

Original

RESP

Personality disorders, addictions and psychopathy as predictors of criminal behaviour in a prison sample

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ABSTRACT

Aims: Disturbances in personality and addictions are associated with an increased risk of committing crimes and therefore of being imprisoned. In this study, the relationship between these factors is analyzed through a sample of inmates in the Prison of Pereiro de Aguiar, Ourense.

Material and method: 204 inmates participated in this transversal simple blind design study. The following variables were analyzed: presence of personality disorders and psychopathy, history of addictive psychoactive substance use, criminal history and socio-demographic variables.

Results: 101 (49.5%) inmates received a diagnosis of personality disorder, the most frequent being: narcissistic, 43 (21.08%); antisocial, 38 (18.63%); and paranoid, 29 (14.22%). The presence of any personality disorder was associated with an increase in the risk of committing crimes, especially violence and crimes against property. The most frequent personality disorders were associated with higher scores in the psychopathy assessment tools. Higher scores in the Psychopathy Checklist Reviewed (PCL-R) correlated with an increased risk of committing the following crimes: violent, against public health, against property and disorderly conduct. The consumption of addictive psychoactive substances was associated with the commission of crimes against property. Methadone stood out for its protective role against the commission of violent crimes.

Discussion: This sample shows that inmates have a higher prevalence of personality disorders, psychopathy and consumption of addictive psychoactive substances. These three variables significantly increased the risk of committing crimes.

Keywords: personality disorders, substance related disorders, prisons, methadone.

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INTRODUCTION

There are two psychiatric disorders that stand out amongst the others as risk factors in presenting criminal behaviour that can lead to a person being imprisoned: addictive disorders and personality disorders, which multiply the likelihood of committing a crime in comparison to other populations by a factor of three¹. One of the personality disorders, antisocial personality disorder (APD), which is characterised by a generalised pattern of contempt for and violation of the rights of others and which generally commences before 15 years of age², is one involving a higher

rate of criminal offences and therefore a greater risk of imprisonment. However, studies show that when compared to other personality disorders, APD only increases the risk of committing crimes of violence¹.

Obviously, one way to confirm these findings is to study the prevalence of these disorders in the prison population. Review studies carried out up till now have shown that there is a demonstrable relationship between personality disorders and criminal behaviour. The prevalence of APD in the prison population is 21% compared to 4% for psychotic disorders and 12% for severe depression^{3,4}. However, the rates of prevalence of personality disorders and APD vary widely in the

studies^{3,4}. The average in the international review studies is 47%³, which makes for a clear contrast with the general population, where it is 9.1%⁵. In Spain, the prevalence rates vary between different studies, between 30 and 76.7% for personality disorders in general, and between 11.9% and 47.5% for APD⁶⁻⁹.

International studies show a prevalence of addictions in the prison population of between 10-30% for alcohol-related problems, and between 10-60% for illegal drug-related issues¹⁰. As regards the presence of addictive behaviour in this environment, studies show a prevalence of addictions that ranges from 27% to 66% in the prison population⁷; another study showed that on entering prison, 78.40% of the persons interviewed said that they consumed alcohol and tobacco, while 27.6% said that they consumed some type of illegal drug¹¹.

Despite the wide diversity in study results, there is clear evidence that the prevalence in the prison population of personality disorders in general, and APD in particular, and of addictions, greatly exceeds the figures obtained in the general population¹². A clear relationship between personality disorders and addictions has also been demonstrated⁵.

There is another disorder, not included in the international diagnostic classifications, which is related to a greater prevalence of instrumental aggression and criminal behaviour and with a lower response rate to psychosocial intervention, and which therefore implies a greater risk of imprisonment. The disorder referred to in this case is psychopathy or psychopathic personality disorder (PPD)¹³⁻¹⁵. Psychopathy has a structure of three clearly differentiated factors:

- Factor 1: Shallow emotional response and lack of empathy.
- Factor 2: Arrogant, grandiose interpersonal style.
- Factor 3: Erratic and impulsive behaviour¹⁶⁻²².

Prevalence of this disorder amongst the general public is low, around 0.5-1%, but it increases, as may be expected, in prison and forensic samples and reaches at least 15%^{16,23}. Studies carried out on prison samples in Spain show a prevalence of psychopathy of slightly over 20%²⁴.

Experts in the field of psychopathy are divided into those who consider antisocial and criminal behaviour as a necessary part of the disorder^{18,25-28} and those who feel otherwise^{16,17,29-31}.

Addictive behaviours are significantly related to the behavioural factor of social irresponsibility (factor 3), but not with the emotional and interpersonal factors that define psychopathy³². There is also a relationship between the symptoms that define APD, in particular, and other personality disorders, such

as narcissistic, and the factors that go to make up psychopathy^{19,33}.

The overlap between APD and psychopathy is a huge one, since the symptoms that define the first one are lack of remorse (factor 1), not valuing truth (factor 2) and impulsiveness (factor 3). The diagnostic system that uses categorisation by groups of symptoms allows there to be psychopathic individuals with APD, and inmates with APD but without psychopathy², which has been demonstrated in studies on children^{23,34-37}. The methods used to assess psychopathy also allow there to be psychopathic individuals who do not commit crimes^{17,30}.

To sum up, personality disorders, psychopathy and addictions are risk factors for the appearance and maintenance of criminal behaviours that can lead to imprisonment. These three risk factors are related to each other, although in-depth studies of how they interrelate are lacking.

The aim of this study is to analyse the relationship between personality disorders, psychopathy and addictions in order to determine the influence they have on crimes that lead to imprisonment in a representative sample of inmates serving sentences in a Spanish prison.

MATERIALS AND METHODS

The study was carried out at the Pereiro de Aguiar Prison (Ourense, Spain). The participation of all the inmates sentenced between April 2014 and April 2016 was assessed. The inclusion criteria were: having served at least six months sentence in Pereiro de Aguiar Prison and signing the informed consent. The exclusion criteria were: not speaking Spanish fluently and having an organic or psychiatric disease that stopped the inmate from participating in the study.

Out of the 330 inmates assessed for participation in the study, 126 inmates (38.18%) did not meet the inclusion criteria and were excluded: 10 (7.93%) refused to participate and did not sign the informed consent; 16 (12.69%) did not speak Spanish fluently; 32 (25.39%) suffered from an organic or psychiatric disease that stopped them from participating in the study; and 68 (53.99%) had not served at least six months of their sentence in the prison. A total of 204 inmates (61.82%) met the inclusion criteria and participated in the study.

The research project was approved by the Ethics Committee of Vigo-Ourense-Pontevedra (2014/009). The study was carried out in accordance with the Helsinki Declaration.

All the inmates completed the following assessment protocol:

- *International Personality Disorder Examination (IPDE) DSM version*: semi-structured interview designed to diagnose category personality disorders in line with the DSM model³⁸.
- *Psychopathy Checklist Reviewed (PCL-R)*: developed by Hare³⁹⁻⁴⁰ is the gold standard tool used to evaluate psychopathy. The psychometric and predictive capacities of the PCL-R are well established^{25,28}. The author of the PCL-R defends a structural model of the test organised into two factors and four facets: factor 1 interpersonal (facet 1) and affective (facet 2); and factor 2 of social deviancy: life style (facet 3) and antisocial (facet 4)^{18,28}. Previously, other authors had presented a three-factor model: arrogant and false personal style, deficient affective experience and impulsive and irresponsible behaviour¹⁷.
- *Comprehensive Assessment of Psychopathic Personality (CAPP)*: semi-structured interview developed by Cooke et al³¹. The CAPP is structured into six domains: attachment, behavioural, cognitive, dominance, emotional and self. Previous studies have shown its psychometric feasibility⁴¹⁻⁴⁴.
- *Socio-demographic and prison variables collected*: gender, age, nationality, years of education completed, marital status, total time in prison in months, type and number of crimes committed, type, age of commencement and number of addictive substances different from nicotine consumed, separating consumption of alcohol from alcohol abuse. Table 1 shows the distribution of these variable and the prevalence of the personality disorders according to the IPDE in the sample.

One of the researchers (Flórez) evaluated all the inmates with the IPDE, the PCL-R and the CAPP, and was kept blind to the results of the socio-demographic and prison variables.

Statistical analysis

The variables in this study were described by using the mean and standard deviation for the continuous variables, and by the number of occurrences and percentage in the categorical ones. In the case of the continuous variables, since the comparisons between these two groups did not present normality, they were carried out by applying the Mann-Whitney test. For the categorical variables, the comparisons were made using the Chi-square test, or Fisher's exact test in those cases in which the theoretical frequencies were lower than 5. The Pearson correlation coefficient

was used as a method to measure the force of linear association between the continuous variables and the multiple and logistical linear regression models in order to determine the possible existing multi-variant relations. a value of $p < 0.05$ was considered significant.

RESULTS

The first analysis compared those inmates who did not present any personality disorder (101, 49.5%) with the following groups of inmates: the ones who presented some kind of personality disorder (103, 50.5%), those who presented two or more personality disorders (49, 24.01%), and those who had the most frequent personality disorders (narcissistic, antisocial, paranoid, avoidant, borderline and histrionic). The comparison was made for the variables of commencement and consumption of drugs (Table 1), for the crimes committed (Table 1) and for the scores of the PCL-R (the total and factors and facets) and of the CAPP (the total and domains). Table 2 shows the significant results.

A comparison was then made between the most prevalent personality disorders, including the most prevalent mixed cases. The results are shown in Table 3.

Then the relation between drug consumption and the type of crime committed was assessed. On the one hand, the mean ages of commencement of consumption were taken, with the following significant relations being observed: alcohol abuse and public order offences, 17 compared to 19 ($p = 0.049$); methadone and public order offences, 20 compared to 28 ($p < 0.0001$); benzodiazepines and other traffic offences, 16 compared to a 20 ($p = 0.027$); cocaine and public order offences, 15 compared to 18 ($p = 0.006$). A lower age of commencement of consumption was associated with a higher prevalence of crime.

A correlation analysis was also carried out between average age of commencement of consumption and the scores of the PCL-R, where significant results were obtained solely for methadone: PCL-R total of 0.265 ($p = 0.026$); factor 2 0.317 ($p = 0.007$); facet 3 0.27 ($p = 0.024$); and facet 4 0.333 ($p = 0.005$).

The same analysis was carried out with the CAPP, with significant results for cocaine: CAPP total -0.202 ($p = 0.004$), attachment -0.153 ($p = 0.029$), behaviour -0.14 ($p = 0.046$), cognitive -0.156 ($p = 0.0026$), dominance -0.204 ($p = 0.003$), emotional -0.231 ($p = 0.001$), and self -0.17 ($p = 0.015$); and for cannabis: attachment -0.155 ($p = 0.027$), and emotional -0.144 ($p = 0.04$).

Table 1. Socio-demographic and prison variables of the sample, along with the prevalence of personality disorders according to the IPDE*

Variables	No. of inmates (%)	Variables	No. of inmates (%)
Gender		Drugs/alcohol, age of commencement	
Male	176 (86.27%)	Alcohol	15.62%
Female	28 (13.73%)	Abuse of alcohol	20.81%
Age (mean, SD†)	40.93 (11.18%)	Heroin	19.51%
Nationality		Methadone	26.31%
Spanish	179 (87.75%)	Other opiates	25.80%
Other	25 (12.25%)	Benzodiazepines	21.29%
Years of education completed (mean, SD)		Cocaine	18.62%
Basic	8.84 (1.95%)	Amphetamines	17.29%
Higher	0.24 (0.88%)	Cannabis	15.81%
Marital status		Hallucinogens	17.90%
Married	49 (24.01%)	Inhalants	16.14%
Separated /divorced	61 (29.9%)	Type of offences	
Widowed	1 (0.51%)	Public health	79 (38.73%)
Single	93 (45.58%)	Property	116 (56.86%)
Total months in prison (mean, SD)	75.08 (83.56%)	Violent	91 (44.61%)
Use of alcohol and drugs		Others	54 (26.47%)
Alcohol	165 (80.88%)	Public order	32 (15.69%)
Abuse of alcohol	78 (38.24%)	Drink driving	42 (20.59%)
Heroin	90 (44.12%)	Other traffic related	60 (29.41%)
Methadone	70 (34.31%)	Two or more	
Other opiates	15 (7.35%)	Three or more	81 (39.71%)
Benzodiazepines	38 (18.63%)	Four or more	26 (12.75%)
Cocaine	125 (61.27%)	IPDE diagnoses	
Amphetamines	28 (13.73%)	Paranoid	29 (14.22%)
Cannabis	117 (57.35%)	Schizoid	0 (0%)
Hallucinogens	30 (14.71%)	Schizotypal	1 (0.49%)
Inhalants	7 (3.43%)	Antisocial	38 (18.63%)
Two or more	142 (60.61%)	Borderline	15 (7.35%)
Three or more	112 (54.90%)	Histrionic	13 (6.37%)
Four or more	92 (45.10%)	Narcissistic	43 (21.08%)
Two or more (without alcohol or methadone)	114 (55.88%)	Avoidant	17 (8.33%)
Three or more (without alcohol or methadone)	86 (42.16%)	Dependent	2 (0.98%)
Four or more (without alcohol or methadone)	49 (24.02%)	Obsessive	2 (0.98%)
		More than one	103 (11.76%)

Note. †SD: Standard deviation; *IPDE: International Personality Disorder Examination.

The same analysis was also carried out on the prevalence of consumption of each substance (Table 4). Substance consumption is generally linked to more crimes and higher scores in the PCL-R and the CAPP.

The univariate analysis concluded with a correlation between the scores of the PCL-R and CAPP and the type of crime committed. The following significant correlations were obtained:

- Public health offences: factor 1 0.295 ($p < 0.0001$), facet 1 0.294 ($p = 0.001$) and facet 2 0.232 ($p < 0.0001$); cognitive -0.142 ($p = 0.042$).
- Property offences: factor 1 0.193 ($p = 0.012$), factor 2 0.516 ($p < 0.0001$), facet 1 0.179 ($p = 0.021$), facet 2 0.165 ($p = 0.018$), facet 3 0.486 ($p < 0.0001$), and facet 4 0.447 ($p < 0.0001$).
- Violent crimes: factor 1 0.11 (0.032), factor 2 0.206 ($p < 0.0001$), facet 2 0.131 ($p = 0.019$), and facet 4 0.196 ($p < 0.0001$).
- Public order offences: factor 2 0.185 ($p = 0.008$), facet 3 0.156 ($p = 0.009$), and facet 4 0.184 ($p < 0.0001$).
- Drink driving: factor 1 -0.327 ($p < 0.0001$), factor 2 -0.172 ($p = 0.007$), facet 1 -0.277 ($p = 0.023$), facet 2 -0.307 ($p < 0.0001$), facet 3 -0.138 ($p = 0.012$), and facet 4 -0.181 ($p = 0.006$).

Finally the regression models were analysed by using all the variables employed in the univariate study, along with the socio-demographic variables present in Table 1. Table 5 shows the results for the total number of months in prison; in this case a multiple linear regression was carried out. Table 6 shows the logistic regression models for the types of offences and for committing two or more of them.

DISCUSSION

This study, just like other Spanish and international studies^{1,3,4,6-10}, clearly shows the high prevalence of PD and drug consumption amongst the assessed inmates in comparison to the general population. The presence of one or more PDs in this sample implied an earlier onset and higher prevalence of drug consumption, with the exception of alcohol, higher scores in the PCL-R and the CAPP, which indicated a higher risk of psychopathy and a more marked personality psychopathology. All this increases the risk of committing violent crimes, which has already been noted in international journals¹. On the other hand, it can be seen that alcohol consumption and abuse are uniformly distributed throughout the sample, and that drink driving is an offence that is not linked to personality pathology or to drug consumption.

Inmates diagnosed with narcissistic PD, the most common disorder in the sample, stood out when compared to inmates without a diagnosis of PD, especially with regard to higher scores in the PCL-R y el CAPP. When these inmates are compared to those presenting other PDs it can be seen that narcissistic PD implies a dominating attitude (CAPP dominance) and a swollen ego (CAPP self) (Table 3). This matches the fact that the most significant scores in the PCL-R appear in factor 1, mainly at the expense of facet 1, interpersonal. It has been shown that CAPP dominance and self and PCL-R factor 1 and facet 1 are the markers of narcissistic PD when it is seen that the scores of these variables are the ones that significantly increase and differentiate the inmates with antisocial or paranoid PD in comparison to the inmates that also mostly present a narcissistic PD.

The comparative analyses carried out on the inmates with a diagnosis of APD showed a clear link between this PD and substance consumption, especially cannabis. Given that this study Given that the diagnostic criterion stating that symptoms of antisocial PD have to be present before 15 years of age was scrupulously respected, and if we add the mean ages of starting consumption of substances (Table 1) to this, the results of this study would indicate, as in many other studies, that APD is risk factor for substance consumption⁴⁵. This PD is also evidently linked to higher scores in all the variables of the CAPP and the PCL-R. When it is compared to other PDs, it can be seen that antisociality is clearly related to PCL-R factor 2 and its facets 3 (lifestyle) and 4 (antisocial behaviour) (Table 3). This increase in the PCL-R can be seen in inmates who present a narcissistic and antisocial PD in comparison to those who only present a narcissistic PD. The univariate analysis already shows that the antisocial PD is related to property offences, which is a way to finance an irresponsible and antisocial lifestyle where drug consumption is commonly present. Facet 4 of the PCL-R is indirectly related to violent crimes and public order offences, as can be seen in the univariate analysis. The regression models directly relate this PD to the length of stay in prison (Table 5), and indirectly link it to other traffic offences and with committing two or more offences via facet 3 of the PCL-R. It also appears to be less related to drink driving.

Paranoid PD is generally related to higher scores in all the variables of the CAPP and the PCL-R. When it is compared to the other PDs, it can be seen that this disorder is clearly linked to the CAPP scores of attachment and facet 2 of the PCL-R (emotional) (Table 3). This would indicate that this type of inmate

Table 2. Comparison between inmates who do not present any personality disorder (PD) and those who present a PD, more than one or specific one, with regard to age of commencement, and prevalence of drug consumption, committing offences and scores in the Psychopathy Checklist Reviewed and the Comprehensive Assessment of Psychopathic Personality

Variables	Some type of PD	More than one PD	PD narcissistic	PD antisocial	Paranoid PD	PD avoidant	PD borderline	histrionic PD
Age consumption commenced								
Alcohol	15 vs.* 16 (p = 0.004)	n.s.†	n.s.	14 vs. 16 (p = 0.004)	14 vs. 16 (p = 0.04)	n.s.	n.s.	n.s.
Abuse of alcohol	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Heroin	n.s.	n.s.	n.s.	n.s.	n.s.	15 vs. 18 (p = 0.029)	n.s.	n.s.
Methadone	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Other opiates	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
BZD	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Cocaine	16 vs. 18 (p = 0.004)	15 vs. 18 (p = 0.006)	16 vs. 18 (p = 0.039)	16 vs. 18 (p = 0.007)	15 vs. 18 (p = 0.01)	15,5 vs. 18 (p = 0.039)	n.s.	n.s.
Amphetamines	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Cannabis	14 vs. 16 (p = 0.001)	13 vs. 16 (p = 0.001)	14 vs. 16 (p = 0.01)	13 vs. 16 (p < 0.0001)	n.s.	13 vs. 16 (p = 0.01)	n.s.	n.s.
Hallucinogens	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Inhalants	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Prevalence of consumption								
Alcohol	87,12% vs. 73,78% (p = 0.015)	n.s.	n.s.	n.s.	n.s.	58,82% vs. 87,12% (p = 0.009)	n.s.	n.s.
Abuse of alcohol	45,54% vs. 31,06% (p = 0.033)	n.s.	n.s.	n.s.	n.s.	11,76% vs. 45,54% (p = 0.005)	n.s.	n.s.
Heroin	58,25% vs. 29,7% (p < 0.0001)	59,18% vs. 29,7% (p = 0.001)	60,46% vs. 29,7% (p = 0.001)	76,31% vs. 29,7% (p < 0.0001)	n.s.	n.s.	33,33% vs. 29,7% (p = 0.006)	n.s.
Methadone	48,54% vs. 19,8% (p < 0.0001)	44,89% vs. 19,8% (p = 0.002)	41,86% vs. 19,8% (p = 0.007)	57,89% vs. 19,8% (p < 0.0001)	n.s.	47,05% vs. 19,8% (p = 0.022)	60% vs. 19,8% (p = 0.002)	53,84% vs. 19,8% (p = 0.012)
Other opiates	11,88% vs. 2,97% (p = 0.014)	6,32% vs. 2,97% (p = 0.045)	n.s.	28,94% vs. 2,97% (p < 0.0001)	n.s.	n.s.	n.s.	n.s.
BZD	27,18% vs. 9,9% (p = 0.001)	32,65% vs. 9,9% (p = 0.001)	25,58% vs. 9,9% (p = 0.019)	42,1% vs. 9,9% (p < 0.0001)	27,58% vs. 9,9% (p = 0.023)	n.s.	n.s.	30,76% vs. 9,9% (p = 0.045)
Cocaine	68,93% vs. 52,47% (p = 0.016)	n.s.	n.s.	81,57% vs. 52,47% (p = 0.001)	n.s.	n.s.	n.s.	n.s.
Amphetamines	n.s.	24,48% vs. 8,91% (p = 0.01)	n.s.	34,21% vs. 8,91% (p = 0.001)	n.s.	n.s.	n.s.	n.s.
Cannabis	67,96% vs. 45,54% (p = 0.001)	n.s.	n.s.	92,1% vs. 45,54% (p < 0.0001)	n.s.	n.s.	n.s.	n.s.
Hallucinogens	20,38% vs. 8,08% (p = 0.01)	22,44% vs. 7,92% (p = 0.015)	n.s.	n.s.	n.s.	n.s.	26,66% vs. 7,92% (p = 0.05)	30,76% vs. 7,92% (p = 0.029)
Inhalants	n.s.	10,2% vs. 0,99% (p = 0.009)	9,3% vs. 1% (p = 0.018)	n.s.	n.s.	n.s.	n.s.	n.s.

(keep going)

Table 2. Comparison between inmates who do not present any personality disorder (PD) and those who present a PD, more than one or specific one, with regard to age of commencement, and prevalence of drug consumption, committing offences and scores in the Psychopathy Checklist Reviewed and the Comprehensive Assessment of Psychopathic Personality (continuation)

Variables	Some type of PD	More than one PD	PD narcissistic	PD antisocial	Paranoid PD	PD avoidant	PD borderline	histrionic PD
Criminal offences								
Public health	n.s.	n.s.	n.s.	n.s.	n.s.	<i>5,88% vs. 40,59% (p = 0.002)</i>	n.s.	n.s.
Property	n.s.	n.s.	n.s.	<i>78,94% vs. 51,48% (p = 0.003)</i>	n.s.	n.s.	n.s.	n.s.
Violent	<i>51,45% vs. 37,62% (p = 0.047)</i>	<i>57,14% vs. 37,62% (p = 0.024)</i>	n.s.	n.s.	<i>41,37% vs. 37,62% (p = 0.045)</i>	<i>70,58% vs. 37,62% (p = 0.011)</i>	n.s.	n.s.
Others	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Public order	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	<i>46,15% vs. 13,86% (p = 0.001)</i>
Drink driving	<i>12,62% vs. 28,71% (p = 0.004)</i>	<i>6,12% vs. 28,71% (p = 0.001)</i>	n.s.	<i>11,76% vs. 28,71% (p = 0.017)</i>	<i>6,89% vs. 28,71% (p = 0.007)</i>	<i>5,88% vs. 28,71% (p = 0.024)</i>	n.s.	n.s.
Other traffic related	n.s.	n.s.	n.s.	n.s.	<i>13,79% vs. 33,66% (p = 0.029)</i>	n.s.	n.s.	n.s.
Psychopathy Checklist Reviewed								
Total	<i>25 vs. 14 (p <0.0001)</i>	<i>27 vs. 14 (p <0.0001)</i>	<i>27 vs. 14 (p <0.0001)</i>	<i>26 vs. 14 (p <0.0001)</i>	<i>25 vs. 14 (p <0.0001)</i>	n.s.	<i>22 vs. 14 (p = 0.003)</i>	n.s.
Factor 1	<i>11 vs. 6 (p <0.0001)</i>	<i>12 vs. 6 (p <0.0001)</i>	<i>14 vs. 6 (p <0.0001)</i>	<i>12 vs. 6 (p <0.0001)</i>	<i>14 vs. 6 (p <0.0001)</i>	n.s.	n.s.	n.s.
Facet 1	<i>5 vs. 2 (p <0.0001)</i>	<i>6 vs. 2 (p <0.0001)</i>	<i>7 vs. 2 (p <0.0001)</i>	<i>5,5 vs. 2 (p <0.0001)</i>	<i>4 vs. 2 (p <0.0001)</i>	n.s.	n.s.	n.s.
Facet 2	<i>6 vs. 4 (p <0.0001)</i>	<i>6 vs. 4 (p <0.0001)</i>	<i>6 vs. 4 (p <0.0001)</i>	<i>6 vs. 4 (p <0.0001)</i>	<i>7 vs. 4 (p <0.0001)</i>	n.s.	n.s.	<i>7,5 vs. 4,5 (p = 0.007)</i>
Factor 2	<i>13 vs. 8 (p <0.0001)</i>	<i>14 vs. 8 (p <0.0001)</i>	<i>13 vs. 8 (p <0.0001)</i>	<i>16 vs. 8 (p <0.0001)</i>	<i>10 vs. 8 (p <0.0001)</i>	n.s.	<i>14 vs. 8 (p <0.0001)</i>	n.s.
Facet 3	<i>9 vs. 6 (p <0.0001)</i>	<i>9 vs. 6 (p <0.0001)</i>	<i>9 vs. 6 (p <0.0001)</i>	<i>10 vs. 6 (p <0.0001)</i>	<i>2 vs. 6 (p <0.0001)</i>	n.s.	<i>10 vs. 6 (p = 0.001)</i>	n.s.
Facet 4	<i>4 vs. 2 (p <0.0001)</i>	<i>4 vs. 2 (p <0.0001)</i>	<i>4 vs. 2 (p <0.0001)</i>	<i>6 vs. 2 (p <0.0001)</i>	<i>4 vs. 2 (p <0.0001)</i>	<i>3 vs. 2 (p = 0.033)</i>	<i>6 vs. 2 (p <0.0001)</i>	n.s.
Comprehensive Assessment of Psychopathic Personality								
Total	<i>101 vs. 44 (p <0.0001)</i>	<i>110 vs. 44 (p <0.0001)</i>	<i>112 vs. 44 (p <0.0001)</i>	<i>102 vs. 44 (p <0.0001)</i>	<i>112 vs. 44 (p <0.0001)</i>	<i>77 vs. 44 (p = 0.001)</i>	<i>101 vs. 44 (p <0.0001)</i>	<i>94 vs. 44 (p <0.0001)</i>
Attachment	<i>13 vs. 6 (p <0.0001)</i>	<i>15 vs. 6 (p <0.0001)</i>	<i>15 vs. 6 (p <0.0001)</i>	<i>12,5 vs. 6 (p <0.0001)</i>	<i>17 vs. 6 (p <0.0001)</i>	<i>9 vs. 6 (p = 0.007)</i>	<i>17 vs. 14 (p = 0.001)</i>	<i>17 vs. 10 (p <0.0001)</i>
Behavioural	<i>17 vs. 6 (p <0.0001)</i>	<i>19 vs. 6 (p <0.0001)</i>	<i>17 vs. 6 (p <0.0001)</i>	<i>20 vs. 6 (p <0.0001)</i>	<i>18 vs. 6 (p <0.0001)</i>	<i>14 vs. 6 (p = 0.041)</i>	<i>21 vs. 6 (p <0.0001)</i>	n.s.
Cognitive	<i>14 vs. 6 (p <0.0001)</i>	<i>15 vs. 6 (p <0.0001)</i>	<i>14 vs. 6 (p <0.0001)</i>	<i>16 vs. 6 (p <0.0001)</i>	<i>15 vs. 6 (p <0.0001)</i>	<i>12 vs. 6 (p <0.0001)</i>	<i>16 vs. 6 (p <0.0001)</i>	n.s.
Dominance	<i>18 vs. 8 (p <0.0001)</i>	<i>20 vs. 8 (p <0.0001)</i>	<i>21 vs. 8 (p <0.0001)</i>	<i>19 vs. 8 (p <0.0001)</i>	<i>20 vs. 8 (p <0.0001)</i>	n.s.	<i>14 vs. 8 (p = 0.001)</i>	n.s.
Emotional	<i>15 vs. 7 (p <0.0001)</i>	<i>16 vs. 7 (p <0.0001)</i>	<i>16 vs. 7 (p <0.0001)</i>	<i>16 vs. 7 (p <0.0001)</i>	<i>17 vs. 7 (p <0.0001)</i>	<i>13 vs. 7 (p = 0.001)</i>	<i>15 vs. 7 (p <0.0001)</i>	<i>17,5 vs. 13,5 (p = 0.007)</i>
Self	<i>22 vs. 9 (p <0.0001)</i>	<i>26 vs. 9 (p <0.0001)</i>	<i>28 vs. 9 (p <0.0001)</i>	<i>20,5 vs. 9 (p <0.0001)</i>	<i>23 vs. 9 (p <0.0001)</i>	<i>17 vs. 9 (p <0.0001)</i>	<i>20 vs. 9 (p <0.0001)</i>	n.s.

Note. *against : frente a (versus); † n.s.: not significant; ‡BZD: benzodiazepines. Text in italics: the score indicates a significance in favour of inmates without a personality disorder.

Table 3. Comparison between the most prevalent personality disorders (PD), individual and mixed (only the most frequent combinations), with regard to age of commencement, prevalence of drug consumption, committing offences and score in the PCL-R* and the CAPP†

Variables	Categories
Paranoid ²¹ vs.‡ antisocial ³⁰	Earlier commencement of consumption of cannabis in antisocials 13 vs. 14.5 (p = 0.03), more prevalent consumption of the following substances in antisocials: heroin 83.33% vs. 38.09 (p = 0.001), methadone 66.66% vs. 33.33% (p = 0.018), other opiates 30% vs. 0% (p = 0.001), cocaine 86.66% vs. 57.14% (p = 0.017), amphetamines 33.33% vs. 9.52% (p = 0.039), cannabis 96.66% vs. 47.61% (p <0.0001) Higher prevalence of property offences amongst antisocial inmates 80% vs. 47.61% (p = 0.016) Paranoids present higher scores in CAPP attachment 17 vs. 12 (p <0.0001). Antisocial inmates present higher scores in PCL-R factor 2 16 vs. 10 (p <0.0001), PCL-R facet 3 10 vs. 6 (p = 0.002) and PCL-R facet 4 6.5 vs. 4 (p <0.0001) and in PCL-R total 29 vs. 21 (p = 0.008)
Paranoid ²¹ vs. borderline ¹⁵	Higher score amongst paranoids in CAPP attachment 17 vs. 12 (p = 0.001), and also in PCL-R factor 1 12 vs. 8 (p = 0.003) and PCL-R facet 2 7 vs. 4 (p = 0.002)
Paranoid ²¹ vs.‡ narcissist ³¹	Abuse of alcohol commences earlier in narcissists 18 vs. 14 (p = 0.028) Narcissistic inmates commit traffic related offences more frequently 38.7% vs. 11.76 (p = 0.039) Paranoids obtain higher scores in CAPP attachment 16 vs. 13 (p = 0.035) and narcissists in CAPP self 28 vs. 19 (p <0.0001), and in PCL-R factor 1 14 vs. 10 (p = 0.007) and PCL-R facet 1 7 vs. 4 (p <0.0001) and in PCL-R total 28 vs. 25 (p = 0.036)
Paranoid ²¹ vs. avoidant ¹⁴	Abuse of alcohol commences earlier in paranoids 16.5 vs. 19.5 (p = 0.006), consumption of alcohol more frequent amongst paranoids 84.61% vs. 50% (p = 0.021), and abuse of alcohol 46.15% vs. 7.14% (p = 0.007) Paranoid inmates commit public health offences more frequently 46.15 vs. 7.14% (p = 0.007) Paranoid inmates present higher scores in CAPP total 112.7 vs. 73.5 (p <0.0001), CAPP attachment 16.5 vs. 8.5 (p <0.0001), CAPP behavioural 18 vs. 11.5 (p = 0.018), CAPP cognitive 15 vs. 11 (p = 0.006), CAPP dominance 20 vs. 12 (p <0.0001), CAPP emotional 17.5 vs. 12.5 (p = 0.003) and CAPP self 23 vs. 17.5 (p = 0.011), and in PCL-R factor 1 12 vs. 9 (p = 0.004), PCL-R facet 1 5.5 vs. 3 (p = 0.021) and PCL-R facet 2 7.5 vs. 4.5 (p = 0.004) and in PCL-R total 23 vs. 15.5 (p = 0.018)
Paranoid ²¹ vs. histrionic ¹²	Histrionic inmates commit public order offences more frequently 50% vs. 10.71% (p = 0.008) Paranoid inmates present higher scores in CAPP attachment 17 vs. 10 (p <0.0001), in CAPP emotional 17.5 vs. 13.5 (p = 0.007), and in facet 2 of the PCL-R 7.5 vs. 4.5 (p = 0.007)
Antisocial ³⁴ vs. borderline ¹⁵	Antisocial inmates consume benzodiazepines more frequently 44.11% vs. 9% (p = 0.022) and cannabis 91,17% vs. 45.45% (p = 0.002). Antisocial inmates commit property offences more frequently 79.41% vs. 45.45% (p = 0.037); they also present a higher score in CAPP dominance 19 vs. 14 (p = 0.024); and in PCL-R total 28 vs. 21 (p = 0.0011), PCL-R factor 1 12 vs. 8 (p = 0.005), PCL-R facet 1 6 vs. 3 (p = 0.028), PCL-R facet 2 6 vs. 4 (p = 0.006), PCL-R factor 2 16 vs. 12 (p = 0.018) and PCL-R facet 4 6 vs. 4 (p = 0.006), and PCL-R total 28 vs. 21 (p = 0.011)
Antisocial ²⁵ vs. narcissist ³⁰	Antisocial inmates present a younger commencement of alcohol abuse 13 vs. 19 (p = 0.007), of heroin 17 vs. 20.5 (p = 0.013), likewise with the frequency of heroin consumption 32% vs. 0% (p <0.0001), of benzodiazepines 36% vs. 13.33% (p = 0.048), of amphetamines 36% vs. 6.66% (p = 0.006), of cannabis 92% vs. 43.33% (p <0.0001) and of hallucinogens 32% vs. 10% (p = 0.041) is higher; antisocial inmates commit property offences more frequently 76% vs. 46.66% (p = 0.025). Antisocial inmates present higher scores in CAPP behavioural 18 vs. 16 (p = 0.036), but less than narcissists in dominance 17 vs. 21.5 (p = 0.012) and CAPP self 18 vs. 29 (p <0.0001). As regards the PCL-R, antisocial inmates present lower scores in factor 1 11 vs. 14 (p = 0.007) and in facet 1 4 vs. 7 (p = 0.001), but higher ones in factor 2 16 vs. 10 (p <0.0001), and in facets 3 10 vs. 7 (p = 0.035) and 4 6 vs. 3.5 (p <0.0001).
Antisocial ³⁷ vs. avoidant ¹⁶	Antisocial inmates consume benzodiazepines more frequently 44.11% vs. 9% (p = 0.022) and cannabis 91,17% vs. 45.45% (p = 0.002). Antisocial inmates commit property offences more frequently 79.41% vs. 45.45% (p = 0.037); they also present a higher score in CAPP dominance 19 vs. 14 (p = 0.024); and in PCL-R total 28 vs. 21 (p = 0.0011), PCL-R factor 1 12 vs. 8 (p = 0.005), PCL-R facet 1 6 vs. 3 (p = 0.028), PCL-R facet 2 6 vs. 4 (p = 0.006), PCL-R factor 2 16 vs. 12 (p = 0.018) and PCL-R facet 4 6 vs. 4 (p = 0.006), and PCL-R total 28 vs. 21 (p = 0.011)
Antisocial ³⁶ vs. histrionic ¹¹	Antisocial inmates present an earlier commencement of alcohol consumption 14 vs. 15.5 (p = 0.032), and present more frequent cannabis consumption 91.66% vs. 45.45% (p = 0.001). Histrionic inmates are more likely to commit public order offences 45.45% vs. 13.88% (p = 0.034). Antisocial inmates present a higher score in the following domains of the CAPP: attachment 12.5 vs. 9 (p = 0.031) and emotional 16 vs. 13 (p = 0.036) As regards the PCL-R, antisocial inmates present higher scores in the PCL-R total 28 vs. 22 (p = 0.045), in factor 2 16 vs. 14 (p = 0.022) and in facet 4 6 vs. 4 (p = 0.001)

(keep going)

Table 3. Comparison between the most prevalent personality disorders (PD), individual and mixed (only the most frequent combinations), with regard to age of commencement, prevalence of drug consumption, committing offences and score in the PCL-R* and the CAPP† (continuation)

Variables	Categories
Borderline ¹³ vs. narcissist ³⁹	Narcissistic inmates present higher scores in CAPP dominance 21 vs. 14 (p = 0.001) and CAPP self 28 vs. 20 (p <0.0001). Narcissistic inmates also present higher scores in PCL-R factor 1 14 vs. 8 (p <0.0001), and in facets 1 7 vs. 2 (p <0.0001) and 2 7 vs. 4 (p = 0.004)
Borderline ¹⁴ vs. avoidant ¹⁶	Borderline PD inmates present higher scores in the following domains of the CAPP: behavioural 21 vs. 14 (p = 0.007), and in the total score 104 vs. 77.5 (p = 0.024); and in factor 2 of the PCL-R 14 vs. 10 (p = 0.03)
Borderline ¹³ vs. histrionic ¹¹	Histrionic inmates present higher scores in PCL-R factor 1 6 vs. 2 (p = 0.015)
Narcissist ⁴⁰ vs. avoidant ¹⁴	Avoidant inmates present an earlier commencement of heroin consumption 16 vs. 18 (p = 0.042) Narcissistic inmates commit public health offences more frequently 50% vs. 7.14% (p = 0.002); they also present higher scores in the following domains of the CAPP: attachment 15 vs. 9 (p = 0.033), dominance 22 vs. 13 (p <0.0001), emotional 16 vs. 13.5 (p = 0.026) and self 28 vs. 16.5 (p <0.0001), and in the total score 112 vs. 77.5 (p <0.0001); the same as in factor 1 of the PCL-R 14 vs. 9 (p <0.0001), and in facets 1 7 vs. 3 (p <0.0001) and 2 6.5 vs. 5 (p = 0.01), and also in the total score 27.5 vs. 15.5 (p <0.0001).
Narcissist ³⁸ vs. histrionic ⁸	Narcissistic inmates present higher scores in CAPP total 111 vs. 77 (p = 0.004), CAPP attachment 15.5 vs. 9 (p = 0.009), CAPP dominance 21 vs. 13.5 (p = 0.006), CAPP emotional 16 vs. 12.5 (p = 0.009), CAPP self 28 vs. 17.5 (p <0.0001), PCL-R factor 1 14 vs. 9.5 (p = 0.011) and facets, 1 7 vs. 4 (p = 0.023) and 2 7 vs. 4 (p = 0.008)
Histrionic ¹¹ vs. avoidant ¹⁵	Histrionic inmates more frequently present an alcohol abuse problem 54.54% vs. 13.33% (p = 0.023); they also present higher score in the PCL-R total 27 vs. 17 (p = 0.043), and in the facets of the PCL-R 1 6 vs. 3 (p = 0.009) and 3 10 vs. 6 (p = 0.032)
Antisocial + narcissist ¹³ vs. antisocial ²⁵	The combination presented higher scores in CAPP dominance 21 vs. 17 (p = 0.001), CAPP self 28 vs. 18 (p <0.0001), CAPP total 112 vs. 95 (p = 0.009), PCL-R total 31 vs. 27 (p = 0.008), PCL-R factor 1 13 vs. 11 (p = 0.014) and PCL-R facet 1 7 vs. 4 (p = 0.003)
Antisocial + narcissist ¹³ vs. narcissist ³⁰	The combination presented more frequent heroin consumption 92.3% vs. 46.66% (p = 0.002), cocaine 92.3% vs. 53.33% (p = 0.008), amphetamines 30.76% vs. 6.66% (p = 0.045), cannabis 92.3% vs. 43.33% (p = 0.001). Inmates who present the combination commit more property offences 84.61% vs. 46.66% (p = 0.016). They also presented higher scores in the following variables: CAPP behavioural 22 vs. 16 (p = 0.003), PCL-R total 31 vs. 25 (p = 0.002), PCL-R factor 2 17 vs. 10 (p <0.0001), PCL-R facet 3 10 vs. 7 (p = 0.029) and PCL-R facet 4 7 vs. 3.5 (p <0.0001).
Paranoid + narcissist ¹² vs. narcissist ¹⁷	Inmates who present the combination obtain higher scores in CAPP dominance 22 vs. 17 (p = 0.011), CAPP self 28 vs. 19 (p <0.0001) and PCL-R facet 1 6 vs. 4 (p = 0.008)
Paranoid + narcissist ¹² vs. narcissist ³¹	Inmates who presented the combination presented later commencement of benzodiazepine consumption (BZD) 27 vs. 18 (p = 0.026); and presented higher scores in: CAPP attachment 17 vs. 13 (p = 0.04), CAPP cognitive 15 vs. 12 (p = 0.047)

Note. *PCL-R: Psychopathy Checklist Reviewed; †CAPP: Comprehensive Assessment of Psychopathic Personality; ‡vs.: against (versus).

Table 4. Comparison between inmates who have not consumed substances with those who have consumed with regard to committing offences and scores in the PCL-R* and the CAPP†

Variables	Alcohol	Abuse of alcohol	Heroin	Methadone	Other opiates	BZD‡
Criminal offences						
Public health	n.s.§	n.s.	n.s.	n.s.	n.s.	n.s.
Property	85,34% vs. 73,86% (p = 0.042)	n.s.	64,65% vs. 17,04% (p < 0.0001)	52,58% vs. 10,22% (p < 0.0001)	12,93% vs. 0% (p < 0.0001)	27,58% vs. 6,81% (p < 0.0001)
Violent	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Others	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Public order	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Drink driving	100% vs. 75,92% (p < 0.0001)	57,14% vs. 33,33% (p = 0.005)	n.s.	37,65% vs. 21,24% (p = 0.042)	n.s.	21,60% vs. 7,14% (p = 0.019)
Other traffic related	n.s.	n.s.	n.s.	n.s.	9,72% vs. 1,66% (p = 0.023)	22,22% vs. 10% (p = 0.032)
PCL-R						
Total	n.s.	n.s.	25 vs. 14 (p < 0.0001)	25,50 vs. 15 (p < 0.0001)	26 vs. 19 (p = 0.005)	25,50 vs. 18 (p < 0.0001)
Factor 1	n.s.	n.s.	10.50 vs. 7 (p < 0.0001)	10 vs. 7,50 (p = 0.01)	n.s.	11 vs. 8 (p = 0.045)
Facet 1	n.s.	n.s.	5 vs. 2 (p < 0.0001)	4 vs. 3 (p = 0.007)	n.s.	n.s.
Facet 2	n.s.	n.s.	6 vs. 4 (p = 0.005)	5,50 vs. 4 (p = 0.044)	n.s.	n.s.
Factor 2	n.s.	n.s.	13 vs. 8 (p < 0.0001)	13,50 vs. 8 (p < 0.0001)	13 vs. 10 (p = 0.001)	13 vs. 10 (p < 0.0001)
Facet 3	n.s.	n.s.	10 vs. 5 (p < 0.0001)	10 vs. 6 (p < 0.0001)	10 vs. 6 (p = 0.011)	9,50 vs. 6 (p = 0.001)
Facet 4	n.s.	n.s.	4 vs. 2 (p < 0.0001)	4 vs. 2 (p < 0.0001)	5 vs. 3 (p = 0.002)	4,50 vs. 2 (p < 0.0001)
CAPP						
Total	n.s.	n.s.	93,50 vs. 55 (p < 0.0001)	93,50 vs. 53,50 (p < 0.0001)	102 vs. 72 (p = 0.011)	91,50 vs. 68 (p < 0.0001)
Attachment	n.s.	n.s.	11 vs. 8 (p = 0.002)	11 vs. 8 (p = 0.008)	n.s.	12 vs. 8 (p = 0.001)
Behavioural	n.s.	n.s.	18 vs. 8 (p < 0.0001)	18 vs. 9 (p < 0.0001)	20 vs. 12 (p = 0.001)	18 vs. 11 (p < 0.0001)
Cognitive	n.s.	n.s.	14 vs. 7 (p < 0.0001)	14 vs. 8 (p < 0.0001)	15 vs. 10 (p = 0.008)	14 vs. 9 (p < 0.0001)
Dominance	n.s.	n.s.	15 vs. 10.50 (p = 0.001)	15 vs. 12 (p = 0.002)	n.s.	15 vs. 12.50 (p = 0.03)
Emotional	n.s.	n.s.	14 vs. 10 (p < 0.0001)	14 vs. 10 (p < 0.0001)	14 vs. 12 (p = 0.044)	14,50 vs. 11 (p < 0.0001)
Self	n.s.	n.s.	18 vs. 13,50 (p < 0.0001)	17,50 vs. 14 (p = 0.001)	n.s.	16,50 vs. 15 (p = 0.007)

(keep going)

Table 4. Comparison between inmates who have not consumed substances with those who have consumed with regard to committing offences and scores in the PCL-R* and the CAPP† (continuation)

Variables	Cocaine	Amphetamines	Cannabis	Hallucinogens	Inhalants
Criminal offences					
Public health	n.s.	n.s.	n.s.	n.s.	n.s.
Property	77,58% vs. 38,63% (p < 0.0001)	19,82% vs. 4,54% (p = 0.001)	73,27% vs. 35,22% (p < 0.0001)	21,55% vs. 4,54% (p < 0.0001)	n.s.
Violent	n.s.	n.s.	64,83% vs. 50,44% (p = 0.038)	n.s.	n.s.
Others	n.s.	n.s.	n.s.	n.s.	n.s.
Public order	n.s.	n.s.	n.s.	28,12% vs. 11,62% (p = 0.023)	n.s.
Drink driving	n.s.	n.s.	n.s.	n.s.	n.s.
Other traffic related	n.s.	n.s.	n.s.	n.s.	n.s.
PCL-R					
Total	23,50 vs. 14 (p < 0.0001)	25 vs. 9 (p = 0.006)	25 vs. 14 (p < 0.0001)	26 vs. 18 (p = 0.001)	27 vs. 19 (p = 0.043)
Factor 1	n.s.	n.s.	n.s.	n.s.	n.s.
Facet 1	n.s.	n.s.	4 vs. 2,50 (p = 0.047)	n.s.	n.s.
Facet 2	n.s.	n.s.	n.s.	n.s.	n.s.
Factor 2	12 vs. 7,50 (p < 0.0001)	13 vs. 10 (p = 0.001)	12 vs. 6 (p < 0.0001)	14 vs. 10 (p < 0.0001)	n.s.
Facet 3	8,50 vs. 4 (p < 0.0001)	9 vs. 6 (p = 0.002)	8 vs. 4 (p < 0.0001)	10 vs. 6 (p < 0.0001)	10 vs. 7 (p = 0.003)
Facet 4	4 vs. 2 (p < 0.0001)	4 vs. 2 (p = 0.002)	4 vs. 2 (p < 0.0001)	4 vs. 2 (p < 0.0001)	5 vs. 3 (p = 0.046)
CAPP					
Total	84 vs. 62,50 (p = 0.011)	90 vs. 72 (p = 0.023)	87,50 vs. 58,50 (p < 0.0001)	total 95 vs. 71 (p = 0.007)	122 vs. 72 (p = 0.007)
Attachment	n.s.	n.s.	10,50 vs. 7,50 (p = 0.002)	13 vs. 8 (p = 0.015)	n.s.
Behavioural	15 vs. 8 (p < 0.0001)	18 vs. 11 (p < 0.0001)	16 vs. 6 (p < 0.0001)	18 vs. 11 (p < 0.0001)	22 vs. 12 (p = 0.001)
Cognitive	11 vs. 8 (p = 0.005)	15 vs. 10 (p = 0.007)	12 vs. 7 (p < 0.0001)	14 vs. 10 (p = 0.002)	17 vs. 10 (p = 0.004)
Dominance	n.s.	n.s.	n.s.	n.s.	n.s.
Emotional	13 vs. 10 (p = 0.031)	n.s.	13 vs. 10 (p < 0.0001)	15 vs. 12 (p = 0.019)	15 vs. 12 (p = 0.031)
Self	n.s.	n.s.	16,50 vs. 13,50 (p = 0.025)	n.s.	27 vs. 16 (p = 0.026)

Note. *PCL-R: *Psychopathy Checklist Reviewed*; †CAPP: *Comprehensive Assessment of Psychopathic Personality*; ‡BZD: benzodiazepines; §n.s.: not significant; ||vs.: against (versus). Text in italics: the score indicates a significance in favour of inmates without a personality disorder.

presents little empathy and considerable emotional distance from other, which would facilitate their being involved in violent crimes and public health offences, as indicated by the direct and indirect univariate analysis via facet 2, which is also related to property offences. Once again, a reduced link between this PD and drink driving can be indirectly seen via facet 2 of the PCL-R.

Inmates with avoidant PD are generally associated with violent crimes, and the opposite takes place in their relation with public health offences. There is a stronger association with psychopathology of the personality measured with the CAPP than with social deviancy measured with the PCL-R. All these findings point to the idea that under such a diagnosis there is a grouping of individuals who have resolved their problems of social interaction by mean of violence. This PD also presents a lesser relationship with drink driving.

Both borderline and avoidant PDs are generally more closely associated with the psychopathology of the personality measured with the CAPP than with social deviancy measured with the PCL-R. The logistic regression (Table 6) shows that these inmates commit fewer property offences.

Histrionic PD, like the avoidant and borderline PDs mentioned above, also presents less psychopathology measured with the CAPP and the PCL-R than inmates with a diagnosis of narcissistic, antisocial or paranoid PD. It is clearly linked in uni-

and multi-variate terms (Table 6) to public order offences.

Substance consumption is very prevalent in the sample, only 20 inmates (9.8%) said that they did not consume any substance at all, and 38 (18.62%) stated that they only consumed alcohol without abusing it. This finding has already been detected in other prison samples in Spain⁴⁶ and worldwide⁴⁷. An earlier commencement of substance consumption is associated with the presence of PD, especially antisocial PD.

Early commencement of alcohol consumption is associated with the presence of APD. However, the prevalence of alcohol consumption and abuse is more significant amongst inmates without a diagnosis of PD and is not therefore related to the scores in the CAPP or in the PCL-R. The loss of inhibitions and impulsiveness that form a part of alcoholic intoxication link this drug to public order offences. Another obvious association is with drink driving.

The consumption of heroin and other opiates that lead to treatment with methadone and buprenorphine (covered under other opiates) is closely associated with PDs, especially with APD, and is therefore significantly associated with the CAPP and PCL-R scores. A more intense use of morphine derivatives is associated with the following offences: public order offences and property offences. On the other hand, reduced use of morphine derivatives is associated with drink driving and other traffic related offences, and this association is confirmed in the logistic regres-

Table 5. Multiple linear regression models for total months in prison, with and without offences

Variables	Standard error	T	95% CI*	Odds ratio†	P
No offences					
Age	0.03370	0.00656	0.0208 to 0.0466	5.13	0.00000068
Facet 4 PCL-R‡	0.15113	0.03393	0.0842 to 0.2180	4.45	0.00001413
IPDE§ antisocial	0.49070	0.19888	0.0985 to 0.8829	2.47	0.0145
Consumption of methadone	-1.30461	0.59785	-2.4837 to -0.1256	-2.18	0.0303
Age of consumption of methadone	0.04162	0.01485	0.0123 to 0.070	2.80	0.0056
With offences					
Facet 4 PCL-R	8.5654	2.5497	3.5373 to 13.5935	3.359	0.000937
Age	3.4469	0.4351	2.5889 to 4.3048	7.923	1.64e-13
Property offences	35.8035	10.4590	15.178 to 56.428	3.423	0.000752
IPDE antisocial	45.6506	14.4470	17.160 to 74.140	3.160	0.001826
Public health offences	26.9670	9.4946	8.2435 to 45.6906	2.840	0.004979

Note. *CI: confidence interval; †Odds ratio: ratio of probabilities; ‡PCL-R: Psychopathy Checklist Reviewed; §IPDE: International Personality Disorder Examination.

sion (Table 6). The regression analyses (Tables 5 y 6) show that the relationship between methadone use for treating inmates with heroin addiction and other morphine derivates and criminal offences is a complex one. On the one hand, methadone is associated with less time spent in prison (Table 5) and therefore it appears to bring about an overall reduction in the number and severity of the crimes committed, as previous studies (with some differences) have already shown⁴⁸⁻⁵¹. However, the same analysis shows that,

associated with age (which logically speaking is the variable that is most powerfully associated with time of stay in prison), its relation with months of stay in prison is inverted (Table 5). Given that this phenomenon does not happen with heroin, which would indicate that the older the inmates who abuse heroin and other morphine derivatives, the more likely they are to be treated with methadone. This protection against committing offences is not uniform (Table 6). It appears in the case of violent crimes, but not in that

Table 6. Logistic regression model for types of offences

Variables	Standard error	Z	95% CI*	odds ratio†	P
Public health					
CAPP‡ behavioural	-0.06646	0.02509	-0.1178 to 0.1889	-2.649	0.008075
Facet 1 PCL-R§	0.26273	0.07937	0.1117 to 0.4244	3.31	0.000932
Property					
Education basic	-0.17976	0.04195	-0.2678837 to -0.1023757	-4.285	1.83e-05
Consumption of methadone	1.84272	0.52036	0.8764944 to 2.9459336	3.541	0.000398
PCL-R facet 4	0.45574	0.11238	0.2496144 to 0.6929413	4.055	5.01e-05
IPDE borderline	-1.99814	0.81148	-3.6584255 to 0.4365369	-2.462	0.013804
Violent					
Married	-1.21518	0.40578	-0.128 to -0.6378	-2.995	-2.995
Consumption of methadone	-0.88567	0.38543	-0.190 to -0.8667	-2.298	0.02157
CAPP emotional	0.04715	0.01809	1.0127 to 1.0876	2.607	0.00914
Public order					
Female gender	-1.46471	0.41481	-2.3345 to 0.6932	-3.531	0.0004
CAPP dominance	-0.15893	0.05792	-0.2806 to -0.0510	-2.744	0.0061
CAPP self	-0.10670	0.04575	-0.02 to -0.2019	-2.332	0.0197
IPDE histrionic	2.72203	0.80901	1.1465 to 4.3778	3.365	0.0008
Drink driving					
PCL-R facet 4	-0.19324	0.09674	-0.673 to -0.9871	-1.998	0.0458
Other traffic related					
Heroin consumption	-2.3802	0.9252	-4.4849 to -0.7379	-2.573	0.0101
Consumption of methadone	-2.1840	0.9193	-0.5477 to -4.2739	2.376	0.0175
CAPP self	-0.2315	0.0460	-0.3303 to -0.1490	-5.037	4.72e-07
PCL-R facet 3	0.3179	0.0850	0.1614 to 0.4967	3.742	0.0002
IPDE narcissistic	-3.1443	0.8670	-1.5178 to -4.9437	-3.627	0.0003
Two or more offences					
Consumption of cannabis	1.47051	0.49375	0.5337 to 2.4852	2.978	0.002899
CAPP dominance	-0.16764	0.04691	-0.2667 to -0.0817	-3.574	0.000352
PCL-R facet 1	0.37032	0.14206	0.1050 to 0.6666	2.607	0.009140
PCL-R facet 3	0.19784	0.07257	0.0596 to 0.3462	2.726	0.006409

Note. *CI: confidence interval; †Odds ratio: ratio of probabilities; ‡CAPP: Comprehensive Assessment of Psychopathic Personality; §PCL-R: Psychopathy Checklist Reviewed; ||IPDE: International Personality Disorder Examination.

of property offences. This is an important finding, since it seems to indicate that although coverage of substitute therapy with methadone for inmates at the prison is good (reaching at least 77.77%) there is a likelihood that adherence by the inmates to treatment outside prison does not reach desirable levels to prevent property offences, although it does work in preventing violent crimes⁵², either due to lack of dosing or constancy. These differences may explain why the results in previous studies are not uniform^{48-51,53}. As regards other traffic related offences, methadone does not have a protective function, because heroin consumption is also lower amongst this type of inmate.

Earlier consumption and higher consumption of cocaine is clearly associated with the presence of PD in general, which is an association already to be found in the population outside prison⁵⁴. Therefore, consumption of this substance is associated with higher scores in the CAPP and the PCL-R, and an earlier commencement of use with higher scores in the CAPP. Cocaine consumption is associated with public order offences and property offences. This is therefore a drug that is clearly associated with criminal behaviour.

An earlier age of commencement of cannabis use and more prevalent consumption is associated with the presence of PD, especially with APD. This association is also present in the population outside prison^{54,55}. Therefore, consumption of this substance is associated with higher scores in the CAPP and the PCL-R, and a younger age of commencement of use with higher scores in the CAPP. This link with APD makes for a link between cannabis consumption and property offences and violent crime, and committing two or more offences (Table 6)⁵⁶⁻⁵⁸.

The consumption of benzodiazepines is associated with the diagnosis of PD, especially with APD. Therefore, consumption of this substance is associated with higher scores in the CAPP and the PCL-R. It is associated with other traffic offences, age when consumption commenced, and with property offences. Cannabis consumption is also negatively associated with drink driving.

Consumption of amphetamines is associated with APD. This determines that consumption is associated with property offences and with higher scores in the CAPP and the PCL-R.

Consumption of hallucinogens is generally associated with the diagnosis of PD. Via this association there are links to property offences and higher scores in the CAPP and the PCL-R. Evidence regarding inhalant consumption in the sample is too anecdotal to be able to draw conclusions.

Taken as a whole, it can be seen that the association between substance consumption and crime is mediated by the presence of increased consumption of all substances by inmates with a diagnosis of PD, especially APD. At the same time the direct association between drug consumption and property offences is also noteworthy (Table 4), since it is without doubt the most commonly used method in this sample to finance consumption, while involvement in illegal sale is not so evident. This finding can also be seen in other international studies⁵⁸. Therefore, although drug consumption is decriminalised, financing consumption would indirectly lead addicts to prison.

Throughout the study a high correlation has been observed between the score of the PCL-R and the CAPP and the presence of PD and drug consumption. This correlation suggests that there is a similar capacity for both instruments when measuring psychopathy^{14,59}, although it should be highlighted that the CAPP dominance dimension and facet 2 of the PCL-R appear to reduce the frequency of substance consumption. On the other hand, the consumption of substances is more intensively associated, as it is in other previous studies, and, as is to be expected^{32,60}, with factor 2 of the PCL-R and its facets 3 and 4. However, there is a clear difference: the CAPP is not related to committing offences, with the exception of the obvious relationship between emotional coldness (CAPP emotional, Table 6) and committing violent crimes.

The PCL-R is very much related to committing offences, as previous studies have shown^{25,27,61}. An especially important feature is the link between public health offences and manipulative (facet 1, Table 6) and non-empathetic attitude (facet 2) of the drug dealer towards the consumers he benefits from, without any concern for the physical and social deterioration he is causing them. Curiously, property offences are the ones most closely associated with PCL-R via all its facets. There is a degree of logic in the link with the irresponsible (facet 3) and antisocial (facet 4) lifestyle financed by such offences, including drug consumption; but the manipulative interpersonal approach (facet 1) and lack of empathy (facet 2) also favour this type of offence. It is easier to commit a crime when you are not aware of the consequences of the offence for other people. Antisociality (facet 4) generates a risk laden lifestyle in which situations of risk appear for those with less empathy (facet 1) in which they commit violent crimes. Irresponsibility (facet 3, Table 6) favours public order offences and other traffic related offences, because it encourages antisocial tendencies (facet 4) that lead to public order disturbances

arising from the limited social cohesion felt by such inmates. Once again, drink driving is inversely related to other offences and presents a negative association with the variables of the PCL-R (Table 6).

To sum up, the CAPP appears to be a reliable instrument for assessing psychopathy without including criminality or antisociality and therefore complies with the main objective for which it was designed^{30,31}. It should be remembered that the behaviour arising from psychopathy is aggressive, but does not necessarily have to be illegal³³. Facet 4 of the PCL-R stands out as a risk factor of the first order for spending long periods in prison (Table 5), although the other facets and factors are also related to committing offences such as 1 and 3 in committing two or more offences (Table 6).

Limitations

The retrospective nature of this study should be taken into account, given that it does not enable cause-effect relationships to be confirmed. The source of the data used is not uniform either.

CONCLUSIONS

Despite the limitations mentioned above, this study contains important and useful findings for daily clinical and forensic practice. On the one hand, the assessment of psychopathy via tools such as the PCL-R and the CAPP is a laborious process and healthcare and forensic professionals do not always have the necessary time. But now, when they assess a patient if they detect the presence of a narcissistic, antisocial or paranoid PD or mixed symptoms of these disorders, in conjunction with the consumption of substances such as heroin, cocaine and cannabis, they should consider that there is a high risk of psychopathy; and that there is also a high risk that such inmates may commit public health and property offences and violent crimes.

Methadone maintenance substitute treatment is useful for preventing criminal behaviour, especially if good adherence can be achieved. The changes in the criminal code regarding drink driving offences have led to prison sentences for a type of inmate with little in the way of personality pathologies and lower consumption of substances, with the exception of alcohol.

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