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ORIGINAL PAPER

Offending Behaviour in Adults with Asperger Syndrome

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Abstract Considerable speculation is evident both within the scientific literature and popular media regarding possible links between Asperger syndrome and offending. A survey methodology that utilised quantitative data collection was employed to investigate the prevalence of offending behaviour amongst adults with Asperger Syndrome in a large geographical area of South Wales, UK; qualitative interviews were then conducted with a subsample of those identified. A small number of participants meeting the study criteria were identified. For those who had offended, their experience of the criminal justice system was essentially negative. Possible implications of the results were discussed.

Keywords Asperger · Offending · Adults

Introduction

Asperger syndrome may be defined as a condition in which many of the features of autistic spectrum disorder (ASD) exist, but in persons who are of average or above average intelligence. The syndrome is defined by: severe impairment of social interaction (typically characterised by extreme egocentricity); all absorbing, narrow interests, often to the exclusion of other activities; a compulsive need for routine; good grammar and vocabulary (but with the inappropriate use of speech); a tendency to engage in monologues on special interests; limited or inappropriate non-verbal communication; and motor clumsiness (see Gillberg (2002) for a more detailed description of these defining features, and of the variance in diagnostic criteria for Asperger syndrome between DSM-IV and ICD-10).

Several theoretical reasons as to why people with Asperger may be more likely to engage in offending behaviour have been put forward (Barry-Walsh and Mullen 2004; Howlin 1997; Morgan et al. 2001). For example, people with the syndrome are at particular risk of being socially misunderstood, often have poor impulse control, lack empathy and social understanding, tend to be very obsessional in pursuit of their special interests, fail to recognise implications of behaviour, adhere rigidly to rules and may be particular vulnerable to exploitation as stooges in criminal activity as a result of their failure to understand social relationships.

The apparent association with offending has been in part generated by sensationalised, but often unsubstantiated in diagnostic terms, media reports (Howlin 1997). Clinical case studies of people within the professional literature (Baron-Cohen 1988; Barry-Walsh and Mullen 2004; Chen et al. 2003; Chesterman and Rutter 1993; Cooper et al. 1993; Everall and LeCouteur 1990; Fujikawa et al. 2002; Kohn et al. 1998; Haskins and Silva 2006; Mawson et al. 1985; Murrie et al. 2002; Schartz-Watts 2005) have also explored the hypothesised relationship. Sexual offences, violent offences, and arson tend to be the most offence types described within these studies, while preoccupations

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and special obsessions, interpersonal naiveté, low empathy, self-centredness, 'logical' explanations for offending and problems with sexual frustration are all described as contributory characteristics to offending. A history of co-existing psychiatric problems is common, with depression, schizophrenia and anxiety being the most frequent diagnoses.

Prevalence studies have typically been restricted to highly specialised settings (and therefore very highly selected samples) and have tended to blur the distinction between Asperger syndrome and autistic spectrum disorders in general. Scragg and Shah (1994), for example, examined the case notes of 392 male patients in Broadmoor Special Psychiatric Hospital in the UK and conducted semi-structured interviews with staff and interviews with patients as well as observations. They found a prevalence rate for Asperger syndrome or autism of 1.5%, which significantly exceeded the prevalence rate of 0.36% found by Ehlers and Gillberg (1993) in the general population by using the same criteria. Hare et al. (1999) found that within Rampton, Ashworth and Broadmoor special hospitals in the UK, 31 individuals were diagnosed as having autistic spectrum disorder. Ashworth was found to have eight people (25.8%) with autism, Broadmoor 10 people (32.26%), and Rampton 13 people (41.94%); 67.74% met the criteria for the diagnosis of Asperger syndrome. As in the Scragg and Shah (1994) study, these results were put forward as supporting the notion that there is an over-representation of people with Asperger syndrome in offenders within the special hospitals.

Other authorities have argued that it is only a minority of people with Asperger that are more likely to engage in offending behaviour. Wing (1997), for example, suggested that the great majority of this population group are actually very literal and pedantic in their adherence to the law. Murrie et al. (2002) similarly state that the majority of persons with Asperger are scrupulously law abiding, while acknowledging that a small subset does come into contact with the criminal justice system. Myers' (2004) study of secure, forensic and specialist learning disability or mental health facilities in Scotland also found very low prevalence rates of people with autism in these services (0.93% in the prison service, 0.46% in secure units and 1.39% in mental health units). Higher rates were found for learning disability and autism combined however (3.24% in the state hospital and 12% in the specialist learning disability services).

Ghaziuddin et al. (1991) also suggest that the rate of offending in Asperger syndrome is low. In their review of the literature between 1944 and 1990, they found that, out of a total of 132 published case studies of people with Asperger syndrome, only 3 (2.27%) had a clear history of violence. This contrasted with the 6–7% found within the general United States population (US Bureau of Justice Statistics, 1987, as cited in Ghaziuddin et al. 1991). Ghaziuddin et al. (1991) therefore concluded that there was no significant evidence for higher prevalence rates of violent behaviour in people with Asperger syndrome. More recent studies have however also questioned the notion that Asperger is a risk factor for offending. Murphy (2003) compared individuals with Asperger, schizophrenia and personality disorder within a high-security psychiatric hospital. The Asperger group were found to be less likely to have a history of alcohol or illicit drug use and also to have lower index offence violence ratings. Woodbury-Smith et al. (2006) utilised self-report measures and the UK Home Office Offenders' Index to study offending rates in group of people with high-functioning autism/Asperger syndrome and a non-ASD comparison group. Overall rates of offending were significantly lower in the former, as were drug-related offences. Offences involving criminal damage were significantly higher however.

The treatment of vulnerable groups within the criminal justice system has received increasing interest over the last three decades. Research both within the United States (Brown and Courtless 1971; MacEachron 1979) and the United Kingdom (Coid 1984; Gudjonnson 1983; Gunn et al. 1991; Lyall et al. 1995) has, for example, attempted to identify the experience of people with intellectual disabilities within the judicial system. Murphy et al. (1995) concluded that, although men with intellectual disabilities were not over-represented in a population on remand in prison, there were prisoners in the borderline range who were also psychologically extremely vulnerable. Anecdotal accounts of people with intellectual disabilities in the US penal system provide graphic evidence of this vulnerability (Perske 1995). For people with Asperger syndrome, the process of arrest, investigation and trial may be extremely difficult. They may be particularly vulnerable as suspects because they are likely to experience difficulty with time relationships, problems in differentiating their own action from those of others, to misinterpret what they see or hear, to function poorly in unfamiliar environments, and to misjudge relationships in formal interviews (resulting in incautious frankness, disclosure of private fantasies, etc.), show undue compliance and rigidly stick to an account once it has, in their view, become established, and use words without fully understanding their meaning (Berney 2004; Debbaudt 2002; Mayes 2003; Barry-Walsh and Mullen 2004). These difficulties may be compounded because, in the face of otherwise normal intellectual functioning, they are unlikely to be recognised as having difficulties by workers within the criminal justice system. Once in prison, people with Asperger may struggle further. Myers (2004) reports that people with ASD in secure services are often multiply disadvantaged, with complex care and psychiatric histories being

common. Staff in these services clearly felt they did not fit well within these services and that they were not able to meet their needs. They felt that the people concerned presented a risk not only to others, but they were also significantly at risk from other prisoners in terms of exploitation and abuse.

The present study sought to investigate the prevalence of Asperger syndrome and offending within a large geographical area, to examine patterns of offending and disposal under both the mental health and criminal justice systems, and to explore the experiences of those individuals who had been subject to these systems. A survey methodology was employed to identify adults with a recorded clinical diagnosis of Asperger syndrome who were known to services within the seven Local Health Board areas of Cardiff, Bridgend, the Vale of Glamorgan, Rhondda Cynon Taff, Merthyr Tydfil, Neath Port Talbot and Swansea. A person was defined as an adult if they were in receipt of adult services. The combined area had a total general population in excess of 1.2 million.

Method

Participants

The survey sample was drawn from a range of services thought most likely to be contact with adults with Asperger and offending behaviour. The services contacted included: community mental health teams, local health boards, forensic practitioners (e.g. forensic psychiatrists, clinical forensic psychologists), mental health practitioners, community learning disability teams, learning disability practitioners, specialist autism providers, probation services and prisons. To be eligible for inclusion in the study, potential participants needed to meet three criteria: (a) they had received a clinical diagnosis of Asperger syndrome that was formally documented in case notes. (b) they were in contact with one or more of these adult services, and (c) they had engaged in behaviour that resulted in their involvement within the criminal justice system, or behaviour that technically constituted an offence but which had resulted in alternative disposal.

Measures

Two novel informant questionnaires were designed to collect data from key staff informants from the above service systems. The first questionnaire collected basic data on personal and service characteristics. The measure contained 16 items covering: personal identifiers; age; gender; marital status; source formal diagnosis of Asperger syndrome; place of residence; educational history; psychiatric history; current legal status (Mental Health Act); historical legal status (Mental Health Act); behavioural difficulties (subdivided into nine categories of physical aggression, verbal aggression, self-harm, destructive behaviour, stereotypic behaviour, inappropriate sexual behaviour, substance abuse, motor problems and over-activity); psychotropic medication; and support services received. The questionnaire also incorporated the Asperger Syndrome Diagnostic Interview (ASDI) (Gillberg et al. 2001) which was used in an attempt to validate the formal diagnosis. The ASDI consists of 20 items divided into six diagnostic criteria (severe impairments in social interaction; all absorbing narrow interest pattern(s); imposition of routines, rituals and interests; speech and language peculiarities; non-verbal communication problems; and motor clumsiness). It has previously been demonstrated to have acceptable validity and inter and intra-rater reliability (Gillberg et al. 2001).

The second questionnaire was composed of 24 items in six major sections covering (a) nature of offending behaviour, (b) offending pattern, (c) criminal profile, (d) offences against the person, (e) relevant predisposing/precipitating factors, and (f) legal process and disposal.

Both questionnaires were administered by interview by a member of the research team, a psychology graduate who was trained in all the study measures by senior clinical members of the team. The second questionnaire also contained risk assessment data designed to identify optimum interview conditions for those participants who had agreed to be interviewed. Specific risk posed by informants were identified by respondents (e.g. type of behaviour, characteristics of victims previously targeted, etc.) and the implications for interview (e.g. location, gender of interviewer, additional persons needing to be present etc.) determined as a consequence. No interviews were precluded on the basis of this assessment. Informants were individuals who had close direct contact with the participant and who were therefore able to provide detailed information on the person concerned.

Finally, a semi-structured interview was created to explore participant's perception of their offending behaviour, their experiences in the criminal justice system, and views on improving practice. This was comprised of six major items that covered: their index offence(s); their experience of arrest, court, prison, and/or mental health services; and factors that could help prevent re-offending. Each item was supported by a variety of additional prompt questions (for example,in the section on arrest, 'What was being arrested like?', 'How did it make you feel?', 'Who helped you understand what was happening'). The majority of the qualitative interviews (66.6%) were conducted by a clinical psychologist from the research team and the remainder by the psychology graduate; the interviews were audio taped and then subsequently transcribed.

Procedure

Prior to the commencement of the study, a number of presentations regarding the research were made to key agencies and authorities in order to raise awareness about the research and to improve compliance and response rates. In all, 98 services (including 24 mental health teams, 11 learning disability teams, 7 local health boards, 7 local authorities, 6 probation services (one of which covered two of the LHB areas), 13 specialist services for people with autism, and 2 prisons) were screened, and within those services 235 people (including 83 psychologists or psychiatrists from mental health services, 7 psychiatrists from learning disability services, and 18 psychiatrists from forensic services) were contacted. One of the three prisons in the study area was unable to identify a suitably knowledgeable contact informant and therefore not included in the research.

All the services concerned were asked an initial screening question to identify individuals who had been clinically diagnosed as having Asperger syndrome and those with Asperger syndrome who engaged in offending behaviour or were at risk of such. A two-year retrospective window was adopted (i.e. services were asked to identify individuals with whom they had been in contact who had met these criteria within the preceding two years).

For each individual so identified, informed consent was sought. Information sheets and consent forms were sent directly to potential participants by involved agencies and then returned directly to the research team. Information sheets were provided in both full and user friendly versions. Consent was always witnessed by a third party, and participants were able to give consent to the whole study or just to the first stage. Where contact agencies believed that potential participants could not give informed consent, no further action was taken. Ethical approval for the study was obtained from MREC for Wales.

Analysis

Data analysis was primarily descriptive. The qualitative data were examined for key themes and quotations illustrative of key points.

Results

Quantitative Data

A total of 126 persons with Asperger syndrome were identified in the services surveyed, 33 of whom had engaged in offending behaviours that had or could have resulted in involvement in the criminal justice system. At the time that the study was conducted, 10 people were living independently, 9 were in secure forensic settings, 3 were in prison, 8 in mental health facilities, 2 in specialist autism services and 1 in learning disability services.

A total of 16 persons subsequently gave their consent to detailed data being gathered via informants and 6 also gave their consent to being interviewed. The data that follow are based on this smaller sample.

All of the participating group were male. Their mean age was 34.8 years (range 18–61), 14 were single, 1 was married and 1 separated. 13 (81%) had attended normal schooling, 5 (31%) had received additional support within mainstream settings, 2 (12.5%) had attended a special unit in a normal school, 1 (6.25%) a special school for children with mild learning disabilities and 1 (6.25%) school for children with emotional and behavioural difficulties; these figures were not mutually exclusive. Although respondents identified 5 participants as having intellectual disabilities, in view of the educational backgrounds described, it seems more probable that they were referring to specific learning difficulties rather more pervasive learning disabilities. In the absence of formal psychometric data, this possibility could not be examined further. The person currently supported by learning disability services was felt to be inappropriately place by virtue of their cognitive ability.

A total of six participants (37.5%) met five criteria on the ASDI, six (37.5%) met four, and 4 (25%) met three criteria. The number and percentage of participants meeting the individual criteria are shown in Table 1. Participants scored most clearly on the extreme egocentricity, narrow interest patterns, and non-verbal communication problem dimensions. Ratings on the routines and rituals and the speech and language peculiarities criteria were less strong, and few met the motor clumsiness criterion.

All participants had behavioural difficulties of one form or another. 13 (88%) were described as being verbally aggressive, 12 (75%) physically aggressive, 11 (69%) destructive, 11 (69%) as displaying sexually inappropriate behaviour, 6 (38%) as engaging in substance abuse and 6 (38%) were over-active. Again, these figures were not

Table 1 ASDI Scores

Criterion	*N* meeting criterion	% meeting criterion
Severe impairments in reciprocal social interaction (extreme egocentricity)	16	100
All absorbing narrow interest pattern(s)	14	88
Imposition of routines, rituals and interests	9	56
Speech and language peculiarities	8	50
Non-verbal communication problems	16	10
Motor clumsiness	3	19

mutually exclusive. A variety of additional psychiatric diagnoses were also in evidence within the group. The most common were schizophrenia ($N = 4$, 25%), depression ($N = 2$, 12.5%), anxiety disorder ($N = 1$, 6.25%), attention deficit disorder ($N = 3$, 18.75%), and personality disorder ($N = 1$, 6.25%). Fifty percent were in receipt of antipsychotic medication and 31% antidepressants.

Predisposing and precipitating factors for offending are shown in Tables 2 and 3. Informants felt that many of the classical features of Asperger syndrome were critical elements that underpinned participants' offending, the most prominent of which were a lack of concern and/or awareness of the consequences of their actions and social naivety. Social factors—social rejection, sexual rejection, family conflict and bullying—were also common final precipitants of offending.

The mean age of first offending was 25.8 years (range 10–61 years), and participants had engaged in an average of three types of offending (range 1–7). Offence types are shown in Table 4.

Violent behaviour and threatening conduct were the most common types of offending, followed by destructive behaviour, drug offences and theft. Specific examples of offending included: (a) Violent assault against a couple with whom the participant had established a superficial relationship. The assault occurred after the couple failed to reciprocate further approaches; (b) placing a hidden camera in a stepchild's bedroom to monitor suspected self-harm and underage sexual activities. The participant had not discussed this action with their partner, and was oblivious to the concerns that other might have about his actions. The police became involved when he mentioned the camera to the child's grandparents; (c) sexual assault against children in the extended family. The parents concerned did not wish their children to have to go to court, and so the participant agreed to seek voluntary help as an alternative; (d) assault against a person that the participant thought was dealing drugs in his neighbourhood; (e) acting as an accomplice to another family member committing murder; (f) sending a knife with a red substance on it to a mental health professional and then subsequently being found in the possession of a number of petrol bombs; (g) collecting and distributing sexual images of children; (h) making threats to kill members of the family; (i) arson.

Table 2 Predisposing factors to offending ($N = 16$)

Factor	*N*	%
Lack of concern for outcome	15	94
Social naivety	14	88
Lack of awareness of outcome	13	82
Impulsivity	10	63
Misinterpretation of rules	10	63
Overriding obsessions	7	44

Table 3 Precipitating factors for offending ($N = 16$)

Factor	*N*	%
Social rejection	11	69
Bullying	8	50
Sexual rejection	8	50
Family conflict	8	50
Deterioration in mental health	5	31
Change of domicile	4	25
Change in professional support	3	19
Bereavement	2	13

Table 4 Offending behaviours ($N = 16$)

Offence type	*N*	%
Violent conduct	13	81
Threatening behaviour	12	75
Property destruction	8	50
Drug offences	4	25
Theft	4	25
Sexual offending	3	19
Fraud	1	6
Motoring offences	1	6
Murder	1	6

The offending behaviour of (7) 44% of participants had never been addressed via the criminal justice system. Five (31%) had received prison sentences, 1 (6%) hospital disposal and 3 (19%) community orders. For those who had been processed via the criminal justice system, the majority (78%) had been supported by an appropriate adult during police questioning; one person had not been diagnosed at this stage, making it unlikely that this support would have been considered at this point (Table 5). Most participants had been adjudged as fit to plead (89%), had received a psychiatric assessment while in custody (78%) and had abnormal state of mind pleaded as a defence (78%). Smaller numbers had received any assessment from a psychologist (44.5%) or a specialist ASD assessment (22%) at this point; just over half had abnormal mental state presented in mitigation when disposal was considered.

Qualitative Data

All participants who agreed to interview were able to participate fully in this stage of the research. In the excerpts which follow, each quotation is followed by an indication of the offence committed by the person concerned. The

Table 5 Processing via criminal justice system ($N = 9$)

Process issue	Yes		No		Not known	
	N	%	*N*	%	*N*	%
Appropriate adult present?	7	78	1	11	1	11
Judged fit to plead?	8	89	1	11	0	0
Psychological assessment?	4	44.5	4	44.5	1	11
Psychiatric assessment?	7	78	1	11	1	11
Specialist ASD assessment?	2	22	5	56	2	22
Defence of abnormal Mental State raised?	7	78	1	11	1	11
Mental state used as mitigation in disposal	5	56	1	11	3	33

majority of participants ($N = 5$) alluded to aspects of their Asperger syndrome that may have rendered them more vulnerable to the particular offences that they committed, although the association did not tend to be directly acknowledged. These included: being obsessional in pursuit of a desired outcome (e.g. to be proved right) or a special interest; a vulnerability to exploitation by others; a lack of consideration/awareness of the implications of actions taken; naivety regarding social rules; poor emotional expression; a tendency to misread the emotions/behaviour of others; an inability to stop and think prior to acting; and poor social skills. For example:

> "I can get very agitated by reading people wrong ...It's like, you could say something to upset me, but you wouldn't have meant it and I would have taken it the wrong way" (murder)
> "The main thing I can say to other people with Asperger Syndrome like me is stop and think....I've been told that mainly all my life. I've always had a problem with that. Just stop and think about the things you're gonna do before you do it and just think about how much trouble you're gonna be in" (murder)
> "I think to a large extent it was a habit. I describe it at times as an addiction" (sexual offences)
> "I hadn't thought about it at the time really (the implications). It's just, I'm doing this..." (sexual offences)

Interestingly, the two participants who were diagnosed during their journey through the criminal justice system did reflect more directly on the impact of the diagnosis on their understanding of their behaviour:

> "The effect of the diagnosis on me? It was positive really. It was like explaining a lot of the difficulties I've had throughout my life, which I've just sort of put myself as shy and lacking confidence and that. This (AS) being the reason I suppose" (sexual offences)
> "It opened my eyes to why I was doing things...I was aware of it a bit more after that and I could see 'yes I'm doing this, I'm doing that'...and then I connect that with what I've read about it...possibly it gave me a reason for why I pushed it and pushed it" (sexual offences)

In addition to potential predisposing factors directly related to Asperger syndrome, participants also described a range of other pre-offending factors (including permanent exclusion from school; bullying; job losses; bereavements; and long histories of Mental Health problems and substance misuse). An accumulation of stress was the most common antecedent feature to the offence described by participants ($N = 5$). Family conflict, relationship difficulties, health problems, difficulties coping with work, being out of work and the death of a close relative were all reasons cited for the stress, leading to a deterioration in mental health for many:

> "I was living with my mum. Things weren't too good there either really...we just didn't get on. Just depressed really" (theft, threatening behaviour, breach of the peace)
> "I'd been off work for a few months 'cos I wasn't coping. I'd been off with stress" (sexual offences)
> "The reason I felt depressed was that I couldn't really cope with the situation I was in...I didn't feel very well at the time. I just couldn't focus or think properly. I was very confused" (drug offences, threatening behaviour, assault)

The impact of these stressors appeared to be exacerbated by maladaptive coping strategies employed by the participants, such as: choosing not to seek help; increases in drug taking (alcohol and illicit drugs), and having poor outlets for emotions:

> "I just bottle it up inside and don't let it get to me. Well I do, I just don't show it...the pressure just got to me in the end" (sexual offences)

"I gave the impression that I was capable...that I was coping well and everything's fine. I didn't like to show that I wasn't coping" (sexual offences)
"I was taking drugs...heroin. I was drinking a lot" (theft, threatening behaviour, breach of the peace)

Most of the participants recounted the factual events of their arrest in great detail. The events described by one of the participants provided a clear demonstration of the tendency for people with Asperger to show undue compliance in this situation:

"There was a loud banging on the door...I obviously knew what it was about. So, they said why they were there and I admitted it straight away" (sexual offences)

All six participants described the negative emotional impact of being arrested:

"I was physically shaking a lot of the time. Even when they were taking me in the car and when I was down the police station I was still shaking" (sexual offences)
"It wasn't a nice time to be honest. It was quite stressful...It was very very traumatic it was" (drug offences, threatening behaviour, assault)

Particular difficulties experienced at this time, included: not being able to take everything in; feeling "in the spotlight"; not knowing what was going to happen next; the police interviews; and feeling uncomfortable with the other people at the police station. In relation to the police interviews, specific difficulties cited were: the number and length of interviews; not being able to concentrate; having to answer lots of questions; and feeling pressured and uncomfortable:

"I had twelve interviews and that was hard...'cos my mind just goes blank and I find it so hard to concentrate...it was just hard having all these questions chucked at you" (murder)
"I felt like the police were trying to pressure me into getting a conviction...trying to get me charged with something...that made me feel very uncomfortable" (drug offences, threatening behaviour, assault)

In contrast, a number of positive aspects of this part of the process were also highlighted by participants. Three participants praised the police for their actions during this time, one participant felt a recently received diagnosis of Asperger syndrome was taken into account; four participants found benefit from having support through the interviews from an appropriate adult:

"To be honest with you, the police down the station were absolutely great. They kept my cell door open, they kept the yard open so I could just go out for a cigarette whenever I wanted. It was great down there" (murder)
"My appropriate adult reassured me and he was caring" (murder)
"The police said 'We understand you've been diagnosed with Asperger's' at the second interview and they actually delayed the second interview because they had only discovered that week or so" (sexual offences)

Five participants described their experiences of court during the interviews, although one did not report any adverse emotional effects during the process ('Pressure...plenty of pressure...but I just blanked it really...I don't do emotion, I don't do emotion at all. Smiling is few and far between'). However, the majority of participants ($N = 4$) recounted feeling negative emotions, such as: fear, anxiety and distress:

"That was the worst thing that has ever happened...it was absolutely horrific...it was such a shock. I nearly had a heart attack when the verdict came in" (murder)
"It wasn't very nice going into Crown Court. It was quite stressful...an uncomfortable time of my life actually. A time of my life I'd like to put behind me...I felt like I was gonna burst out crying when I was stood in front of them" (drug offences, threatening behaviour, assault)
"I was just so overwhelmed by fear really...I was really upset. I was crying all the time. I just didn't want to face prison" (theft, threatening behaviour, breach of the peace)

Collectively, the participants reported that their worst experiences of court were related to: not being able to take everything in; not being told what was going on or happening next; not being offered support; feeling put on the spot; standing in front of the judge; not being believed; the verdict; and not feeling that their Asperger syndrome had been taken into account, during either the process or the disposal decision.

"My barrister made things really confusing. He wasn't telling me what was going on or what was gonna happen next and that just made me worry more. I was just really confused and annoyed" (theft, threatening behaviour, breach of the peace)
"The prosecution barrister was saying things that wasn't true...The thing that really irritated me was that I knew the truth. I knew what happened that night...it was like no one was listening to me" (murder)
"The judge just seemed to disregard them (the reports)...She'd certainly formed her opinion before

reading the reports and she'd looked through the police interviews...and there was nothing to indicate that she'd given any weight to the AS...I was only diagnosed a week before sentencing...it's the judge's fault if she couldn't ask for an adjournment" (sexual offences)

"My counsellor and probation wrote reports to say I wouldn't suit prison...I found that really hard to understand to be honest, 'cos everyone was saying that I shouldn't go to prison 'cos it wouldn't suit me...but they still did it" (theft, threatening behaviour, breach of the peace)

Although some of the participants felt that their Asperger syndrome hadn't been taken into account, this wasn't true of all participants:

"I think the judge understood it" (sexual offences)

"Dr X had written a couple of reports for the judge. Once he had that knowledge in front of him he was fine – 'I can understand why you've acted in such a strange way" (drug offences, threatening behaviour, assault)

The same two participants felt that the court process was made easier by the support that they had received from people such as: barristers; appropriate adults and family members:

"I had a good barrister...he explained the court process to me, and the other couple of guys who saw me...they explained everything to me" (drug offences, threatening behaviour, assault)

"...and my appropriate adult, when he stood in the box...the witness box, he told the judge about my problems" (sexual offences)

Four participants had had experience of being in a prison setting. In contrast to the overwhelmingly negative accounts of the processes of arrest, being interviewed and court, the participants' accounts of their time in prison were much more varied. All four participants described general aspects of prison life that they found difficult to cope with, for example: missing family members; not knowing what to expect; being bored; having to stick to a routine; finding it difficult to make friends; being transferred after settling in one prison; being locked in cells with strangers; having no communal areas; and the staff:

"Its been actually awful to be honest with you. I miss my family, my friends. I miss my mum...all I wanna do is just be back home with my mum" (murder)

"I felt a bit uncomfortable there. Locked in a cell with other guys...and I found it a bit daunting" (drug offences, threatening behaviour, assault)

"I've found the staff can be difficult...people speak to you like you're a piece of crap" (theft, threatening behaviour, breach of the peace)

"They transferred me and I didn't cope...I'd become settled...it upset my equilibrium really. There was nothing communal. It was in-cell association and I'm not the kind of person who would have the confidence to go into somebody's cell" (sexual offences)

"At the start I was too scared to come out of my cell. I used to just sit in my cell all day and just not come out" (theft, threatening behaviour, breach of the peace)

However, a range of specific experiences of prison life were viewed very positively by the participants. For example, one participant described how he had been moved to a smaller wing containing less people, after having experienced difficulties coping on a much larger wing of the prison. Another commented on how useful it was to have 'listeners' (other prisoners) to greet you when you arrive and stated that "they put me at ease straight away". For another participant, having more structure, and less free time, was a clear positive about a prison environment.

"Yeah I'm happy with it. I think that prison has actually been quite a ...not that it was intended as a therapy, but I've grown a lot in confidence since being in prison" (sexual offences)

Throughout the interviews, participants were asked what would have improved their experiences at each stage of processing within the criminal justice system. The dominant theme to emerge from this line of questioning was the need for a greater understanding of Asperger syndrome amongst all personnel, in order that their behaviour and support needs would be better recognised.

"No one's really taken into consideration that I've got Asperger syndrome. I just don't feel like I'm getting any help for it...a lot of people just don't know what it means" (murder)

"I found the whole process confusing and difficult really. Having someone there to explain things and to talk to would probably have helped" (theft, threatening behaviour, breach of the peace)

"I know I come across as different to them. If they understood that I had it, and they understood about Asperger Syndrome, then they would understand me more" (assault)

"Because its not obvious and because its kind of a bit hidden and, you know, not as severe as somebody with a serious mental illness, its almost disregarded as a factor in understanding or explaining people's behaviour by the system" (sexual offences)

Discussion

The present study identified a small number of adults with a clinical diagnosis of Asperger syndrome who had offended or were at risk of doing so. The significance of the numbers identified is unclear, as assessing the prevalence of offending within this group relative to the general population is dependent upon accurate prevalence figures for the syndrome itself; at present, only estimated prevalence rates are available. Gillberg (2002) suggests a childhood prevalence of 3–4 cases per 1,000. However, Fombonne's (2003) review of available studies has suggested a much lower prevalence rate of 2.5 per 10,000. A very different perspective on the results will be gained depending on which of these estimates is accepted.

While the results were not generally supportive of there being a significant association between Asperger syndrome and offending, a number of methodological issues that may impact upon the results merit discussion. Although the data in question were felt to be inaccurate, the inclusion of a number of individuals who were described as having learning disabilities within the present sample may have served to inflate the data, as such a description would invalidate the diagnosis of Asperger syndrome. Alternatively, it is possible that the present study significantly underestimated the numbers in the group concerned. The research focused on adults, and it might be hypothesised that adults are perhaps less likely to receive a diagnosis than children or adolescents. Both autism and Asperger syndrome will also be unfamiliar concepts to many working within the criminal justice system; the present results may therefore be simply a function of a lack of detection and identification. Another possibility is that people with Asperger syndrome within the criminal justice system are simply being misdiagnosed, psychosis being the most likely alternative label. Further factors that may lead to an under-estimation of prevalence include societal reluctance to link specific disorders with criminality and an increasing unwillingness within the UK to pursue prosecution unless there is a high probability of conviction (Berney 2004). On a related point, Hawk et al. (1993) observe that most studies underestimate prevalence by relying on data on those already in the criminal justice system, and thus do not take into account those people who are subject to diversion or who do not get charged. The present study did however take this group into account, thus removing one possible source of underestimation. While some of these difficulties could be addressed by an alternative research methodology that screened whole populations of offenders, such research is not really possible at the present time in the absence of an easy to use, but reliable and valid, screening tool for Asperger (Campbell 2005).

The ASDI scores provided reasonable support for the formal diagnosis of Asperger syndrome. There were two potential reasons why more participants did not meet more of the criteria on this measure. First, in the original study on the ASDI (Gillberg et al. 2001), experienced neuropsychiatrists completed the scale on the basis of interviews with a close relative. In the present study, the scale was completed by a researcher interviewing a service informant. Second, the ASDI is based upon Gillberg and Gillberg's (1989) criteria for diagnosing Asperger, and it cannot be assumed that the clinicians who made the original diagnosis used the same criteria. The present study could clearly have been improved by more a robust validation of the clinical diagnosis of Asperger syndrome, by the inclusion of psychometric data and by the collection of reliability data for all measures. The fact that only 50% of those identified gave their consent for the study places further limitations on the generalisability of the results.

Both informants and participants identified similar predisposing (e.g. lack of concern regarding outcome, obsessional interests, social naivety, and misinterpretation of rules) factors and precipitating (e.g. family stress, relationship problems, and deterioration in psychological health) variables. As with previous research, secondary diagnoses of mental health difficulties were common. For the majority of participants interviewed, their experiences within the criminal justice system were primarily negative. However, it may be presumed that this would be the case with both the general and other 'at risk' populations, and there were few examples cited that appeared to relate directly to the participants having Asperger. Future research would need to employ a control group design to investigate the impact of diagnosis on experience further.

A number of measures for reducing the vulnerability of people with autistic spectrum disorders within the criminal justice system have been suggested. As a starting point, greater dissemination of information about autistic spectrum disorders in general and Asperger in particular to staff working within these services would appear important. This was clearly felt by participants in the present study, and Debbaudt (2002) discusses a number of North American initiatives that have been undertaken in this respect. Providing people with personal information about their condition and which can be given to others, such as police officers, in emergencies, is another simple measure that may help. The National Autistic Society, UK (2004) has listed a number of practical recommendations for police officers and criminal justice professionals who may come into contact with an individual with autism. The suggestions include: switching all sirens and flashing lights off, keeping calm and give the person time, giving clear instructions whilst avoiding use of sarcasm, metaphors or irony, approaching the person in a non-threatening way and

keeping any facial expressions to a minimum, and avoiding touching the person and being aware that they may not understand personal space. Further suggestions include using visual information to explain about the process, and addressing the person by their name at the beginning of each sentence.

Debbaudt (2002) also made some additional suggestions to those listed above to make the process of interview clearer. These included using short sentences and clear language, asking specific questions in order to avoid ambiguity, allowing the individual time to think and to allow time for frequent breaks, making sure that an appropriate adult is present and that a specialist in the field of autism is contacted, and being aware that the person may repeat the question asked to them, suggesting it may be best to ask them simple 'yes or no' questions. Once in the penal or mental health systems, interventions targeted at relapse prevention may be helpful, particularly around special interests and the management of aversive environmental events. Social skills training may benefit some individuals, while treatment of underlying or co-existing mental health difficulties may in itself reduce risk of re-offending.

While the overall finding of the presents study was that there was little evidence to support the notion that offending was a significant problem in people with Asperger, most people with this diagnosis who do fall foul of the law clearly struggle to negotiate the criminal justice system. Efforts such as those described above to improve the support available to such individuals should and must continue.

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