

Measuring IPDE-SQ personality disorder prevalence in pre-sentence and early-stage prison populations, with sub-type estimates

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Abstract

Understanding the prevalence and type of personality disorder within prison systems allows for the effective targeting of resources to implement strategies to alleviate symptoms, manage behaviour and attempt to reduce re-offending. This study aimed to determine the prevalence of personality disorder (PD) traits within a local urban high-turnover adult male prison with a remand/recently sentenced population in London, UK. The International Personality Disorder Examination–Screening Questionnaire (IPDE-SQ) self-administered questionnaire (ICD-10 version) was completed by 283 prisoners (42% completion rate). 77% of respondents reached the threshold for one or more PDs. The most common PD types were Paranoid PD (44.5%), Anankastic PD (40.3%), Schizoid PD (35%) and Dissocial PD (25.8%). These results confirm and extend existing knowledge regarding the prevalence of PD in prison populations into a high-turnover, urban, remand population. The stark comparison with community samples indicates that a more equitable standard of service delivery within the criminal justice system, focussing on preventive and early intervention services, is now required.

Key words

Personality disorder; International Personality Disorder Examination-Screening questionnaire; prison; remand

1. Introduction

The importance of obtaining a clear understanding of the prevalence of personality disorder (PD) within early-stage prison populations should not be underestimated for informing healthcare delivery and aspects of prison management. The significance of developing a clear picture of prevalence for PD is reinforced by the frequency of the co-occurrence of PD with other more acute symptom-based (i.e. Axis 1) disorders (Maier, Mingos, Lichtermann, Franke, & Gansicke, 1995). This substantial co-morbidity is relevant because the presence of personality disorder often complicates diagnosis, interferes with effective treatment and can adversely contribute to the clinical course of many Axis I disorders (McGlashan, Grilo, Skodol, Gunderson, Shea, Morey, et al., 2000). Research has also identified a range of problematic behaviours exhibited by prisoners with personality disorder within prison establishments. These behaviours include a far greater risk of suicidal behaviour (Duberstein & Conwell, 1997; Jenkins, Bhugra, Meltzer, Singleton, Bebbington, Brugha, et al., 2005; Mann, Waternaux, Haas, & Malone, 1999).

In addition to health concerns, personality disorders (PDs) are also considered predictors of criminal behaviour (Coid & Skodol, 1998; de Ruiter & Greeven, 2000; Fido & Al-Jabally, 1993; Roberts & Coid, 2010; Tiihonen, Eronen, & Hakola, 1993). In addition, continued offending behaviour and recidivism has also been shown to be significantly related to the presence of PD, with four DSM-IV PDs (Schizotypal, Schizoid, Narcissistic and Antisocial) shown to be significantly correlated with repeat imprisonment even when adjusted for other risk areas such as age, substance misuse,

social class and schizophrenia (Roberts & Coid, 2010). The prevalence level in this population, and its links with repeating criminal and in-prison behaviour, suggests the importance of understanding PD in this population in order to provide suitable interventions during first episodes of imprisonment.

The prevalence of personality disorders in the prison population, across jurisdiction, has been consistently reported as significantly higher than the general population.

The prevalence of any PD in the general population is reported as between 4.4% (UK- Coid, Yang, Tyrer, Roberts, & Ullrich, 2006), 6.5% (Australia -Jackson and Burgess, 2000) and 15% (Germany- Maier, Lichterman, & Klinger, 1992; USA- Grant et al., 2004). Internationally, there have been wide variations in prison studies regarding the overall prevalence of PD with variations of 7 to 66% prevalence rates for male prisoners, although figures are reported of up to 78% (see review in Rotter, 2002; Singleton, Meltzer & Gatwood, 1998; Ullrich, Deasy, Smith, Johnson, Clarke, Broughton, & Coid , 2008) . A more recent study in Canada within short-term prison facilities using ICD-9 criteria, based on existing medical records, identified 18% with a PD diagnoses, with 14.8% of male prisoners identified (LaFortune, 2010).

However, the prevalence of personality disorder using self-report or clinician rated DSM- IV criteria has been found to be relatively consistent on the international arena at around 65% (Ullrich, er al., 2008; Singleton et al., 1998). Drawing the literature together, Fazel & Danesh (2002) reviewed 62 international surveys and identified the prevalence of PD as averaging 65% of male prisoners, with 40% of prisoners identified with anti-social personality disorder. The difference in prevalence between these studies, however, clearly highlights the potential to under-diagnose PD within

a prison population when only medical records are used and, instead, indicates a preference for more active assessment to establish true levels.

The under-diagnosis of PD is not unique to the prison population, Lenzenweger et al. (2007) maintains that in community and hospital settings, DSM-IV cluster A (Schizoid, Paranoid, Schizotypal) disorders are likely to be under-represented due to egosyntonic characteristics, whilst conversely, cluster B (Antisocial, Borderline, Histrionic, Narcissistic) disorders have more salient symptoms and, as such, may be over-represented within this subgroup. There have been attempts to understand the prevalence of PD within jail and prison systems across jurisdictions, but these have been inconsistent with much prior research focussing either on the general presence of PD, or on one or two PD categories. The categories most researched are Antisocial /Dissocial PD and Borderline/ Emotionally unstable PD categories, which both fall inside Cluster B (Lafortune, 2010; Rotter et al., 2002). This has made comparisons difficult and does not address the possible presence of less overt symptoms or comorbidity with other PD categories. There have been detailed studies in the UK to understand the type and prevalence of PD in the prison population, which can be used for comparison. A survey completed by the Office for National Statistics (Singleton, et al., 1998) found personality disorder in 64% of male sentenced prisoners, and 78% of male remand prisoners. A UK prison study (Ullrich et al., 2008) found, following clinical interview, that 66% of prisoners met the criteria for DSM-IV personality disorder (PD), with the most prevalent PD types listed as 44% of prisoners with antisocial personality disorder (ASPD), 23% with paranoid PD (PPD), 18% with borderline PD (BPD) and 10% avoidant PD (APD). Remaining PD types had between 2 and 9% prevalence. When considering that ASPD prevalence rates are identified as

between 40% to 60% in male prisoners and 2% to 3% in community samples (Moran, 1999) the confounding of criteria and predictors in the diagnosis of ASPD should be considered; six of seven criteria are largely derived from criminal behaviour, resulting in an overestimation in forensic and an underestimation in non-forensic samples (Coid & Ullrich, 2010; Hare, Hart, & Harpur, 1991; Herpertz & Sass, 1997). However, use of the ICD-10 criteria (World Health Organisation, 1992) of dissocial PD (DPD), which includes more representative core personality traits, results in a significantly lower prevalence in offender samples (Maden, Taylor, Brooke, & Gunn, 1996; Ullrich, Borkenau, & Marneros, 2001). Few prevalence studies have been completed within prison settings using the ICD-10 structure, but developing this knowledge base further could greatly assist the overall the picture as regards the assessment and treatment of PD, particularly within European prison systems where diagnoses may often be based on ICD-10 criteria.

There are additional limitations in comparing studies of PD prevalence, as researchers have used a range of methods to identify personality disorder (including surveys, interviews, questionnaires or medical records) and samples have been taken from differing prison population types. Direct comparison across jurisdictions is limited by differing prison or correctional service criteria, although distinguishing remand/pre-sentenced from sentenced populations is one important way in which standardisation can be brought to samples, thereby allowing for more appropriate comparisons.

Clinician interviews with observation may be considered the ‘gold standard’ in assessing personality disorder but this may be prohibitively expensive for a large scale study. Research has shown that notable divergence is also present within this method for Axis II diagnoses (Clark, Livesley, & Morey, 1997) and the IPDE-SQ has shown satisfactory detection for likely personality disorders in the community (Lewin, Slade, Andrews, Carr, & Hornabrook, 2005). The standard cut-off for the IPDE-SQ in the community is habitually considered to be three affirmative answers within any category. However, validity issues have arisen with some populations (e.g. prisoners, adults seeking speech treatment for stuttering and smokers) and its use has been shown to have superior validity when the cut-off points were adjusted. The cut-off point of responding affirmatively to 4 or more answers has been reported as a more suitable validity index in identifying personality disorders, for these populations (Álvaro-Brun & Vegue-González, 2008; del Rio, 2011; Iverach, Jones, O'Brian, Block, Lincoln, Harrison et al., 2009) with agreement moderate for most PD types and good for ASPD and BPD and overall PD presence (Lewin et al., 2005; Slade, Peters, Schneiden, & Andrews, 1998).

There is an important context which may confound the use of community PD cut-off within an prison environment. Prisons and jails have a culture unique to their environment, and the norms of behaviour may change when entering this controlled environment. In particular it has been consistently noted that prisons emphasise characteristics of fear, anxiety, hostility, suspiciousness, self-centeredness and social withdrawal (Liebling & Maruna, 2005; Marzano, 2007; Rotter et al 2002). The adjustment of cut-off allows some aspects of this culture to be accounted for.

Overall, the use of screening instruments have been considered to have greatest utility

within a population with high prevalence of PD, such as a prison environment and to show reasonable predictive ability (Ullrich et al., 2008). The caveats for the use of any screening instrument must however be considered and results viewed in context, as the IPDE-SQ is designed to be an initial screen to detect likely PD, followed by detailed comprehensive assessment. There are no recent published studies comparing the ICD-10 version of the IPDE-SQ with diagnostic interviews in prison and this presents an opportunity to expand the knowledge into considering the most appropriate cut-off for this population.

Limited general prevalence studies have been undertaken within UK prison remand samples using ICD-10 criteria. Therefore, this study assays the prevalence of personality disorder amongst all prisoners held in a local ¹ London prison for men which contains a mixed population of remand and sentenced prisoners based in ICD-10 criteria. ² The development of knowledge amongst remand and newly sentenced prisoners would aid the availability of clinical and forensic services from the early stage of imprisonment, and may aid the improvement of prison behaviour and ensure effective treatment is provided.

2. Methods

2.1 Research design

A cross –sectional prevalence study was undertaken, with all prisoners resident at a single early-stage prison in London, UK invited to participate. Two hundred and

¹ A local prison is a prison which serves the courts and holds people on trial and before, or after, sentencing. These are high-turnover prisons with 90 or more new receptions each week (HMCIP, 2010) and an average stay of 4-8 weeks.

² Two notable previous studies have been undertaken at the prison used in this study, both using earlier versions of ICD criteria. The first identified a prevalence of 24% personality disorder within prisoners remanded into custody from medical reports (Bowden, 1978), while the second identified personality disorder in 13.5% following file searches on violent prisoners (Taylor and Gunn, 1984).

eighty-three prisoners participated in the study (prisoners experiencing acute mental health problems or without the capability to complete in English were excluded from the study).

Ethical approval and permission to conduct the study was obtained through the National Offender Management Service research ethics process; written consent was obtained from all participants prior to undertaking the study.

2.2 Procedure

All prisoners detained at a London local prison on three consecutive census days in May 2010 (mainly remand and short sentence prisoners) were provided individually with a written consent form and copy of the IPDE –SQ (ICD-10 version). All questionnaires were privately completed individually or in pairs in their cell with the researcher available. In total 670 questionnaires were distributed (prisoners experiencing acute mental health problems were excluded from the study). A notice to all prisoners had been distributed 72 hours previously providing details of the study and content of consent form. All participants required oral or written ability in the English language due to the researchers only being proficient in English. Non-English speakers are therefore not included in the study. Prisoners who identified themselves as having literacy difficulties were assisted by researchers orally in completion of the questionnaire.

2.3 Participants

358 participants engaged in the study (53% participation rate). Of these, 75 were unusable as they had not fully completed the consent form or measure. 283 prisoners fully completed the consent and measure (42% completion rate). The participants who completed the questionnaire ranged in age from 21 to 64, with the mean age of participants as 33.6 years (SD, 9.9). 52.3% of participants were on remand, 40.3% were sentenced and 7.4% were in custody following immigration detention or subject to recall following breach of license conditions.

2.4 Measure

Screening for personality disorder was undertaken using the International Personality Disorder Examination (IPDE) Screening Questionnaire (IPDE-SQ) (ICD-10 version) (Loranger, Janca & Satrorius, 1997). The IPDE-SQ is a self-administered form which contains 59 items written at a 9 years of age reading level. The IPDE-SQ asks participants to respond either 'True' or 'False' to each item and can complete the questionnaire in 15 minutes or less. The IPDE-SQ allows a clinician to identify those patients whose scores suggest the presence of a personality disorder, thus enabling onward clinical assessment and/or intervention. This version of the IPDE-SQ measures personality disorders in accordance with operational criteria that are set out within ICD-10 and is therefore useful as both research tool and as a possible adjunct to clinical assessment.

The ICD-10 defines personality disorder as “severe disturbances in the personality and behavioural tendencies of the individual; not directly resulting from disease,

damage, or other insult to the brain, or from another psychiatric disorder; usually involving several areas of the personality; nearly always associated with considerable personal distress and social disruption; and usually manifest since childhood or adolescence and continuing throughout adulthood” (ICD-10, World Health Organisation, 1992). The various sub-types are identified in the ICD-10 as follows:

1. Paranoid Personality Disorder is characterized by pervasive distrust and suspiciousness of others, misinterpretation of the actions of others, and extreme sensitivity to setbacks.
2. Schizoid Personality Disorder is characterized by detachment, withdrawal and indifference to social interactions, a limited capacity to express emotions, and preference for spending time alone.
3. Dissocial Personality Disorder is characterized by lack of concern for others, low tolerance for expressions of aggression, callous behaviour and conflict.
4. Impulsive Personality Disorder is characterized by pervasive emotional instability, lack of impulse control, and a tendency towards unpredictable behaviour.
5. Borderline Personality Disorder is characterized by pervasive instability of affect, unstable interpersonal relationships, and impulsive and self-destructive behaviour.
6. Histrionic Personality Disorder is characterized by pervasive attention seeking behaviour, exaggerated emotional expression, inappropriate behaviour, and lack of consideration for others.
7. Anankastic Personality Disorder is characterized by pervasive perfectionism, conscientiousness, and insistent thoughts of a lesser severity than those in Obsessive-Compulsive Disorder.

8. Anxious Personality Disorder is characterized by pervasive social inhibition, fear of being rejected or negatively evaluated in social situations, feelings of inadequacy, and social avoidance.

9. Dependent Personality Disorder is characterized by pervasive reliance on other people, excessive fears of separation, and difficulty making simple decisions and enacting simple tasks.

For the IPDE-SQ for this study, the Cronbach Alpha for each PD type was as follows:

Paranoid: .441; Schizoid: .439; Dissocial .635; Impulsive .630; Borderline .421; Histrionic .314; Anankastic .561; Anxious .622; Dependent .596. The Histrionic, Borderline, Paranoid and Schizoid types have low internal consistency and some caution must be given to the interpretation of these measures.

In addition to the information collected via the IPDE -SQ, basic demographic information (including remand, sentenced or recall status), ethnicity and age were collected from prison computer systems.

3. Results

Due to concerns regarding the validity of the habitual cut-off of 3 for the IPDE-SQ in a prisoner population, a cut-off point of responding affirmatively to 4 or more answers was applied, as per reported improved validity index for identifying personality disorders for the IPDE screening questionnaire (Álvaro-Brun & Vegue-González, 2008; del Rio, 2011; Iverach, Jones, O'Brian, Block, Lincoln, Harrison et

al., 2009; Slade, et al., 1998). This resulted in an identified prevalence of 77% for any personality disorder (PD); a figure similar to previous survey-based remand population figures (Singleton et al., 1998) although higher than previous research placing the level of PD in prison (remand and sentenced) at around 66% (Fazel & Danesh, 2002; Ullrich, et al., 2008).³

Using the agreed cut-off score of 4, the prevalence of specific PDs are outlined in Table 1, with prevalence in this sample ranging from 8.5 % (Emotionally unstable PD) to 44.5% (Paranoid PD). The most prevalent categories were Paranoid PD (44.5%); Anankastic PD (40.3%), Schizoid PD (35%); Dissocial PD (25.8%), Anxious PD (24.7%).

Table 1 placed around here

The number of personality disorders reported by participants ranged from none (23%) to all nine PDs (0.7%). Table 2 details the number of PD types identified across all participants with the majority of participants (60.4%) with none, one or two PDs and 4.6% of participants meeting the cut-off for 6 or more PD categories.

Table 2 placed around here

To assist with the further identification of a clinically relevant cut-off for the screening tool, the means and SD for each personality disorder with this sample is outlined in Table 3. The mean scores for some PDs on the IPDE-SQ are affected by

³ Across the personality disorder categories, the overall prevalence of at least one personality disorder in the prisoners with a cut-off of 3 (as detailed in IPDE screening questionnaire scoring guide) was 92.9%.

the maximum available score, with those with a maximum of 5 or 6 items having means from 1.59 to 2.27, but those with 7 or 8 questions have higher means (from 2.49 to 3.32).

Table 3 placed around here

4. Discussion

The prevalence of ICD-10 defined PD traits (using the IPDE screening questionnaire with an adjusted cut-off score of four) for prisoners in a local London prison was 77%, which is similar to the 78% reported in the Singleton et al. (1998) survey of UK remand prisoners. When this was broken down by type, the results were, in order of prevalence: Paranoid PD (44.5%); Anankastic PD (40.3%), Schizoid PD (35%); Dissocial PD (25.8%), Anxious PD (24.7%), Histrionic PD (20.5%), Impulsive PD (17.3%), Dependent PD (14.5%), Emotionally Unstable PD (8.5%).

The prevalence of PD traits as identified through IPDE screening was slightly higher than those reported by studies utilising clinical interview. The overall prevalence rate is however, comparable to that reported by Ullrich et al. (2008), in which the SCID-II screening instrument for DSM-IV definitions was utilised, with 77% prevalence rate identified (using an adjusted cut-off in keeping with that used in this study). The specific type prevalence pattern in this study was different than reported in the Ullrich et al., (2008) study, though some PD types showed similar patterns (e.g. Paranoid PD was reported at 38% (Ullrich et al., 2008) compared with 44.5% in the current study; Schizoid PD was reported as 29% by Ullrich et al. (2008) compared to

35% in this study). However, directly comparing specific PD types in this way have some limitations due to variation in the number of PD types between the DSM-IV and ICD-10 structures. Additionally, there are definitional differences between the DSM-IV and ICD-10 criteria which will impact on identification. The prevalence of Dissocial PD (ICD-10) or Antisocial PD (DSM-IV) in prison samples has been the focus of extensive prison research and this study identified a probable prevalence rate for Dissocial PD (DPD) of 25%. This suggests that assessment using the broader personality criteria of DPD reflects in lower prevalence rates than some studies reporting on the DSM-IV equivalent Antisocial PD (ASPD) (31%: Coid & Ullrich, 2010; 44-55% Ullrich et al, 2008).

Nonetheless, the overall consistency supports the presence of a high rate of PD within a remand and short-term sentenced prison population that is consistent with previously identified prevalence rates within sentenced prison populations. Ullrich et al. (2008) identified a 66% PD prevalence rate from clinical interview with 77% identified through adjusted screening and it may now be reasonable to conclude that a similar pattern would be present in the current study. This would indicate that the use of the IPDE-SQ heightens false positives but not false negatives and the levels are so similar to previous studies using screening and interview techniques that it can be assumed that the prevalence is reflective of presence.

There was considerable co-morbidity between differing PD types with 54% of participants identified with two or more PD types. This is not entirely unexpected as it is known that most patients do not fit a single criterion but instead meet the criteria

for several diagnoses (Widiger, 1991). The use of dimensional models has therefore gained support (Livesley, 2003) and there is broad agreement that there are four higher order dimensions: Emotional dysregulation (includes anxious, dependant and paranoid features); Inhibited (schizoid/avoidant); Dissocial (includes narcissistic and impulsive features); and Compulsive patterns (anankastic features) (Livesley, 2003). When considering the results in this dimensional approach, the four higher-order dimensions provide a very different picture of the prison population. A crude placement of results into the dimensional model (based on ICD-10 category) suggests the presence for each dimension: Emotional dysregulation, 55.2%; Dissocial, 48.8%; Compulsive, 40.1%; and Inhibited, 34.4%. A focus on higher-order dimensions rather than on specific diagnoses allows for greater consideration of treatment and intervention approaches focussed on the dimension and behaviour. The current study suggests a high prevalence of all dimensions with the prison population and a benefit from managing all four dimensions. The level of prevalence supports the need for greater resourcing, training and management of PD within the prison environment.

4.1 Implications

This study confirms the findings of existing literature in the field of PD in prison populations by suggesting a prevalence rate that is in keeping with that produced by earlier studies using different methodologies. It also extends these results by confirming this prevalence rate in a different type of prison population - a mixed remand/sentenced local London prison with high turnover. Given that it is known that rates of personality disorder are highest amongst men who are separated and unemployed in urban locations (Coid et al., 2006) it is perhaps not surprising that we should find such high rates in a local London prison covering boroughs which are

known to be relatively morbid in that area of London. Nonetheless, the high prevalence of personality disorder found in this study (77%) contrasts starkly with estimated community prevalence rates of approximately 4.4% (Coid et al., 2006), indicating clear evidence for the concentration of people with PD in the criminal justice system.

Given that high levels of diagnostic co-morbidity are well established (including co-morbidity with other Axis I and Axis II disorders) (Coid, Moran, Bebbington, Brugha, Jenkins, Farrell, et al., 2009), and that individuals with personality disorder are known to present with higher than usual levels of health service use (Ullrich & Coid, 2009), it would seem necessary to ensure adequate levels of service provision for this group (while also ensuring that those providing such services are suitably trained in the assessment, treatment and management of people with personality disorders). Additionally, when considering the far greater risk of suicidal behaviour for those with PD diagnoses (Duberstein & Conwell, 1997; Jenkins, et al., 2005; Mann, et al., 1999) and the high risk of suicidal behaviour amongst early-stage prisoners (Towl & Crighton, 1998), appropriate and targeted service provision for this group is required.

In England and Wales, personality disorder services have been significantly enhanced over the last decade or more, with significant investment from the UK Government of over £200 million into the development of a programme for those who present with dangerous or severe personality disorders. Although these pilot services have shown limited effectiveness when measured against their original aims (Tyrer, Duggan, Cooper, Crawford, Seivewright, Rutter, et al., 2010) their evolution has nonetheless

assisted in providing well-needed services for disturbed high-risk offenders in a previously neglected area (Mullen, 2007). Some of the learning from this large scale national project could now be used to inform onward service provision within prison systems.

We suggest that there are now two main outstanding challenges.

1. The first is to ensure a more equitable standard of service delivery within existing prison systems to those who are not considered dangerous and may have previously found themselves beyond the remit of services which have been strategically positioned to assess and provide treatment for the dangerous, with a particular emphasis on remand prison settings (Wilson, James, & Forrester, 2011). This should include enhanced provision and more realistic funding for frontline court and prison services for assessment and treatment for those with unmet need.
2. The second is to introduce a focus on early intervention and preventative services, given the reported level of PD within an early-stage prison population plus the known relationship between personality disorder and offending behaviour (Roberts & Coid, 2010). Through the provision of suitable funding to community services to identify and manage those at risk of entering the criminal justice system, more of those with PD may be diverted from the criminal justice systems.

4.2 Limitations

The main limitation of this study relates to the use of a self-reporting instrument. By their very nature, self-reports depend upon a level of self-awareness and a willingness to disclose information. While we cannot assume that every individual who took part in this study filled out a self-report form in a manner that directly

reflected their underlying personality or behavioural characteristics, nonetheless the similarity of results between this study and previous studies which used different methodologies suggests a reassuring degree of success using self-report instruments. Although we took careful steps to ensure that all prisoners who were able to be included in this study were made aware of it, it remains possible, given the complex nature of a large urban remand prison, that some prisoners did not participate for reasons that were not of their own making. Although we are not aware of any such cases, we are also aware that institutional barriers can sometimes intrude.

With screening instruments, there remains the risk of heightened false positives but the pattern of Axis II presence has been shown to remain largely consistent when comparing adjusted screen scores with clinical interview (Ullrich et al., 2008). These studies however highlight one key aspect in that the use of cut-offs for screening tools applicable in a community sample provide a higher number of false positives within a prison population where PD has a high prevalence rate. It would be necessary therefore to adjust the cut-off to be clinically meaningful for a prison population. The number of participants meeting the cut-off in a number of categories suggests that some participants may have over-represented difficulties. This should be considered when evaluating the results, although the number was relatively small (9.5% had 5 or more PD categories which met the cut-off) and the real figure is likely to be close to that reported.

Although caution must be given to the generalizability of the results where a significant proportion did not fully complete the questionnaire or declined participation, the completion rate of 42% was, in our view, appropriate to a study of

this nature and type. The reasons for declining full participation are not clear, but it may be accounted for by the large proportion of foreign national prisoners amongst the study prison (35%) and low general literacy level of prisoners (80% of prisoners have writing skills at or below the level expected of an 11-year-old child) (Social Exclusion Unit, 2002).

Conclusion

This study identified an overall PD prevalence rate of 77% using the IPDE-SQ (ICD-10 version) with an adjusted cut-off score of four in remand and early-stage sentenced prisoners. In order of prevalence: Paranoid PD (44.5%); Anankastic PD (40.3%), Schizoid PD (35%); Dissocial PD (25.8%), Anxious PD (24.7%), Histrionic PD (20.5%), Impulsive PD (17.3%), Dependent PD (14.5%), Emotionally Unstable PD (8.5%). The study extends the existing literature into new prison arenas by considering the prevalence of PD within a population of male early-stage prisoners. ICD-10 categorisation, implemented via prisoner self-reports, identifies a high overall prevalence of PD within this population and also shows similarities when compared with other research methods internationally. The results also raise questions regarding PD sub-type estimations within this population and extending this methodological approach to other prison settings, including sentenced populations, could now be useful. Although these results should be treated with some caution given the nature of self-report and the inevitable self-selection that took place within the reporting sample group, the high estimated PD prevalence does indicate a requirement for adequate and suitable resourced to target this population, both when they are in prison and beyond to the community.

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Table 1: Prevalence of ICD-10 personality disorder type

Personality Disorder Type	n	Percent
Paranoid	126	44.5
Anankastic	114	40.3
Schizoid	99	35
Dissocial	73	25.8
Anxious	70	24.7
Histrionic	58	20.5
Impulsive	49	17.3
Dependent	41	14.5
Emotionally Unstable	24	8.5

Table 2: Number of Personality Disorder Types Identified per Individual

Number of PD identified	Cumulative		
	n	Percent	Percent
0	65	23.0	23.0
1	65	23.0	45.9
2	41	14.5	60.4
3	37	13.1	73.5
4	27	9.5	83.0
5	22	7.8	90.8
6	13	4.6	95.4
7	6	2.1	97.5
8	5	1.8	99.3
9	2	0.7	100.0

Table 3: Mean and SD for personality disorder types.

Personality	Maximum			
Disorder Type	n	Score	Mean	SD
Paranoid	283	7	3.32	1.58
Schizoid	283	8	2.95	1.78
Dissocial	283	7	2.49	1.58
Impulsive	283	5	1.82	1.52
Emotionally Unstable	283	5	1.59	1.27
Histrionic	283	6	2.26	1.35
Anankastic	283	8	3.21	1.85
Anxious	283	6	2.19	1.66
Dependent	283	6	1.73	1.51