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Personality disorder in a probation cohort: Demographic, substance misuse and forensic characteristics

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ABSTRACT

Background *The occurrence of personality disorder among community supervised offenders may have important implications for their management. There is, however, a dearth of contextual information on personality disorder in such populations.*

Aims *This study aimed to identify demographic, substance use and forensic features that distinguish community-sentenced offenders with personality disorder from those without.*

Methods *One hundred and seventy-three offenders under community supervision were screened for personality disorder using the Standardised Assessment of Personality – Abbreviated Scale. Alcohol and drug misuse, demographic and forensic data were also recorded.*

Results *Nearly half of the sample (82, 47%) had probable personality disorder. Compared with those without personality disorder, they were younger, more likely to be unemployed, less likely to be divorced, more likely to have been convicted of robbery and more likely to be alcohol or illicit drug misusers, as well as under drug rehabilitation requirements. Multivariate analyses confirmed that only alcohol and drug abuse were independently associated with personality disorder in this group, and only the latter was significant.*

Conclusions *In this broadly representative sample of offenders serving community sentences in a defined geographical area, those with personality disorder were not more likely to attract higher risk of recidivism ratings, but they were more likely to have problems with heavy alcohol and/or illicit drug misuse. Copyright © 2014 John Wiley & Sons, Ltd.*

Introduction

Personality disorder is a common mental health concern among community supervised offenders (Brooker et al., 2012; Pluck et al., 2012) and is a significant predictor of recidivism (Walter et al., 2011). There is preliminary evidence suggesting that the identification of personality disorder in probation settings improves outcomes for offenders (Minoudis et al., 2012b). Nonetheless, there are little published data on the correlates of personality disorder in this population.

In England, probationers tend to have complex presentations of personality disorder, with one study describing a mean of four identifiable categories in the disorder group (Dolan et al., 1995). In a previous study (Pluck et al., 2012) we showed, like the Dolan group, that antisocial personality disorder is the most common personality disorder category in probation populations. This is perhaps unsurprising as the definition of antisocial personality disorder includes criminal behaviour, but the finding highlights clinical differences between probation and general psychiatric populations; in the latter, avoidant, borderline and obsessive–compulsive personality disorders are the most common (Zimmerman et al., 2005).

A study to elucidate the complexity of presentations in a London-based sample of community supervised offenders found that those with probable personality disorder, according to the Standardised Assessment of Personality – Abbreviated Scale (SAPAS), were significantly more likely than those without to have been rated as having problems from childhood, current psychological problems, previous contact with psychological services, difficulties coping and previous suicide/self-harm (Shaw et al., 2012). Difficulties coping and previous suicide/self-harm were the only independent predictors of personality disorder on the basis of regression analysis. Other published research on personality disorder in a probation setting has tended to focus on selected groups. Minoudis et al. (2012a), for example, focused exclusively on ‘high risk of harm PD’ offenders. By contrast, we recently reported on mental health concerns of a broadly representative sample of all probationers in one UK countywide probation service, Lincolnshire. This highlighted high co-morbidity of mental illness with personality disorder (Brooker et al., 2012).

Our aim here is to identify the unique and shared correlates of personality disorder in a sample of community supervised offenders.

Method

Participants

Our sample was drawn from the total community case load in all probation offices of the Lincolnshire Probation Trust between April 2009 and February 2010 (approximately 1500 individuals at any one time). This includes people on community sentences, suspended prison sentences and parole after serving a prison sentence. Lincolnshire is a large county, with a fairly stable population of about

725,000, mainly rural with a few moderately large towns. The selection process is described in detail elsewhere (Brooker et al., 2011; [Brooker et al., 2012](#)), but, in brief, it was initially planned that computer randomisation would select 228 probationers as a one-in-seven sample. The majority (82%) of those selected, however, had to be excluded because of probation order expiry (396 cases), refusal to participate (164 cases) or imprisonment (64 cases). In order to compensate for this, a further 188 cases were selected by convenience sampling, to achieve the final sample of 173 probationers. Participants were stratified by tier of risk (see subsequent discussion) and office location, depending on size of location caseload.

Assessments

We used the SAPAS ([Moran et al., 2003](#)), a rapid screen for personality disorder, validated for use with probationers ([Pluck et al., 2012](#)). A cut-off score of three has a sensitivity of 0.73 and a specificity 0.90 for the presence of any DSM-IV category of personality disorder ([Pluck et al., 2012](#)).

The 20-item version of the Drug Abuse Screening Test (DAST; [Skinner, 1982](#)), well established for use among community treated offenders ([Lang and Belenko, 2000](#)), was used to screen for problematic drug use and the Alcohol Use Disorders Identification Test (AUDIT; [Saunders et al., 1993](#)) to screen for alcohol problems. Risk of reoffending data were extracted from the probation records, having been completed by probation officers using the Offender Assessment System (OASys), which yields tiers of risk from 1 (*lowest*) to 4 (*highest*) and is a significant predictor of recidivism ([Howard, 2006](#)). We also included these tier-of-risk data in our analyses.

Procedure

Ethics approval was obtained from Nottingham Research Ethics Committee 1 (reference number 08/H0403/151).

Most interviews ($n = 144$) were conducted in probation office premises in a private room and were confidential to the research; the remainder were conducted in the individuals' homes or by telephone. In all cases, written informed consent was obtained in advance. The structured interview was the same for all participants. Data were entered directly into an encrypted laptop database. Participants were asked about their demographic characteristics (age, sex, education, marital status, housing situation and employment status) and forensic history (past imprisonment, current offence type and details of their probation order). All participants also completed the AUDIT, the DAST and the SAPAS, in that order. The full procedure for the data reported here took around 25 minutes per interview. Some of the participants were also interviewed about their mental health, as previously reported ([Brooker et al., 2012](#); [Pluck et al., 2012](#); [Pluck](#)

and Brooker, 2014). Participants were paid £10 (approximately \$US15) for each hour or part-hour of their time.

Statistical analyses

Categorical data were summarised by proportion and continuous data by means and standard deviations (SDs), as appropriate. Factors that characterised participants with a personality disorder were investigated using binary logistic regression, with personality disorder as the dependent variable. Rare (<5%) events were excluded from the analyses. First, univariate analyses were used to select variables for later multivariate domain analysis. The domains of interest were demographic, substance abuse and forensic, and any variable with $p < 0.1$ in the univariate analyses was included in the multivariate model. In a final multivariate analysis, variables from the domain analyses were considered using the same criteria. Both forwards and backwards selection procedures were employed to assess the stability of the model. Odds ratios (ORs) are shown with 95% confidence intervals (CIs). All statistical procedures were conducted with SPSS 21.0.0.1 (IBM, Armonk, NY, USA).

Results

Personality disorder

The mean SAPAS score in the sample was 2.53 (SD = 1.87, range 0–8). Eighty-two individuals (47%) scored three or greater on the SAPAS, indicating probable personality disorder.

Demographics

One hundred and fifty (87%) of the sample were men. Mean age was 36.0 years (SD = 13.5). Most were White; only three probationers had different ethnic classifications, of whom one was classified as having a probable personality disorder, on the basis of their SAPAS score. Because of the very low frequency of non-White groups, ethnicity was excluded from the regression analyses. Further details of the sample are shown in Table 1.

In the univariate analyses, three demographic factors were significantly associated with personality disorder at the 5% level: those with probable personality disorder were, on average, just over 6 years younger than those offenders without; people with personality disorder were also significantly more likely to be unemployed and less likely to be divorced, although there was also a trend for offenders with probable personality disorder to be single.

In the multivariate analysis focused on demographics, only age and being unemployed remained significantly and independently associated with probable

Table 1: Results of the binary logistic regressions (univariate, multivariate domain wide and the full model) of demographic variables for the dependent variable of probable personality disorder

	Univariate				Multivariate			
	Personality disorder		Enter		Domain wide		Full model	
	Yes	No	Odds ratio (95% CI)	Sig	Odds ratio (95% CI)	Sig	Odds ratio (95% CI)	Sig
			Forward conditional		Forward conditional		Forward conditional	
<i>n</i>	82	91						
Demographic								
Male (%)	70 (85.4)	80 (87.9)	1.25 (0.52–3.00)	0.62				
Mean age in years (SD)	32.8 (10.2)	38.9 (15.4)	0.97 (0.94–0.99)	0.00	0.97 (0.95–0.99)	0.01		0.23
Marital status (%)								
Single	64 (78.0)	57 (62.6)		0.05 ^a				
Married	10 (12.2)	13 (14.3)	0.69 (0.28–1.68)	0.41				
Divorced ^b	8 (9.8)	21 (23.1)	0.34 (0.14–0.83)	0.02		0.28		
Homeless (%)	11 (13.4)	11 (12.1)	1.13 (0.46–2.78)	0.79				
Unemployed (%)	58 (70.7)	47 (51.6)	2.26 (1.21–4.24)	0.01	2.00 (1.05–3.80)	0.04		0.07
On state benefits (%)	66 (80.5)	68 (74.7)	1.40 (0.68–2.87)	0.37				
Any qualifications (%)	30 (36.6)	29 (31.9)	0.81 (0.43–1.52)	0.51				
Urban living (%)	55 (67.1)	62 (68.1)	0.95 (0.50–1.80)	0.88				

Note: CI = confidence interval; SD = standard deviation.

^aReference group in the regression analysis (simple contrasts).

^bIncludes separated but not divorced and widowed.

personality disorder in the final step, whether forwards or backwards stepwise entry was adopted (see also Table 1).

Substance abuse

The mean AUDIT score was 11.6 (SD = 10.7). Thirty-nine (22.5%) of these offenders were drinking at levels indicative of alcohol dependence (AUDIT > 19). The mean group DAST score was 3.1 (SD = 4.8). Twenty-one (12%) would be said to have substantial to severe drug abuse problems (DAST > 10). Univariate analyses revealed that both alcohol abuse and drug abuse were significantly associated with probable personality disorder ($p < 0.05$). When alcohol and drug abuse variables were entered into the model together, whether forwards or backwards, drug abuse remained significant at $p < 0.05$ (Table 2).

Offending

The most common category of index offence was violence, committed by 66 individuals (38%). The next most frequent offence types were robbery (31 cases, 18%), drug offences (23, 13%), sexual offences (11, 6%) and fraud or forgery (10, 6%). Thus, just five categories of offence type accounted for 82% of all offence types in the sample. Remaining index offence types were driving under the influence of alcohol (nine, 5%), child abuse or neglect (three, 2%) and vehicle crime (three, 2%). Only the five most prevalent index offence types were examined in the regression analyses.

In the bivariate analyses, offences of robbery and a drug rehabilitation requirement in conjunction with the community sentence were the only criminological variables that were significantly associated ($p < 0.05$) with personality disorder. The contrast of Tier of Risk 2 (compared with 1) was not selected for further analyses as the variable overall had a p value > 0.1 . On both backwards and forwards entries, robbery remained significantly associated, but the requirement for unpaid work replaced the drug rehabilitation order in being significant at $p < 0.05$ (Table 3).

Final model

When all the variables found to be independently related to probable personality disorder were entered together into a multivariate regression, the final model contained only alcohol abuse and drug abuse. Only drug abuse was significant at the 5% level (OR 1.15, CI 1.07–1.24). The results of the final overall regression are shown in the right-hand columns of Tables 1–3. This model correctly classified individuals as having probable personality disorder or not with a sensitivity of 51% and a specificity of 78%. Its validity was confirmed with a Hosmer and Lemeshow test ($\chi^2_{(8)} = 12.9, p = 0.116$).

Table 2: Results of the binary logistic regressions (univariate, multivariate domain wide and the full model) of substance abuse variables for the dependent variable of probable personality disorder

	Univariate		Multivariate					
			Domain wide		Full model			
			Method					
	Personality disorder		Enter		Forward conditional		Forward conditional	
	Yes	No	Odds ratio (95% CI)	Sig	Odds ratio (95% CI)	Sig	Odds ratio (95% CI)	Sig
n	82	91						
Alcohol abuse (SD)	14.0 (11.9)	9.5 (9.0)	1.04 (1.01–1.07)	0.01	1.03 (1.00–1.06)	0.05	1.03 (1.00–1.06)	0.05
Drug problems (SD)	4.8 (5.6)	1.6 (3.3)	1.17 (1.08–1.26)	0.00	1.15 (1.07–1.24)	0.00	1.15 (1.07–1.24)	0.00

Note: CI = confidence interval; SD = standard deviation.

Unpaid work	15 (18.3)	27 (29.7)	0.53 (0.26–1.09)	0.08	0.41 (0.19–0.90)	0.03	0.06
Specified activity	12 (14.6)	6 (6.6)	2.43 (0.87–6.80)	0.09	2.67 (0.89–7.96)	0.08	0.10
Exclusion	7 (8.5)	3 (3.3)	2.74 (0.68–10.96)	0.16			
Curfew	7 (8.5)	9 (9.9)	0.85 (0.30–2.40)	0.76			
Released on licence	4 (4.9)	7 (7.7)	0.62 (0.17–2.18)	0.45			

Note: CI = confidence interval.

^aReference category.

Discussion

The prevalence of probable personality disorder in this sample – 47% – is comparable with that of 40% measured in a London (UK)-based sample of community supervised offenders, also screened using the SAPAS (Shaw et al., 2012). It is also comparable with the figures detected in studies of SAPAS-screened prisoners, where around 52% were reported to have probable personality disorder (Wright et al., 2006; Einarsson et al., 2009). Indeed, a meta-analysis of all the available studies reporting on the prevalence of any personality disorder in prisoners reported rates of 65% for men and 42% for women (Fazel and Danesh, 2002), equivalent to a pooled prevalence of 54%. It therefore appears that community supervised offenders have rates of personality pathology, which are similar to those or only slightly lower than those of imprisoned offenders.

We identified a range of demographic, substance abuse and forensic variables related to the presence of personality disorder in our probation sample – including not being divorced, younger age, being in employment, being convicted of robbery, being under a drug rehabilitation order and/or suffering substance misuse to probably clinically important levels. However, the multivariate analyses confirmed that many of these associations were explained by confounding.

Multivariate analysis revealed several criminological variables that were independently and significantly associated with personality disorder in our sample. Those with an offence of robbery were twice as likely to have a personality disorder. This association (if real) may reflect the fact that our sample was drawn from a community-sentenced population, and more serious offences that attract custodial sentences may have different patterns of association with personality disorder. In secure forensic psychiatry services, for example, personality disorder has been linked to arson and sexual offences (Coid et al., 1999).

Analyses of other forensic variables revealed that one particular condition of the probation order – attendance at a drug rehabilitation program – was significantly linked to the presence of probable personality disorder (in the bivariate, but not the multivariate analyses). In the final regression model, scores on the DAST were the only unique associate of probable personality disorder. Although the OR was low, it should be emphasised that this indicated a 15% increase in the odds of personality disorder for each one-point increase in DAST score, and so the absolute increase in the odds of personality disorder for individual offenders could be considerable for those with high DAST scores. This additional emphasis on the relationship between substance abuse and personality pathology is important because not only is the presence of personality disorder *per se* linked to recidivism, but also this relationship is particularly strong when it is co-morbid with substance abuse (Putkonen et al., 2003; Wright et al., 2006).

In contrast to drug rehabilitation attendees being more likely to have a probable personality disorder, those required to do unpaid work were less likely to have a probable personality disorder. At sentencing, the courts may have recognised possible personality disturbance and appreciated the difficulties likely to be

inherent in supervising people who would by definition have some difficulty with personal relationships working in close contact with the public. Indeed, there is evidence that reference to personality pathology in pre-sentence reports strongly influences sentencing recommendations (Murrie et al., 2005).

Although we did not directly assess risk variables or recidivism in this study, we did examine the probable presence of personality disorder in relation to the tier of risk level on the basis of the prison and probation services of England and Wales' risk assessment system, OASys. This tool is designed to predict reoffending, and there is some evidence that it is successful in achieving this (Howard, 2006). Against our expectation, we did not, however, find any statistically significant association between OASys risk tier and probable personality disorder status. This is surprising given that information pertaining to personality disorder contributes to the OASys risk assessment, and at least some personality disorders have often been linked to recidivism (Putkonen et al., 2003).

An important difficulty for researchers and clinicians alike is that there is much common ground between factors predictive of recidivism and some of the features of antisocial personality disorder. Nevertheless, the common occurrence of some shared characteristics does not make conditions coterminous. Perhaps our findings should be taken to underscore caution in this area. Being male, younger and abusing substances are features in common between risk of offending *per se* (Glasheen et al., 2012), risk of recidivism (Bonta et al., 1998) and antisocial personality disorder (Compton et al., 2005) alike, but their presence does not mean that all three of these wider states will be present. In samples exclusively of offenders, these features might, in effect, provide a first-line screen for personality disorder, indicating who might benefit from a fuller personality assessment.

Limitations

Use of a self-report screening tool alone is an imperfect way of defining personality disorder, so some misclassification may have occurred, and it is least accurate for antisocial personality disorder (Hesse and Moran, 2010), the type most likely to have affected this group. There is therefore a need for further research in probation populations using full assessment protocols, incorporating observer and verified historical data as well as self-report. A further limitation is that participants in this sample, in line with the geographical area of the country, were almost all White indigenous residents. This may limit the extent to which the findings can be generalised to other probation populations. We also note the high number of exclusions during recruitment and the possibility of selection bias. It is possible that some of the detected univariate associations reflect type I error incurred as a result of multiple testing. Perhaps, more importantly, our failure to detect some anticipated multivariate associations (particularly a potential association between risk tier and personality disorder) may reflect lack of statistical power.

Conclusions

There is a dearth of reports on mental disorders among people serving community sentences. Our study of a broadly representative sample of such offenders from a defined geographical area is a step forward. Using a well-established screening tool for personality disorder, we found that nearly half of the participants probably had such disorder. Alcohol or illicit drug misuse were the only independently distinguishing features between having a personality disorder or not. High scores for risk of reoffending did not, however, separate the groups at any level of analysis, underscoring the need to conduct separate assessments for separate purposes in such a population. This issue would benefit from further exploration in a larger study.

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