two trends worth illustrating however were those diagnoses encountered in violent crimes (murder, attempted murder and culpable homicide) and in assault.



N=12

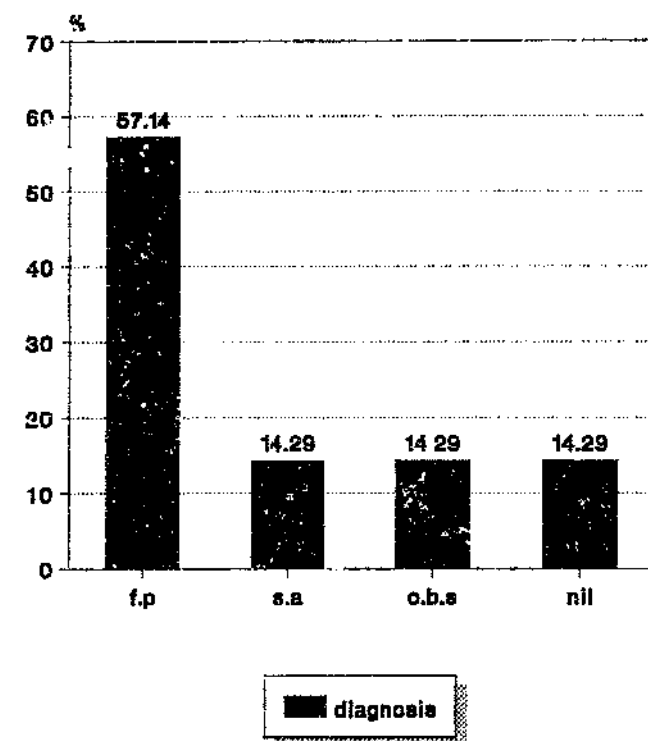
Figure 15

DIAGNOSES : VIOLENT CRIME

Trends

Abbreviations:

- f.p. = functional psychosis
- s.a. = substance abuse
- o.b.s. = organic brain syndrome
- m.r. = mental retardation
- nil = no diagnosis made



n=7

Figure 16

DIAGNOSES IN ASSAULT

Trends

Abbreviations:

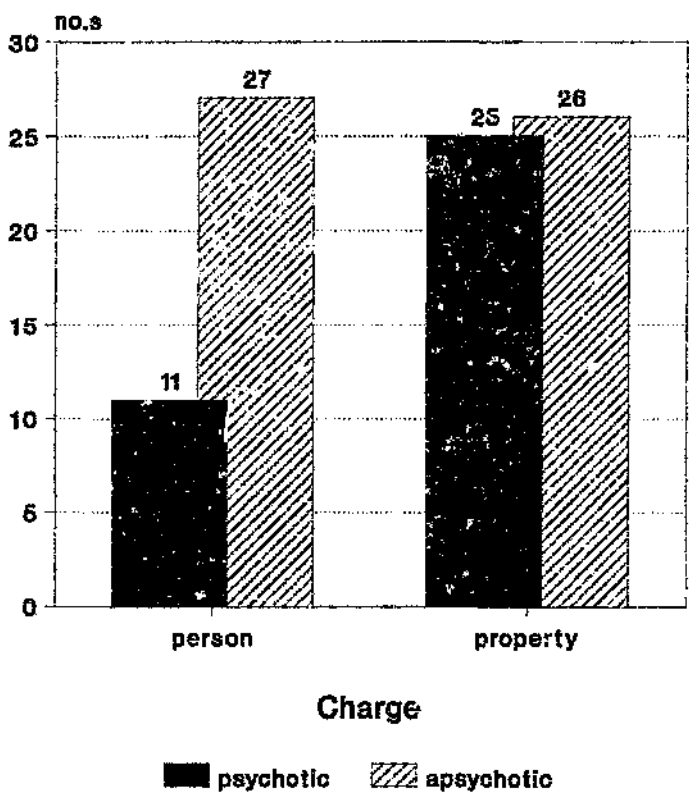
- f.p. = functional psychosis
- s.a. = substance abuse
- o.b.s. = organic brain syndrome
- nil = no diagnosis made

It is interesting to note that 41,67% of the violent crimes were committed by the organic brain syndrome group which is by and large representative of the epileptic

patients in the sample. This does not agree with the internationally held opinion that epilepsy has no relationship to violence. Fifty-seven percent of patients involved in assault fell in the functional psychosis category which is by and large representative of the schizophrenic patients in the sample. Although the international literature confirms a relationship between schizophrenia and violence there seems to be a marked percentage difference between schizophrenia and the other diagnostic categories involved in assault. It would be interesting to investigate this phenomenon in a much larger patient sample and to enquire as to how many of these acts of assault were caused by the psychotic process.

PSYCHOSIS AND CRIME

Thirty-six patients (39,5%) were found to be psychotic on admission. Of these 36 patients eleven were involved in crimes against the person and 25 in crimes against property. In the following bar chart it is clearly illustrated that almost half of the patients involved in property crimes were psychotic. Chi-Square analysis shows this finding to be approaching statistical significance at the 5% significance level. (Chi-Square = 0,056)



signif=0.056
Figure 17

PSYCHOSIS & CRIME
Comparison

When one investigates the presence of psychosis in specific crimes further interesting findings come to light. In the following bar chart it is clearly illustrated that the majority of murder/attempted murder/ culpable homicide cases were found to be apsychotic. There was a significant difference between the proportions of murder/attempted murder/culpable homicide cases in the psychotic and nonpsychotic populations according to the Fisher's Exact Test ($p\ 0,05$). One may postulate that in cases of serious crime the defence often refers patients for observation as a part of their strategy, either to play for time or to generate data that might be used in mitigation later on.

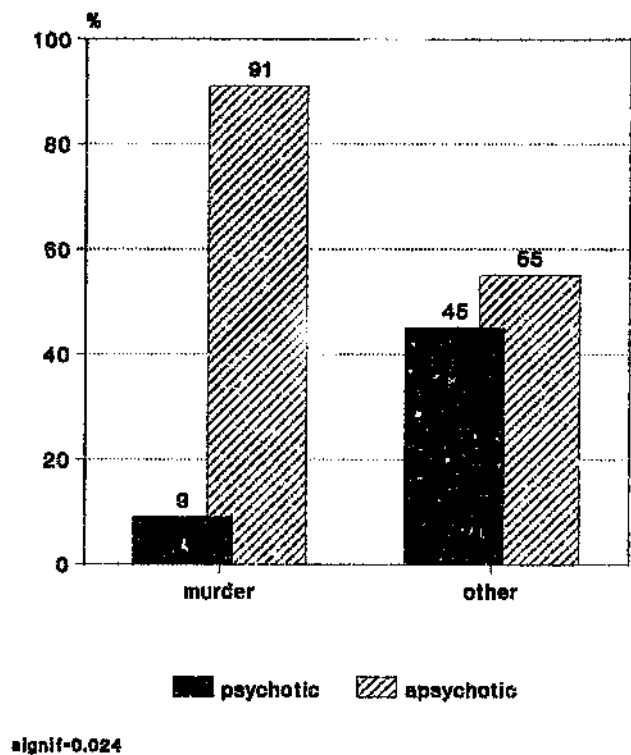


Figure 18

MURDER VS OTHER CRIMES
Presence of Psychosis

When one examines the presence of psychosis in theft, it is clear that the vast majority of patients in this category of crime were found to be psychotic. Chi-Square analysis showed this to be a statistically significant trend (Chi-Square = 0,005). One may postulate that the psychotic patient caught in a downward social drift secondary to his psychosis resorts to crime as a matter of survival. At an anecdotal level it was found that many psychotic thieves committed the crime in absent-minded or totally unplanned way . The culprit would for example be found wandering aimlessly in a shop hours after having gained entry by forcible means. The mere nature of the unplanned action was usually enough to alert the suspicions of the attending policemen. Psychotic thieves of course stand a much greater chance of being arrested than thieves in general. This finding can be illustrated as follows:

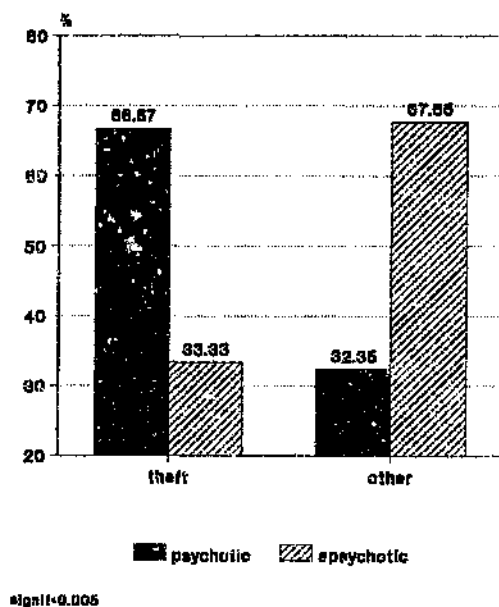


Figure 19

THEFT VS OTHER CRIMES

Presence of Psychosis

The interpretation of the findings, although they were statistically analysed, remain difficult to interpret in view of the fact that the crime profile as encountered by the court of law or in a prison population has not been adjusted for. If it was found for instance that property crimes differed significantly in their prevalence in the above situations from that found in this study, it might cast the findings in a totally different light. Current international studies of the same nature mostly fail to take this factor into account.

The other findings in this subsection revealed some interesting trends without any statistical significance emerging, mainly because of insufficient patient numbers. The more interesting findings may be summarised in the following pie charts:

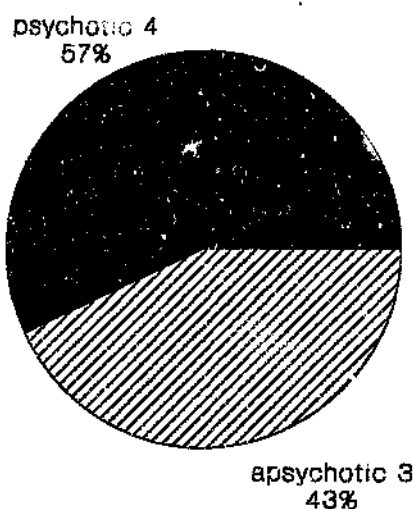


Figure 20

PSYCHOSIS IN ASSAULT

Trends

Trends

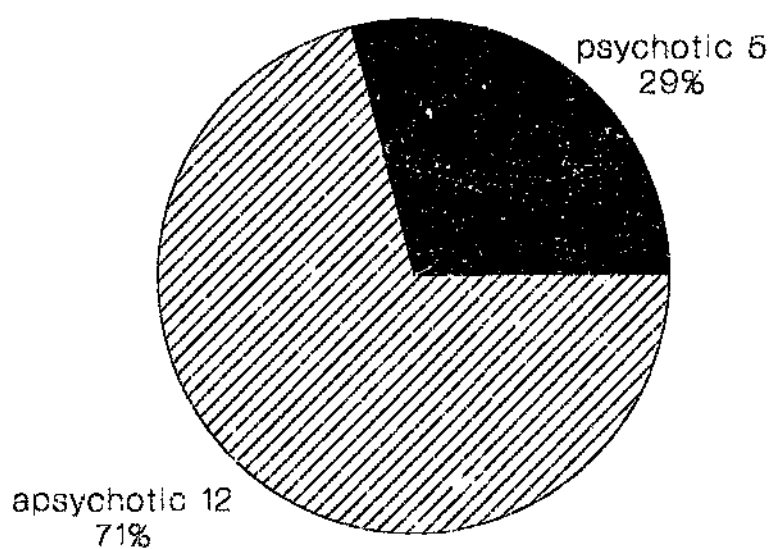


Figure 21

PSYCHOSIS IN SEXUAL CRIME

Trends

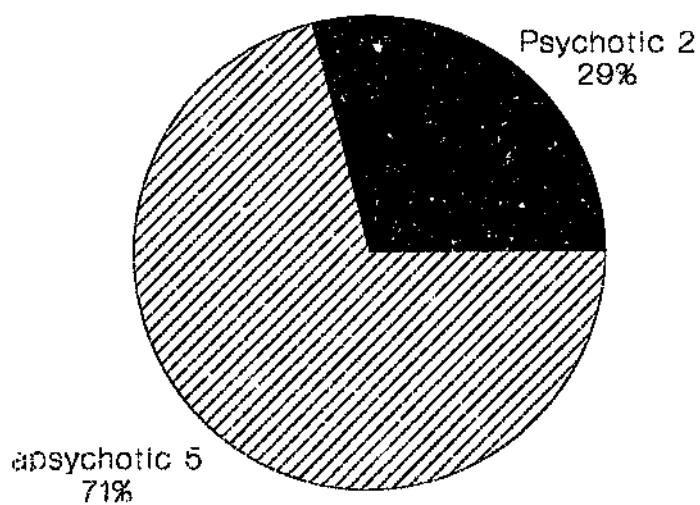


Figure 22

PSYCHOSIS IN MAL. DAM

Trends

Abbreviations:

mal. dam. = malicious damage to property.

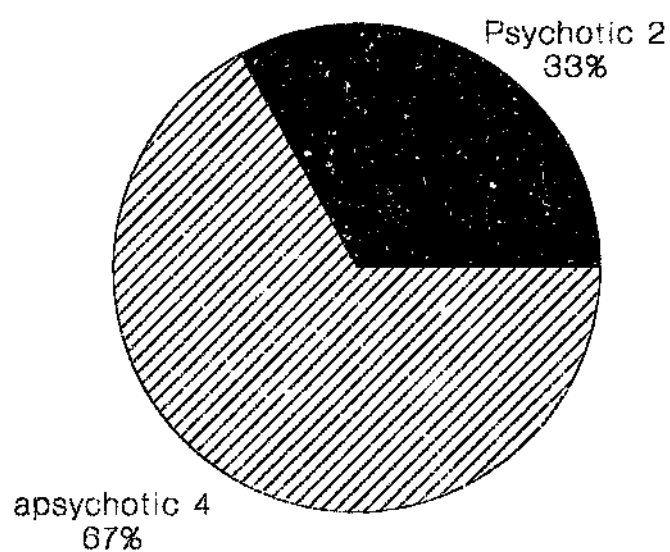


Figure 23

PSYCHOSIS IN FRAUD

Trends

In Rodenhauser's study (1988) 82, 2 % of the "assault and menacing" category were found to be psychotic in comparison to the 57 % in this study. Many factors, as mentioned, hamper comparisons of this nature. Sexual offences interestingly enough was Rodenhauser's offence category with the lowest percentage of psychosis (43,5 %). In this study sexual offences yielded a relatively low number of psychotic patients. Rodenhauser's study revealed a relatively low percentage of psychosis in burglary offences while psychosis was found to be a prominent feature in theft in this study. Ongoing prospective studies done locally should be encouraged to overcome the problem of inadequate patient numbers.

6. MISCELLANEOUS FINDINGS

FITNESS TO PLEAD VS FINAL DIAGNOSIS

Twenty-nine of the 33 patients in the functional psychosis category (87,88 %) were found to be unfit to plead. The vast majority of patients in the other diagnostic categories were found to be fit to plead with the specific percentages as follows:

Substance Abuse	92,30%
Organic Brain Syndrome	78,57%
Mental Retardation	65,61%
Personality disorder	100%
Sexual Deviation	100%
No Diagnosis Made	100%

FITNESS TO PLEAD VS % DIAGNOSED AS PSYCHOTIC

Of those 36 patients diagnosed as being psychotic on admission 19% were eventually found to be fit to plead.

FITNESS TO PLEAD VS RACE

Of the 29 whites only 2 were found unfit to plead. Of the 62 non-white patients a full 33 were found unfit to plead. Chi-Square analysis of this phenomenon found it to be statistically significant (Chi-Square = 0,00). Twenty-nine of the above 33 patients were found to be psychotic on admission.

RESPONSIBILITY VS PSYCHOSIS

Of the 36 patients diagnosed to be psychotic on admission, 3 (8%) were eventually judged able to appreciate the wrongfulness of the act in question. Of those 55 patients diagnosed to be apsychoptic on admission, 8 were eventually judged unable to appreciate the wrongfulness of the act in question. Of the 29 white patients, 3 were unable to appreciate the wrongfulness of the act in question (10,3%), while a full 62,7% of the non-white population were judged unable to do so. Here again the finding was statistically significant when subjected to Chi-Square analysis.

Three patients initially judged to be psychotic on admission were eventually found to be able to act in accordance with an appreciation of wrongfulness. Eight patients initially judged to be apsychoptic were eventually found unable to act in accordance with an appreciation of wrongfulness and 3 were found to have a diminished ability to act in accordance with such an appreciation.

The significant differences between the white and non-white patients with regards to fitness to plead and responsibility reaffirms the fact that gross and obvious psycho-pathology usually leads to a referral in the non-white population whilst other factors, e.g. courtroom strategy, lead to the referral of a white patient.

PSYCHOSIS VS PAST CRIMINAL RECORD

	PAST CRIMINAL RECORD	
	YES	NO
PSYCHOTIC: YES	11	25
NO	23	30

Frequency missing = 2

It is of interest to note that 11 of the 33 patients (33,3%) with a past criminal record were found to be psychotic on admission. We might postulate that some of these patients suffered unnecessary punishment during previous trials or on the other hand that psychiatrically disturbed people are caught in a "revolving-door-syndrome" where various minor crimes lead to a pattern of referrals, discharges and readmissions to psychiatric institutions. A more sensitive system of detection, better treatment programs and effective placement services may curb the above phenomenon.

PSYCHOSIS VS FAMILY HISTORY

	FAMILY HISTORY		
	YES	NO	UNKNOWN
PSYCHOTIC : YES	52	3	8
NO	13	39	1

Frequency missing = 2

PSYCHOSIS VS PERSONAL HISTORY

	PERSONAL HISTORY		
	YES	NO	UNKNOWN
PSYCHOTIC: YES	23	7	6
NO	22	31	0

Frequency missing = 2

It seems that psychosis on admission was poorly associated with a positive family history but much closer associated with a personal psychiatric history. The obtaining of an accurate family history is of course often influenced by unreliable collateral information and uninformed opinions as to the concepts of "family" and "mental illness".

PSYCHOSIS VS NEED FOR CONFINEMENT

	NEED FOR CONFINEMENT	
	YES	NO
Psychotic : YES	5	31
NO	4	49

Frequency missing = 2

Other studies seem to confirm that more psychotic than apsychotic patients require restraint or seclusion (Phillips and Nasr, 1983).

AMNESIA VS CRIMINAL CHARGE

Of the 9 (9,8%) of the sample claiming amnesia, 4 were charged with murder/attempted murder/culpable homicide (44,4%,

The study by Guojonsson (1989) for example illustrates that amnesia or claims of amnesia is most commonly found in homicide cases.

AMNESIA VS DIAGNOSIS

Of the 9 patients claiming amnesia :

3 were diagnosed as substance abusers (33,3%)

4 were diagnosed as suffering from organic brain syndrome (44,4%)

2 were diagnosed as "no diagnosis made" (22,2%)

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 A COMPARISON OF CRIMINAL CHARGE WITH EVENTUAL PSYCHIATRIC DIAGNOSIS

In response to the initial question "Which type of crime is likely to be committed by which type of patient?" a number of tentative answers have emerged. In the spectrum of crimes against property 42% of the patients were suffering from a functional psychosis of which the vast majority were found to be schizophrenic. Substance abusers contributed a further 27% to this spectrum of crime. Examining property crimes in more detail we find that a statistically significant number of thefts were committed by psychotic patients ($P = 0,005$). Of all the "property" crimes theft thus seems to be associated with psychosis in particular. Other "property" crimes e.g. malicious damage to property and fraud reveal a trend towards patients being apsychoic in these categories of crime. Furthermore, when comparing patients involved in "property" crimes with those involved in "person" crimes we find the presence of psychosis much more prevalent in the "property" crimes and this finding approached statistical significance. ($\text{Chi-Square}=0,056$)

In the spectrum of crimes against the person we find a fairly even distribution between all the different diagnostic categories. Only 28,9% of the patients involved in "person" crimes were found to be psychotic. When the murder/attempted murder/culpable homicide group were compared to the other crimes a statistically significant number of these patients were found to be apsychoic. Further analysis of this category of violent crimes revealed a surprising number of epileptic patients (41,67%) involved. This however should only be seen as an interesting trend because of the insufficient numbers involved. Another interesting trend was the finding that schizophrenics represented 57,14% of the patients involved in assault. A larger patient sample would be necessary in order to investigate the above phenomena in more detail.

It is thus clear that we should have a high index of suspicion towards psychosis in those patients involved in "property" crimes and especially crimes of theft. The international literature supports the fact that most offences by schizophrenics are

acquisitive. The fact that many schizophrenics end up in a forensic unit represents the failure of psychiatric services to adequately care for them. Bloom (1988) recommends that the treatment of insanity acquittees should be based on a single administrative organization to oversee treatment programs, which include clearly defined inpatient and outpatient components and careful monitoring of conditional release to the community.

In view of the high percentage of unnecessary referrals in the white patient population, especially with regards to crimes of serious violence, an effort should be made to limit these referrals by educating those who are responsible for the decision-making process.

By comparing initial to final diagnosis, an absolute correlation was found in those patients with a functional psychosis. Those patients with an obvious psychosis are thus recognised on admission and much time and money may be saved by finalising their legal documentation before the allotted 30 days of observation have expired.

No significant statistical difference between the retrospective and prospective studies could be demonstrated when various indices e.g. education, previous treatment, and fitness to plead were examined. The already existing forensic files could thus be "translated" into a fixed format similar to the Data Sheet used in this study in order to serve as a data base from which various ongoing prospective studies could be launched. With such a patient sample and sophisticated data analysis many trends that have been hinted on in this study may turn out to be of statistical significance or on the other hand may be refuted. Establishing certain diagnostic groups of patients to be at risk for future dangerous behaviour might eventually change the law's retrospective attitude towards the mentally ill offender. A link of this kind may also lead to preventative therapy for those in-hospital patients who constitute a risk for future deviant behaviour. These patients may then be treated in the same ward and participate in group or supportive therapy. In view of the significant regional differences in legal systems that exist internationally it is of the utmost importance for South African forensic psychiatry to develop a reliable body of local research and data in order to serve the legal system and thus the community at large to the best of its ability.

7.2 THE CONTRIBUTION OF SPECIAL INVESTIGATIONS TOWARDS A DIAGNOSIS

In response to the question "which special investigations in the forensic patient turned out to be of practical value to us?" we have to conclude that none of the investigations had a significant bearing on the diagnosis or legal destiny of the patient. The relatively high yield of positive results with the urine cannabis test (18%) may warrant this test to be done routinely, especially in those cases with an unreliable history or inadequate collateral information.

The THPA test which was positive in 10,8% of cases may also be considered to be performed routinely but this would be of medical and not necessarily of forensic interest to the doctor.

Blood tests in particular seem to be requested without a specific goal in mind, but rather as a "routine" measure to "cover" the doctor in charge of the case. This attitude should be discouraged and doctors working in a milieu of this nature should have the courage of their convictions to refuse tests which lead nowhere.

The skull x-ray was to a large extent duplicated by the Brain SCAN in this study. Care should be taken that vague pathology is not reported in the skull x-ray with the intention to subtly motivate for an expensive and mostly unnecessary Brain SCAN, especially where personal financial gain may play a role. Although interesting, the various findings on Brain SCAN proved to be of little value to the case in question either forensically or medically speaking. Until such time that a body of literature has accumulated on the legal significance or implications of structural brain deficits or abnormalities the legal implications of the abnormalities found in this study remain uncertain. The relatively high percentage of abnormalities detected on Brain Scan in this population (32%) might be an epiphenomenon just as epilepsy and criminal behaviour are epiphenomena, both conditions being over-represented in certain population groups.

In conclusion it is recommended that the urine cannabis test, TPHA test and HIV test should be performed routinely on all observation patients. The insidious onset of the AIDS disease, possible early neuro-psychiatric manifestations and increasing incidence makes the HIV test mandatory for evaluation. The EEG remains an important baseline investigation in all patients with a suspected history or clinical presentation of epilepsy. All other tests should only be performed where there is a clear clinical indication. This approach will save considerable time and money without compromising the assessment.

APPENDIX A

DATA SHEET

Name:Age:Hospital Number:Area/District of abode:Area/District where crime was reported:

Sex: M F

Race: White

Black

Coloured

Asian

Charge: Alleged Crime against the person

Alleged Crime against property

Both of the above

Specific Charge:Date of Admission: Y M DDate of discharge:Duration of admission: Days

APPENDIX A**Initial Diagnosis:**

1. Functional Psychosis
2. Substance Abuse
3. Organic Brain Syndrome
4. Mental Retardation
5. Personality Disorder
6. Sexual Deviations
7. No diagnosis made

Psychotic on Admission: YES NO

Final Diagnosis:

1. Functional Psychosis
2. Substance Abuse
3. Organic Brain Syndrome
4. Mental Retardation
5. Personality Disorder
6. Sexual Deviations
7. No diagnosis made

APPENDIX A

Fitness to plead:

Fit

Unfit

Responsibility

a) The patient was able to appreciate the wrongfulness of the
act in question YES NO

b) The patient was able to act in accordance with such an
appreciation YES NO DIMINISHED

Reason for Referral

1. Appearance/behaviour in court
2. Previous medical /psychiatric history
3. Views of the defending counsel
4. Alleged crimes involving substances
5. Alleged Sexual crimes
6. Alleged crimes out of keeping with previous conduct
7. Previous offences of the same type
8. Stressful circumstances
9. Age of the alleged offender

APPENDIX ADemographic DataMarital Status:

Single

Married

Widow/er

Divorced

Separated

Cohabiting

Unknown

Level of Education

Std 5 or less

Std 6 - 8

Std 9 - 10

Higher

Unknown

Accommodation:Type of dwelling:

None

Shack

Addition or outbuilding

APPENDIX A

House

Hostel

Hotel

Unknown

People sharing accommodation with patient:

Parents

Spouse/Children

Siblings

Relatives

Friends

Alone

Unknown

Occupation

Unemployed

Labourer

Artisan

Office worker

Professional/Managerial

Unknown

APPENDIX APersonal History:

<u>Family Psychiatric History:</u>	YES	NO	UNKNOWN
------------------------------------	-----	----	---------

<u>Personal Psychiatric History:</u>	YES	NO	UNKNOWN
--------------------------------------	-----	----	---------

Previous Hospitalisations:

0

1

2

3 and more

Unknown

Previous treatment with:

Neuroleptics

Antidepressants

Benzodiazepines

Anticonvulsants

Other

None

Unknown

APPENDIX AWhen was medication last taken as prescribed:

Months Days

Totally non-compliant

Not applicable

Up to date Unknown

Suicide attempts:

YES NO UNKNOWN

History of violent behaviour:

YES NO UNKNOWN

Physical Aggression

Verbal Aggression

History of depression

Significant

Not Significant

Not Applicable

Past criminal record: YES

NO

Unknown

APPENDIX ANumber of previous charges

0

1

2

3 and more

Unknown

Type of previous charge/sCrime against the person

YES

NUMBER

NO

UNKNOWN

Crime against property

YES

NUMBER

NO

UNKNOWN

APPENDIX A**Substances**

<u>Alcohol</u>	<u>Dagga</u>	<u>Other</u>
Unknown	Unknown	Unknown
None	None	None
Occasional	Occasional	Occasional
Heavy/Dependent	Heavy/Dependent	Heavy Dependent
Specify type of drug		

Since Admission**Intelligence:**

- Low (<70)
- Borderline (70-90)
- Average (90-110)
- High (110-130)
- Superior (130 +)

Behaviour:

- Physical aggression
- Verbal aggression
- Withdrawn
- Depressed
- Bizarre
- Objectively hallucinating

APPENDIX A

Resistive

Suspected malingering

Nervous

Calm

Suicidal

Substance Abuse

Seizures

<u>Need for confinement</u>	YES	NO
-----------------------------	-----	----

Claiming amnesia pertaining to alleged offence	YES	NO
--	-----	----

Special Investigations

<u>NORMAL</u>	<u>ABNORMAL</u>	<u>SIGNIFICANT</u>	<u>YES</u>	<u>NO</u>	<u>N/A</u>
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FBC

ESR

U+E

THY-FX

Fasting Blood

glucose

APPENDIX A

LFT

CXR

Skull X-ray

EEG

Brain Scan

NEGATIVE POSITIVE SIGNIFICANT YES NO N/A

Urine Cannabis

WR

HIV

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