mini-review

Dual diagnosis in offenders with intellectual disability: setting research priorities: a review of research findings concerning psychiatric disorder (excluding personality disorder) among offenders with intellectual disability

G. O'Brien

University of Northumbria, Northgate Hospital, Morpeth, UK

Abstract

Studies of so-called 'dual diagnosis', i.e. intellectual disability (ID) with an additional psychiatric disorder, are reviewed with particular reference to offending behaviour. Because of the paucity of studies of psychopathology in offenders with ID, the present paper opens with studies of broader issues of psychopathology among people with ID, notably those with depression, schizophrenia, mild depressive disorder, other major psychotic disorders, anxiety/neurotic disorder, autistic spectrum disorders and attention deficit hyperactivity disorder. There follows a review of the most established and commonly used measurement scales for dual diagnosis in ID. The review then focuses directly on those studies which have looked at the issues of dual diagnosis among offenders with ID. In keeping with other reviews in this series, the latter studies are classified according to the same criteria. Based on this review, it is apparent that there are high-priority research questions which concern the extent and nature of psychopathology among offenders with ID, most notably those with autistic spectrum disorders.

Keywords autism, dual diagnosis, psychopathology

Studies of dual diagnosis in the broader population of people with intellectual disability

The following section reviews dual diagnosis in intellectual disability (ID) as a prelude to a later discussion of studies of dual diagnosis in offenders with ID. The reasons for proceeding in this way are twofold: (1) to provide a background to the focused review of offenders with ID which follows below; and (2) because, while there is a substantial literature on dual diagnosis in ID, the same is not true of dual diagnosis in offenders with ID [except for the autistic spectrum disorders (ASDs), perhaps, where there has been some interest and, as will

Correspondence: Gregory O'Brien, University of Northumbria, Northgate Hospital, Morpeth, NE61 3BP UK (e-mail: GregoryOBrien@compuserve.com).

be seen, the preliminary findings suggest that further work here may be indicated]. In the present section, papers are cited and reviewed in as much as they serve as the background to the later material. Because these studies do not concentrate on the primary subject matter of the present review, the papers are not classified according to type, as are those papers on dual diagnosis and offending cited later. However, where informative, important features of the studies in question are highlighted, including sampling, the research model and the nature of the diagnoses employed.

Any review of dual diagnosis among offenders with ID relies upon detailed consideration of the broader issue of dual diagnosis among the population of people with ID. Overall, studies have reported varying rates of psychiatric disorders among people with ID according to the different diagnostic criteria, methodologies, sampling and other research procedures applied.

Studies of the prevalence of total psychopathology in people with intellectual disability

Taking into account the issue of the overall rate of psychopathology within the wider population of all people with ID, prevalence rates of between 14% (Eaton & Menelascino 1982) and 64% (Gillberg *et al.* 1986) have been reported by reputable studies. However, most of the prevalence studies yield rates of between 30% and 50% (e.g. Leck *et al.* 1967; Rutter 1970; Williams 1971; Corbett 1977; Reid 1980; Corbett 1979; Lund 1985a). Much of the variability in prevalence can be understood on the basis of the varying methodologies employed, whether case note studies of hospital inpatient populations (e.g. Leck *et al.* 1967; Williams 1971), clinical interview studies of hospital or clinic populations (e.g. Reid 1980), case register studies (e.g. Corbett 1979), or studies of epidemiologically derived samples (Rutter *et al.* 1970; Lund 1985a; Gillberg *et al.* 1986). Despite the varying methodologies and prevalence rates reported, there has emerged a consensus from these studies that psychiatric disorder is common in people with ID, increasingly so with more severe intellectual delay and in those with evidence of epilepsy or organic

brain disease (for reviews, see Fraser & Rao 1991; O'Brien 1992a).

Nature of psychopathology among people with intellectual disability

Much of the variance between rates of psychopathology reported in different studies is accounted for by the diagnoses and constructs employed. On the one hand, studies which have concentrated on rates of diagnosable mental illness, such as Eaton & Menelascino (1982), have produced lower rates than those which have adopted wider concepts of 'psychiatric disorder', such as Cooper (1997). Most studies in the field fall into the latter category, interpreting 'psychiatric disorder' along such lines as 'any emotional or behavioural disorder which interferes with, or impairs, the lifestyle and functioning of the affected individual and/or immediate family or carers', this being in keeping with the WHO (1992) approach. When such a concept is adopted, higher rates of towards 50% are reported (e.g. Corbett 1979; Reid 1980). Such high rates include not only mental illnesses and pervasive developmental disorders, but also behaviour problems which are of such a nature as to be 'psychiatric disorders' according to the above definition, but which do not readily fit into standard classification systems.

Rates of individual psychiatric disorders

Certain studies have reported on the rates of individual psychiatric disorders in people with ID. The consensus emerging from these researchers is summarized below, according to the major conventional categories. As will be seen, there is as yet a paucity of such detailed data, despite the reported high rates of psychopathology in this population.

Depression

Major depression has been reported at rates of 1% to 5% in people with ID (Cooper & Collacott 1993), corresponding to rates which extend from those equivalent to those in the general population, to rates two or three times greater than the latter.

Most recent careful studies employing strict diagnostic criteria have suggested that the best estimates lie at between 1.5 and two times that in general population (Meins & Sussman 1993; Cooper 1997). There is evidence that this excess is the result of both organic and environmental factors (Meins 1995).

There are inherent difficulties in the detection and diagnosis of depression in this population (Kazdin et al. 1983). First, in service settings where individuals with more overt disturbances of behaviour are naturally detected because of the challenges which they pose to carers, the motor slowing and social withdrawal which are characteristic of the depressed individual are less likely to be detected (Fraser et al. 1986; Emerson & Emerson 1987). Therefore, symptoms of depression are easily overlooked. Another problem is the apparently higher prevalence of 'atypical' signs of depression as it presents in this population, such as tearfulness, excessive sleeping and overeating (O'Brien & Whitehouse 1990; Meins 1995; RCP 1996). Moreover, given the pathoplastic effect of the degree of ID on psychiatric symptomatology, and the inability of individuals with more severe disabilities to give a verbal account of their own symptoms, it is apparent that observations of defined behaviours offer the most promising approach to the detection and diagnosis of depression in people with ID (Cooper & Collacott 1996). One implication of such an approach is that minor degrees of depression are less likely to be recognized. In line with such thinking, only depression corresponding to 'major depressive disorder' is included in most studies of depression within ID.

Schizophrenia

Most studies of schizophrenia among people with ID have reported prevalence rates of twice that in the general population (e.g. Lund 1985b; Reid 1994). The consensus is that the higher prevalence comprises some who share the same genetic predisposition to schizophrenia as occurs in the general population (Tsuang 1993), some in whom the psychosis is a result of organic brain disorder (Lund 1985b) and some where the illness may relate directly to the respective genetic syndrome of ID (Reid 1994).

The diagnosis of schizophrenia is progressively difficult to apply down the IQ spectrum: this is because of the accustomed reliance on disorders of language, thinking and other aspects of inner life, which rely in turn on a degree of expressive language. There is a lack of familiarity with the phenomenology of schizophrenia as it presents in people with ID, which derives in part from its rarity in any one local population. In practice, the diagnosis is little used in individuals with severe and severe to moderate ID.

Manic depressive disorder

Research on manic depressive disorder has reported similar relative rates of this severe illness as of schizophrenia, i.e. approximately twice that in the general population (Corbett 1979; Cooper 1997). Also, as in schizophrenia, it seems that, in addition to the general population background of susceptibility to the psychosis, both gross organic brain pathology and the gene products of certain genetic syndromes of disability, whether already identified (e.g. Cooper & Collacott 1993) or hitherto unrecognized (Lindsay et al. 1996), may be implicated in the excess of disorder in the population with ID.

As with the other major psychiatric disorders already discussed, the diagnosis can be difficult. On the one hand, florid manic symptoms with their motor concomitants are quite obvious in some cases. However, other signs which rely on some capacity for language may not be easily elicited.

Other major psychotic disorders

It is clear that major psychoses are relatively common within the population of people with ID, but the classical signs and symptoms of individual major psychoses may be difficult to identify, especially in subjects who are more severely intellectually delayed. In addition, particularly in individuals who are more disabled, there has long been identified a group of psychoses of uncertain nature. Indeed, the recent WHO (1996) guide on classification states, in connection with category F28, 'Other nonorganic psychotic disorders', that 'this category is used more often in people with ID because it is difficult to be certain of the exact nature of the

disorder in patients who have difficulty in communicating'. Consequently, while standard diagnostic categories of the major psychoses should be employed with respect to people with ID where appropriate and possible, especially schizophrenia and related disorders, manic depressive and related disorders, it is accepted that the categories of 'other nonorganic psychotic disorders' and 'psychoses otherwise unspecified' will, in some cases, be applicable, especially those with more severe ID.

Anxiety/neurotic disorder

Whereas epidemiological studies of psychopathology within the general population have given extensive attention to the cause, nature and extent of the whole range of anxiety/neurotic disorders, there has been comparatively little attention paid to these issues in the population of people with ID (Bregman 1991). The reasons for this are generally accepted as being to do with difficulties in diagnosis (Steffenburg *et al.* 1996), and questions concerning the nosological status of minor degrees of emotional and behavioural change in this population.

Autism and related pervasive developmental disorders

Of all psychiatric diagnoses, autism and related ASDs have been among the most-studied among people with ID because, while the rate of autism in the general population has been estimated to be between one in 10 000 (Wing 1982) and two per 1000 (Gillberg 1992), that within the population of people with ID is universally recognized to be far higher at around 5–10% in those with mild ID and up to 30% in those with moderate to severe ID (Steffenburg *et al.* 1996). Also, just as in the general population, where the consensus of more recent studies has been towards higher prevalence rates than previously (Le Couteur *et al.* 1996), more recent studies of autism in people with ID have similarly tended to report higher prevalence rates than before. Finally, there has been increasing interest in recent years in extending study of the 'broader phenotype' of autism. This entails both consideration of so-called 'atypical autism', which is regarded by the ICD-10 as essentially a condition which entails two out of three features of the classi-

cal autistic triad, while not being attributable to the presence of one (e.g. language disorder; WHO 1996), and also of 'Asperger syndrome' and other pervasive developmental disorders.

Several factors contribute to the high rate of autism in the population with ID (for review, see Gillberg 1992). To summarize the basic findings: (1) autism is increasingly prevalent with increasing severity of ID; (2) autism occurs more commonly in certain syndromes of disability than others, as part of the behavioural phenotype of these conditions; (3) in those with more severe ID especially, so-called 'peripheral autistic features' are very common, but these cases should not be included as part of the autistic phenotype; and (4) 'atypical autism' appears to be comparatively more prevalent in the those with ID than in the general population, but other variants of autistic spectrum disorder such as Asperger syndrome are difficult to diagnose in this group (WHO 1996).

Attention deficit hyperactivity disorder

Most study of attention deficit hyperactivity disorder (ADHD) has focused on children. Depending on which approach to definition is used, prevalence rates vary widely. This was recently demonstrated in an epidemiologically derived study of Newcastle children by McArdle *et al.* (1995), who found a prevalence of 3–35% among 7–8-year-old children and of 1–25% among 9–10 year olds, depending on the type of definition employed: the lowest rates corresponding to the prevalence of a severe clinical disorder. Evidently, rates vary according to the age and sex of subjects, and particularly according to the type of diagnostic construct employed, from symptom of motor restlessness through to tight criteria of full-blown hyperkinetic disorder. A higher prevalence of hyperactivity among children with ID is to be expected, given the nature of ID, with poor concentration and a background of organic brain factors, plus the observation that hyperactivity is now recognized as a feature of the behavioural phenotype of many syndromes of ID (O'Brien & Yule 1995).

However, there has been as yet little study of hyperactivity among adults with ID. Some studies have focused on the outcome of child hyperactivity rather than the prevalence of adult hyperactivity.

Table 1 Recommended psychiatric diagnostic scales for adults with intellectual disability (ID)

Diagnostic scale	Severity of ID	Diagnosis
Autism Diagnostic Interview (Le Couteur *et al.* 1989)	Mild to moderate	Autism
Beck Depression Inventory (Kazdin *et al.* 1983)	Mild	Depression
Diagnostic Scale for the Severely Handicapped (DASH; Matson *et al.* 1990)	Moderate to severe	DSM-III diagnoses
Gillberg Interview for Mentally Retarded Teenagers (Gillberg *et al.* 1986)	All	ICD
Goldberg Clinical Interview Schedule – Mental Handicap (Ballinger *et al.* 1975)	All	ICD-9 screen
PAS-ADD (HARC 1996)	All	ICD-10 diagnoses
Psychiatric Present State – Learning Disabilities (Cooper 1997)	All	ICD-10 diagnoses
Psychopathology Inventory for Mentally Retarded Adults (Senatore *et al.* 1985)	Mild to moderate	DSM-III diagnoses

Whatever approach is to be employed for study of hyperactivity in adults with ID, there do appear to be qualitative differences between hyperactivity in this population and the general population, as highlighted by the separate inclusion of the diagnosis of 'Overactive disorder associated with mental retardation and stereotyped movements' in the ICD-10 (WHO 1996).

Measurement scales for dual diagnosis in people with intellectual disability

In recent years, there have been substantial advances made in the detection, assessment and diagnosis of behavioural and psychiatric disorders in people with ID. Reviews of these advances have included those of Lund (1989), Sturmey *et al.* (1991), Aman (1991), Reiss (1993) and O'Brien (1992a, b, 1995). A summary of the most commonly used measurement scales for this purpose, as recommended by recent reviews and represented in published research, is given in Table 1, in which only psychiatric diagnostic scales are included.

(A wide variety of scales for the measurement of adaptive/developmentally determined behaviour, or maladaptive behaviour/deviance, are also important in clinical practice and research in ID, but are beyond the scope of the present review.)

Studies of dual diagnosis in offenders with intellectual disability

A systematic review of the literature, a focus-group workshop held by the Forensic Learning Disabilty

Table 2 Studies of clinic samples and service cohorts with a numerical grade

Reference	Grade
Day (1988)	4/5
Buckley & Bigelow (1992)	5
Clare & Murphy (1993)	4/5
Lyall *et al.* (1995)	4/5
Halstead (1996)	4/5
Sheldon (1999)	5
Puri *et al.* (2000)	3
Gralton *et al.* (2000)	4
Hare *et al.* (2000)	4
O'Brien *et al.* (in press)	4/5

Steering Group of the National Programme for Forensic Mental Health Research and Development in London in late 2000, and communications received as a result of the review call for contributions suggested that the available evidence is best grouped under three headings. These groupings were reached based on consideration of the volume of material available, and in the light of the current, growing, interest in autism and offending. The three groups are: (1) clinic samples and service cohorts; (2) reviews; and (3) case studies and commentaries on autism and offending.

Clinic samples and service cohorts (Table 2)

Day (1988) gave a description of the work on the population of an inpatient treatment unit for male

offenders with ID. One-third had a history of major psychiatric disorder.

Writing from Vancouver, Canada, Buckley & Bigelow 1992) described the challenges of treating adults with ID, and proposed that these are people who are particularly prone to be 'unserved multi-problem individuals'.

Clare & Murphy (1993) described the role of the Mental Impairment, Evaluation and Treatment Service and reported preliminary information on the follow-up of a small inpatient cohort.

Similarly, Cumela & Samson (1994) described the work of the West Midlands Mental Impairment Service, and highlighted the problems of people with ID moving on from secure facilities to mainstream services, emphasizing the lack of 'step down' facilities available.

Lyall et al. (1995) carried out a careful study of the reporting of offences to authorities in charge of community facilities, and highlighted that people with ID in community services, who are known to be characterized by high rates of psychopathology/behavioural problems, are highly unlikely to have any of their offending-type behaviour reported to statutory authorities.

Halstead (1996) described the work of a secure facility for adults with ID who have offended, reporting that half of the cohort had a major psychosis.

Writing from Holland, Sheldon (1999) commented on the 'crisis in the care of learning difficulties' there, and in particular, reported that multiple problems in individuals, in particular those with offending behaviour and mental health problems, were poorly served by service networks, which were well developed in many other respects.

Gralton et al. (2000) reported a case series of men admitted to a forensic psychiatric unit for people with ID, in whom there was schizophrenia which had been previously unrecognised. Treatment resulted in improved rehabilitation prospects.

Puri et al. (2000) made a comparative study of the clinical characteristics of patients in a medium secure unit for ID and those in a medium secure unit for non-ID patients. It was found that the offenders with ID have lower rates of schizophrenia and mood disorders and that their index offences were more likely to be sexual, but their index offences were also less likely to be homicide, murder, manslaughter or grievous bodily harm.

Hare et al. (2000) reported a survey of all patients in the three special hospitals, and therefore, included both those patients with and without ID. These authors revealed that at least one in 40 of the whole population had an ASD. The methodological aspects of the study (and certain technical problems) indicate that this is an underestimate, and that the rate among those with ID was higher.

O'Brien et al. (2001) reported on psychiatric diagnoses in consecutive admissions to a mental impairment medium secure unit, where over 40% of patients had a formal psychiatric diagnosis, the most common of which was ASD followed by schizophrenia.

Review articles

The list below summarizes recent reviews of dual diagnosis in ID. While each review is comprehensive in its own right, any particularly useful and/or important messages from each review are cited.

Ghaziudden et al. 1991) wrote a pivotal review of case histories of offending and ASD, lending strength to the impression that there is a pressing need for research on this theme.

Holland (1997) comprehensively reviewed the forensic psychiatry of ID, describing important features of relevance to individuals in the conviction process, and moreover, highlighting issues of clinical assessment.

Howlin (1997) reviewed offending in autism and proposed some of the key mechanisms by which offending behaviour arises in individuals with autism.

Murphy & Mason (1999) comprehensively reviewed the forensic psychology of ID, emphasizing that there is much that we do not yet know about the relationship of offending and ID, particularly in those with dual diagnosis.

O'Brien & Bell (2001) reviewed clinical issues in adolescents with ID, particularly those with autism.

Case studies and commentaries on autism and offending

Asperger (1944) provided the original clinical descriptions of autism and Asperger syndrome, and

included reports of odd and bizarre antisocial behaviours alongside accounts of the core clinical features. All four young people in this author's original paper on autistic psychopathy had conduct problems. These included a boy who was preoccupied with blood and enjoyed seeing blood spurting. He said that some day he would take a knife and plunge it into his mother's heart to see the blood spurt out: the eventual outcome of this case is not reported. Another child who was obsessed by poisons stole substantial quantities of cyanide from a locked school store. Happily, this was discovered before he had the opportunity to try it out. Yet another of Asperger's group financed his chemistry experiments by stealing.

Wolff & Chick (1980) raised awareness of Asperger's observations for a contemporary audience.

Wing (1981) wrote a review paper on the clinical features of Asperger syndrome, noting that 'a small minority have a history of rather bizarre antisocial acts, perhaps because of their lack of empathy'. One of this series of subjects had injured a boy in the course of his chemistry experiments. Overall, it appeared that a lack of empathy was noted to be important in the genesis of offending.

Tantam (1988) described a case series of 60 socially isolated individuals, approximately 50% of whom had committed a criminal act, but only 22% had been charged. This theme of crime and related offending behaviour not being reported appears to be at least as true of autism as it is of ID. This author also echoed the (above) feature of lack of empathy and commented on the unaccountability of the aggressive episodes.

Baron-Cohen (1988) described a case whose violence appeared to arise from a preoccupation with the shape of his jaw.

Mawson *et al.* (1985) wrote a case study that commented further on antisocial behaviours in individuals with autism. These writers suggested that violence, aggression and offending may be of clinical import in the presentation of Asperger syndrome. The case described also had an interest in poisons and admitted to contemplating poisoning a peer after an altercation.

O'Brien & Bell (2001) explored whether any differences could be identified between the offence characteristics of individuals with and without

autistic who all had ID. Three striking areas of significant difference among 100 consecutive admissions were found. First, in the individuals with autism, offences did not tend to be instrumental, in that there was no direct gain to the individual nor did it appear to be a means to an end. Secondly, the subjects with autism were significantly less likely to use drugs or alcohol, and substance misuse was not implicated in their offending. Thirdly, the time of day that those who were autistic had committed offences was unusual in that they had committed offences during daylight hours, while other subjects had offended both by day and night.

Howlin (1997) proposed that offending and aggression in people with autism might arise by four means (while emphasizing that more than one of these factors may be implicated in offending in clinical practice):

• People with autism may be led into criminal acts by others because of their social naiveté.
• Aggressive behaviours may arise from a disruption of routines or changes in daily circumstances. This is perhaps the type most commonly seen in ID practice. Families and staff have borne the brunt of severe assaults when the daily routine of an individual with autism is disturbed.
• Antisocial behaviours may be related to a lack of understanding or misinterpretation of social cues.
• Antisocial or criminal behaviours may arise from obsessions. It is thought that offending around obsessions may be a cause for greater concern.

Priorities for future research

It is proposed that focusing on general issues of 'dual diagnosis', particularly with mental illness, is not of the highest priority for research on people with ID. This is for a number of reasons, not the least of which is the wealth of literature on the prevalence of psychiatric disorder in ID, and the substantial overlap that there is between inpatient studies, compared to units for inpatient offenders. There is also the empirical observation that any treatment research on mental illness in ID is not perhaps ideally pursued in offender populations. The present reviewer would emphasize that this conclusion was reached independently: it was made at the Stakeholder Workshop held on 3 November

2000 and was also highlighted in personal communications received subsequently by individuals who did not attend that workshop.

On the other hand, there is a pressing need for research on autism in ID and offending, and this might take one or more of a few forms, for example:

1 a survey of inpatient units for forensic ID to follow on and complement the National Autistic Society special hospital survey;

2 a collaborative multi-centre survey of community teams who are working with ID offenders (technically less difficult than the above); and

3 an intervention study focusing on educating carers on the nature of the mechanisms by which offending behaviour arises among people with autism.

The present reviewer would wish to emphasize that (1) and (3), above, were particularly well-supported in the Stakeholder Workshop.

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