Alexithymia, Asperger's syndrome and criminal behaviour: a review
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Abstract

Purpose – The purpose of this paper is to review the empirical literature informing the nature of the relationship between criminal behaviour and both Alexithymia and Asperger's syndrome (AS).

Design/methodology/approach – The relevant literature was identified through database searches and via citations in primary sources.

Findings – Alexithymia and AS are relatively similar constructs with some overlap in their defining characteristics including utilitarian thinking and deficiencies in empathy. Alexithymia is significantly more prevalent in offender populations than controls and, in particular, has a complex relationship with psychopathy. The research concerning AS has mainly focused on offense type and reasons for offending. In terms of offences, homicide rates were in keeping with general base rates, however, sexual offences were under-represented and arson was over-represented.

Practical implications – In terms of reasons for offending, criminal behaviour is best described as a consequence of the classical characteristics of AS. It is suggested that despite their similarities the relationship of the two disorders with criminal behaviour may well be different. This suggestion has implications for the design of services intended to reduce the risk of offending in these two groups.

Originality/value – The review draws together a diverse range of literature around a rather neglected topic in criminological psychology. It will be of value to researchers in suggesting where new knowledge is needed, particularly with regard to disentangling the risk factors for offending for the two conditions, and to practitioners within the criminal justice system in pointing towards areas for intervention to reduce risk.

Alexithymia presents as a spectrum condition imposing varying degrees of incapacity thereby suggesting multiple aetiological routes (Bellgrove and Fitzgerald, 2006). The defining features of alexithymia are difficulties in identifying and distinguishing bodily sensations of emotional arousal, trouble describing feelings, impaired imagination, and a thinking style which is bound to the external world (Taylor *et al.*, 1997). Alexithymia is classified as a psychosomatic disorder rather than a mental disorder, although it is associated with an increased vulnerability to mental illness (Leweke *et al.*, 2012).

There are a range of assessments for the disorder including the Toronto Alexithymia Scale (TAS) (Taylor *et al.*, 1985), the Bermond Vorst Alexithymia Questionnaire (Vorst and Bermond, 2001), and the Observer Alexithymia Scale (Haviland *et al.*, 2000). It appears that very little assessment of alexithymia occurs in forensic practise but it is clear that the way in which an individual perceives, thinks and reasons about their social world may be related to their offending (Gannon *et al.*, 2005). Krystal (1979) suggested that individuals with alexithymia may display extreme bursts of emotional behaviour without awareness of the feelings they are expressing. This lack of awareness may in turn contribute to an inability to feel empathy which at times culminates in acts of violence (Kroner and Forth, 1995). However, the prevalence of alexithymia in offender.

populations is under-researched. Louth *et al.* (1998), using the TAS, reported that 33 per cent of female offenders in a Canadian medium secure prison were alexithymic.

Asperger's syndrome (AS) is a neurodevelopmental disorder featuring on the autistic spectrum: it is associated with a triad of impairments in social communication, reciprocal interaction, and social imagination. AS differs from classical autism as individuals do not experience a language delay and there is no delay in cognitive development (World Health Organisation (WHO), 2010). AS is often diagnosed

later than autism and, indeed, it may not be recognised and diagnosed until adulthood (The National Autistic Society, 2013) when it is more prevalent in males than females at a ratio of about 8:1 (WHO, 2010).

Table I details the impairments characteristics of both alexithymia and AS. Overall, there is some overlap between the two conditions as seen in difficulties in social interaction, unusual language, problems in non-verbal behaviours, complications with affective interactions and a rather factual style of thinking.

The prevalence of AS in offender populations is variable. The prevalence among mentally disordered offenders has been estimated at approximately 1.5 per cent (Scragg and Shah, 1994), although Siponmaa *et al.* (2001) found that 3 per cent of 130 young offenders aged between 15 and 22 years at the Forensic Psychiatric Department in Stockholm had AS. Soderstrom *et al.* (2005) also found a prevalence rate of 3 per cent in a sample of admissions to the Department of Forensic Psychiatry in Goteborg, Sweden. Ghaziuddin *et al.* (1991) reviewed 21 studies of rates of violence among forensic patients with AS: they reported that 2.3 per cent of these patients had a history of violence. The risk of delinquency was only slightly higher for males with AS, as compared to the general population, but for females with AS the risk was significantly higher. Hare *et al.* (1999) considered the prevalence of autistic spectrum disorders within English speaking forensic hospitals. For patients with such a diagnosis the prevalence of homicide was consistent with the hospital base rate, however, sexual offences were under- represented (3 vs 9 per cent) and arson was over-represented (16 vs 10 per cent).

Table I Characteristics of Asperger's syndrome and alexithymia

Problem domain	*Asperger's syndrome*	*Alexithymia*
Cognitive	Utilitarian thinking style	Problems with introspection
Poor capacity for fantasy		
Stimulus-bound, externally orientated cognitive style Utilitarian thinking style		
Social relationships	Lack of interest and pleasure in people around them	Inability accurately to identify own subjective feelings, verbally communicate emotional distress and fail to enlist others to aid and comfort
Significant reduction in shared interests		Prefers to be alone or to avoid people
Problems with social "know how"		Attitudes towards themselves often flat so that they appear psychotic
Empathy deficit		Treat people as machines
Often highly over-controlling		Greatest fear in intimate situations is understanding social groups
Difficulty reading non-verbal cues from others during social interaction		
Speech and language	Speech lacking in nuance, poor use of metaphor and lacking affect	Speech deficient in nuance, poor use of metaphor and lacking affect
Speech and prosodic abnormalities		Language characterised by flatness, banality and fact based
Prone to giving boring recital of information		Almost complete absence of thoughts relating to inner attitudes, feelings, wishes or drives. Sometimes recounts in often boring detail the events in their external environment and their own actions
Under- and over-estimations of IQ not uncommon		Decreased use of pronoun "I"
		Monotone tone of voice
Can learn approximately social appropriate responses but these are often excessively formal, lack nuance, and are pedantic		
Boring recital of information		
Non-verbal behaviour	Difficulty in identifying facial emotions (a cardinal feature)	Somewhat stiff posture and limited understanding of facial emotional expression

Source: Bellgrove and Fitzgerald (2006)

However, the precision of the estimation of the prevalence of AS in forensic settings is questionable given that it was not until 1994 that AS was included in the Diagnostic and Statistical Manual of Mental Disorders. Thus, there is the potential for both over- and under- diagnosis before that time (Browning and Caulfield, 2011).

There are several studies conducted with offender samples which have looked at the relationship between both alexithymia and offending and AS and offending.

Alexithymia and offending

Louth *et al.* (1998) found elevated alexithymia scores in 37 females convicted of violent crimes: 32 per cent of the females were diagnosed as alexithymic and 8 per cent as both alexithymic and psychopathic. Moriarty *et al.* (2001) found no significant differences between a sex offender group and controls in either the total or individual factor scores of TAS. With a sample of 36 Swiss juvenile offenders, Zimmermann (2006) found that the percentage scoring as alexithymic was significantly greater than in the non-offender control group (47.2 vs 21.7 per cent). The offenders scored significantly higher on both the total score of the TAS and TAS factor 1 (difficulty understanding feelings). Zimmerman suggested that alexithymia was a significant predictor of juvenile delinquency alongside and independent of disrupted family structure. Pihet *et al.* (2012) found that in a high-risk population of 80 juvenile offenders, 66 per cent scored above the clinical cut-off point for alexithymia, with significantly higher means than controls for total TAS and all sub-scales.

Keltikangas-Jarvinen (1982) studied a group of 68 male violent offenders convicted of homicide or aggravated assault using projective techniques, including the Rorschach and the Thematic Apperception Test (TAT), in looking at specific aspects of alexithymia. Keltikangas-Jarvinen (1982) notes that the research was not straightforward: many offenders commented that the images in the Rorschach were only blots so it was not possible to imagine anything about it. The content of the responses to the TAT, reflecting cognitive functioning, were scanty, based in the present, and typically lacked an outcome. When asked why the past and the future were never mentioned, offenders said “how should I know?”. Keltikangas-Jarvinen noted that the men focused on concrete occurrences without reference to any accompanying emotions, saying that they had nothing to say about themselves as “everything was so normal”. The men expressed less fantasy aggression than non-violent controls suggesting that an inability to fantasize is a characteristic of this type of violent offender.

In terms of social relationships the TAT responses were expressed in an impersonal form and indicated a lack of identification with other people. When present, the emotional content of the responses was generally negative and diffuse, while positive responses were rare. Finally, with respect to speech and language, the violent offenders had difficulty in expressing their feelings with words: the responses to the Rorschach were very short (8.75 words compared to 14.6 for controls). This observation is in keeping with Louth *et al.* (1998) who reported that the higher participants scored on a measure of alexithymia (TAS), the lower their ratings on appropriate affective expression.

Psychopathy is associated with crime, particularly violent offending. Louth *et al.* (1998) found no significant correlation between total score on the Psychopathy Checklist-Revised (PCL-R; Hare, 2000) and TAS. There was, however, a positive relationship between PCL-R factor 2 (social deviance) and TAS total and TAS factor 1 (inability to distinguish and describe feelings). The psychopaths scored lower than controls on total TAS scores. Kroner and Forth (1995) found that total PCL-R was significantly negatively correlated with total TAS scores and TAS factor 1 (emotional understanding deficits). Using the two factor model of psychopathy, Pham *et al.* (2010) found that PCL-R factor 1 (interpersonal characteristics) showed a greater negative correlation with to alexithymia than factor 2 (antisocial characteristics).

In summary, the literature suggests that alexithymia is prevalent in offender populations, including male and female adult and juvenile offenders, to a greater extent than found in non- offender populations (Louth *et al.*, 1998; Pihet *et al.*, 2012; Zimmermann, 2006).

AS and offending

Allen *et al.* (2008) studied a group of male offenders diagnosed with AS. The sample included clinically diagnosed AS who engaged in behaviour which resulted in criminal justice system becoming involved, or who engaged in behaviour that technically was an offence but they were dealt with by alternative means. These men displayed a range of behavioural difficulties, including verbal and physical aggression, destructiveness, sexually inappropriate behaviour, and substance abuse. AS was often

comorbid with other mental health disorders, most frequently schizophrenia (25 per cent) but also depression, anxiety disorder, attention deficit disorder, and personality disorder.

Offenders with AS typically start offending at a relatively late age, Allen *et al.* (2008) reported a 25.8 years as a mean age of first offence. The most common offences in the AS population, as recorded by Allen *et al*. (2008), are violent conduct (81 per cent), threatening behaviour (75 per cent), and destruction of property (50 per cent). Siponmaa *et al.* (2001) found that a diagnosis of AS was frequent in arsonists. Similarly, Enyati *et al.* (2008) noted that when compared to other violent offenders, male arsonists were more likely to be diagnosed with AS. A Swedish study by La˚ngstro¨m *et al.* (2009) found that those with AS who had been hospitalised were more likely than those with autism to have committed criminal violence.

The characteristics of AS may influence the type of offence committed: Katz and Zemishlany (2006) reported that of the three case studies discussed, the individuals concerned presented with an inability to assess social situation and to appreciate the views of others. Individuals have a lack of understanding of the implications and repercussions of their actions, which is what sets AS apart from anti-social personality disorder and psychopathy. While all disorders encompass a lack of empathy, AS individuals do not have the ability to manipulate, charm or exploit other people.

With a sample of AS offenders drawn from a range of services likely to have contact with adults with Asperger and offending behaviour, Allen *et al.* (2008) identified a number of factors antecedent to the onset of a criminal career: these factors included permanent exclusion from school, bullying, job loss, bereavement, a history of mental health problems, and substance misuse. However, the build-up of stress was seen as the most common antecedent to offending, exacerbated by ineffective coping strategies such as not seeking help and increasing drug and alcohol intake.

Offenders with AS often appear to be genuinely unaware of the harm that they cause their victims. This characteristic lack of comprehension concerning human relationships may result in seeking interpersonal contact in a misguided way which, in turn, is perceived as anti-social in nature. Murrie *et al.* (2002) found that this misunderstanding of social norms could lead to inappropriate contact, sometimes sexual, and so to criminal behaviour. Similarly, Baron-Cohen (1988) concluded that the feelings and behaviours associated with AS could be the antecedents to violent behaviour.

Once arrested, many offenders with AS make quick confessions to the police (Murrie *et al*., 2002) perhaps reflecting traits such as deficient shame, poor judgement, and a lack of appreciation of the social and legal consequences of a confession (Murrie *et al.*, 2002). Given the propensity to honesty which is characteristic of AS (Katz and Zemishlany, 2006), a rapid confession may be explained by a personal view that their actions were justified and hence a lack of feelings any guilt.

Generally those with AS are law abiding and have non-violent backgrounds, among those who offend a large number individuals have a comorbid psychiatric disorder at the time of the offence (Murrie *et al.*, 2002). The predictors of offending for this group – substance misuse, a family history of crime, poor social resources – are the same predictors of criminal behaviour in the general population (Newman and Ghaziuddin, 2008). Finally, with respect to psychopathy, Murphy (2007) found that for a sample of 13 male patients detained in high security psychiatric care and diagnosed with AS there were variations in PCL-R profiles but all patients were below the cut-off point for psychopathy. These patients scored higher on items associated with interpersonal and affective features than social deviance.

In summary, offending among AS populations is best described as a consequence of the classical characteristics of the syndrome itself (Allen *et al.*, 2008; Barry-Walsh and Mullen, 2004; Schwartz- Watts, 2005). Thus, behavioural difficulties such as verbal and physical aggression, destructiveness, sexually inappropriateness, substance abuse, and over-activity may set the scene for offending. The offences commonly associated with AS include, arson, violent conduct, threatening behaviour, and destruction of property (Allen *et al.*, 2008; Enyati *et al.*, 2008; La˚ngstro¨m *et al.*, 2009).

When involved with the criminal justice system, offenders with AS are less well able to cope successfully and often require support (Allen *et al.*, 2008). Within secure psychiatric settings similar problems with coping are evident: those with an ASD were detained an average for 11.26 years longer than offenders with other mental disorders (Hare *et al.*, 1999).

Treatment and management in the criminal justice system

There is very little reported with regard to the treatment and management of alexithymic offenders. McMurran and Jinks (2012) looked at the treatment of alexithymia and personality disordered offenders. They reported on a 1-day intervention designed to prepare individuals to engage in therapy. This intervention involved four evidence based components:

1. psycho-education, principally how to identify emotions and how emotions can be helpful in problem solving;
2. recognising emotions through story-telling and guided imagery;
3. self-awareness based on mindfulness techniques; and
4. seeking information through practising discussing emotions, acknowledging confusion and asking for information from others.

Many AS offenders are treated within psychiatric sub-specialties and not facilities specifically designed for AS. These facilities tend to reflect the local circumstances rather than those of the individual (Woodbury-Smith *et al.*, 2005). The optimum therapeutic environment for treating AS should be stable and predictable and foster low levels of arousal. The staff should be trained in managing ASDs and staffing numbers should be sufficient to ensure a safe and supportive treatment regime (Royal College of Psychiatrists, 2006).

Offenders with AS may struggle to articulate their anxieties, which can arise from the smallest of environmental changes (Dein and Woodbury-Smith, 2010), and which in turn may lead to violence. AS is often comorbid with a range of disorders including anxiety, depression, sleep problems, Tourette's Syndrome, and ADHD (Woodbury-Smith and Volkmar, 2008). While pharmacological interventions are efficacious with such comorbid disorders, their effectiveness when the comorbidity is with AS remains uncertain (Dein and Woodbury-Smith, 2010). There are psychological interventions, such as cognitive behaviour therapy, which can be useful in helping to reduce a preoccupation with sexual or violent themes (Barry-Walsh and Mullen, 2004) and with the management of anxiety and depression (Attwood, 2007). The implementation of a successful treatment regime depends on skilled staff, constructive supervision, and the development of good therapeutic relationships, all of which may take a considerable length of time (Dein and Woodbury- Smith, 2010). A neurological assessment to identify an individual's strengths and weaknesses may prove important in designing a suitable method to manage the individual successfully (Dein and Woodbury-Smith, 2010). Yet further, some individuals with AS struggle with talking therapies and may make better progress with alternative therapies such as art or music therapy (Dein and Woodbury-Smith, 2010). Social skills training (SST) may be useful in rehabilitation of AS offenders (Murrie *et al.*, 2002) with the optimum configuration of small groups held in the same place at a regular time. The content of the SST could include the use of social scripts regarding how to behave in different circumstances and techniques to manage intrusion of personal interests (Dein and Woodbury-Smith, 2010). Given that low empathy may be implicated in offending by those with AS (Wing, 1981; Woodbury-Smith *et al.*, 2005) so techniques such as cognitive behavioural skills training, role-play, or using interactive software (Dein and Woodbury-Smith, 2010) could teach and develop this skill. Once achieved, successful treatment has the potential to add considerably to managing the risk of aggression (Blair *et al.*, 2005).

In terms of priorities for future aetiological research, the role of comorbid disorders in the offending of both groups merits attention. Similarly, as in the case in research into criminal behaviour generally, the literature is short of studies that look specifically at female offenders with these disorders. In a sense this omission is not surprising as women account for only 5 per cent of the prison population in England and

Wales (Ministry of Justice, 2010). Nonetheless, it is also concerning because female prisoners pose a high risk of self-harm – 37 per cent of imprisoned females self-harmed compared to 7 per cent of men (Ministry of Justice, 2010) – a risk potentially exacerbated by the presence of alexithymia or AS.

Conclusion

It is likely that there are substantial numbers of offenders, in both the criminal justice and mental health systems, who would be diagnosed with either alexithymia or AS. It is also likely that these individuals will pose management problems during time spent in conditions of security and that little or nothing will be done during time in security to reduce the risk of reoffending. It follows that there is a pressing need for a concerted large-scale research programme with two aims: first, developing a means of screening for alexithymia and AS for those being received into security; second, designing and evaluation an intervention to reduce risk of reoffending.

A screening tool for alexithymia and AS is necessary due to the number of individuals who may be undiagnosed due a number of reasons including the fact that AS only appeared in the DSM in 1994. The offences largely associated with AS offenders are described as characteristic of the AS disorder. The development of an AS specific intervention which caters to the specific needs of AS individual would be hugely beneficial as currently commonly used therapies such as "talking therapies" are far from AS friendly due to the emphasis on social communication, reciprocal interaction, and social imagination. These are the core deficits in AS so basing a therapy on these competencies is only destined to fail.

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