THE INCIDENCE OF INTELLECTUAL DISABILITY IN THE NEW SOUTH WALES PRISON POPULATION[1]

An Empirical Study

by

Susan Hayes (Chief Investigator)[2]

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1. This study was made possible by a grant from the Criminology Research Council.

2. Associate Professor S. Hayes, Department of Behavioural Sciences in Medicine, Sydney University, 2006.

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Glossary of Terms

Intellectual deficit: This term will be used throughout the report for those whose IQ is less than 79 on the WAIS-R. This includes the intellectually disabled and the borderline groups.

Borderline intelligence: This refers to a score of between 70 and 79 on the WAIS-R IQ test.

Intellectually disabled (ID): This term refers to those scoring less than 70 on the WAIS-R IQ test. The term is synonymous with intellectual handicap, mental retardation and developmental disability.

Non-disabled: This refers to the group of inmates who were recalled for in-depth testing, but who were found not to have IQ<79. They function largely in the low-average range of intellectual ability, 80-90 on the WAIS-R.

WAIS-R: The Wechsler Adult Intelligence Scale - Revised edition.

Abstract

This study assessed the incidence of intellectual disability in five NSW prisons. The intellectual and adaptive behaviour aspects of inmate disability were considered and exploratory data is presented regarding their relationship to inmate life history and pattern of offence. Special consideration was given to the implications of being Aboriginal. The implications of these results for remedial education within NSW gaols and possible alterations in management techniques and resource allocation to meet the needs of this special group are considered.

1.0 INTRODUCTION;

INTELLECTUALLY DISABLED INMATES; HOW MANY ARE THERE AND WHAT ARE THEIR NEEDS?

The aim of this study was to undertake an empirical assessment of the prevalence and nature of intellectual disability amongst NSW prison inmates.

Until now estimates of the incidence of ID inmates have necessarily been based on overseas research as there are little local data on their prevalance. The Missing Services Report (MSR 1985;25) estimated that approximately 10% of the prison population is intellectually handicapped to some degree. It is not specified in the report what is meant by intellectual handicap. The usual clinical criterion is an IQ of 70 or less on a recognised test of intelligence such as the Weschler Adult Intelligence Scale. The report cites an informal survey (1983) conducted in New South Wales which produced estimates ranging from 2%-20% with a conservative estimate of 4%-6%. It notes that marked regional variations in these estimates occur owing to differences in sentencing and parole regulations, in availability of community services (which might lead to intellectually disabled offenders being more adequately supported on their return to the community and possibly less likely to reoffend) and due to differences in definition, sampling and assessment techniques.

Estimates of incidence are of concern from both the perspective of the administrators and staff of correctional institutions and from that of the welfare of the inmates themselves. The estimates provide a measure of the burden placed on prison staff and accommodation by a subgroup of prisoners with special needs and vulnerabilities.

Hayes (1988:1) notes:

> "If the offender population has roughly the same proportion as the general population, say 3% of intellectually disabled people, then in New South Wales alone, 450 intellectually disabled offenders would pass through the prison system (from a total flow-through of 15,000), in the course of a year and 750 (out of a total of 23,400) would be seen by probation and parole officers. Indications are, however, that intellectually disabled people are over represented in the offender population and the actual figures may be twice as high."

A high representation of such a group is likely to cause problems of control. Although they do not detail the defining criterion of an intellectually disabled individual, Buser, Leone & Bannon (1987) note a study conducted in Maryland's Division of Correction (USA) which found that:

> "On the average handicapped inmates received two and a half times as many (4.1 vs 1.7) disciplinary infractions as the non-handicapped inmates. The handicapped inmates spent an average of 123.6 days in segregation while the non-handicapped inmates spent an average of 38.6 days..."

An increased incidence of segregation for this group may reflect their vulnerability to victimisation: "stand-over" tactics, bashings, rape and economic exploitation.

The Missing Services Report suggests that in New South Wales the unofficial policy is one of segregating such people into special wings and protection units, which may mean reduced access to education facilities (though the Metropolitan Remand Centre has a special classroom for those on protection).

If a large number of ID people flow undetected through the prison system, they will not receive the remedial treatment which would improve their chances of leading productive lives on return to the community. Further, as the MSR points out, intellectually disabled offenders are aware of their differences from others and have a yearning for acceptance which causes them to model on the behaviour of others. This is a problem in prison environments where many anti-social behaviours such as physical brutality, victimisation and flaunting of institutional norms may occur. This may augment the difficulty already faced by intellectually disabled offenders in reverting to non-institutional behaviour patterns on their release from gaol.

Although intellectually disabled offenders are a subgroup requiring special services and policies with regard to their management, in New South Wales there are few special services. There is a programme for ID prisoners at Cooma Gaol. Some ID female prisoners are placed in the Rose Scott Unit at Mulawa, a unit which also contains psychiatrically disturbed, behaviourally disordered and segregation prisoners. There is no clear or concrete policy for management of ID prisoners. Prior to the abolition of the Corrective Services Commission (in August 1988), the proposed policy was that ID prisoners should be placed in the mainstream of the gaol wherever possible, unless for their own or others' safety they required protection or some other type of special placement. There are few educational services and almost no industrial or work placements available to protection prisoners, and mainstreaming at least means that normal educational and industrial programmes are theoretically available to ID inmates.

1.1 THEORIES OF OVER-REPRESENTATION:

There have been a number of theories propounded to explain intellectually disabled inmate overrepresentation in correctional institutions. The Susceptibility Hypothesis suggests that "handicapped individuals are more likely to engage in delinquent behaviour because of their impaired mental abilities" (Buser et al., 1987:17). The Different Treatment Hypothesis proposed by Zimmerman, Rich, Keilitz and Broder (1981) suggests that the academic and social skill deficits and a poorly developed understanding of the criminal justice system among intellectually handicapped individuals causes problems when they interact with police officers, judges and correctional staff.

Broder, Dunivant, Smith & Sutton's (1981) results based on learning disabled youths supported the Different Treatment hypothesis in so far as they found that learning disabled youths did not evidence more delinquent behaviour than non-learning disabled youths, but that they were more likely to be found delinquent by the courts. These results have only limited relevance to this study as they explicitly state in their methodology that they excluded from their sample "boys whose learning problems were due primarily to mental retardation.." (p.841). The aspects of their report which are directly relevant to the concerns of this study include the suggestion that "expressive deficits exhibited by some learning disabled youths could make them more vulnerable than non-learning disabled youths to formal processing by justice system officials simply because they are less able to present their perceptions of events" and they cite studies (p. 848) suggesting that the way these youths present themselves evokes negative responses from others.

While it is acknowledged by Hayes (1988) that intellectually disabled offencers are convicted more easily and get longer prison sentences than the average law-breaker because they seldom plea bargain and often confess, the Different Treatment Hypothesis may be by no means the sole cause of overrepresentation of the intellectually disabled in gaol. She notes that they "also appear to fall foul of the law more often" (p.3). She suggests that this may be due to the implementation of the "principles of normalisation and integration which mean that intellectually disabled people are more likely to live in the community and are more likely to be in environments where they can engage in, be led to or be suspected of committing crimes" (p.1).

The principle of normalisation is defined in part XI of the Community Welfare Act (N.S.W.) 1981, particularly that portion concerning Handicapped Person's Welfare (Section 259) which states:

> "The object of this part is to ensure the provision in accordance with this part of the services to enable them to live as normal a life in the community as their handicaps permit" (MSR,1985:35).

That something more than different treatment is occurring is evident from the different types of offence this subgroup is alleged to commit. There are no Australian data in this area and overseas results are equivocal; however, research reported by Hayes and Hayes (1984) suggests that intellectually disabled offenders most frequently commit offences against property and persons, including murder, but that they seldom commit indecent assault, rape and other sexual offences. The types of crimes they commit are thought to be bimodal in distribution, i.e. a high representation of such offenders in low-severity and nuisance-style offences and a high representation in high severity crimes like assault and murder. The common thread tentatively suggested, but which has as yet received no empirical testing, is a lack of premeditation. The MSR notes: "Where serious offences occurred these were considered to have been related to a lack of ability to inhibit the expression of aggressive impulses, i.e. poor impulse control" (1985).

In summary, the implications of the presence of a significant number of undetected intellectually disabled inmates include their vulnerability to victimisation and problems regarding their supervision within the prison system. If such offenders remain undetected in a formal sense, the extent of the problem can only be guessed at and little provision made to prevent recidivism and enable them to acquire skills relevant to leading productive, non-criminal lives on release. Policy recommendations regarding remediation necessarily rely on an empirical assessment of how many ID inmates there are and detailed asssessment of the nature of their needs.

At present such offenders are not recognised, the MSR suggests, unless they are brought to the attention of custodial and non-custodial staff by fellow inmates or by staff members, or if they seek a referral to medical, psychological or educational services on their own initiative. The formal and voluntary assessment that does occur in NSW gaols uses the PM-38. The PM-38 refers to the Ravens Progressive Matrices, 1938 version which Flynn (1987:7) describes as follows:

> "each item presents a pattern in which there is a gap, followed by six alternatives each of which would fit like fitting a piece into a jigsaw puzzle. The subject must choose the

piece with the correct markings, those markings which alone would render the total pattern complete."

Such assessment is only carried out with those prisoners whose non-parole period is greater than 12 months, which means that remand and short-term prisoners receive no assessment. This fact, coupled with the voluntary nature of participation in the testing means that complete quantitative data regarding the distribution of inmates with regard to levels of intellectual functioning as assessed by PM38 are not available.

1.2 WHAT IS THE NATURE OF THE DEFICITS EXPERIENCED BY INTELLECTUALLY AND DEVELOPMENTALLY DISABLED INMATES?
A consideration of the possible interrelation of intellectual and developmental disability as assessed by measures of IQ and the Vineland Adaptive Behavior Scale.

Intellectual disability refers to:
"significantly sub-average functioning which manifests itself during the developmental period and is characterized by inadequacy in adaptive functioning", (Hayes and Hayes, 1984:3). There are a number of considerations relevant to a prisoner sample which may weaken the certainty that any intellectual deficits found occurred in the developmental period. There is a strong possiblity that alcohol and drug abuse affects intellectual functioning, as perhaps would an accident history involving head injury. The fact that certain inmates may be on medication may also influence test performance.

The definitional focus has broadened recently from a unique focus on IQ deficits to encompass the adequacy of adaptive behaviour, as exemplified by the definition above. Both the breadth of the definitional focus and the heterogeneity of the sample, with respect to ethnicity and psychological history, must influence the selection of tests appropriate to assess intellectual functioning.

1.3 INTELLECTUAL DISABILITY AND THE ASSESSMENT OF INTELLIGENCE:
A brief consideration of different IQ tests and what they measure.

There has been much debate in the literature about what IQ tests actually measure. It is broadly agreed that IQ tests only estimate the everyday life concept of intelligence which relates to academic and occupational achievements and a level of cultural attainment. The notion persists, as Flynn (1987) notes, that some people have "better minds" than others and that the quality of a person's "mind" has to do with abstract problem-solving, induction and deduction, transfer of learning from one situation to another and the perception of relationships (p.2). This notion has resulted in the development of many tests to assess the level of a person's general intelligence.

To a large extent different IQ tests correlate highly with each other and load on a statistical factor called "g" or general

intelligence. Flynn (1987:8) summarises this position:

> "tests with heavy 'g' loadings divide themselves into two very different sorts: tests that have little informational content but demand the ability to see relationships between relatively simple elements, such as Ravens, which he called tests of 'fluid g'; and tests that emphasise already acquired knowledge, such as vocabulary, general information and arithmetic... called 'crystalized g'".

Flynn (1987:10) notes that: "Ravens can be used as the marker test of 'fluid g' and the Wechsler tests as markers when a mix of both fluid and crystalized 'g' is required". Ravens measures mainly mental ability and thus has a lower correlation with academic achievement; tests of crystalized 'g' measure mental ability plus effort and thus have higher correlations with educational achievement. Differences may arise in achievement on the two tests if an individual is a member of a subgroup within a dominant culture, for instance Aboriginal. This is especially pertinent to this study which concerns a gaol population where 8.1% of the population is Aboriginal. Those from such subgroups within the dominant culture may score well on tests like Ravens which largely tap "fluid g", but not so well on tests like the WAIS-R which tap "crystalized g" and which require facility with the language and detailed knowledge deemed relevant by the dominant culture.

The two different types of tests, i.e. Ravens and other tests like the Wechsler Adult Intelligence Scale (Revised Edition), henceforth referred to as the WAIS-R, usually correlate highly because a person high on the ability Ravens measures will, given normal cultural opportunities, be the sort of person who acquires a large vocabulary and wide general information.

Obviously the assumption of 'normal cultural opportunities' has implications for the Aborigines in the sample. They probably have not had the cultural and educational opportunities available to whites and therefore may do poorly on tests relying on that assumption, like the WAIS-R . This may mean that they do not have the knowledge base usual in white society.

1.4 ADAPTIVE BEHAVIOUR: How is it assessed, and to what extent is it a dimension of ability separate from intellectual functioning?

It is suggested that adaptive skills deriving from developmentally acquired life experience are not completely independent of intellectual functioning. Adaptive behaviour is defined by Sparrow et al (1984) as the performance of daily activities required for personal and social sufficiency. It is often assessed using the Vineland Adaptive Behavior Scale. This assesses functioning in terms of broad subdomains.

The first subdomain we will consider here is the communication

skill subdomain which entails proficiency in communicating with others, and in reading and writing in order to maintain social communication and cultural involvement via correspondence, newspapers and books. It is unlikely that such capabilities are independent of level of intellectual functioning. They may also be less well developed in persons from an ethnic subgroup for whom English is not the language of primary proficiency. In addition formal schooling opportunities may affect reading and writing skills.

The second subdomain is that of the adequacy of socialisation: the capacity to discern and conform to social expectations and norms of work and living environments. It is highly likely a moderate level of intellectual functioning is required to discern norms and social expectations from the array of contingencies provided by a complex society. Hence it is unlikely to be completely independent of level of intellectual functioning. Socialisation is a concept which is relative to the norms and standards of the culture or subculture to which one adapts. Therefore, if it is assessed from the perspective of (say) the white culture, an individual from a subculture such as an Aboriginal group, may perform poorly despite being adequately socialised with regard to his or her own cultural millieu.

The third domain assesses level of daily living skills and is likely to be more independent of level of intellectual functioning. It entails the extent to which a person has achieved an acceptable independent level of self-care in terms of the home
environment, dress, and purchasing essentials. Taken as a group then, adaptive skills are not completely independent of the level of intellectual functioning, though a high level of proficiency in one or more of them may mask the true status of intellectual ability e.g. if a person presents tidily in court or capably in gaol, she/he may be deemed more intellectually competent than she/he is.

These definitional issues regarding the concept of intelligence and the related concepts of intellectual and developmental disability, are of concern not merely from an academic point of view, but directly relate to assessment of the incidence of disability in a population where the assumption of normal cultural conditions may not prevail.

For the purposes of this study there is a focus on the dual concepts of intellectual disability and daily living skills which are captured in the following definition as a "significantly sub-average intellectual functioning ...(which) is characterised by inadequacy in adaptive behaviour". (Hayes and Hayes, 1984:3).

1.5 THE AIMS OF THE STUDY:

The aims of the study were:

i) to estimate the prevalence of intellectual disability among prisoners in general;

ii) to assess the relationship between intelligence, (as measured by IQ tests), and adaptive functioning (as measured by the Vineland Adaptive Behavior Scale);

iii) to describe the prisoners' characteristics relevant to their management: accident history, offence history, educational achievement, adaptive skills, and disabilities, with particular attention to Aboriginality and membership of other ethnic groups;

iv) to make recommendations about service requirements, and to estimate the shortfall in service provision with a view to improving the training of custodial and non-custodial staff, and management policies and techniques.

1.6 HYPOTHESES:

Aim One:

1.6.1 The incidence of intellectual disability is expected to lie in the range of 2-20%

Aim Two:

Regarding the relationship between level of IQ and adaptive functioning, it is suggested that there will be IQ-related differences in the level of adaptive skills and the areas of deficient functioning; specifically it is expected that:

1.6.2 Those with lower IQ's will function at lower levels on the adaptive behaviour subdomians; the intellectually disabed (ID) group will function at levels lower than the borderline group (B) who will function at levels lower than the non-disabled (ND) group.

$ID < B < ND$

Aim three:

Regarding the patterns of offence for the intellectually disabled and borderline groups it is expected that:

1.6.3 Intellectually disabled and borderline inmates will be overrepresented in the major offence categories covering crimes against the person and against property.

1.6.4 Intellectually disabled and borderline inmates will be bimodally distributed with regard to severity of crime.

Aim four:

The aim is to explore the relationship between intellectual disability and the background variables of offence severity and type, with special attention to Aboriginality and ethnicity.

Regarding the differences in performance between Aborigines and non-Aboriginal Australians (NAA) on different IQ measures, it is expected that:

1.6.5 the discrepancies occurring between the two scores will be in the direction of Ravens scores (CPM;RPM) being greater than the WAIS-R score, and that this will be especially evident for Aborigines.

1.6.6 Aborigines will have deficiencies in adaptive functioning in the communication and socialisation subdomains but will not differ significantly in their self-care as assessed by the daily living skills subdomain.

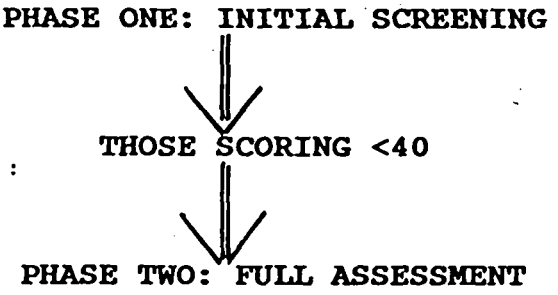
Aim five:

Regarding the classification of intellectually disabled inmates within the prison system; there is no reason to suppose that such offenders will occur more frequently within any particular security classification category.

2.0 METHODOLOGY:

The study was biphasic in form. Phase one was to screen as many prisoners as possible in terms of basic levels of performance on a range of abilities including mathematics, general knowledge, and a coding test. Phase two was to follow up those who scored in the lower ranges of the screening test and give more in-depth testing (see Fig. 1).

FIGURE ONE: BLUEPRINT OF THE STUDY



2.1 THE SAMPLE:

The study aimed to sample all prisoners in the initial screening phase. For pratical reasons of sheer numbers it was not deemed possible to assess all gaols in NSW. Four major metropolitan gaols and one rural gaol were selected to achieve an adequate representation of women, aboriginal inmates, high security prisoners, and those who are transient in the system, serving short sentences or on remand, who are rarely included in formal data collection. Accordingly, the gaols sampled included: Mulawa Training and Detention Centre for Women, Central Industrial Prison
(CIP), Parramatta Gaol, Metropolitan Remand Centre (MRC), and Broken Hill Gaol.

2.2 PROCEDURE

In attempting to conduct the project with minimum disruption to the prison routine, extensive consultation was carried out with superintendents, education officers and prison officers in each of the gaols included in the study. The superintendents received in advance personal and written consultation regarding the aims, form and method of the study. It was established with them that a priority of the study was to fit in with the gaol routine as far as possible. The focus of the study was conveyed in terms of how people with special needs cause problems for custodial staff with regard to management and vulnerability to rape and bashing. We outlined that the study was to assess how many falling into this category were in the system and the nature of their needs.

It was established that at each gaol certain staff would be in charge of the screening phase, which had minimal special training requirements owing to the use of audio-taped instructions. The researchers and the superintendents agreed that prisoners might resent being assessed by those who had custodial authority, e.g.

the prison officers. It was decided that the prison officers would run the screening phase with back-up support from Departmental psychologists and the sessional psychologists employed by this project.

Prison officers and all personnel, however peripherally involved with the screening phase were briefed as to the undesirability of any jokes like, "Come in here so we can find out how dumb you are".

Private rooms were negotiated for the in-depth, one to one assessment. For this second phase of the study private testing was essential to the validity of the measures taken. Superintendents, education officers, psychologists and prison officers alike were helpful in allocating already over-taxed resources.

Posters announced the time of the testing two weeks in advance and the informal prisoner information network was utilised to overcome the suspicion that naturally arose with regard to educational assessment and the queried bona fide status of the rewards offered.

2.3 SCREENING PROCEDURE

While an exhaustive sample was a priority, motivating the prisoners was a problem. Some reward was required that would cause minimum disruption to the prison routine. It was arranged that a day's remission would be granted in return for participation in the screening test. As an additional incentive (to ensure that the prisoners wrote their real names on the screening tests) and to reward those unsentenced prisoners for whom remission was not possible, a cassette recorder was raffled in each participating gaol, using the list of the participants involved in the initial screening.

2.4 JUSTIFICATION AND VALIDATION OF THE MEASURES

2.4.1 The initial screening test

The screening test consisted of three timed subscales tapping a range of abilities: (a) arithmetic problems (addition, subtraction, division and multiplication), (5 minutes); (b) 10 general knowledge questions (5 minutes); (c) the Digit-Symbol subscales from the WAIS-R (2 minutes). As it was developed specifically for this project there is a lack of psychometric data establishing a priori its validity and reliability as a composite scale. Its composite nature is justified by its ability to reflect broad areas of ability and deficiency in intellectual skills in a wide cross-section of prisoners.

Three pilot studies were carried out to check the validity of the screening test and to pilot the test procedure. These are reported in detail in Appendix 1. With these pilot studies it was possible to check the criterion validity of the test and forestall possible difficulties in administering the test.

Attempts were also made to determine a cut-off point below which an intellectually disabled person fell, above which individuals had a non-disabled level of functioning (as assessed by standard IQ measures).

The screening test was found to have moderate psychometric validity in so far as it correlated significantly with a recognised test of intelligence. The total screening test score correlated 0.46 ($p<.001$) with the total WAIS-R score and 0.49 ($p<.001$) with the Verbal IQ of the WAIS-R. The screening test did not correlate significantly with either version of the Ravens Progressive Matrices. (A full account of the psychometric functioning of the screening test is contained in Appendix 1).

There were two concerns which influenced the decision process in determing a cut-off score:

(i) the percentage of prisoners likely to be intellectually disabled,

(ii) the raw score that corresponded to the appropriate percentile score.

Estimates of the prevalence of intellectual handicap in prisons vary around 10%. For the purposes of this study "false positives" were preferable to "misses" as detection errors. A 30% cut-off criterion was initially adopted to establish which raw score could be used as a cut-off. Prisoners scoring below this cut-off mark would be required to attend for in-depth testing.

On day 1 testing at MRC, 30% of the scores fell at or below a raw score of 36, (i.e. of the 63 prisoners, 19 were selected for further testing). On days 2 and 3, of the 103 tested a cut-off raw score of 36 corresponded to a percentile score of 43 (i.e. 45 subjects were required for further testing). The changing correspondence between raw score and percentile score indicates that the distribution had "moved up". This is what was expected to follow if a transfer of information regarding test answers had occurred among prisoners. That this shift occurred is especially significant in the light of comments by education officers that those who volunteered on the first day seemed to them to be the "brighter" and more motivated prisoners. A cut-off raw core of 40 yielded 36% of the sample for further testing, a total of 37 subjects. Although this cut-off erred on the side of over-inclusion in the latter days of sampling, this was deemed acceptable in practical terms and 40 was adopted as the raw score cut-off for the remainder of the study.

2.4.2 RAVENS PROGRESSIVE MATRICES: COLOUR VERSION:

At the MRC and in Broken Hill Gaol this test was used as a second screening device. The test is viewed as a good measure of "fluid g", measuring mental ability more independently of academic achievement and cultural opportunity than the more verbally based tests. For this reason it was deemed appropriate for the multi-racial nature of the sample. Broken Hill gaol and the MRC had more ethnic inmates in their populations. Broken Hill Gaol population included many Aborigines who were likely to differ not only from the non-Aboriginals, but possibly from their urban counterparts in terms of access to cultural opportunities. The Coloured Progressive Matrices (CPM) is designed for use with young children and old people and can be used satisfactorily with people who, for any reason cannot understand or speak the English language, with people suffering from physical disabilities and people who are intellectually "sub-normal". It is a simple and non-threatening introduction to paper and pencil tests for a group which may not have attempted such activities before, or for some years and may have anxiety with regard to assessment.

In the MRC testing the CPM was found to have too low a ceiling to be an effective screening device as some of those inmates scoring the maximum of 80+ still functioned in the borderline range as assessed by the WAIS-R (scores 70-79). Of the 24 tested on both the CPM and the WAIS-R, 11 scored 80+ on the CPM. A breakdown of the performance of these 11 inmates revealed that 4 were borderline (70-79), 5 low average (80-89) and 2 average (90-109). While all of these 11 people are not actually clinically intellectually disabled, the four borderline inmates are still significantly impaired in their intellectual functioning and 90% of the general population would function better.

Such a discrepancy in performance on the two tests was foreshadowed earlier in this report, as the WAIS-R is said to tap "crystalized and fluid g", i.e. mental ability plus effort, or the degree to which the person has been motivated and has the cultural opportunities to acquire information to an extent consonant with their "raw capacity". In many instances ability may not be actualised owing to aspects of an individual's cultural, sub-cultural or personal life history.

2.4.3 RAVENS PROGRESSIVE MATRICES-STANDARD VERSION:

[This test is also frequently referred to as the RPM-std, or the PM-38].

This test measures similar parameters to the CPM but is a more difficult version which does not have such a low ceiling. This version was adopted as a second screening device. A raw score cut-off of 36, equivalent to an IQ range of 35-98, was adopted. Both versions of the Ravens are brief to administer.

2.4.4 WAIS-R:

This is a widely used IQ test. It has been extensively standardised in America, and while Australian norms do not exist it has an Australian supplement. It has subscale totals for verbal performance IQ's as well as a full scale IQ. A discrepancy between Verbal and Performance IQ may be useful as a diagnostic tool e.g. of brain damage. Research suggests that the RPM-std tends to correlate more highly with Performance IQ than with Verbal IQ. This provides support for a battery approach to in-depth testing rather than relying on a index of IQ.

2.4.5 VINELAND ADAPTIVE BEHAVIOR SCALE-SURVEY FORM:

This was used to determine the level of an individual's adaptive functioning in terms of what the individual does to take care of him/herself and to get along with others. It covers four broad areas: Communication, Daily Living Skills, Socialisation and Motor Skills (though this last is excluded with adult samples). The items are presented in a developmental order within each domain. A score of 2 is awarded to behaviours which are usually undertaken, 1 to those sometimes or partially achieved, 0 to those never achieved and 'N' for those for which there is 'no opportunity'. The relevant supplementary norms included in the manual were used for the intellectually disabled respondents.

"Adaptive Behaviour" is defined as the performance of daily activities required for personal and social sufficiency. There are three inherent principles or assumptions:

1. that adaptive behaviour is age -related.

2. that it is defined by the expectations or standards of other people (i.e. it is a normative, relative concept; relative to a particular environment and the set of norms pertaining).

3. that it is defined by typical performance not by potential ability; not by what one <u>can</u> do, but what one <u>does</u> in a particular setting.

It was emphasised in briefing testers that they were to make sure prisoners understood the focus. The rider of "in a particular environment" was waived in this case as the exigencies of the gaol routine were likely to have a regressive impact on age-assessed functioning. Adaptive functioning was assessed on the basis of what an individual normally did "outside". For some long-term prisoners the gaol had become their normative environment and this was therefore accepted as a baseline for their level of functioning.

In developing the scale Doll (1953) (quoted in Sparrow et al, 1984) was concerned with identifying the relationship between mental deficiency and social competence which he defined as: "the functional ability of the human organism for exercising

personal independence and social responsibility" (p.10).

Adaptive behaviour has been conceived of as multi-dimensional and because the research interests include diagnosis and remediation, sub-domain scores provide useful feedback identifying specific deficits. These are reported in an age-equivalent form.

This scale is not normally used as a self-report measure but as a report based on the observations of a third party well-known to the person being rated. As a self-report measure it has two drawbacks: it assumes a high level of verbal fluency, and is prone to distortion due to social desirability, i.e. the inmate may "fake good". These problems were attenuated by use of a semi-structured interview format which was the first item on the in-depth testing agenda. It was conducted in a non-judgemental manner by a research worker not affiliated with the gaol hierarchy. As well as the normal information required, the assessment was used to establish rapport with and relax the testee. (See Appendix 4 for a brief outline of the interview format).

2.4.6 BACKGROUND DETAILS:

A structured interview schedule was included to assess the incidence of injuries and disabilities, unemployment and to explore ethnicity, education level, severity and nature of past and present crimes. Each of these variables was classified categorically. Census classification was used for nationality, marital status, and severity of crime. A code was developed for disabilities and injuries. Employment status was classified according to a standard code.

2.47 THE RAVENS PROGRESSIVE MATRICES: STANDARD VERSION [PM-38]:

PM-38 data were gathered from prisoner files for both those who participated in the screening test and those who did not. Data were gathered for all those for whom it was available from the CIP, one of the five gaols in our sample. This was done in order to test for significant differences between those included in our sample, and those who chose not to participate. In order to assess the degree to which a representative group from the selected prisons were screened.

3.0 RESULTS

AIM ONE: A detailed consideration of the incidence of intellectual disability:

3.1 THE SAMPLE

The five gaols included in the study held a population of 1,318 prisoners of which 675 were screened. This represented 51% of the total population in those gaols.

FIGURE 2: SAMPLE SIZES FROM SCREENING TO FOLLOW-UP

INITIAL SCREENING - (N=675)

THOSE SCORING < 40 (N=165/675 i.e. 24% of those screened required follow-up)

FULL ASSESSMENT - (N=104/675 i.e. 15% of those screened were successfully followed up, corresponding to 63% of those requiring follow-up.)

3.2 THE ADEQUACY OF THE SAMPLE

Despite our attempts to motivate as many prisoners to particpate in the screening test as possible, there was no control over the self-selection into screened and non-screened groups. There was no certainty that these groups did not significantly differ from each other with regard to mental ability. Our recourse was to gather PM-38 data for all of the prisoners for whom such data existed, in one of the gaols in our sample (CIP) and to test for signifcant differences in performance on this index of mental ability. There was no significant difference in ability between those screened and those who did not take part in the screening ($t=1.31$, $p<19$). This is supportive evidence that the data gathered are representative and that the figures revealing the incidence of intellectual handicap in the sample are likely to apply to the gaol population as a whole.

3.3 DEFINITIONAL CONSIDERATIONS

For the purposes of this study the term intellectually disabled will be used to refer to those who get a total score of less than or equal to 70 on the WAIS-R. The term borderline will be used to refer to those whose total WAIS-R score is between 70 and 79. The term intellectual deficit will be used to refer to a situation where a person obtains a total WAIS-R score of less than 79, i.e. both of the above groups.

Fifty-three per cent of the 104 prisoners recalled for further testing were in the intellectual deficit category. The "false positive" rate was therefore 47%. Of this latter group of 49 prisoners, 23 were not given full in-depth testing as their intellectual functioning was within the average range as assessed by their performance of the Ravens Standard Progressive Matrices (RPM) which was used as a second screening device. The remaining 26 who were not screened out in terms of their RPM functioning provide an appropriate comparison group (of non-disabled inmates) for the intellectually disabled sample, permitting detailed analysis of between-group differences in terms of WAIS-R IQ, adaptive functioning and background variables.

3.4 PATTERNS OF INTELLECTUAL DISABILITY ACROSS GAOLS:

TABLE 1: THE PREVALENCE OF INTELLECTUALLY DISABLED PRISONERS ACROSS GAOLS

GAOL	MRC	BH	P'MATTA	MULAWA	CIP	TOTAL
No. in gaol	316	20	420	128	434	1318
No. screened	175	20	187	81	212	675
% screened	55	100	45	63	49	51
No. ID (IQ<70)	5	4	0	0	1	10 No.
borderline (70<IQ<79)	13	6	8	8	10	45
% ID of those screened per gaol	2.9	20.0	0	0	0.5	1.5
% borderline of those screened	7.4	30.0	4	9.9	4.7	6.7
% per gaol who have deficits	10.3	50.0	4.3	9.9	5.2	8.2
% of total deficit sample per gaol	32.7	18.2	14.5	14.5	20.0	100.0

From Table 1 it is clear that the incidence of intellectual disability is not uniform across gaols. Broken Hill Gaol has the highest incidence (50%). Parramatta Gaol and Mulawa Training and Detention Centre had no ID inmates in the sample; their incidence rates were made up of borderline inmates (see Appendix 2 for patterns of follow-up across different gaols).

3.5 INTELLECTUAL DISABILITY: THE INCIDENCE FOUND

Fifty-five prisoners of the 675 sampled were deemed to have intellectual deficits, i.e. 8.2% of the present sample were found to be functioning at or below the borderline range defined by a score of less than or equal to 79 on the total WAIS-R. The incidence of intellectual disability thus fell within the predicted range of 2-20%, in support of hypothesis one.

3.6 THE UPPER AND LOWER LIMITS OF ESTIMATES OF INCIDENCE OF INTELLECTUAL DISABILITY:

i) Lower Limit. Estimates:

The estimate of incidence cited above, i.e. 8.2% intellectually disabled, of which 1.5% were ID and 6.7% borderline are bottom estimates in that they are based on the assumption that no-one in the group of 509 who was not required for testing was intellectually disabled, nor were any of those who refused to attend for screening. This entails the assumption that the screening test was valid. Further, these bottom estimates are calculated on the assumption that no-one was intellectually disabled who was required for further testing, but who was not tested (N=61).

To calculate the possible range of incidence of intellectual disability hypothetical limits will be calculated.

ii) Upper Limit Estimates:

The top estimate of incidence entails the assumption that all of those for whom there was no information were intellectually disabled:

FIGURE 3: INMATES WHO DID NOT PARTICIPATE IN THE STUDY

642	+	61	+	10	+	45=759
unscreened		follow-up required but not achieved				borderline

This figure (759/1318) represents an incidence of 57.6%. This estimate is based on exactly the opposite assumption of the lower limit estimate.

iii) Lower Limit Estimates Revisited:

A more modest assumption is that those who stayed away from the in-depth testing i.e. those for whom follow-up testing was required but not achieved (N=61), did not differ from those who were successfully recalled. This is supported by examination of

PM-38 results for the two groups. This assumption entails the notion that the same proportion of the 61 would be ID and the same proportion borderline. If this were the case, 9.6% of the 61 would be ID (N=6) and 43% (N=26) would be borderline. Thus 16/675 or 2.4% were ID and 71/675 or 10.5% were borderline. The incidence of intellectual deficit in the screened population on the basis of this assumption is thus 12.9%.

This is still a bottom estimate, as it is possible that the act of staying away from the in-depth testing was a motivated action. The motivation may only be inferred, however, we know that those who were in this category had been screened, i.e. were aware of the focus of the study on mental ability, yet had elected not to return. Possible motivations may include a fear of failure based on a past history of failure in such testing situations. It is therefore possible that more of those who stayed away may have in fct performed poorly on subsequent IQ measures than those who had been successfully recalled.

Those with most anxiety are those most likely to have difficulties in the area of mental ability, although it is important to acknowledge that test anxiety is not always associated with a poor level of functioning.

TABLE 2: REASONS FOR UNAVAILABILITY FOR FURTHER TESTING: the incidence of refusals:

GAOL	REFUSAL	RELEASED	COURTS	TRANSFERRED	LANGUAGE
MRC	6	3	1	0	8
MUL	7	0	0	0	0
PAR	12	3	1	2	0
CIP	15	0	0	2	0
TOTAL	40(67%)	6(10%)	2(3%)	4(7%)	8(13%)

(The figures do not total to 61 as one prixoner from MRC could not be tested as he was in the gaol hospital).

From Table 2 it is apparent that refusals accounted for a large proportion (67%) of the reasons for a failure successfully to follow up those required for in-depth testing.

Suggestive evidence regarding the non-attenders: those for whom follow-up testing was required but not achieved.

Further information regarding non-attenders for full-scale testing was obtained from the Prison Medical Service. The names of non-attenders were given to the PMS, and nursing staff at each gaol were asked to indicate whether the inmate was intellectually disabled or borderline, psychiatrically ill, had communication problems, had an Aboriginal or ethnic background. (The data were returned from the PMS in summary form, so that no breach of confidentiality of inmate's medical records occurred.)

There were 42 male prisoners who were required for further testing, but who did not return. There was no information available for 20 of those. Of the remaining 22, 9 had a psychiatric history, 3 had communication problems, 4 were described as BR, 2 were mildly ID (1 had a speech impediment and the other 2 were described as withdrawn), 7 were not Australian born and 1 was Aboriginal. Only 6 men not tested were not disadvantaged in some way.

There were 8 women who were required for further testing but who did not return. Of these, 3 were diagnosed as developmentally disabled (from psychiatric notes) and 5 have a psychiatric history. Two women inmates who had a psychiatric history were also intellectually disabled and one had a communication problem. Regarding their ethnicity, 2 were not Australian born and 1 was Aboriginal. Thus 37% of the women not tested (3/8) were intellectually disabled. This finding has implications for the "lower estimates of incidence" of intellectual disability as it suggests that staying away from further testing was a motivated action. While it should be remembered that no differences were found between those screened and those not screened in terms of PM-38 data, these results focus on those who <u>were</u> screened but who did not return for follow-up testing.

Table 3 presents the revised estimates of intellectual deficit using the Prison Medical Service data. (The data are not presented gaol by gaol because many of those originally screened but not followed up had been transferred to other gaols by the time the PMS data became available.)

The figure for females can be regarded as fairly accurate because all 8 of the missing cases had information provided by the PMS.

The figure for males is still probably an underestimate because of a number of factors contributing to "missing" cases including the following:

(a) There were no data available from PMS files for 20 of the 42 male prisoners, so it is guesswork as to whether all, none or some figure in between had intellectual deficits.

(b) In some cases there was no formal diagnosis of intellectual deficit on the PMS file and nursing staff evaluated the individual as having a deficit on the basis of experience and in some cases, interviews with inmates. Nursing staff may have overlooked some cases of mild deficit if the particular inmates were verbally fluent and/or streetwise.

(c) The informal policy of "looking after" young and vulnerable offenders may have resulted in male ID offenders being transferred to prison farms or camps and thus there is a possibility that there is an overrepresentation in such minimum security institutions, which were not included herein.

(d) The size and turnover of the male prisoner population means that there is not the same knowledge of individuals as there is in the female population. There may be many male ID prisoners who go unremarked and, therefore unreferred, to medical or psychological services.

TABLE 3: PREVALENCE OF INTELLECTUAL DEFICIT PRISONERS, INCORPORATING PMS DATA:

	Males	Females
No. in gaol	1,190	128
No. screened	594	81
% screened or data available	49.9%	63%
No. ID	12	3
No. borderline	41	8
% ID of those screened/ data	2.02%	2.3%
% borderline of those screened/data	6.9%	9.9%
Total intellectual deficit	8.9%	12.2%

It is unlikely that the incidence of intellectual deficit amongst male prisoners is lower than for females, particularly given the reluctance of courts to impose custodial sentences on females if this can be avoided. There are also other delinquent sub-culture fctors and factors associated with the greater likelihood of females with ID residing at home with the families, whereas males are more likely to be not welcome at home, which means that ID males may have more opportunity to commit offences or to be arrested. It is therefore safe to assume that the figure of 12.2% with intellectual deficit found in the female prisoner population could readily be extrapolated to male prisoners, and in line with the estimate of 12.9% on p.24.

AIM TWO:

Hypothesis Two: Do those inmates with lower IQs have poorer adaptive functioning?

A definitional reminder:

Before commenting on the level of adaptive functioning of the groups the terms used will be examined. The non-disabled group (ND) are those prisoners who scored above 79 on the WAIS-R. The deficit group refers to the ID and borderline groups combined, which means that the IQ scores of this group fall below 79 on the WAIS-R. The ID group includes those whose IQ score fell below 70 on the WAIS-R. The borderline group includes those whose IQ was between 70 and 79. The groups are divided upon the basis of their IQ scores, so that differences in their level of adaptive functioning can be considered.

In considering those who fall above IQ80 on the WAIS-R as non-disabled, however, it must be remembered that intellectual disability is not simply measured in terms of IQ. Intellectual handicap as defined by Part IX of the Child Welfare Act, 1939 (NSW) is:

> "a condition characterised by an inadequate social adjustment, a retarded rate of maturation and significant limitation of learning capacity due to arrested or limited development of intellectual functioning."

Therefore, in this section there will initially be made reference to the intellectual deficit group in comparison with the non-disabled group, but it will become apparent that the "non-disabled" group in fact contains some individuals who have a significant impairment in adaptive behaviour and who would be deemed to be intellectually handicapped according to above definition.

3.7 Overall adaptive functioning: A comparison of the deficit and non-disabled groups.

A table portraying different levels of adaptive functioning will facilitate between-group comparisons.

TABLE 4: A COMPARISON OF THE DEFICIT AND NON-DISABLED GROUPS ACROSS ADAPTIVE BEHAVIOUR SUBDOMAINS. [FIGURES REFLECT MEAN AGE - EQUIVALENT SCORES FOR EACH GROUP IN YEARS AND MONTHS).

	NON DISABLED	DEFICIT	SIGNIFICANCE
Overall functioning	11:8	9:7	p<.009
Communication	7:9	7:1	p<.15[NS]
Socialisation	13.0	10:0	p<.01
Daily Living Skills	14:1	11:7	p<.05

From table 3 it can be seen that those who had an intellectual deficit differed significantly from those who were not disabled [ND] in terms of overall adaptive functioning. The ND were functioning at the age equivalent level of 11 years 8 months while the deficit group functioned at the age equivalent level of 9 years 7 months, (t=-2.45, p<.009. 1-tailed test).

Subdomain performance: A comparison of the deficit non-disabled groups in terms of communication, socialisation and daily living skills:

When the differential performance of the disabled and non-disabled groups was considered across the three different subdomains it was found that difference in communication skills was not significant and was the lowest level of adaptive behaviour of the three subdomains, for both disabled and non-disabled groups (commented upon in detail below). Significant differences were evident in terms of socialisation and daily living skills. The ND group were functioning at a more mature age in terms of socialisation attaining an age equivalent mean of 13 compared to the disabled group mean of age 10, ($t=-2.67$, $p<.01$). The ND group were also significantly more mature in terms of daily living skills, functioning on average at the age equivalent of 14 years 1 month compared to 11 years 7 months for the disabled group, ($t=-1.97$, $p<.05$. 2-tailed test). These differences are particularly interesting given an absence of significant differences in education level, ($t=0.11$, $p<.91$).

Of greater significance, however, are the low average levels of functioning in adaptive behaviours within the so-called non-disabled group. The following tables indicate the proportion of the ND group which has significantly inadequate social adjustment and maturation.

TABLE 5: VINELAND COMMUNICATION AGE EQUIVALENT - NON-DISABLED

YEARS & MONTHS	FREQUENCY	VALID PERCENT	CUM PERCENT
1.01	1	4.3	4.3
2.01	1	4.3	8.7
6.07	1	4.3	13.0
6.08	2	8.7	21.7
7.01	2	8.7	30.4
7.02	2	8.7	39.1
7.04	1	4.3	43.5
7.07	1	4.3	47.8
7.09	1	4.3	52.2
7.11	2	8.7	60.9
8.03	1	4.3	65.2
9.00	1	4.3	69.6
9.06	1	4.3	73.9
9.10	1	4.3	78.3
10.02	2	8.7	87.0
11.00	1	4.3	91.3
14.00	1	4.3	95.7
16.06	1	4.3	100.00
TOTAL	23	100.0	

TABLE 6: VINELAND DAILY LIVING SKILLS AGE EQUIVAL - NON-DISABLED

YEARS & MONTHS	FREEQUENCY	VALID PERCENT	CUM PERCENT
5.02	1	4.3	4.3
5.09	1	4.3	8.7
6.02	1	4.3	13.0
6.06	1	4.3	17.4
6.09	1	4.3	21.7
12.09	2	8.7	30.4
15.03	1	4.3	34.8
15.09	2	8.7	43.5
16.03	2	8.7	52.2
17.00	1	4.3	56.5
17.03	1	4.3	60.9
17.09	1	4.3	65.2
18.09	1	4.3	69.6
18.11	7	30.4	100.0
TOTAL	23	100.0	

TABLE 7: VINELAND SOCIALISATION AGE EQUIVALENTS - NON-DISABLED

YEARS & MONTHS	FREQUENCY	VALID PERCENT	CUM PERCENT
6.03	1	4.3	4.3
8.11	1	4.3	8.7
9.02	1	4.3	13.0
10.00	2	8.7	21.7
10.04	1	4.3	26.1
10.06	1	4.3	30.4
12.00	1	4.3	34.8
12.03	1	4.3	39.1
12.09	1	4.3	43.5
13.00	1	4.3	47.8
13.06	1	4.3	52.2
13.09	2	8.7	60.9
14.03	1	4.3	65.2
15.06	3	13.0	78.3
16.00	1	4.3	82.6
18.03	1	4.3	87.0
18.09	3	13.0	100.0
TOTAL	23	100.00	

TABLE 8: VINELAND TOTAL AVERAGE AGE EQUIVALENT - NON-DISABLED

YEARS & MONTHS	FREQUENCY	VALID PERCENT	CUM PERCENT
5.08	1	4.3	4.3
7.03	1	4.3	8.7
8.04	2	8.7	17.4
9.00	1	4.3	21.7
10.01	1	4.3	26.1
10.05	1	4.3	30.4
10.09	1	4.3	34.8
11.06	1	4.3	39.1
11.11	1	4.3	43.5
12.03	2	8.7	52.2
12.08	2	8.7	60.9
13.02	1	4.3	65.2
13.03	2	8.7	73.9
14.02	1	4.3	78.3
14.08	1	4.3	82.6
15.07	1	4.3	87.0
15.08	1	4.3	91.3
18.02	1	4.3	95.7
18.09	1	4.3	100.0
TOTAL	23	100.0	

An arbitrary cut-off point of 12 years 11 months was selected as representing a significant sub-average level of functioning. This age corresponds to an IQ level of roughly 73, i.e. the top of the midly ID range. It also represents the age at which children enter secondary schooling, and the beginnings of abstract conceptualisation.

The table below shows the frequency and percentage of individuals who would be classified as intellectually handicapped using this criterion of significant subaverage adaptive behaviour, ie. at or below age 12:11.

TABLE 9: SIGNIFICANT SUBAVERAGE ADAPTIVE BEHAVIOUR FOR IQ 80+ (NON-DISABLED) GROUP.

Vineland Domain	No. <12:11	%<12:11
Communication	21	91.3%
Daily Living Skills	7	30.4
Socialisation	10	43.5
TOTAL AVERAGE	14	60.9

Table 3(p.26) showed the prevalence of intellectual deficit amongst prisoners, incorporating data on missing cases obtained from the PMS. The following table incorporates the figures for those who were previously incorporated into the non-disabled group, but who have significant sub-average adaptive behaviour and therefore are now incorporated into the total intellectual/functional deficit group, i.e. those classifiable as intellectually handicapped according to the Part IX definition.

TABLE 10: PREVALENCE OF INTELLECTUAL HANDICAP

	Males & Females	% of screened population
Screened	675	
ID	15	1.1
Borderline	49	7.25
Total-intellectual deficit	64	9.48

			add intellectual deficit	
Communication deficit	21	+	64 = 85	12.5
Daily Living skills	7	+	64 = 71	10.5
Socialisation	10	+	64 = 74	10.9
Average Vineland	14	+	64 = 78	11.6

This depending which subdomain of adaptive behaviour deficit is considered, or using the total average, estimates of <u>intellectual handicap</u> (as defined) increase to between 10.5% and 12.5% of the screened prisoners.

This figure probably will represent an underestimate of the true prevalence because of all the reasons quoted above as to why someone with a handicap would not present for the full

assessment, or indeed, for the screening test. Nevertheless, each piece of data adds to the validity of the assessment of prevalence and it becomes more and more apparent that a figure of 12.5% represents the bottom line.

These tables also reinforce the extraordinarily difficult task faced by prison staff in that even when inmates are functioning at IQ over 80, their low levels of adaptive behaviour would render management a nightmare.

3.8 A comparison of the ID and borderline groups in terms of communication, socialisation and living skills.

TABLE 11: A COMPARISON OF THE ID AND BORDERLINE GROUPS ACROSS ADAPTIVE BEHAVIOUR SUBDOMAINS.

	B	ID	SIGNIFICANCE
Overall functioning	11:0	7:0	p<.004
Communication	7:8	4:9	p<.0001
Socialisation	11:4	6:0	p<.003
Daily Living Skills	12:2	9:8	p<.12[NS]

Overall the ID group functioned at an age equivalent of 7 and the borderlines at an age equivalent of 11. This difference was in the predicted direction and significant, (t=-3.04, p<.004, 1-tailed test). This provides strong support for hypothesis 2, that those with lower IQ's will function at lower levels on the adaptive behaviour domains.

The difference between groups was sustained for the communication subdomain where ID inmates functioned at age 4 years 9 months and borderlines at age 7 years 8 months, (t=-3.9, p<.0001, 1-tailed). There was also a marked and significant difference in terms of the socialisation subdomain, the ID group functioning on average at a 6 year old level and the borderline group at the 11 year and 4 month level, (t=3.19, p<.003, 1-tailed test).

There was a higher level of functioning for both groups on the daily living skills subdomain. While the difference between the two disabled groups with regard to this variable was not significant, the ID group was functioning at an age equivalent level of 9 years 8 months and the borderline group was functioning at a 12 year 2 month level. Comparing this level of functioning to the level of functioning for other subdomains, this suggests that for those with an intellectual deficit, self-care is more adequate than expressive skills or capacity to sustain a social network and conform to the norms of the wider society. Once again there was no significant difference in the education level between the two groups, (t=-1.57, p<.14).

In summary, there were significant differences in levels of adaptive functioning with the intellectual deficit groups performing at a significantly lower level than the non-disabled group. When the deficit group was considered in terms of the further division in terms of IQ scores, the ID group (IQ<70) functioned at a significantly lower level than the borderline group (70<IQ<80) for the communication and socialisation subdomains. There is strong support for the hypothesis that there are differences in adaptive functioning accompanying differences in IQ and these differences are not directly correlated with or attributable to educational attainment.

The ID group functined at lower levels than the borderline on all of the adaptive subdomains (see fig. 4).

FIGURE 4: THE RANGE IN PERFORMANCE OF THE ID AND BORDERLINE GROUPS ACROSS ADAPTIVE SUBDOMAINS.

SUBDOMAIN RANGE	INTELLECTUALLY DISABLED RANGE	BORDERLINE
Communication	2:00-6:10 years	1-18:11 years
	50% at 5 years or below	50% at 7 years or below
Socialisation	1:00-15:00	3:10-18:11
	50% at 5 years or below	50% at 12 years or below
Daily Living Skills	3:00-18:11	2:10-18:11
	50% at 7 years or below	50% at 15 years or below

The absence of a significant difference between the intellectual deficit groups as a whole and the non-disabled group in terms of the communication subdomain is worthy of further comment. There is a significant difference between the ID and borderline groups on communication, but the average functional age is 7:1 years, compared with 7:9 years for the non-disabled group. The low level of functioning in this domain may have been one reason why the non-disabled group were "false positives" on the screening test, i.e. they may lack basic literacy and numeracy skills although they are not intellectually disabled on IQ measures. Alternatively, poor communication skills may be characteristic of the prison population as a whole and may contribute to either a pattern of criminality or reflect other factors related to low socioeconomic status and delivery of justice. Only further research can elucidate any of these notions.

Aim three:

3.9 Patterns of offending across the different groups

In order to ascertain whether the intellectual deficit group are over-represented in the major offence categories covering crimes against the person and against property, data regarding the most serious offence committed by each inmate were considered.

TABLE 12: A COMPARISON OF ID, BORDERLINE AND NON-DISABLED OFFENDERS; THE COMPARATIVE INCIDENCE OF OFFENCE TYPES (CURRENT OFFENCE).

OFFENCE	ID	BORDERLINE	TOTAL DISABLED	ND	CENSUS
	%	%	%	%	%
Murder	22.2	4.4	7.4	12.0	6.0
Assault	33.3	6.6	11.1	0.0	4.2
Rape	0.0	4.4	3.7	4.0	0.8
Armed Robbery	0.0	20.0	16.7	16.0	11.3
Break and Enter	11.1	17.8	16.7	24.0	15.1
Car Theft	22.2	8.9	11.1	16.0	5.0
Drugs	11.1	6.6	5.6	4.0	14.6
Sample Size (no's)	9	45	54	25	3702*

(*These data are based on sentenced prisoners only, i.e. 3702/4551 fo the total census data base).

The basic pattern of offence is similar when current offences are considered. When the incidence of assault is considered there are reduced rates for both the borderline and the ND groups. The incidence of armed robbery is higher for the borderline group, 20.0%. A slightly higher rate of break and entry was found for both the borderline and the ND groups, although this time one ID offender also contributed to the figures. There is a higher rate of car theft for ID offenders when current offence is considered.

There is a slightly increased proportion of drug offences for the ID group. If one looks at comparative incidence of offences of the intellectual deficit group as a whole relative to the ND group, which is a group of prisoners of low average intellectual ability, then they are highly represented in the offence categories of assault and armed robbery. In fact the intellectual deficit group is over-represented in the categories of murder and car theft compared with the ND group. In those categories of crime where the ID group has not committed a particular offence at all (armed robbery and rape), it is not meaningful to combine the ID and borderline groups. In these cases the incidence of offence for the borderline group is greater than that of the ND group.

In considering the significance of the different patterns of offence it must be remembered that the sample size varies across the different comparison groups. In certain instances the sample size is so small that the results must be taken as suggesstive of a possible trend. If the frequency of the offence of murder is considered for each group, the rates are extremely high in the case of the ID group, 22.2% (N=2) compared to 4.4% for the borderline group, 7.4% for the deficit (D) group as a whole and 12.0% for the non-disabled (ND) group. There are also high rates of assault for both the ID (33.3%, N=3) and the borderline groups (17.8%) in comparison to the non-disabled group (8.0%) and the census data (4.2%). It appears that both of the intellectual deficit groups are highly represented in offences against the person. This provides support for hypothesis 3 that these groups will be highly represented in the major categories of crime. The ND group which is actually a group of inmates functioning in the low average range of intelligence is also more highly represented in these categories than consideration of the census data would have suggested.

There was a high frequency of armed robbery and break and entry for the borderline and ND groups. No ID offender had committed armed robbery. It seems then that the two intellectual deficit groups differ not only in terms of IQ but also in pattern of offence.

Hypothesis 4: The bimodal distribution of offence:

Hypothesis 4 regarding the bimodal distribution of offences receives qualified support in so far as the modal incidence of offence is in the severe range of the major categories: murder, assault and armed robbery; and a second, smaller peak occurs in what may be considsered less severe categories: break and entry and car theft.

True bimodality is more apparent in the offence incidence of the ID group as offence rate falls to zero in the rape and armed robbery categories and has peaks in the murder and assault categories and in the break/enter and car theft categories.

There is a high frequency of armed robbery for the borderline group, higher than expected on the basis of the census data. Armed robberies can require detailed prior organisation regarding acquisition of a weapon, selection of premises and timing. Perhaps the borderline group were accomplices, or perhaps they were more likely to be apprehended, or verballed by police, owing to their intellectual deficits.

The incidence of rape for the borderline group was 4.4% which is a high rate for this offence in comparison to the 1987 census data which had 0.8% falling in this category. None from the ID sample committed rape.

Aim four:

3.10: A Descriptive Condisderation of the Personal and offence Histories of ID and Borderline Offenders:

A brief description of the sample:

Fourteen and a half percent of the intellectual deficit sample were women (N=8). None of these were in the ID group.

Age:

FIGURE FIVE: THE RANGE IN AGE ACROSS GROUPS

GROUP	RANGE	SAMPLE SIZE
ND	20 yrs - 69 yrs 32% < 26 yrs 60% < 30 yrs	25
Borderline	18 yrs - 54 yrs 51% < 25 yrs 76% < 30 yrs	45
ID	19 yrs - 51 yrs 20% < 25 yrs 60% < 30 yrs	10

From these data it seems that the non-disabled and ID groups were fairly well-matched according to age. The borderline group has a greater proportion in the younger age range than either of the other groups, but small sample size makes the drawing of conclusions impossible.

Employment status:

Of the intellectual deficit group 41% were unemployed (50% of the ID and 40% of the borderline). There were marked differences in the employment status of those in the two groups who worked. The ID group had an extremely restricted range of status (6.3 to 6.9) at the lowest end of the 7-point scale. The borderlines had a wider range (3.9 to 6.7) with 7% having jobs rated at 4 on the scale which covers jobs equivalent in status to being a research officer, or being the owner of a small business. Twenty-four percent of the borderlines had jobs between 5.1 and 5.9 representing positions like being a busdriver, waiter or sales assistant. The remaining 29% fell between 6 and 6.7% which represents positions like being a bouncer, car washer, factory

worker or cleaner. It seems then that intelligence as assessed by IQ measures does covary with employment achievement.

Forty-one per cent of our sample were unemployed: 38% claimed no benefit, 22% said they were on sickness benefit and 38% on unemployment benefit. It is interesting that no-one appeared to be in receipt of the invalid pension, implying that there was no official recognition of the presence of intellectual disability.

Twenty-four percent of the sample were Aboriginal and 55% non-Aboriginal Australian. This is considerably greater than the percentage of Aborigines in gaol which according to the 1987 census figures is 8.1% (369/4551). It is possible that the census figures may be an under-representation of actual numbers of Aborigines in gaol as some, as the point of entry, may not state their Aboriginality. The proportion of Aborigines in this study could have been artificially boosted by including Broken Hill gaol. Fifty per cent of the ID sample were Aborigines and 30% NAA's, while only 18% of the borderline sample were Aborigines and 60% NAA's.

Accident History:

Thirty-one percent of the sample had been in car crashes and a further 15% in accidents involving head injury and 6% in motorbike accidents. Fewer ID people had been involved in accidents, 60% (6/10) had no accident history, while 30% had been in car crashes and 10% had a history of head injury. The incidence of accidents for the borderline group was quite high, as only 29% had not been involved in accidents. Thirty-two percent had been involved in car crashes with a further 17% having sustained head injury in some manner.

Education:
Seventy-seven percent of the sample had left school at or before year ten and 50% had left school by age 14 and 90% by age 16. Ten percent did not reach high school at all.

Aboriginality:
A detailed consideration of the implications of Aboriginality for

intellectual and adaptive functioning, differing levels of performance across IQ measures.

TABLE 13: ABORIGINALITY AND INTELLECTUAL DISABILITY: the distribution across gaols.

GAOL	MRC	BH	PARRAMATTA	MULAWA	CIP	TOTAL	%
Aborigines	4	8	2	1	2	17	100
No. with intellectual deficit	2	8	1	0	2	12	70.5
No. borderline (70<IQ<79)	1	4	1	0	2	8	47.0
No. ID (IQ<70)	1	4	0	0	0	4	23.5

For the Aboriginal group the distributions of scores on the two versions of the Ravens were slightly discrepant from the WAIS-R distribution. Forty-two percent of the deficit group fell at or below a score of 70 on the CPM and 42% reached the ceiling mark of 80+. This means that while those (42%) achieving the ceiling mark were classified as ID or borderline in terms of their WAIS-R achievement, they were performing in the low average range on a different IQ measure. Owing to the small sample size, this provides only suggestive evidence for superior performance by Aboriginals on less verbally oriented tests such as the two versions of the Ravens Matrices as suggested in hypothesis 5. While it was shown above that these non-verbal measures correlated significantly with the WAIS-R, it is possible that the two measures tap different aspects of intelligence and are influenced by cultural milieu.

Differential performance across IQ measures:

This difference in performance across IQ measures is not restricted to the Aboriginal subgroup however. Looking at the spread of score on the RPM it can be seen that 75% of the intellectual deficit sample fell at or below a score of 77, i.e. within the borderline range or below. However, 25% who were classified as borderline on the WAIS-R functioned in the low average range for this test.

Looking at differential performance on the verbal and performance subscale of the WAIS-R, it is apparent that there is a greater spread of scores for the performance subscale. Twenty-five percent of those classified as borderline in terms of total score were functioning in the low average range of the performance subscale, while only 7% fell in the low average range of the verbal subscale. This suggests a slightly higher level of functioning in terms of performance IQ compared to verbal IQ for the deficit sample (N=55).

None of those classified as ID in terms of their WAIS-R total were functioning in the low average range in terms of performance IQ. Seventy percent fell well within the ID range and only two persons were functioning in the borderline range for performance IQ. This pattern was similar for the verbal IQ; all bar one fell below a score of 68 while one achieved the borderline score of 70.

When the IQ test performance of Aborigines was considered it was found that the WAIS-R total score did not correlate significantly with CPM scores for Aborigines (N=11, r=40, NS), but did correlate for non-Aboriginal Australians (NAA) (N=25, r=64, $p<.001$). This result is possibly a function of sample size, as the differences in functioning were not significant for Aborigines and NAA across all three IQ measures: WAIS-R, CPM and RPM. However, Aborigines did perform significantly differently from NAAs in terms of WAIS-R
Verbal IQ (XA=69.9, XNAA=77.5, t=3.29, $p<.003$, 2-tailed test).

Aboriginality and adaptive functioning:

While there was no significant differences in overall functioning there were deficiencies in adaptive functioning (in the predicted direction) for the two predicted subdomains for the Aboriginal group relative to the non-Aboriginal Australian (NAA) group. These differences were sustained whether the whole in-depth tested group or the intellectual deficit group was considered.

TABLE 14: THE WHOLE IN-DEPTH SAMPLE: adaptive functioning on subdomains (DATA SHOW AGE-EQUIVALENT LEVELS OF FUNCTIONING) - years and months:

GROUP	Aboriginal (A)	Non-Aboriginal Australian (NAA)	Significance
Communication	6.2	7.6	p<.01
Socialisation	8.0	11.8	p>.005
Daily Living Skills	11.3	12.6	NS

TABLE 15: THE INTELLECTUAL DEFICIT GROUPS: ADAPTIVE FUNCTIONING ON SUBDOMAINS (DATA SHOW AGE EQUIVALENT LEVELS OF FUNCTIONING):

GROUP	Aboriginal (A)	Non-Aboriginal Australian (NAA)	Significance
Communication	5.9	7.3	p<.03
Socialisation	7.2	11.3	p<.005
Daily Living Skills	10.7	11.6	NS

Communication:

For the whole in-depth tested sample Aborigines functioned at an adaptive age equivalent to 6 years and 2 months, while the NAA group functioned at an adaptive age of 7 years and 6 months ($t=2.3$, $p<.01$, 1-tailed test) (see table 14). The same pattern existed when only the intellectual deficit group was considered (see table 15). The Aborigines functioned at 5 years 9 months and the NAA group at 7 years 3 months ($t=1.9$, $p<.03$, 1-tailed test).

Socialisation:

For the whole in-depth tested group there were significant differences between the Aboriginal group and the NAA group. The former functioned at the age equivalent level of 8 years and the latter at 11 years 8 months ($t=2.87$, $p<.005$, 1-tailed test). This difference was also present when the intellectual deficit group as a whole was considered, as the Aboriginal group functioned at the level of 7 years 2 months and the NAA group at 11 years 3 months ($t=2.7$, $p<.005$, 1-tailed test).

Daily Living Skills:

There were no significant differences in daily living skills between the two different ethnic groups when either the whole in-depth sample was considered or when the intellectual deficit group alone was considered. Within the deficit group, Aborigines were functioning at a 10 years 7 months level while NAAs were functioning at an 11 years 6 months level.

Aim Five: Regarding the security classification of the intellectual deficit groups:

TABLE 16: PATTERNS OF SECURITY CLASSIFICATIONS ACROSS GROUPS

CLASSIFICATION	GROUP			
	ND	Total Deficit Group	ID	Borderline
Unclassified	40.0%	34.6%	70.0%	26.7%
A2	28.0%	27.3%	10.0%	31.1%
B	12.0%	10.9%	0.0%	13.3%
B1	0.0%	1.8%	0.0%	2.2%
C1	4.0%	7.3%	10.0%	6.7%
C2	16.0%	14.6%	10.0%	15.6%
Sample Size	25	55	10	45

From Table 16 it can be seen that most of the ID group (70%) have not been classified. Of those who were, there is not an even distribution across categories, with none in the medium range and small numbers occurring in the high security and low security classifications. A much smaller proportion of the borderline inmates had not been classified (26.7%). Their distribution is much more even across groups, though peaks still occur in the high and low security categories, a distribution quite similar to the non-disabled group. It seems then that there is a suggestion of a different distribution for the ID group, but sample size is far too small for any conclusions to be drawn. Regarding the other groups, there is no difference in patterns of classification within the system. These data on classification are biased by the fact that no minimum security gaols were included in the study. There is one conclusion which can be drawn, however, and that is that services for inmates with an intellectual deficit have to be provided at all levels of security classification.

4.0 DISCUSSION

4.1 Incidence:

The high level of intellectual disability found in prisons in New South Wales means that a large number of inmates have special needs. The lowest realistic estimate based on this study is around 13%, i.e. 2.4% ID and 10.5% borderline. The reason for putting this forward as the lowest realistic estimate is that this figure does not take into account those who stayed away from the screening test in the very first phase of the study. Given the attractive incentives that were offered for twelve minutes work (a day's remission and a chance to win a cassette recorder), it is quite possible that some of those staying away feared testing situations and may have had performance deficiencies in such areas. Others may not have heard about the study for reasons directly pertaining to their communication and reading difficulties. The poster advertisements would have reached at least minimally literate prisoners. The informal network of communication within the gaols cannot be assumed to have provided sufficient details for all inmates to have adequately understood the loud-speaker announcements when the screening test began. It is with some reason that these figures are deemed low estimates.

Where IQ data existed for those who were not screened, it was shown that those not screened were not significantly different in intelligence from those who were screened. This is encouraging with respect to the adequacy of the sample. However, the data base was partial because participation in psychological testing is voluntary. Further support for the assertion that the estimates of incidence are likely to underestimate rather than over-estimate the true incidence of disability in NSW gaols comes from the details from psychiatric notes and health professionals regarding those who were screened, required for further testing, yet who did not participate. The evidence suggests that those staying away from further testing were likely to have had intelllectual and/or adaptive difficulties, or be culturally disadvantaged.

On the figures as presented, including PMS data, the incidence for males is 8.9% and for females 12.2%, in the intelllectual deficit group. The male rate is no different from that found in

the general community, i.e. on the WAIS-R an IQ of 80 or less means that the individual is on a percentile rank of 9, i.e. 9% of the population functions at or below an IQ of 80. The figures for females indicate an over-representation of 3.2% compared with the general population.

A further anomaly in the comparison with the general population is the fact that it could be assumed that only mildly intellectually disabled people would be in prison; those suffering from moderate (36-51 IQ), severe (20-35 IQ) or profound (IQ less than 20) would be likely to be found unfit to plead, or would not have the opportunity to fall foul of the law. This study, therefore, should exclude the proportion which falls into the latter three categories, i.e. roughly 0.4% of the population (Wechsler: p.27). By any of the calculations used in this study, an estimate of the prevalence of intellectual deficit in New South Wales gaols would be at least 12.5%.

4.2 IQ and Adaptive Functioning:

The relationship found between IQ and adaptive functioning, especially the link found between low IQ and deficiencies in communication abilities and socialisation, suggests that level of adaption is related to level of intellectual functioning. This finding has bearing on the two theories proposed to account for the over-representation of the intellectually disabled in gaols; the susceptibility hypothesis and the different treatment hypothesis. Socialisation taps the capacity to perceive the norms, both formal and informal, of the community in which one is involved, to share and participate in a non-conflictual manner. It seems that being intellectually disabled, borderline and/or Aboriginal is associated with a diminished level of performance in this domain. Whether diminished performance is related to a failure to perceive the norms of the community or a failure to act in accordance with them, the outcome is the same. The informal rules of a community of inmates are maintained by informal social sanctions. Failure to observe these mores may leave one open to abuse. Failing to note or act in accordance with the formal rules of the wider community may result in one falling foul of the law. Hence, diminished performance in this area may provide evidence for the susceptibility hypothesis. However, the deficiencies found in the expressive and receptive skills in the communication domain may mean that these

intellectually disabled inmates may not emerge successfully from interctions with police and courts. They may elicit differential treatment as a result of a failure to understand events and to convey their own perception of them. Thus it would seem that there is possible support for both the susceptibility and the different treatment hypotheses.

Those who were ID had the most severe deficits in communication and socialisation skills, the extreme low scores implying almost no achievement in these areas. The significant differences in adaptive functioning which characterise the ID and borderline groups underscores the wisdom of retaining the distinction between these two groups.

This presents a focus for remediation of difficulties likely to be experienced by the intellectual deficit group. Given that intellectual disability is associated with difficulties in communication, interpersonal relations and acquiring a working knowledge of the norms and expectations of the community within which one lives, the medium by which remediation is attempted is unlikely to be successful if it relies upon reading skills.

4.3 The Implications of Aboriginality:

The fact that Aborigines scored significantly lower on the Verbal IQ of the WAIS-R suggests that belonging to an ethnic subgroup does relate to level of functioning on these tests. While the small sample size for whom both measures were available is an important consideration, the evidence tentatively suggests the possibility that this part of the test may reflect both intellectual and cultural differences. The cultural specificity of certain items has already been acknowledged in so far as there exists an Australian supplement. It is possible that non-Aboriginal Australians would score at a significantly lower level on the American version than Americans, as Aborigines do on this Australian supplement.

The patterns of adaptive functioning found provide independent evidence for the significant differences in verbal IQ between Aboriginal and NAA groups. For example, the communication subdomain of the Vineland scale assessing adaptive functioning covers both written and verbal expression and involvement with culture via reading material (newspapers, magazines) and books.

Aborigine inmates scored at a significantly lower level on this subdomain compared to non-Aboriginal Australians.

The implications of such deficits in skill are suggested by the findings of the Young Offenders Project by Gilchrist, Young and Eliot (in press) in that all prisoners were more likely to obtain information about gaol life from other prisoners rather than from the rule book and that this was especially true for Aborigines. Forty-five percent of Aborigines obtained information about gaol life from other inmates, compared to 26% of non-Aboriginal Australians. No Aboriginal inmate obtained information from the rule book compared to 8% of non-Aboriginal Australians. If difficulties with reading are compounded with communication difficulties, as they are in the case of intellectually disabled offenders, such an inmate may remain unaware of the rules of the formal and informal gaol system. In the first case s/he is more likely to cause management difficulties. In the second case s/he is more at risk in terms of receiving informal sanctions from other prisoners.

4.4 Remedial Strategies:

The difficulties presented by such complex patterns of intellectual and adaptive disabilies could be ameliorated if some medium other than the written word were used to acquaint prisoners with prison routine e.g. if a video were shown to all prisoners when they arrive in gaol, which outlined the gaol requirements, and intimated possible points of difficulty with regard to the expectations of other prisoners. Prisoner participation in making such a video, perhaps in conjunction with the Long Bay reception committee, would ensure the validity of such a production, i.e. in ensuring that it portrayed a realistic and up-to-date notion of prison life. This is one possible way of conveying relevant information which might enhance adaption to the prison routine, while bypassing the deficiencies in skills of certain prisoners. It is not an acceptable long-term solution as, upon return to the wider community, such concessions are unlikely to occur in the workplace.

4.5 Life history, criminal history and adaptive functioning:

Support for the relevance to everyday life of the assessments of IQ and adapative functioning is found in the fact that the

patterns of achievement of these indices carry through to employment achievement, and (with differential involvement of the borderline and ID groups), into patterns of criminal offence.

The high rate of murder for the ID group may be a function of small sample size. However, this incidence coupled with the absence of armed robbery in this group suggest that while this group is involved in serious crimes as well as nuisance type crimes, they seldom take on situations requiring detailed advance planning. The borderline group are extremely highly represented in this category, more so than the non-disabled (low average) group which however has an elevated level of involvement relative to the census data. The fact that the bimodality of offence only characterises the ID group again supports the advisability of retaining the distinction between the two intellectual deficit groups. This reflects what an heterogeneous group they are, with a wide range of skills, needs and security classifications.

4.6 The first step in remediation: Detection of the intellectually disabled.

Remediation that will be effective in the long-term must focus on the development of skills. However, the first step is to identify intellectually disabled prisoners. This can be best achieved via formal assessment. It is therefore important that all prisoners, both remand and sentenced, ethnic and Australian are given a screening test on arrival. As the screening test used in this project correlates highly with verbal ability, it may be less than ideal for identifying the intellectually disabled in ethnic subgroups. The Ravens Colour Matrices has a low ceiling which means that many scoring the maximum of 80+ on this test are still functioning within the borderline range of the WAIS-R. However, it may be adequate if the remedial focus were only on the clinically ID. A broader remedial focus is recommended and would require the use of the Standard Ravens Progressive Matrices which is the test administered to volunteer prisoners serving long sentences at point of entry already in NSW gaols. At present very little data exist regarding level of prisoner performance on this test. The partial data record is due to the fact that it is not compulsory, and motivating the prisoners to take part is a problem, especially with group administration. If it could be incorporated as part of a wider introduction to gaol life, (e.g. an interview at point of entry),

when other details were being gathered about the prisoner on a one-to-one basis it is likely that there would be greater compliance. At the point of detection of an individual's sub-optimal functioning, detailed coverage of the courses available and encouragement could be provided.

In summary, all of the tests mentioned have some drawback, but it is important to choose one (such as the screening test used in this study) which includes false positives, rather than one which has a high ceiling and is likely to miss ID cases. The additional data from the Prison Medical Service indicated that there were very few prisoners who were "positives" on the screening who did not have some disadvantage, owing to ethnicity, language, psychiatric illness or some other problem. All of these categories, as well as ID inmates, require appropriate referral to medical, psychiatric, psychological, or educational services.

It is also important to make the screening test compulsory, similar to other procedures upon reception to prison.

4.7 Special Education:

The difficulty with any singling out procedure is that it invites the stigmatisaiton of the subgroup. However, from the broader perspective of possible successful reintegration to the community, remediation in the form of educational programmes may be justified by improving chances of intellectually disabled offenders leading independent and productive lives.

It is clear from the results that a number of important considerations need to be taken into account when designing programmes for intellectually disabled offenders. The pattern of offence(s) show(s) that this group contains some prisoners who have committed very serious and violent crimes, and some who have committed minor offences. The security classifications range from maximum to minimum, with almost as many in each category. There is also great variability in social and adaptive skills. These findings indicate that habilitation programmes would need to be available in maximum through minimum security institutions and would need to be flexible enough to cater for individual differences in base-line abilities. Furthermore, severe deficits in social and adaptive skills indicate that custodial officers

would benefit from training in day to day management of intellectually disabled inmates, and that they should be an integral part of the habilitation process involved in training in daily living skills such as personal hygeine, domestic tasks, budgeting, laundry and so forth.

As there is unlikely to be an increase in the resources for education in prisons, a reallocation of existing resources seems the only feasible option. The form of remediation should take into account the principles of normalisation, integration and the least restrictive alternative. Normalisation means making available to ID persons patterns and conditions of everday life which are as close as possible to the norms and patterns of the mainstram of society. Integration implies that ID inmates should not be segrated from the mainstram on the basis of ID alone, but only if it is deemed necessary for protection of themselves or others. The least restrictive alternative principle means that habilitative services and the conditions under which they are administered are no more harsh, hazardous or intrusive and involve no more restrictions upon the ID offender's physical freedom, social interaction, or individual choice than are essential (Hayes and Hayes, 1982). If these principles are adhered to, ID prisoners would receive appropriate educational services in the institutions and security classification levels to which they are assigned, and not retained at an unnecessarily high level of security classification merely because services are only available in that gaol. The environment must be tailored to meet the ID inmate's needs, not the inmates tailored to fit the institutions needs.

The data show that while these prisoners are not functioning at an elevated level of self-care, as tapped by the daily living skills subdomain, that they are more competent in this area than in communication and socialisation. The wide range found in all such skills indicates that remedial programmes are likely to have to be tailored to individual needs. Staff will need to be trained to assess areas of deficient functioning and how to provide remedial programmes. Both custodial and non-custodial staff should be involved to enhance the impact of remediation. There should be small flexible units or programmes within the prisons. Special classes are required to tutor the inmates on basic skills, particularly daily living skills. A small group situation would be ideal in that it would necessitate

interpersonal involvement, and enhance the growth of interpersonal skills on the part of ID inmates.

Some prisoners whose intellectual eficits are compounded with severe deficits in adaptive skills and/or behaviour disorders may require special units. While admission to such units may not be voluntary, no programme of education or behaviour modification should occur without prisoner consent.

Given the high incidence of intellectually disabled inmates the heterogeneity of their needs and security classifications, flexibility of resource allocation is the keynote.

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6.0 APPENDICES

6.1 APPENDIX ONE:

THE SCREENING TEST:
In Depth:

The weighted average which constitutes the total score on this test may be calculated as:

MATHS SCORE + GENERAL KNOWLEDGE SCORE + DIGIT SYMBOL/3

6.2 PILOT STUDIES ON THE VALIDITY OF THE SCREENING

Pilot Study One:

The screening test was first piloted with 11 research staff within the Department of Corrective Services. In the first two pilot studies a typing error in the maths subscale is likely to have inflated the score. The division symbols were printed as subtraction symbols, which influenced 25% of the sums. As the total score was a weighted average (see above), the data could only give a general idea of range of achievement. The mean for this group was 79 and the standard deviation 10.6 with a range from 54-93. This high level of performance is appropriate given the select sample. Ceiling effects were found on certain subscales but this was viewed as unlikely to be a problem given the focus of the study on those performing in the lower range.

Pilot study two:

This was conducted on 101 inmates at Cooma Gaol by the psychologist. Despite the adequacy of sample size the recurrence of the printing error meant that the mean and standard deviation would not be valid indicators for comparison purposes with other inmate samples. Decisions about the appropriate cut-off point regarding who was likely to perform in the ID range could not be made. The median score was 72 out of a possible 93, and 10% of the scores fell below a cut-off of 45. Procedural difficulties were revealed with large group testing of inmates, (two groups of 50). Problems noted were: humorous announcements of answers,

cheating, difficulty in ensuring that people did not start each section before they were supposed to. Some (mainly young prisoners) were disruptive, starting at the end, calling out answers and distracting other prisoners. Outright refusals were a problem as it was possible that these came for illiterate prisoners. Many prisoners indicated that they doubted the confidentiality of the papers and that they were not convinced by the process of sealing and signing the envelopes. Many thought that the information would be used against them in the future.

Modifications of the procedure based on the pilot were;

i) group size was reduced to eight to facilitate the monitoring of subjects, minimise peer presure and cheating.

ii) the taped instruction were modified to include reassurances of confidentiality, and the contingencies of cheating, refusing to complete the test or passing on information were outlined in an introductory discussion of the aim of the study and how participation would benefit prisoners.

iii) as the entire gaol population could not be tested in one day, a separate cut-off point was established on each day's data separately, as transfer of information meant that prisoners tested on the second and third days may have had prior knowledge of the answers which could have moved the performance distribution upwards.

Pilot Study Three:

Participants were a range of intellectually disabled people (in the mild to severe range of disability) from group homes in Sydney. No participant of the 31 in the sample scored above 36. The range was 3-36. These results contribute validly to decisions regarding the level of functioning expected from handicapped people on the screening test. The mean was 12.6 and the standard deviation 8.7. Modification of the taped instructions on the basis of this study included: Instructions NOT to turn the page until told, and NOT to compare answers.

Despite the validity of the results from this criterion group of mildly to severely handicapped people, the sample size was small. It was considered advisable for the firstscreening test in the first gaol to be treated as a further pilot test. Decisions regarding which screening test raw score would be an appropriate cut-off point with regard to a handicapped level of functioning would be made on this larege and directly relevant sample.

6.3 THE PSYCHOMETRIC FUNCTIONING OF THE SCREENING TEST:

In terms of the screening test subscales the digit-symbol and the general knowledge scale correlated significantly with the total WAIS-R score, ($r=.36$, $p<.05$; $r=.41$, $p<.001$, respectively). The General Knowledge subscale of the screening test correlated highly and significantly with the Verbal IQ of the WAIS-R, ($r=.49, p<.001$). The Maths subscale did not correlate significantly with any of the WAIS-R scores: Total, Verbal or Performance IQ's. These correlations are based on a sample of 80 i.e. those who scored below 45 on the screening test who were deemed likely to be intellectually disabled. This sample therefore represents a restricted range which may have attenuated the correlations. Consideration of the means and standard deviations of the subscales for this restricted sample reveals a restriction in range which differs across subscales, (see Table 17).

TABLE 17: The Screening Test Distribution About the Mean of Inmate Scores: Subscale Results.

SUBSCALES:	MEAN	STD. DEVIATION	MAXIMUM
Digit Symbol	12.8	7	31
General Knowledge	10.5	7	32
Maths	3.6	3	30

The distribution of the maths subscale for the whole screened population was positively skewed but still approximated a normal distribution. However, for the restricted sample, i.e. those who were recalled for further in-depth testing, the mean is extremely low with little spread of scores. This may account for the absence of significant correlations with this subscale. For the whole screened population the Digit Symbol subscale is slightly negatively skewed with a marked ceiling effect. For the restricted sample the Digit Symbol subscale mean is low but the distribution is adequate. For the whole screened population the General Knowledge subscale was markedly negatively skewed but this scale evidenced no ceiling effect. For the restricted sample the General Knowledge mean was highest of all subscale means and the distribution adequate. The total screening score was slightly negatively skewed for the whole population but there was no ceiling effect in evidence. The shape of the curve suggests that the test is a good discriminator in the lower range as it is here that there is the greatest spread of scores.

Looking at performance in the lower ranges of the screening test it is noteworthy that 33% got none right on the maths screening test, and these results differed significantly from that of the non-disabled group ($p<.003$, 1-tailed test).

Of those who upon further testing were found to be clinically ID (i.e. scored <70 on the total WAIS-R), 100% got 20 or less on the total screening score. Of those whom further testing revealed to be borderline (i.e. scored between 70 and 79 on the WAIS-R total).
100% fell below a score of 40. The two groups of peoplewith intellectual deficits function significantly differently in terms of the screening score. The difference between the borderline and the ID groups was extremely significant, ($p<.001$, 2-tailed test). Given that they are divided into these groups on the basis of their WAIS-R total score which correlates moderately and significantly with the screening teset score, this difference in their functioning is to be expected.

The differences in performance of the two intellectual deficit groups was sustained for the General Knowledge subscale and the Digit Symbol subscale. Comparing the performance of the clinically ID group with the borderline group on the General

Knowledge subscale the mean performances were 3.9 and 10.0 respectively, ($p<.002$, 1-tailed test); for the Digit Symbol subscale the mean performances were 6.8 and 13.1 respectively ($p<.005$). Difference in performance on the maths subscale was in the expected direction; mean performances of 2 and 3.4 respectively, but it failed to reach significance, ($p<.25$).

Aboriginal Performance on the Screening Test:

Given that the screening test correlated highly with the verbal IQ of the WAIS-R it was expected that inmates from different subcultures would do more poorly. Taking Aboriginal inmates as a separate subculture, the mean difference in the total screening test results were in the direction that Aborigines had a mean performance of 23.5 compared with the Non-Aboriginal Australian mean performance of 30.1, but the difference failed to reach significance on a one-tailed test, ($p<.07$). However, while total score results did not reveal differences in performance, differences did exist in subscale performance.

The difference between these groups in performance on the General Knowledge subscale was that Aborigines scored less than Non-Aboriginal Australians (Aborigines mean = 8.7 to Non-Aboriginal Australian Mean = 11.8), but this failed to reach significance on a one-tailed test, ($p<.12$). The mean difference between groups on the Digit Symbol subscale was also in this direction, (12.9 and 14.4 respectively), and also failed to reach significance ($p<.23$, 1-tailed test). The mean difference between Aboriginal and Non-aboriginal Australian groups in terms of Maths peformance (1.9 and 3.7 respectively) was significant, ($p<.03$).

However, when the intellectual deficit group was considered it was found that Aborigines scored significantly less than did Non-Aboriginal Australians ($p<.004$, 1-tailed test). The subscales responsible for these differences were the General Knowledge subscale on which Aborigines scored significantly less; a mean of 5.6 of to the Australian mean of 10.7 ($p<.02$, 1-tailed), and the Maths subscale where Aborigines scored a mean of 1.2 and Non-Aboriginal Australians 3.0 ($p<.03$). The difference in performance between Aborigines and Non-Aboriginal Australians on the digit symbol subscale marginally failed to reach significance: with respective mean performances of 10.2 and 13.3, ($p<.055$).

Recommendations for further use:
To reduce the ceiling effect on the Digit Symbol subscale, it is suggested that the time allowed for completion be reduced from 2 minutes to (say) one and a half minutes.

Given that some people scoring 49 on the screening test were still functioning in the borderline range, for certain purposes it may be advisable to use a higher cut-off point. If modifications in timing are followed, it is suggested that researchers continue to calculate the cut-off point relative to the distribution of a particular sample, until data accumulate regarding the functioning of the test. A cut-off point higher than the 30th percentile is suggested if the research focus includes not only those who are clinically retarded, but those who are borderline or disadvantaged in other ways.

The screening test might be useful in future research or in reception procedures in gaols. The verbal emphasis which the correlation with the verbal IQ of the WAIS-R revealed may mean that false positives are included from other ethnic groups or from inmates who are functionally illerate, or have perceptual or sensory difficulties. These groups, while possibly not actually intellectually disabled may be disadvantaged in other ways and therefore a legitimate focus for remediation or referral.

6.4 The functioning of different measures of intelligence.

For the total sample for whom both CPM and WAIS-R data were available (N=45), the CPM correlated highly with the WAIS-R total, ($r=.6$, $p<.001$). The correlation with the RPM was not significant, possibly due to the small sample for whom both measures were available (N=16), as the RPM was used as a second screening device.

APPENDIX TWO:

PATTERNS OF FOLLOW-UP:

The patterns of successful follow-up differed across gaols, with more than 50% being successfully recalled for in-depth testing in all gaols except CIP. The CIP has an extremely high turnover rate, as it is a classification gaol. It was likely to be the transience of the prison population that prevented a higher rate of success as well as the fact that the CIP is one of the toughest and most suspicious gaol environments in the NSW prison system.

Table 18: Patterns of successful follow-up across gaols.

GAOL	MRC	BH	PARRAMATTA	MULAWA	CIP	TOTAL
Follow-up required	52	10	41	22	40	165
Follow-up achieved	39	10	24	14	17	104
Follow-up success(%)	74	100	56	67	46	64

6.6 APPENDIX THREE

SEMI-STRUCTURED INTERVIEW FORMAT FOR THE VINELAND ADAPTIVE BEHAVIOR SCALE:

I'd like to ask you a few questions about your lifestyle if that's OK, looking at the things that you usually do outside not what you can do.

1. Do you do any reading?
   [Prompts: newspapers, books magazines?
   If reads books, ask: What kind?]

   How often?

[Prompt: 1 per week? Less?]

If doesn't read, go to the basal age around questions 40 - 41 and ask the questions from there:
Can you write your name? Remember phone numbers?

2. Do you do any writing? Short notes? In printing or joined up writing?
[Prompts: to keep in touch?
for pleasure?]

3. What would you like to do when you get out?
[This is to assess the realistic nature of long-term plans].

4. Socialisation:
Do you have any hobbies or interests?
Do you go out much?
- where?
- in a group?
- with women/men?

Do you ever go to any interest groups? Evening classes?

Do you watch TV?

Do you think it is important to keep a secret?
How good are you at keeping one?

Do you usually borrow things? Equipment? Money?
Do you usually remember to pay the person back, return the things?

When you are really hurt or angry, what do you tend to do, sulk or what?

Can you tell how you are feeling most days? Like, do you know when you're miserable or when you're happy or when you're angry?

How does your household run when you are living at home?
How do you divvy up the work?
- who cooks the meals?

[If says Mum, or wife ask:
- if no-one were at home, would you cook?
- what would you make? [score appropriately
1 = sandwich, 2 = more complex]

- who does the cleaning? washing? gardening?

Do you work usually?
- would you ring in if you got sick?

Do you manage to save money?
[Prompt: to buy the things you want?]