

## Criminal Behaviour in Users of Psychoactive Substances Who Began Treatment

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### Abstract

**Objectives:** To describe the profile of substance abusers and dependents who looked for treatment in two drug rehabilitation centers in the city of Campinas, SP, and their pattern of use. To discuss the relationship between criminal behavior and the use and dependence of psychoactive substances.(PAS)

**Methods:** Quantitative cross-section study, 183 adult participants, users and/or dependents of one or multiples PAS in treatment.

**Measurements:** questionnaire containing sociodemographic data, pattern of consumption of PSA, and practice in committing crimes; items from Sections J, K and P of the "Mini International Neuropsychiatric Interview". (M.I.N.I.) To provide a more accurate analysis of the data, a new variable was described as "modified" ASPD (ASPDm), which was determined by excluding the items on the MINI directly related to criminality.

**Results:** Respondents were male, average age 40.8, less than 8 years of schooling. Polyuse of PSA: alcohol and cocaine. Criminal acts had been practiced by 40,4%; 51 complied with criteria for ASPD. Variables correlated with criminal behavior: ASPDm, absence of religious practice (OR=6,783), ASPD (OR=9,225) and antecedent of use of solvents (OR=5,442).

**Conclusion:** In this sample, the findings suggest that, for most drug users who seek treatment, substance use is not the only associated factor with criminal behavior.

**Keywords:** Criminal; Behaviour; Treatment; Societies; Organizations; Personality

### Introduction

Drug and alcohol consumption causes enormous damage in both individual and collective spheres. It has become a social health-related problem worldwide [1]. The United Nations Office on Drugs and Crime has estimated that from 3.3% to 6.1% of the world's population between the ages of 15 and 64 have consumed some type of drug at least once in the last year [1]. A recent epidemiological study in Brazil indicates a lifetime rate of powder cocaine use among adults of 4%, as well as 1.8% for crack cocaine [2]. Besides health risks, the consumption of alcohol and illicit drugs has numerous consequences in social scope including its association with criminality [3]. Studies indicate a multifactorial, diversified and complex relationship between the use and dependence of drugs and transgression, including socio-cultural factors and the effects of substances on individual behaviour [3,4]. The relationship between drugs consumption and aggression is conditioned to other variables, among which cultural factors are important [5,6]. Growing in social violent contexts, home or school, may contribute to the high level of violence in modern societies. People acquire aggressive behavior as they learn, for instance, other social responses [7]. Personality is conceptualized as a set of stable knowledge structures that individuals use to interpret events in their social world and to guide their behavior. Antisocial Personality Disorder (ASPD) stands out as a very common individual trait and can be considered a major variable associated with criminality [8,9]. A study carried out with 320 incarcerated users of psychoactive substances in the United States and has showed that 35% of the respondents were diagnosed with ASPD, according to criteria of the *Mini International Neuropsychiatric Interview* (M.I.N.I.) [9,10]. When ASPD is associated with the use of alcohol and other drugs, the relationship with criminality becomes more complex [8,11,12]. Personality characteristics of the individual may play a role in criminal behaviour in drug users seeking treatment. Therefore, criminal behaviour should not be considered just a consequence of using drugs. The aim of this study is to evaluate the relevance of ASPD and discuss the role of aggressivity in criminal behavior.

### Methods

The quantitative and transversal study described and discussed here was approved by two study organizations, Research Ethics Committees, both in the city of Campinas, São Paulo, Brazil. The research consisted basically in individual interviews. Patients' participation was voluntary. The subjects were clearly informed that the acceptance or denial in the study would not influence their access to the centres and related services in any way. The city of Campinas, in the State of São Paulo, Brazil, has a population of over one million inhabitants. At the time of the study there were two drug rehabilitation facilities, two similar services at local universities and structured emergency units and services. The present study was carried out at two rehabilitation facilities: the outpatient service of the General Hospital at the State University of Campinas, and a Municipal Psychosocial Rehabilitation Centre, operated by the Campinas City Health Department. Both centres are regulated and funded by Brazilian Ministry of Health and therefore opened to all local citizens. The treatment is for free. At both facilities, as regular routine, all new patients are interviewed individually. In the following weeks, they take part in three sessions of a "welcoming group". These are meetings coordinated by specialized health professionals at the facilities. After three sessions in the welcoming group, the individuals

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are formally taken in as patients at the centre. An individual treatment plan is drawn up for each one, including a medical check-up carried out by a team of physician. From this point on, patients are expected to participate in their assigned activities on a regular basis. Therapeutic activities always include group or individual psychotherapy, as well as appointments with a general medical practitioner and psychiatrist. The including criteria were: both gender, age 18 or over, come to the respective centre in search of treatment for substance abuse and appear for at least one pre-scheduled medical consultation, following the presence at three welcoming sessions. Interviews were conducted between January 2008 and January 2009. The excluded were those who seemed to be psychologically unable to answer the questionnaire due to: effects of substances they were taking (intoxication or intense withdrawal symptoms), cognitive difficulties, or some type of psychotic behaviour with serious positive symptoms. Individuals who were classified as not having adhered to treatment because came to the centre to participate in the welcoming group only once or twice were also excluded. The questionnaire was applied only to subjects who had been submitted to an individual medical check-up after joining in the welcoming group. On the day of the scheduled medical appointment, and immediately following it, each respondent was led to other room for an individual interview, during which the study and its objectives were explained. Those who agreed to join signed an informed consent. The instruments used in the study were:

A printed individual data form with socio-demographic information (such as gender, age, schooling, marital status, profession, and occupational situation), pattern of consumption (type of substance, age consumption began, and frequency) and possible criminal offenses.

The Section J (Alcohol Dependence and Alcohol Abuse), Section K (Substance Dependence, Non-alcohol; and Substance Abuse, Non-alcohol), and Section P (Antisocial Personality Disorder) of the “Mini International Neuropsychiatric Interview” (MINI) were also applied [10].

Criminal behaviour was investigated answering “have you ever had any criminal law problems”. For those who answered positively, the offense was specified. In order to determine as accurately as possible the relationship between ASPD and the self-reported practice of crimes, an analysis was carried out considering only criteria “a,” “d,” “e” and “f” of the M.I.N.I [10]. Thus excluding items that directly mention the practice of criminal acts (Items “b” and “c”). An adaptation, labelled the Antisocial Personality Disorder “modified” (ASPDM), was then designed, and applied when the subject indicated the presence of three out of the four criteria mentioned above. The information was entered into a databank of Version 13.1 of the SPSS Program for consolidation and analysis. The descriptive analysis measured position and dispersion of continuous variables, and frequency tables for categorical variables. The Chi Square Test was used to compare proportions, multiple logistic regression analysis was then used to identify crime-related factors, and the stepwise process was used to choose the variables to be applied. The significance level adopted for statistical testing was 5%, and the Relative Risk Confidence Interval was 95% (Figure 1).

## Results

Of the 183 patients who participated in the study, 145 were male. Ages ranged from 18 to 70, with average age of 40.8. Almost half of them (42.6%) reported being Catholics, 40 (21.9%) Evangelical/Protestant and 6 (3.3%) Spiritualists. The remaining 32.2% reported having no religion. Among the 124 respondents who said they have a religion, 60 were not practicing.

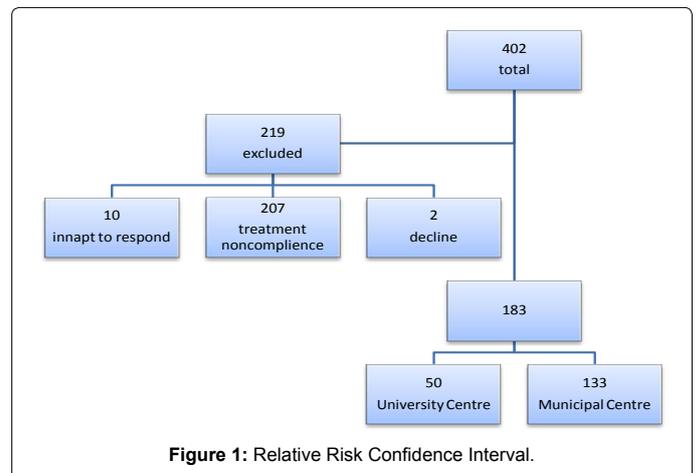


Figure 1: Relative Risk Confidence Interval.

Variable	N 183	%
Alcohol		
Abuse	34	18.6
First use before 15 years old	101	55.4
Dependence	112	61.3
Cocaine Powder		
Lifetime use	87	47.5
First use before 15 years old (n=87)	55	58.6
Dependence	50	27.3
Crack Cocaine		
Lifetime use	67	36.6
First use before 15 years old (n=67)	5	7.9
Dependence	50	27.3
Cannabis		
Lifetime use	86	47.0
First use before 15 years old (n=86)	47	54.7
Dependence	38	20.7
Solvents		
Lifetime use	59	32.3
First use before 15 years old (n=59)	40	67.7
Dependence	4	2.1
Benzodiazepinic drugs		
Abuse	13	7.1
First use before 15 years old (n=13)	2	13.3
Dependence	10	5.5
Synthetic drugs		
Lifetime use	16	8.7
First use before 15 years old (n=16)	3	18
Dependence	0	0
Amphetamines		
Lifetime use	14	7.6
First use before 15 years old (n=14)	5	35.7
Dependence	2	1.1

Table 1: Pattern of use of psychoactive substances in people who seek for treatment in two rehabilitation facilities in the city of Campinas, Brazil.

Table 1 presents the subject’s pattern of PSA use. Among the respondents, 40.4% informed that they had criminal law problems during their lifetime. The most frequent offenses were assault and battery (23.5%), theft and robbery (21.8%), and homicide (8.2%). The types of offenses committed by the subjects were also analysed. Criminal offenses against property were committed by 39 of the 74 subjects who reported some type of illegal act, the crime of assault and battery being reported by 43.4% of the same 74 individuals. Table 2 presents a comparison between the two groups (with and without criminal offenses), according to the variables studied. A total of 64 respondents consumed exclusively alcoholic beverages. All of them were diagnosed with alcohol dependence. Only 15.6% of them had been

Characteristic	n	Crime Reported n (%)	No Crime Reported n (%)	p
Total	183	74 (40.4)	109 (59.6)	
Gender				NS
Male	145	61 (42.1)	84 (57.9)	
Female	38	13 (34.2)	25 (65.8)	
Schooling				NS
< 8 years	147	59 (40.1)	88 (59.9)	
≥ 8 years	36	15 (41.7)	21 (58.3)	
Employment				NS
Active	62	20 (32.3)	42 (67.7)	
Inactive	121	54 (44.6)	67 (55.4)	
Religion				0.01*
Yes	124	81 (65.3)	43 (34.7)	
No	59	31 (52.5)	28 (47.5)	
Income				NS
<=US\$200	98	40 (42.5)	58 (57.5)	
>US\$200	85	34 (40.0)	51 (60.0)	
Marital status				NS
Steady partner	80	31 (38.8)	49 (61.2)	
No steady partner	103	43 (58.3)	60 (41.7)	
Children				NS
No	64	27 (42.2)	37 (57.8)	
Yes	119	47 (39.5)	72 (60.5)	
Diagnosed with ASPD**				<0.001*
No	132	32 (24.5)	100 (75.8)	
Yes	51	42 (82.4)	9 (17.5)	
Diagnosed with ASPDm***				0.0006*
No	150	47 (31.3)	102 (68.7)	
Yes	33	29 (85.3)	4 (14.7)	
Number of substances currently used				<0.001*
1 or 2	100	21 (21)	79 (79)	
3 or more	83	52 (62.7)	31 (37.3)	
Dependence on substances				<0.001*
1 or 2	147	50 (34)	97 (66)	
3 or more	36	24 (66.7)	12 (33.3)	
Treatment centre				NS
Caps-AD (Municipal Rehab Centre)	133	51 (38.3)	82 (61.7)	
ASPA Unicamp (University Rehab Centre)	50	23 (46)	27 (54)	

NS = not significant \*Chi-square test \*\*ASPD (Antisocial Personality Disorder) \*\*\*ASPDm (Antisocial Personality Disorder Modified)

**Table 2:** Profile of substance users and self-reported criminal behaviour.

Variable	Criminal behaviour		p	OR
	Yes	No		
Classified with ASPD	42	09	<0.0001	9.225
Have no religion	31	28	0.0172	6.783
Classified with ASPDm	29	04	0.0006	6.244
Lifetime use of solvents	44	15	<0.0001	5.442

**Table 3:** Multivariate analysis of the factors associated with criminal behaviour.

involved in criminal offenses, a rate that is significantly lower ( $p < 0.001$ ) than for users of illicit drugs (marijuana, crack, cocaine). Table 3 shows the results of the multiple logistic regressions for the factors associated with criminality. Anti-social Personality Disorder Modified (ASPDm) and use of solvents were closely correlated to individuals who had committed theft or robbery. ASPDm (OR=13.066,  $p < 0.0001$ ); Lifetime use of Solvents (OR=15.382,  $p < 0.0001$ ). Lifetime use of amphetamines: OR=4.304,  $p < 0.0373$ . Fifteen (20.3%) out of the 74 subjects who had committed some sort of criminal offense reported that their crime was homicide. The presence of criteria for ASPDm was considered a significant variable among homicides, OR=12.836,  $p < 0.0003$ ; as was lifetime use of solvents: OR=5.883,  $p < 0.0056$ .

## Discussion

The main focus of this study is to discuss variables related to self-reported criminal behaviour in alcoholics and drug addicts who

sought help at either of the two health centres described above. The socio-demographic profile of the population evaluated was similar to those found in other studies on patients who seek treatment in Brazil, composed mainly of men, in the fourth decade of life [13]. The relationship between criminal behaviour and the use of drugs and alcohol is well-known, especially of those who use stimulants of the central nervous system [12-14]. According to some studies, personality characteristics are the main reason for aggressive behavior. Circumstantial factors, as PSA abuse, may catalyze the aggressive tendencies. Destructive people tend to misunderstand the reality, harassing routine acts. Simple requirements can be understood as an insult. For these people, violence is an acceptable and preferred way of dealing with interpersonal conflicts [15]. In addition, the consumption of alcohol contributes to increase aggressiveness and impulsiveness, which can also facilitate criminal acts [11,12] Impulsiveness in these situations, is often a precipitating factor of the offense, and the alcohol acting as a de-inhibiting factor catalyses violent acts [5]. According to Cherpitel, alcohol restricts cognitive capacity and leads to excessive social behaviors [5]. Thus, aggression is not necessarily the outcome of alcohol consumption if nonaggressive reactions are salient after a provocation. An intoxicated person may therefore not correctly perceive the reasons for other people's behavior, making the actions of others appearing to be more provocative than they would do in a sober perceiver [16]. In our study, individuals with dependence for

multiple drugs committed more criminal offenses than those who were dependent on only one substance. The poly-substance users are more exposed to risks, showing greater occupational, social and emotional difficulties, and tend to abandon treatment more frequently [17]. The rate of 40.4% of the subjects reporting criminal offense is very high in comparison with the general population in the Campinas area, where the arrest rate is 22 per 100,000 inhabitants [18]. The criminal offenses reported by the subjects were against persons (mostly assault and battery) and against property (especially theft and robbery). 43.4% of the subjects who declared criminal behaviour mentioned theft and robbery. For the cocaine and crack users, criminal offenses against property are correlated with the behaviour of seeking drug. Symptoms of withdrawal, mainly intense craving and extreme search for the substance, might lead to thefts and robberies [12,13]. It seems that such types of offense had been committed more in function of the effects of craving, to get money to buy the drug [19]. Among the 74 subjects in the study who reported criminal offense, 15 (20.3%) said they had committed at least one homicide. Aggressive behavior is more frequent in people who, besides their violent tendencies, are alcohol and PSA abusers. Some studies add, those who do not present this personality trace, seldom became aggressive while intoxicated [5], considering this, a factor that was closely associated with patterns of reported criminal behaviour was the diagnosis of ASPD [20]. Studies point out that the rate of ASPD in the general population varies between 1% and 3% [21] but in the sample studied here this rate was significantly higher (27.9%). Substance use, abuse and dependence among individuals with ASPD is relatively common, a fact that may corroborate the findings here [22,23]. This was seen in a number of studies that analysed samples from substance users whose levels of correlation with antisocial personality disorder varied from 20% to 68% [24]. The wide variation seems to be in function of the nature of the samples, most of which were comprised in prison inmates. The influence of ASPD criteria on reported criminality in this study was seen for crimes both against persons and property. The correlation between ASPD and crimes against property has been noted in other studies as well [22]. However, this type of crime in this study was also committed by users who do not seem to show antisocial behaviour. The craving might lead to misconducting behaviour, when the users feel themselves in need of the substance. The positive correlation between ASPD and the practice of crimes is reinforced by other studies that also conclude that ASPD is one of the factors responsible for this correlation, among psychoactive drug users, especially those of powder and crack cocaine. Not only ASPD and modified antisocial personality disorder were associated with the practice of crimes, but the reverse is also true: the absence of ASPD, and its modified version, corresponds to lower rates of criminal behaviour. Among the subjects of this study, 68% of those who did not show modified antisocial personality disorder had never committed any crime. Our results indicate that analysis of the relation between drug use and criminality must consider personality disorders. In the absence of ASPD, this observation was much less significant. Some shortcomings of this study should be considered. One criterion for inclusion in the study was the subjects who had come to at least one pre-scheduled medical check-up. This criterion probably eliminated individuals who did not seek treatment and who may show characteristics that are different from those currently studied. Another shortcoming was the evaluation of criminal behaviour based on self-reports, without reference to their actual criminal records. This fact could have generated sub-reported information. The aim of this study was to assess criminal behaviour in alcoholics and drug addicts who sought treatment, particularly those who presents antisocial personality disorder traces. The criminal behaviour in this sample was

higher than general population. However, when we analyze the ASPD role, important differences are shown. The ASPD criteria stood out as the closest factor correlated with reported criminal behaviour in the population studied. Furthermore, the results show that the majority of persons with no ASPD traces do not commit any crime. The findings here suggest that, for most drug users who seek treatment, substance use is not the only associated factor with criminal behaviour.

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