

# Validity of the International Personality Disorder Examination (IPDE) questionnaire on a sample of prison inmates

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## ABSTRACT

**Objective:** To discover the validity indices and establish the most adequate cut off point when using the IPDE questionnaire on a sample of prison inmates.

**Materials and Methods:** A transversal study was carried out on a correlatively selected sample of 100 inmates at two prisons in Madrid. Evaluation instruments, a questionnaire for demographic, prison and toxicological data and a complete interview and IPDE assessment questionnaire (version DSM-IV) were utilised as well as a conditional probability study of the IPDE questionnaire with different cut off points based on the use of the IPDE interview as the "gold standard".

**Results:** The cut off point of 3 or more non-coincident answers showed low specificity (2.5%) for the presence of one or more personality disorders, and low sensitivity to antisocial (56.7%) and borderline (58.8%) personality disorders.

**Discussion:** The IPDE questionnaire is of little use amongst the studied prison population when the habitual reference standards were applied due to the very high number of false positives that were produced. The best validity indices for identifying one or more personality disorders are obtained with a probable cut off point being equal to 4 or more answers that do not coincide with those expected.

The IPDE questionnaire was of no great benefit for the inmates in this study because, even when using the habitual cut off point of 3 or more non-coincident questions, sensibility to antisocial and borderline personality disorders, which are the most common PDs amongst the sample group, was found to be low.

**Key Words:** Personality Disorders, Personality tests, Validity of Tests, Prisoners.

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## INTRODUCTION

Studies on the prevalence of personality disorders are hampered by methodological difficulties, which on occasions produce non-coincident results. The differences that the most important psychiatric classifications present and the changes they have experienced over the years, justify that in a renowned community study carried out in the United States on a sample of 742 individuals by means of the diagnostic assessment instrument IPDE<sup>1</sup>, the prevalence rate of personality disorders on the basis of the DMV-IV and the ICD-10 criteria was 9% and 5,1% respectively. But, in addition to that, given that the stability of this diagnosis is quite low, that it is difficult to obtain samples which are totally representative of the population and that a large variety of assessment instru-

ments<sup>2</sup> are used, make epidemiological research even more difficult.

The revisions/case review carried out amongst inmates have showed, in general, high rates of personality disorders<sup>3</sup>, though it is not unusual to find disparate results since the prevalence in the prison setting varies from 10 to 70 %<sup>4-7</sup>.

A sample of 38 inmates in the Spanish prisons of Daroca and Zaragoza was studied in 1992. All of them showed diagnostic criteria for various personality disorders<sup>8</sup>. In another study carried out on a sample of 56 inmates in the penitentiary centre of Monterroso in Lugo in 1998, the prevalence of personality disorders accounted for 91% of them<sup>9</sup>. In 2002, in a sample of 60 inmates in the prison of Zuera in Zaragoza, the prevalence of personality disorders observed was of 30%<sup>10</sup>. In 2005, another study was

conducted in the penitentiary centre of Madrid IV and in the social insertion centre Victoria Kent in Madrid. Diagnostic criteria for one or more personality disorders were found in 60% of a sample of 100 inmates<sup>11</sup>. That same year, a study conducted on a sample of 236 inmates in the prisons of Daroca and Zaragoza showed a general prevalence of personality disorders of 69,3%<sup>12</sup>.

The IPDE is a semi-structured interview, which we have used in this work as an evaluation instrument to assess personality disorders. It has been approved by the World Health Organization and has been translated into Spanish. It includes versions of the DSM-IV and the ICD-10, and is usually used by both clinicians and researchers since it is one of the interviews with the best psychometric properties. The DSM-IV version includes 99 questions grouped under 6 headings: Work, Self, Interpersonal relationships, Affects, Reality testing and Impulse control. Each item scores between zero and two points: zero point when the behaviour or trait expressed in the question may be absent or normal, one point when it is exaggerated or accentuated and two points when it is at criterion level or pathological. Its scoring can be computerized or manual and provides both a categorical and dimensional result. This instrument has the advantage of allowing the evaluation of the information obtained by means of other sources such as the clinical records or informants, when it differs from the interview data. The DSM-IV version requires the examiner to have previous training in the use of the instrument and has the disadvantage of requiring a lot of time for its application, since the interview takes on average between 60 and 90 minutes.

In order to gain time, the IPDE questionnaire can be used. It is a self-administered screening instrument aiming to avoid interviewing those who are unlikely to receive a PD diagnosis on the interview. Thus, even though this questionnaire produces a considerable number of false positives, it should produce less false-negatives in comparison with the IPDE interview. This does not entail that both instruments, the interview and the questionnaire, are interchangeable. The IPDE questionnaire is a screening instrument, which should not be used to carry out psychiatric diagnosis at all. The DSM-IV version of this questionnaire includes 77 questions with two possible answers, true or false, and can be applied and scored by means of a computer programme for Windows. Its result is only categorical, thus cannot be used to determine dimensional scores.

The first aim of this work is to study the criterion-related validity of the IPDE questionnaire when

used on a sample of prison inmates, thus it compares an instrument, the IPDE questionnaire, with a diagnostic test which is consensually considered the "gold standard", that is to say the IPDE interview<sup>13-14</sup>. The criterion-related validity can be concurrent or predictive. Here, the predictive criterion-related validity has been chosen since both instruments cannot be used at the same time and the instrument being evaluated here, the IPDE questionnaire, is applied before that used as the "gold standard". When, as it happens to be the case here, categorical diagnosis are used and consequently dichotomous variables are obtained, the validity study aims to determine the sensibility and specificity of the test.

There are two specific objectives in this study. The first objective is to identify the validity indices of the IPDE questionnaire when used on a sample of prison inmates. And the second is to establish an adequate cut-off point when this instrument is used in the prison setting.

## MATERIAL AND METHODS

An observational study was carried out in 2005 on a correlatively selected sample of 100 inmates, during an initial medical interview in two prisons in Madrid, the Madrid IV penitentiary centre and the Victoria Kent Social Insertion centre. The inmates' profile is that of a male inmate, of Spanish nationality, aged between 30 and 40 years old, single, living with his family of origin, with basic studies and scarce professional qualification and experience, who has a history of aggressive behaviour, and who is serving a sentence of more than 5 years for crimes against Property or against Public Health.

Three inclusion criteria were used. First, age-range of between 18 and 65 years old. Second, stability, the subject must have stayed in the penitentiary centre for at least 30 days prior to the interview. Third, abstinence, the subject must show no data indicative of drug consumption for at least 30 days prior to the interview. There were also three exclusion criteria. First, refusal to collaborate. Second, difficulty in understanding the questions. Third, presence of psychiatric disorders which could lead to a distorted evaluation or validity of the questionnaire.

A questionnaire for demographic, prison and toxicological data have been used for this study together with the IPDE, both the complete IPDE interview based on the DSM-IV version as well as the IPDE assessment questionnaire.

This study respects the subject's privacy, his right to remain anonymous, his willingness to participate, his right to withdraw, and the right to know the objectives and the methods used. The inmates have received adequate information from the interviewers and have signed an informed consent form. This research has been previously authorized by the Technical Cabinet of the General Directorate of Penitentiary Institutions and complies with the conditions established.

The IPDE questionnaire can be completed with the computer programme that comes with the IPDE booklet. This programme enables the questionnaire to be automatically scored, as well as the IPDE interview, after the scores have been recorded in the corresponding template. The statistical analysis was carried out with the SPSS package (Statistical Package for the Social Sciences) version 13.0 for Windows.

The sensitivity, specificity as well as the negative and positive predictive values for different cut-off points have been used to study the validity of the IPDE assessment questionnaire in comparison with the "gold standard", that is to say the complete IPDE interview based on the DSM-IV version.

## RESULTS

By means of the IPDE interview (DSM-IV version), 60% of the subjects studied presented diagnostic criteria for one or more personality disorders. A

total of 82 personality disorders have been identified. 40% of those subjects did not show any personality disorder, 47% were diagnosed with one disorder, 7% with two disorders, 4% with three disorders, 1% with four disorders and 1% were diagnosed with five personality disorders.

By means of the IPDE assessment questionnaire, when the habitual reference standards of three or more answers that do not coincide with those expected were applied for its scoring, 99 % of inmates have shown some probable personality disorder. However, for its diagnosis, this must be subsequently confirmed with the IPDE interview. With this criterion, 533 probable personality disorders have been diagnosed amongst the inmates studied, with a range of between 0 and 10 disorders. When applying a cut-off point equal to four or more answers that do not coincide with those expected, 85% of subjects have shown some probable personality disorder. A total of 328 probable personality disorders have been identified. When a cut-off point, equal to five or more answers that do not coincide with those expected, is applied for its scoring, 68% of the inmates studied with the IPDE assessment questionnaire presented one or more probable personality disorders. In total 159 probable personality disorders have been identified (Figure I).

Table I presents the result of applying the IPDE-DSM-IV questionnaire with different cut-off points showing for each of them the cases in which the diagnosis for personality disorder has been whether confirmed by means of the IPDE interview.

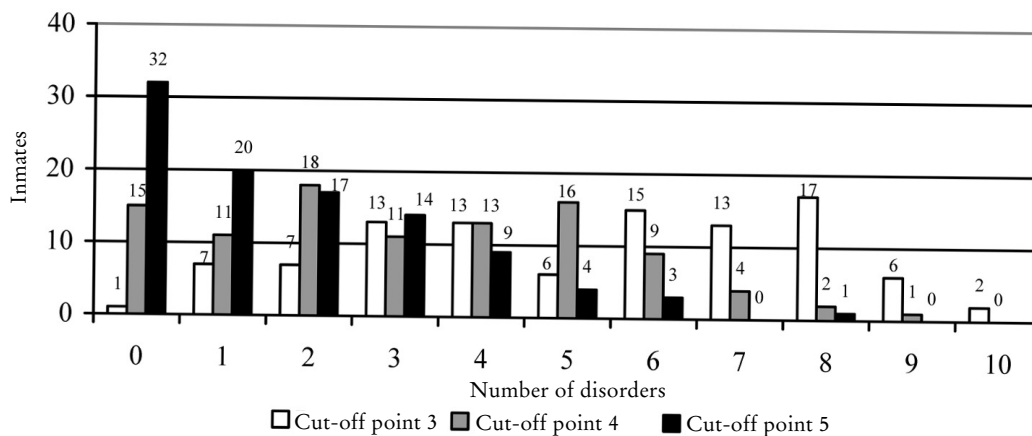


Figure I. Number of probable personality disorders shown by the subjects studied using the IPDE-DSM-IV assessment questionnaire with different cut-off points (3,4 or 5 answers that do not coincide with those expected).

IPDE Assessment Questionnaire	IPDE Interview		Total
	PD	No PD	
Probable = 3 or more non-coincident answers			
Probable	60	39	99
Not probable	0	1	1
Probable = 4 or more non-coincident answers			
Probable	58	27	85
Not probable	2	13	15
Probable = 5 or more non-coincident answers			
Probable	50	18	68
Not probable	10	22	32
<b>Total</b>	<b>60</b>	<b>40</b>	<b>100</b>

Table I. Probable personality disorders identified with the IPDE assessment questionnaire vs. personality disorders diagnosed with the IPDE interview (PD=Personality Disorder).

Table II summarizes the study of conditional probability, taking the result of the IPDE interview (DSM-IV version) as the “gold standard”. It shows the validity indices of IPDE-DSM-IV for personality disorders in general and independently for the most common personality disorders identified in the prison population studied.

## DISCUSSION

The IPDE assessment questionnaire is only used in order to identify subjects who have a high probability of presenting personality disorders, thus it should not be used to carry out psychiatric diagnosis. However, when it is used as a screening test and the habitual reference standards are applied, the validity indices of the questionnaire indicate that it is of little use on the prison population studied since the number of false-positives produced is very high due to a very low specificity, 2,5%. The best validity indices for identifying personality disorders in general were found when a probable cut-off point of 4 or more answers that do not coincide with those expected was applied, even though the specificity for identifying one or more personality disorders is still low, 32,5%, but it is not possible to apply a higher cut-off point, equal to 5 or more non-coincident answers, since in this case the sensitivity decreases to 83,3%, thus proves inadequate as it is a screening test and the principal requirement for this type of instruments is that they must be of high sensitivity, which in practice results in the absence of false-negatives.

However, the use of the IPDE questionnaire on the inmates studied was of no great benefit even when the habitual cut-off point of 3 or more non-coincident answers was applied. Sensibility to antisocial and

borderline personality disorders, which are the most common personality disorders amongst the sample group, was found to be low, 56.7% and 58,8% respectively.

These results do not verify San Narciso’s findings<sup>15</sup>. He studied the validity of the IPDE questionnaire on drug abuse resources users and concluded that this instrument was useful in the evaluation of personality disorders amongst this group. When comparing the validity indices with the habitual cut-off point of three or more non-coincident answers on both populations, sensibility for antisocial and borderline disorders is clearly higher amongst drug users, 88% for antisocial disorder and 100% for borderline disorder.

Screening instruments and the majority of self-report instruments have the characteristic to present higher sensitivity than semi-structured interviews. Some authors have even considered that self-report questionnaires in general are not suitable for the diagnosis of personality disorders since they produce higher rates of false-positives<sup>16</sup>.

Various reasons could explain the low sensitivity found for identifying some personality disorders on the prison sample studied. It has been argued that asking the patient questions about the specific diagnostic criteria could be adequate for studying Axis I disorders, but not to evaluate Axis II disorders<sup>2</sup>. On the other hand, the fact that the IPDE is essentially a self-descriptive instrument, and that it assumes that a person is capable of providing a valid description of disturbances in his personality must be taken into consideration. However, it is possible that a subject may be unaware of some of his traits due to a lack of introspection or self-awareness<sup>1</sup>. In addition, the difficulties in remembering and the high prevalence of co-morbid disorders in Axis I amongst the prison population could affect the accuracy of the answers provided. But it is also important to take into consideration that the subject could conceal undesirable personality features as it happens precisely in the case of antisocial and borderline disorders, especially in the prison setting since some particular behaviours could go against one’s interest, mainly when the prison staff is provided with or can use this information. This problem is solved when the IPDE interview is used since it enables to take into consideration not only to the subject’s answers, but also the examiner’s judgement as well as additional information from various sources. In the light of this data, it is highly recommendable to use the IPDE interview in the prison setting. There is no need to use the assessment questionnaire

Personality Disorders	Sensibility	Specificity	PPV	NPV
Any personality disorder				
Probable = 3 or more non-coincident answers	100%	2,5%	60,6%	100%
Probable = 4 or more non-coincident answers	96,7%	32,5%	68,2%	86,7%
Probable = 5 or more non-coincident answers	83,3%	55%	73,5%	68,8%
Paranoid disorder				
Probable = 3 or more non-coincident answers	91,7%	54,5%	21,6%	98,0%
Probable = 4 or more non-coincident answers	91,7%	80,7%	39,3%	98,6%
Probable = 5 or more non-coincident answers	33,3%	90,9%	33,3%	90,9%
Antisocial disorder				
Probable = 3 or more non-coincident answers	56,7%	52,9%	34%	74%
Probable = 4 or more non-coincident answers	36,7%	75,7%	39,3%	73,6%
Probable = 5 or more non-coincident answers	16,7%	90%	41,7%	71,6%
Borderline disorder				
Probable = 3 or more non-coincident answers	58,8%	63,9%	25%	88,3%
Probable = 4 or more non-coincident answers	35,3%	84,3%	31,6%	86,4%
Probable = 5 or more non-coincident answers	33,3%	85,2%	23,5%	90,4%
Histrionic disorder				
Probable = 3 or more non-coincident answers	100%	41,8%	3,4%	100%
Probable = 4 or more non-coincident answers	100%	67,3%	5,9%	100%
Probable = 5 or more non-coincident answers	14,3%	100%	100%	87,7%
Avoidant disorder				
Probable = 3 or more non-coincident answers	75%	47,9%	5,7%	97,9%
Probable = 4 or more non-coincident answers	50%	67,7%	5,9%	97,0%
Probable = 5 or more non-coincident answers	5%	96,2%	25%	80,2%
Obsessive-compulsive disorder				
Probable = 3 or more non-coincident answers	66,7%	35%	3,1%	97,1%
Probable = 4 or more non-coincident answers	33,3%	48,4%	2%	96,1%
Probable = 5 or more non-coincident answers	0%	95,4%	0%	64,9%

Table II. Validity indices of the IPDE-DSM-IV questionnaire for identifying personality disorders in percentages. (IPDE interview-DSM-IV version as "Gold standard", PPV = Positive predictive value; NPV = Negative predictive value)

before because the lack of sensitivity observed in this study shows that it limits a possible saving of time, but mostly because the lack of sensitivity can result in some unnoticed personality disorders which are prevalent in the prison setting.

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