

Original

RESP

Family and social environment associated with traits of antisocial personality disorder in the prison population of Peru

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ABSTRACT

Introduction: The prison environment in Peru is one of the worst in the continent. In situations such as these, where there is considerable stress, many inmates can develop antisocial disorders, especially if they come from a conflictive family setting.

Objectives: To determine the association between family relationships, social environment and features of antisocial personality disorder (ASPD) in the Peruvian prison population in 2016.

Material and method: Analytical cross-sectional study based on a sub-analysis of the First National Penitentiary Census of Peru in 2016. The sample is the prison population (≥ 18 years old) that participated in said census, which was carried out in 66 correctional facilities nationwide and reached a coverage of 98.8%.

Results: Of the 77,086 prisoners, 76,152 participated in the analysis. The prevalence of antisocial traits was 96% and half of the population met two criteria for the disorder. Independently associated factors were, being male (RPa: 1.35; 1.30-1.40), born outside the capital (RPa: 0.89; 0.88-0.91), friends in the neighborhood who committed offences (RPa: 1.01; 1.00-1.02) and not living with a father (RPa: 1.00; 1.00-1.01).

Discussion: The prevalence of antisocial personality disorder traits in the Peruvian prison population was 96%. We found greater association with the male sex, in those born in Lima and in those who escaped from their home before the age of 15.

Keywords: antisocial personality disorder; family relations; social environment; prisoners; mental health.

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INTRODUCTION

The increase in criminal offences and violence in Latin America and the Caribbean is one of the main indicators of the serious mental and neurological disorders in the population of the region¹. 18% of the cases of morbidity in Peru can be attributed to mental disorders². Furthermore, 84% of prison inmates suffer from some kind of mental disorder, and of these, 80% have some form of personality disorder such as ASPD³. The conclusion drawn from studies carried out in North American and Europe was that the prevalence of antisocial personality disorder was

higher amongst men and prison inmates⁴. Another study reported a prevalence of ASPD of 35%⁵.

The influence of the family and social setting is vitally important for the personality, learning and values to develop adequately⁶. Social context and friendships also play a part in an individual's development and personality⁷. If a personality disorder is not diagnosed and treated in the early stages, the resulting behaviours can persist in later stages of life⁸, reaching the point where there may be repeated conflicts with the law and, in some cases, offences against the physical safety of another person, making the offender a danger to society⁹. It can be inferred then that the

development of an antisocial personality disorder can to a great extent be attributed to problems and conflicts in the most private family and social settings. If such traits can be identified, health strategies can then be established. The aim of this study therefore is to determine the association between the family/social background and the traits of antisocial personality disorders in the Peruvian prison population.

MATERIAL AND METHOD

The study is a cross-sectional secondary analysis of data bases taken from the results of the First National Prison Census of Peru (*Primer Censo Nacional Penitenciario del Perú*), taken in 2016 by the National Institute of Statistics and Information Technology (INEI in Spanish)¹⁰. The sample is the same for the entire prison population (≥ 18 years) that participated in the census. It was carried out in 66 prisons nationwide (including a maximum security centre in the Naval Base of Callao). 98.8% of the population participated in the census (76,180 male and female inmates of the 77,086 prisoners registered throughout Peru)^{10,11}. The selection criteria were: the inmate was not involved in active legal administrative proceedings and/or hospitalised and that the items of the survey referring to antisocial personality traits and the social and family setting were all completed. Inmates who did not meet these criteria were excluded. The final number of inmates after applying the selection criteria was 76,152.

The dependent variable was ten of the questions that matched the diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), which established the presence of traits of antisocial personality disorders in the prison population. Criterion A describes behaviour that violates the rights of other peoples committed from 15 years onwards (use of weapons, drugs before the offence, previous suspended sentence, previous effective sentence, age over 15 when previous detention took place, number of offences, any previous employment), while criterion C considered the presence of behavioural disorders before 15 years of age (previous internment in a young offenders centre, reason for internment if under 18, age when detained if under 15 years). Criterion B is a constant, since all the respondents are currently over 18 years of age⁸.

Six independent variables related to the family setting were taken as independent variables (physical abuse during childhood, exposure to alcohol, exposure to drugs, witness to violence against the mother,

running away from home, family member in prison). Two items were used for the social setting (friends with criminal tendencies, neighbours participating in criminal gangs). The following variables were also taken: sex, age, educational level and place of origin.

The census was carried under an Inter-institutional Framework Agreement between the INEI and the National Prison Institute (INPE) in order to establish public crime and prevention policies. The questionnaire was approved by executive officers of the Ministry of Legal Affairs, the Ministry of Culture and the INEI. It was validated by running a pilot test at two prisons. Training courses were also organised for the prison coordinators (contracted by the INEI), INPE staff and the enumerators. A census certification application installed on a mobile device (tablet) was then used to directly collect the information from the prison population. According to the INEI, the data was highly consistent and was obtained by qualified and experienced personnel¹².

Quality control was managed by using information transfer, which was necessary for this study, to a Microsoft Excel 2013 spreadsheet, where the data was cleaned and codified for analysis, using the Stata v. 15.1 statistics software (Stata Corporation, College Station, Texas, USA).

The frequencies and percentages were found for the categorical variables in the descriptive statistics; the best measurement of central tendency and dispersion was used for the quantitative variables (according to their distribution). A statistical significance of 95% was used in the analytical statistics, along with generalised linear models. The prevalence ratios were also obtained, along with confidence intervals (CI) of 95% and p values (they were considered to be significant when they were < 0.05).

As regards the ethical considerations, the data base used is secondary and in the public domain, and so informed consent was not necessary. Furthermore, given that there are plans for publication at some future point, an application was sent to the ethics committee of the Universidad Peruana de Ciencias Aplicadas, which approved the revision for the reasons mentioned above.

RESULTS

The 76,152 inmates surveyed in Peru had an average age of 34 years (interquartile range: 27-43 years); 94% were men; 72.3% were born outside the capital; 4.1% did not live with their mother; 14.1% did not live with their father; 11.7% were frequent victims of

physical abuse at home; 33.7% had family members who frequently drank alcohol; 2.9% had family members who took drugs; 32.9% had mothers who were victims of physical abuse; 34.7% left home before 15 years of age; 29.8% had a family member in prison; 34.3% has friends who committed offences; and 46.1% were in a gang (Table 1).

Table 2 shows the characteristics relating to the diagnostic criteria of the DSM-5 for antisocial personality. The most important one was that 96% had committed a juvenile offence with some type of motive; 31.2% had committed an offence under the influence of drugs or alcohol; and 18.1% had committed an offence with a weapon.

The bivariate analysis showed that the variables associated with the elements of criterion A were: age ($p = 0.007$), sex ($p < 0.001$), born outside the capital ($p < 0.001$), left home before 15 years of age ($p = 0.009$), had friends who committed offences ($p = 0.004$) and who were members of a gang ($p = 0.032$). The following were associated with criterion C: sex ($p < 0.001$), born outside the capital ($p < 0.001$), did not live with their father ($p = 0.018$) and were members of a gang ($p < 0.001$) (Table 3).

The multivariate analysis showed at least one criterion A was associated with the following: male (RPa: 1.35; CI 95%, 1.30-1.40; value $p < 0.001$), born outside the capital (RPa: 0.89; 0.88-0.91; value $p < 0.001$) and friends in the district who were offenders (RPa: 1.01; CI 95%, 1.00-1.02; value $p = 0.018$). The following were associated with at least one criterion C: male (RPa: 1.02; CI 95%, 1.02-1.03; value $p < 0.001$), born outside the capital (RPa: 0.98; 0.97-0.99; value $p < 0.001$), did not live with their father (RPa: 1.00; CI 95%, 1.00-1.01; value $p = 0.014$) and were members of a juvenile street gang (RPa: 0.99; CI 95%, 0.99-0.99; value $p < 0.001$). When considering the criteria A and C, besides B as a constant, the following were associated: male (RPa: 1.03; CI 95%, 1.02-1.03; value $p < 0.001$), born outside the capital (RPa: 0.99; 0.98-0.99; value $p < 0.001$) and left home before 15 years of age (RPa: 1.00; CI 95%, 1.00-1.01; value $p = 0.008$) (Table 4).

DISCUSSION

Men were found to be the predominant gender in associations between sex and antisocial personality disorder, and age in this case was found to be irrelevant. A number of studies on adolescents and young students found that antisocial behaviour was more common in the male population. This was found to

Table 1. Social characteristics and family background of Peruvian prisoners

Variable	Frequency	Percentage
Age (years)*	34	27-43
Male	71.538	94.0%
Born outside the capital	53.706	72.3%
Did not live with their mother	3.109	4.1%
Did not live with their father	10.736	14.1%
Physical violence in the family	8.845	11.7%
Frequent drinking at home	25.387	33.7%
Drug abuse at home	2.174	2.9%
Abused mother	22.887	32.9%
Ran away from home before 15 years of age	26.187	34.7%
Member of family in prison	22.436	29.8%
Friends who commit offences	25.776	34.3%
Member of a gang	34.827	46.1%

Note. *The age shows the mean values and interquartile ranges.

Table 2. Características en relación a los rasgos del trastorno de personalidad antisocial que tuvieron los presos del Perú

Variable	Frequency	Percentage
Criterion A		
Recidivism: suspended sentence	9.790	16.6%
Recidivism: effective sentence	9.827	16.7%
Recidivism: more than one offence	4.022	—
Age at 1st offence: ≥ 15 years*	9.483	—
Age at 2nd offence: ≥ 15 years*	3.698	—
Age at 3rd offence: ≥ 15 years*	1.560	—
Use of weapons	13.602	18.1%
Age when weapons first used*	10.040	---
Consumption of alcohol or drugs before the offence	23.509	31.2%
Not worked before	3.351	4.4%
Criterion C		
Juvenile offence with motive	69.058	96.0%
Detained in young offenders centre	5.747	7.6%
Age at 1st offence: < 15 years*	179	—
Age at 2nd offence: < 15 years*	21	—
Age at 3rd offence: < 15 years*	6	—

Note. *The age shows the mean values and interquartile ranges. Some variables do not have a percentage since they are sub-results within other variables or only a few that met this condition responded.

be the case in studies carried out in Arequipa-Perú¹³, and in the neighbouring country of Colombia¹⁴. The link between ASPD and men may be due to the development of male hormones such as testosterone. Likewise, a study of young offenders in Granada, Spain, showed that although there was a slight increase between 2014 and 2017, except for the last year (where there was a decrease), men were four times more present than women in this case¹⁵. This

potential link may be present from the time when sexual maturity commences. A study in Colombia at two psychiatric detention centres showed that the majority presented a personality disorder (80%) and that men presented a greater prevalence of antisocial personality disorder (the women were more likely to have borderline disorder)¹⁶.

The findings for social characteristics and antisocial personality traits showed that they were less

Table 3. Análisis bivariado de los antecedentes familiares asociados a rasgos del trastorno de personalidad antisocial en presos del Perú.

Variables	Had a trait of ASPD	
	Criterion A	Criterion C
Age (taken in years)*	0.999 [†] (0.998-0.999) [‡] 0.007 [§]	0.999 [†] (0.999-1) [‡] 0.107 [§]
Male	1.34 [†] (1.30-1.38) [‡] <0.001 [§]	1.02 [†] (1.02-1.03) [‡] <0.001 [§]
Born outside the capital	0.89 [†] (0.88-0.91) [‡] <0.001 [§]	0.98 [†] (0.97-0.99) [‡] <0.001 [§]
Did not live with their mother	1.00 [†] (0.97-1.03) [‡] 0.863 [§]	1.00 [†] (0.99-1.02) [‡] 0.612 [§]
Did not live with their father	0.99 [†] (0.97-1.01) [‡] 0.263 [§]	1 [†] (1-1.01) [‡] 0.018 [§]
Physical violence in the family	0.99 [†] (0.97-1.01) [‡] 0.503 [§]	1 [†] (0.99-1) [‡] 0.780 [§]
Frequent drinking at home	0.99 [†] (0.99-1.01) [‡] 0.753 [§]	1 [†] (1-1) [‡] 0.990 [§]
Drug abuse at home	1.00 [†] (0.97-1.03) [‡] 0.795 [§]	1 [†] (0.99-1.01) [‡] 0.489 [§]
Abused mother	0.99 [†] (0.98-1.01) [‡] 0.414 [§]	1 [†] (0.99-1) [‡] 0.780 [§]
Ran away from home before 15 years of age	1.02 [†] (1.00-1.03) [‡] 0.009 [§]	1 [†] (0.99-1) [‡] 0.572 [§]
Member of family in prison	1.01 [†] (0.99-1.01) [‡] 0.142 [§]	1 [†] (0.99-1) [‡] 0.098 [§]
Friends who commit offences	1.02 [†] (1.01-1.03) [‡] 0.004 [§]	1 [†] (0.99-1) [‡] 0.789 [§]
Member of a gang	1.01 [†] (1.00-1.02) [‡] 0.032 [§]	0.99 [†] (0.99-0.99) [‡] <0.001 [§]

Note. *The age variable was taken in quantitative form. [†]Crude prevalence ratios. [‡]Confidence intervals at 95%. [§]p values. ASPD: antisocial personality disorder.

The crude prevalence ratios, confidence intervals and p values were calculated with generalised linear models (with Poisson, log function, robust models adjusted by the inmates' educational level).

Table 4. Multivariate analysis of the family background associated with traits of antisocial personality disorder in Peruvian inmates.

Variables	Had a trait of ASPD		Had traits (criteria A and C)
	Criterion A	Criterion C	
Age (taken in years) [§]	1* (0.99-1) [†] 0.544 [‡]	1.00* (0.99-1) [†] 0.154 [‡]	1* (0.99-1) [†] 0.229 [‡]
Male	1.35* (1.30-1.40) [†] <0.001 [‡]	1.02* (1.02-1.03) [†] <0.001 [‡]	1.03* (1.02-1.03) [†] <0.001 [‡]
Born outside the capital	0.89* (0.88-0.91) [†] <0.001 [‡]	0.98* (0.97-0.99) [†] <0.001 [‡]	0.99* (0.98-0.99) [†] <0.001 [‡]
Did not live with their father	No entró al modelo	1.00* (1-1.01) [†] 0.014 [‡]	No entró al modelo
Ran away from home before 15 years of age	1.01* (0.99-1.02) [†] 0.061 [‡]	No entró al modelo	1* (1-1.01) [†] 0.008 [‡]
Friends who commit offences	1.01* (1-1.02) [†] 0.018 [‡]	No entró al modelo	1* (0.99-1) [†] 0.219 [‡]
Member of family in prison	No entró al modelo	No entró al modelo	1* (0.99-1) [†] 0.074 [‡]

Note. *Adjusted prevalence ratio. [†]95% confidence intervals. [‡]p values.

[§]This variable was taken in quantitative form ASPD: antisocial personality disorder.

The p values were calculated with generalised linear models (with Poisson regression, log function, robust models adjusted by the inmates' educational level).

common amongst persons who were born outside the capital. In a study carried out with Health Sciences students at the University of Cartagena, a comparative analysis was made of antisocial personality traits and socio-demographic characteristics, and it was found that 10% of students from a rural background presented these traits, while 23% of those born in cities presented them¹⁷. The most likely explanation for this is that the stress and inequalities of living in a city with a large population (the city of Lima has over 10 million inhabitants), can trigger the development of disorders. Likewise, another study evaluated the social and urban differences relating to mental health, and concluded that urban life is more closely linked to mental disorders, especially depression¹⁸.

A recent study published by Al-kassab et al, reported a high frequency of marijuana use in youth diagnostic and rehabilitation centers in Peru. Despite not having found an association between the drug-related variables in our study, the population of young inmates will eventually form part of the older prison inmates, which highlights the importance of studying the effect of the high frequency of marijuana use and the personality in a critical age such as adolescence¹⁹.

When considering the factors within the family and ASPD, leaving home before 15 years of age was found to be more closely related to the presence of ASPD. A study in Spain identified certain antisocial behaviours in 7,580 adolescents, of whom 80% declared that they had engaged in rule-breaking behaviour, such as running away from home, drinking alcohol under 16 years of age, not respecting traffic regulations, etc²⁰. Adolescents such as these with antisocial behaviour patterns may be more likely to break the law and commit offences that lead to imprisonment. It was also reported that the reasons why a young person runs away from home are emotional mistreatment, ongoing physical abuse, witnessing marital violence, presenting high levels of conflict with parents, the fact that their peers consume drugs, etc²¹.

Not living with the father and having friends who commit offences were also associated with at least one of the criteria. According to Montgomery, children (mainly male) without biological fathers are twice as likely to repeat a school year, and those who present violent behaviour are 11 times more likely to not live with their fathers²². It has also been shown that the absence of the father generally has a negative impact on children and adolescents, and that they face a higher risk of developing behavioural problems. One study examined family antisocial characteristics and whether the biological fathers lived at home, and concluded that if the father was absent, the antisocial

behaviour of any member of the family increased²². As regards friendships, a study on antisocial and violent behaviour in adolescents found that those in a situation of risk more often had friends with problematic behaviour, such as being expelled from school and committing acts of violence. This highlights the fact that friends play an important role in increasing the risk of a young person engaging in antisocial behaviour²³.

It was also found that almost all the inmates had dissocial traits and half the population fulfilled at least two criteria of the disorder. Although no studies were found that measured antisocial personality disorder with the same instrument, one study in Brazil reported a prevalence of 39%. The study reported that this group ran a high risk of presenting other personality disorders at the same time, such as paranoid, borderline and passive-aggressive disorders²⁴. Another study carried out in the USA showed a 26% prevalence of the disorder, which was also found to be the most common one amongst inmates²⁵.

The main limitation of this study is that the items of the survey related to the traits of antisocial personality disorder were not validated by a specialist on the subject, and were not prepared to directly diagnose ASPD. However, they are linked to material that was evaluated by one of the most prestigious guides on the classification of mental disorders⁹. Another highly important factor is the lack of variables that were not present in the base material, such as committing acts of deception or fraud for personal pleasure, premeditated planning, irritability and aggressiveness, in order to provide a precise diagnosis and discount differential diagnoses such as schizophrenia or bipolar disorder. Finally, the reduction of the prison population was not very significant and can therefore be extrapolated to the prisoners of countries similar to Peru, such as Bolivia, Ecuador, Colombia, etc.

To conclude, the Peruvian prison population presents a high prevalence of ASPD traits. It was also found that such traits can be significantly associated with certain social and family factors, since the prevalence of antisocial personality traits was higher in men, in those who ran away from home under 15 years of age and less in those who were born outside the capital.

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Conflict of interest

The authors declare that they have no conflicts of interest.

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