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Relationship between ADHD symptoms and anti-social behaviour in a sample of older youths in adult Scottish prisons

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ABSTRACT

Individuals with ADHD are more likely to commit crimes, be arrested, receive a prison sentence, and continue to undertake anti-social behaviour while in prison. This study explored the prevalence of ADHD symptoms using the DSM-IV checklist of symptoms and the Conners' Adult ADHD Rating Scale, and their relationship with criminal convictions and breaches of prison discipline in 168 youth (21–29 years) males within three adult prisons in Scotland. The prevalence of ADHD was found to be 7%, which is consistent with previous research, and higher than that found in the general population. However, no statistical differences were found in the number of criminal convictions among those categorised as "symptomatic" or "at-risk" compared to those categorised as "non-symptomatic" or "no-risk". The relationship between ADHD symptoms and breaches of prison discipline was dependent on the assessment tool used and therefore remains unclear. While the findings raise questions about the causal relationship proposed in the literature between ADHD and criminal behaviour, the study raises a number of methodological issues that need to be considered in future research. Nonetheless, the higher prevalence of ADHD symptoms in this sample compared to the general population has implications for risk management and rehabilitation that require further exploration.

1. Introduction

ADHD is considered "one of the major factors affecting desistance from crime and the recidivism rate" (Eme, 2009, p. 5); however, there is a general lack of attention paid to its role in offending (Gudjonsson & Young, 2011). A number of studies have demonstrated an increased prevalence of ADHD in Scottish prison settings and highlighted the relationship between ADHD and offending behaviour and critical incidents in Scottish adult (see Gudjonsson, Wells, & Young, 2011; Young et al., 2009) and youth prisons (see Gordon, Williams, & Donnelly, 2012).

1.1. ADHD in a Scottish prison population

The first study to investigate the relationship between ADHD symptoms and behaviour (anti-social acts/"critical incidents") within a Scottish prison was Young et al. (2009). They found that, after controlling for antisocial personality disorder, those who were fully symptomatic or in partial remission displayed a significantly higher frequency and severity of aggressive critical incidents than those who were in full remission. However, as with all research, there were a number of limitations.

First, the study was undertaken in HMP Aberdeen, which is operational as a short-term prison, holding predominantly prisoners on remand and those with custodial sentences (less than 4-years). Consequently, it did not account for prisoners serving long-term (over 4-years) sentences for crimes of a more serious nature. This is particularly problematic as it has been shown that individuals with ADHD, in addition to conduct problems, were found to have committed more severe and persistent acts of anti-social behaviour than those with conduct problems alone (Hinshaw & Lee, 2003). Thus, it is important to include prisoners serving long-term sentences.

Secondly, the focus appears to have been on violent or aggressive critical incidents, including: verbal aggression, physical aggression, damage to property, self-injurious, arson and 'other'. No data was, however, reported for the arson and 'other' categories and they did not account for the range of recognised non-violent/aggressive critical incidents (e.g., refusing to work, or failing to obey a direct order). If ADHD is associated with offending of a less serious nature (Babinski, Hartsough, & Lambert, 1999; Jerome, Habinski, & Segal, 2006) it may be expected that individuals symptomatic of ADHD would also display a greater frequency of non-aggressive/violent behaviour in prison. Such data should therefore be analysed and reported.

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Finally, the authors used the Diagnostic and Statistical Manual IV Checklist of Symptoms (DCS; American Psychiatric Association, 1994)) to measure ADHD, which has been identified as having two particular weaknesses when used with adults. First, the wording of items in the DCS are deemed inappropriate for adults (Murphy & Barkley, 1996; e.g., "leaving your seat in the classroom" and "running or climbing excessively"). Moreover, the measurement of ADHD in adults may be problematic through its reliance on retrospective recall of childhood symptoms (Faraone, Biederman, Feighner, & Monuteaux, 2000; cf. Murphy & Schachar, 2000) which often leads to under-reporting (Kooij et al., 2008). In contrast, the Conners' Adult ADHD Rating Scale-Self Report: Long Version (CAARS:S-L: Conners, Erhardt, & Sparrow, 1999) has been devised specifically for use with adult populations and is not simply a list of questions relating directly to the DSM-IV diagnostic criteria, and is appropriate for use in correctional settings (Conners et al., 1999).

The paper reports a partial replication of Young et al. (2009) with the inclusion of CAARS:S-L, and aims to extend the work of Gordon et al. (2012) by exploring the relationship between ADHD symptoms (hyperactivity/impulsivity and inattention) and criminal convictions and breaches of prison discipline within a sample of older youths (21–29 years as defined by Mercy, Butchart, Farrington, & Cerdia, 2002) in three adult prisons in Scotland.

2. Methods

2.1. Participants

The sample comprised 169 youth male offenders, aged 21–29 years (Mean = 25.1, SD = 2.7) within three closed adult male SPS establishments that follow a similar regime in terms of security, opportunities for prisoners and daily routine (Shotts [n = 65; 39%], Glenochil [n = 80; 47%] and Perth [n = 24; 14%]). Participants must have served a minimum of three consecutive months in custody as identified via the Scottish Prison Services Prisoner Records Systems (PR2). Younger youths (up to 21 years) in these prisons were excluded as such individuals are normally accommodated in a young offender's institution and are typically only located in an adult establishment if they display particularly violent/disruptive behaviour or for security reasons, and would not be representative of the sample (see Gordon et al., 2012).

Eligible participants were excluded if questionnaires were incomplete, or data concerning criminal convictions or breaches of prison discipline was not available. Finally, participants with scores greater than 8 on the CAARS-S:L Inconsistency Index were excluded as they are deemed atypical (Conners et al., 1999).

2.2. Measures

2.2.1. CAARS-S:L (Conners et al., 1999)

The CAARS-S:L is a 66-item self-report questionnaire giving rise to four factor-derived subscales (a 12-item inattention/memory problems subscale, 12-item hyperactivity/restlessness subscale, 12-item impulsivity/emotional liability subscale, and a 6-item problems with self-concept subscale) three DSM-IV ADHD symptom subscales (a 9-item inattentive symptoms subscale, 9-item hyperactive-impulsive symptoms subscale and a total ADHD symptoms) a 12-item ADHD Index, and an inconsistency index. Items are answered on a 4-point Likert-scale (0 = not at all, never, to 3 = very much, very frequent). Internal reliability of the subscales, when used with males aged 18–29, ranges from .64 to .89 (Conners et al., 1999).

The CAARS-S:L data was scored according to the guidelines outlined by Conners et al. (1999). Raw scores were transformed to t-scores to allow for a comparison with population norms. As the identification of problematic ADHD symptoms is considered of greater relevance than clear-cut diagnostic criteria being met, particularly in the case of adult ADHD where the DSM-IV criteria has been deemed problematic (Murphy & Barkley, 1996), participants were categorised based on t-scores above average, rather than t-scores representing clinically significant problems. Thus, a t-score $\geqslant$56 was categorised as 'at-risk' and a score <56 was categorised as 'no-risk'.

2.2.2. DSM-IV DCS (American Psychiatric Association, 1994)

The DSM-IV DCS is an 18-item self-report questionnaire that measures the symptoms of ADHD directly corresponding to DSM-IV diagnostic criteria. Nine items relate to problems of inattention and nine items to problems of hyperactivity/impulsivity. Items are answered on a 3-point Likert-scale (0 = never, 1 = sometimes, 2 = often). Consistent with Young et al. (2009) participants were asked to complete this questionnaire twice, once reporting symptoms experienced during childhood, and a second time reporting symptoms experienced during the last 6-months in adulthood.

Coding and scoring of data also conformed with Young et al. (2009) and participants were divided into symptomatic (fully symptomatic and partial remission) and non-symptomatic groups (no diagnosis of childhood ADHD or in full remission).

2.2.3. Breaches of prison discipline

For each participant, the number and nature of breaches committed over the 3-months prior to completing the questionnaires was gathered from PR2. Breaches of discipline were coded as violent or non-violent using the 'Prisons and Young Offenders Institutions (Scotland) Rules 2006 as amended, Schedule 1'. Those coded as violent included a breach of rule 'a' (the committing of any assault) and breach of rule 'd' (being involved in a fight). All other rule breaches were coded as non-violent.

2.2.4. Criminal convictions

For each participant, all criminal convictions were gathered from the Scottish Criminal Records Office (SCRO) and were coded as violent or non-violent using the 'List of Crimes and Offences with Relevant Statutes'. Violent crimes included those classified under 'Group 1: Crimes of Violence' (i.e. murder and serious assault) and non-violent crimes included all other crimes covered by Groups 2–7.

2.3. Procedure

Participants were informed of the nature of the study and recruited by the researcher (VG) while in their cells. Upon obtaining written informed consent, participants were given a pack containing detailed instructions and the questionnaires. They were allowed to complete them in their own time, and returned them to the researcher upon completion. Details regarding breaches and convictions were then collected for each participant.

3. Results

A post hoc power analysis revealed that with 169 participants the power of the study was .76, indicating the statistical tests have sufficient power to detect a 'medium' effect size (Kinnear & Gray, 2011). Scores for breaches and convictions greater than 3 standard deviations from the mean were considered as outliers and removed from analysis.