ORIGINAL ARTICLE

Comparing serial and nonserial sexual offenders: alcohol and street drug consumption, impulsiveness and history of sexual abuse

Comparando agressores sexuais seriais e não seriais: consumo de álcool e outras drogas, impulsividade e história de abuso sexual

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Abstract

Objective: To evaluate the differences between serial and nonserial sexual offenders in terms of alcohol and drug consumption, impulsivity, and personal history of being sexually abused. Method: A sectional and retrospective study carried out by the team of the outpatient clinic for the treatment of sexual disorders at Faculdade de Medicina do ABC – Santo André, Brazil. Three groups of subjects (n = 198) consisting of sexual offenders against one victim, two victims and three or more victims were examined. Convicts sentenced only for sexual crimes were evaluated with the Drug Addiction Screening Test, the CAGE, the Short Alcohol Dependence Data, the Barratt Impulsiveness Scale, the Sexual Addiction Screening Test, and the Static-99. Results: Sexual offenders against three or more victims showed more frequent history of being sexually abused than the sexual offenders against one victim. A one-way analysis of variance indicated that sexual offenders against three or more victims evidenced significantly higher scores on the Barratt Impulsiveness Scale and on the Sexual Addiction Screening Test than did the sexual aggressors against one victim. After a multinomial logistic regression analysis, the Barratt Impulsiveness Scale and the history of being sexually abused were predicting factors for the group of aggressors against three or more victims in relation to the aggressors against one victim. Conclusions: Sexual offenders against three or more victims present different characteristics from other groups of sexual offenders and these findings can help to create proposals for the management of this type of inmates.

Descriptors: Sexual violence; Sexual offender; Social behavior; Alcoholism; Street drugs

Resumo

Objetivo: Avaliar diferenças entre agressores sexuais seriais e não seriais em termos de consumo de álcool e de outras drogas, impulsividade e história pessoal de abuso sexual. Método: Trata-se de estudo transversal e retrospectivo realizado pelo Ambulatório de Transtornos da Sexualidade da Disciplina de Psiquiatria da Faculdade de Medicina do ABC – Santo André, São Paulo (ABSex). Três grupos de sujeitos (n = 198), consistindo em agressores sexuais de uma vítima, duas vítimas e três ou mais vítimas, foram examinados. Os sentenciados apenas por crimes sexuais foram avaliados através dos seguintes instrumentos: Drug Addiction Screening Test, CAGE Questionnaire, Short Alcohol Dependence Data, Escala de Impulsividade de Barratt, Escala de Rastreamento para Dependência de Sexo e Static-99. Resultados: Agressores sexuais de três ou mais vítimas mostraram maior freqüência de história de abuso sexual na infância do que agressores de apenas uma vítima. A análise de variância (ANOVA – One-Way) indicou que os agressores sexuais de três ou mais vítimas mostraram significativamente maiores escores nas Escalas de Impulsividade de Barratt e de Rastreamento para Dependência de Sexo do que os agressores de uma vítima. Após realização de análise de regressão logística multinomial, a Escala de Impulsividade de Barratt e a história de abuso sexual foram fatores preditores para o grupo dos agressores de três ou mais vítimas em relação aos agressores de uma vítima. Conclusões: Agressores sexuais de três ou mais vítimas apresentam características diferentes dos outros grupos de agressores sexuais estudados, e tais achados podem auxiliar no desenvolvimento de propostas de manejo destes tipos de apenados.

Descritores: Violência sexual; Agressor sexual; Comportamento social; Alcoolismo; Drogas ilícitas

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Introduction

Sexual violence is a large public health problem confronted by our society. In São Paulo, almost 5% of male inmates are serving a sentence for a serious sexual offense. The majority will return home without any psychosocial interventions to prevent recidivism.¹ Studies on sexual offenders should focus on biological and psychological factors associated with sexual aggression to improve the development of effective management models for sexual aggressors.¹

It is generally estimated that 6% to 45% of women and 3% to 30% of men have been sexually offended.² The British Crime Survey, for example, estimates that one in ten women has been sexually victimized from the age of 16 and that less than one in five incidents of female sexual victimization comes to police attention.³ Essentially when victims or their families or tutors reveal the sexual abuse, and this fact is translated into a crime, the perpetrators, who can be close to the victims, become sexual criminals. Rape and indecent assault are the two most known and violent sexual crimes.

An official definition of rape is carnal knowledge through the use of force or the threat of force. Indecent assault is defined as assaulting a person together with an indecent act or proposal. In this paper, we will use the term "rapists" to describe sexual offenders who commit rape or indecent assault indifferently.

Some rapists are one-time offenders, but others engage in multiple or serial sexual offenses.⁴ According to Stevens, serial rape takes place when this carnal knowledge or this indecent act happens more than once and is committed by the same offender.⁵ However, the psychological reasons which set apart serial from nonserial sexual offenders are not completely understandable.

Anyway, some non-diagnostic classifications of sexual offenders have been developed since the past half century based on different findings such as demographic variables, scores on psychometric measures, motivation for committing the crime, personality antisocial characteristics, number of victims involved and victims' gender.^{6,7} However, sexual demeanors associated with criminal acts comprise a diverse range of behaviors, and people who perform these actions are highly heterogeneous. Consequently, there are no natural diagnostic categories that reduce this diversity.

Knight and Prentky have affirmed that the majority of sex offenders are not acutely ill and, thus, are dealt with by the criminal justice as any other defendant.⁸ However, some studies have shown that a substantial proportion of sex offenders may have psychiatric problems, such as personality disorders,¹ substance use disorders,^{9,10} sexual preference disorders,^{2,6} mood disorders,¹ and sexually compulsive behavior.¹¹ More commonly, however, sexual offenders deny recurrent deviant sexual interests or behavior, according to the meta-analysis by Hanson and Bussiere.¹²

Many researches have also shown the intimate relationship between alcohol and drug consumption and aggressive behavior, and have observed a great risk of recidivism for violent crimes among alcohol abusers, such as homicide. 9,10,13 At least half of all violent crimes involve alcohol consumption by the perpetrator, the victim, or both. 14 Although the relationship between alcohol and drug consumption and sexual aggression is not one of simple direct causality, previous reviews of the literature on alcohol use by sexual offenders at the time of assault indicate great variability in alcohol consumption, ranging from 13% to 63% among rapists. 10,15,16 Alcohol consumption can impair the abuser's capacity of interpreting the erotic signs of partners; besides, because of the alcohol-induced myopia, men can focus on immediate pleasure and less on social approbation. 17,18 This can mean that one-time offenders are more often under alcohol influence than serial sexual aggressors. 19

The personal history of being sexually abused in childhood among sexual offenders has been intensively studied by some authors.²⁰⁻²²

According to Bradley, sexual abuse in childhood may interfere with the development of adaptive coping strategies and other aspects of cognitive functioning, such as impulse control, and this could be a significant factor associated with the repetition of the sexually aggressive behavior in adulthood.²³ The continuity of sexually violent behavior could also be related to very precocious deficits of adequate connections with caretakers. According to this latter author, traumatic events such as sexual abuse during childhood can generate many important changes in the behavioral control and can lead to violence against others, self-destructiveness, and revictimization. Hence, the reenactment of the trauma during adulthood could be a consequence of this lack of self-control and the inability to modulate physiological arousal.

Considering only serial sexual offenders, Guay et al. asserted that they tend to maintain their choice of the victim with respect to age. 24 Aggressors of children tend to reoffend against children, and aggressors of adult women tend to reoffend against adult women. The choice of the victim from one offense to another also seems to remain stable in terms of the relationship between aggressor and victim. Aggressors of familiar victims tend to reoffend against familiar victims, and aggressors of unfamiliar victims tend to reoffend against unfamiliar victims. This pattern of repetitive behavior could be related to the continuous seeking of exposure to situations reminiscent of the child trauma. In fact, a difficulty in interpreting feelings and a concomitant overreaction to some events or stimuli can have been generated by the inability to modulate physiological arousal. 23

In spite of the many nonscientific publications about serial sexual offenders, including novels and sensational descriptions, there are very few published scientific researches on this type of offenders.⁵ Authors have preferred to study sexual aggressors according to the gender and age of the chosen victims.

This study aims to evaluate the differences among sexual offenders against one victim, two victims and three or more victims, based on validated instruments and questionnaires on alcohol and drug consumption, sexual addiction, impulsiveness and sociodemographic characteristics. We have hypothesized that serial sexual offenders show higher level of impulsivity, less problems with alcohol and drug consumption, and more frequent history of being sexually abused in childhood than nonserials.

Method

1. Subjects

All 218 male convicts, over 18 years old, sentenced only for sexual crimes against children (below 11 years old), adolescents (between 12 and 18 years old) and adults (over 18 years old) were recruited and interviewed in the Penitentiary of Sorocaba-SP, Brazil. They were selected from a total of 980 convicts sentenced for sexual crimes associated with other violent crimes. We selected all convicts sentenced only for sexual crimes to avoid the influence of other motivations for crimes on the results.

The victim's age distribution followed the criteria established by Brazil's Statute for Children and Adolescents (the prevailing legislation on issues pertaining to minors).²⁵

This study was carried out inside a penitentiary where the inmates were serving a sentence. The access to the penitentiary was allowed by the Penitentiary Counseling of the State of São Paulo and the Penitentiary Administration Secretariat of State of São Paulo.

Sexual offenders need to be confined in special prisons, because they can be at risk in general jails. Sexual crimes were defined as rape (the crime of having sexual intercourse with a woman or girl forcibly and without her consent, or with a girl below the age of consent, which is 14 years old according to the Brazilian Laws, also called 'Statutory Rape') and indecent assaults (libidinous acts committed by a man

against men or women). Serial sexual offenders were defined as convicts sentenced for two or more sexual crimes throughout their lives. Nonserial sexual offenders were defined as convicts sentenced for one sexual crime throughout their lives.

No selected subject was mentally retarded or severely mentally disordered (e.g., psychotic or mood disorders), which would deserve treatment in a forensic hospital. These data were obtained from criminological examinations carried out by the mental health staff of this penitentiary.

From September 2004 to September 2005, 10 recruited convicts refused to take part in this study, and 10 left the prison before the interviews. After providing their informed consent, 198 convicts were screened. The scales and inventories were administered by one physician with a master's degree and one psychologist.

All information about the number of victims involved was obtained from the official registers, which were available for the researcher.

This study was approved by the Ethical Department of the Medical School of Universidade de São Paulo – Brazil.

2. Measures

It was an observational, retrospective and cross-sectional study, where the subjects provided information in a face-to-face interview. Convicts sentenced for sexual crimes were evaluated with the CAGE Questionnaire, ²⁶ the Short Alcohol Dependence Data (SADD), ²⁷ the Sexual Addiction Screening Test (SAST), ²⁸ the Barratt Impulsiveness Scale – version 11 (BIS-11), ²⁹ the Drug Abuse Screening Test (DAST) ³⁰ and the Static-99. ³¹ A questionnaire on sociodemographic characteristics, alcohol and drug consumption history and the criminal history was used.

The CAGE Questionnaire was originally delineated to briefly screen for clinically significant alcohol problems in a variety of treatment and non-treatment settings. The CAGE contains four yes-no items that can be administered in a self-report or clinician-interview format. A score of 2 or higher is considered clinically significant and should raise the clinician's index of suspicion that the individual has an alcohol-related problem.²⁶ The DAST was constructed to provide a quantifiable selfreport instrument for use in clinical and nonclinical settings to detect drug abuse or dependence pertaining to a range of psychoactive drugs. The original version of the DAST contains 28 yes-no questions that can also be administered in a self-report or clinician-interview format. A cutoff of 6 or higher indicates a probable drug use problem.³⁰ The SADD was designed to be sensitive across the full range of alcohol dependence and to be relatively free of sociocultural influences. The SADD contains 15 items, each one with four possible answers: never, a few times, many times, always. A cutoff score of 20 or higher suggests severe alcohol dependence.²⁷ The SAST was designed to assist in the assessment of sexually compulsive or "addictive" behaviors. Developed in cooperation with hospitals, treatment programs, private therapists, and community groups, the SAST provides a profile of responses that help to discriminate between addictive and nonaddictive behavior. This instrument is composed of 25 yes-no questions that can also be provided in a self-report or clinician interview format.²⁸ In Brazil, a cutoff of 6 or higher can correspond to sexual addiction.32 The current version of Barratt Impulsiveness Scale, version 11, was developed to assess impulsivity. Impulsivity is conceptualized as related to the control of thoughts and behavior and is broadly defined as acting without thinking. This scale looks at impulsivity in terms of three domains, such as motor impulsiveness, nonplanning impulsiveness, and attentional impulsiveness. This instrument was designed to aid in the description of impulsivity in psychiatrically healthy individuals and to explore the role of impulsivity in psychopathology. This questionnaire was designed to be self-administered and it has 30 items scored on a 4-point scale ranging from 1 (rarely/never) to 4 (almost always/always). There is

no standardized cutoff for the BIS-11.29 The Static-99 is a brief actuarial instrument created to estimate the probability of sexual and violent recidivism among adult males who have already been convicted of at least one sexual offense against a child or nonconsenting adult. This scale contains 10 items, and the minimum information required for scoring the Static-99 if the offender's official criminal record and information concerning the victim's gender and the pre-existing relationship between the victim and the offender. Although potentially useful, an interview with the offender is not required to score this scale.31 Although the Static-99 has not been validated in Brazil, the authors translated it into Portuguese and used it as a way to measure the risk of sexual recidivism. In spite of this fact, this instrument is generally based on juridical and police reports of inmates and it contains predictors of sexual offense recidivism, such as history of prior sex offenses, prior sentencing dates, any convictions for noncontact sex offenses, index non-sexual violence, prior non-sexual violence, any unrelated victims, any stranger victims, any male victims, age of offenders, marital status of offenders. Reliability and validity studies on these questionnaires have already been done by different researchers in many countries.

In this study, we administered a questionnaire on sociodemographic characteristics, alcohol and drug history, and history of being sexually abused during childhood, which is commonly used in the therapeutic setting in the Interdisciplinary Group of Studies on Alcohol and Drugs of the Hospital das Clínicas of the Universidade de São Paulo – Brazil. The legal reports were also reviewed. The history of sexual abuse was evaluated as a categorical variable, that is, if the offender reported or did not declare to have been sexually abused during childhood.

Respondents were also asked, "Did you use alcohol or drugs at the time of the crime?", and "Did you use alcohol or drugs at the time of the imprisonment?". For both questions, there were four response options: "yes, alcohol", "yes, drugs", "yes, both", "no, neither".

3. Procedure

The convicts were divided in three groups: the first group (n=149) consisted of sexual aggressors who offended one victim, the second group (n=25) comprised sexual aggressors against two victims, and the third group (n=24) consisted of sexual aggressors who offended three or more victims.

All statistical analyses were performed with SPSS for the personal computer, version 14.0. Categorical variables were compared by using the χ^2 test. The parametric one-way analysis of variance (ANOVA) was used for continuous data. A Multiple Variance Analysis (MANOVA) was also used because this research evaluated many dependent variables and only a univariate analysis could increase the probability of missing data. Logistic regression analysis was also constructed to investigate the associations between significant variables evaluated in the univariate analysis and sexual aggressors against three or more victims.

Results

1. Descriptive statistics

Of the 218 recruited convicts, 10 (4.58%) refused to participate in this study, because they believed that their answers could impair the criminal procedures, in spite of being reassured by the researchers that the information would be kept confidential, and 10 (4.58%) left the prison before the interviews.

The mean age of the sexual aggressors against one victim was 38.42 (11.92), the mean age of the sexual

aggressors against two victims was 43.12 (11.12), and the mean age of sexual offenders against three or more victims was 42.87 (12.83). A one-way ANOVA did not indicate significant differences among the three groups, F (2, 195) = 2.71, p = 0.07. There were no significant differences in terms of race, marital status, monthly income prior to the imprisonment, sexual orientation or mean age of the victims involved among the three groups (Table 1).

Five (3.36%) sexual offenders against one victim, 3 (12%) sexual aggressors against two victims, and 7 (29.17%) sexual offenders against three or more victims reported personal history of being sexually abused during childhood, and these differences were statistically significant ($\chi^2=20.47,\ 2$ df, p < 0.01). After the Yates's Correction in 2 by 2 chi-square test was used, the sexual offenders against three victims as a group had significantly more personal history of being sexually abused than the sexual offenders against one victim (Yates's Correction = 17.52, 1 df, p < 0.01). There were no significant differences in terms of personal history of sexual abuse between the aggressors against one victim and the aggressors against two victims (Yates's Correction = 1.94, 1 df, p = 0.06), nor significant differences between sexual offenders against two victims and sexual aggressors against three or more victims (Yates's Correction = 1.29, 1 df, p = 0.26).

In terms of educational level, the sexual aggressors against 'one', 'two' or 'three or more' victims also showed statistically significant differences ($\chi^2=6.78,\ 2$ df, p=0.03). After the Yates's Correction in 2 by 2 chi-square test was utilized, the sexual offenders against three or more victims had completed more years of regular studies than the group of the sexual offenders against one victim (Yates's Correction = 4.05, 1 df, p<0.04). No differences were found between the sexual aggressors against one victim and sexual offenders against two victims (Yates's Correction = 2.10, 1 df, p=0.15), and between the sexual offenders against two victims and the sexual offenders against three or more victims (Yates's Correction = 0.03, 1 df, p=0.86), in terms of educational level (Table 1).

Seven (29.17%) sexual offenders against three or more victims,

 $1\ (4\%)$ sexual aggressor against two victims, and none of the sexual offenders against one victim had official registers of other sexual crimes previously carried out, and these differences were statistically significant ($\chi^2=45.35,\ 2\ df,\ p<0.01).$ After the Yates's Correction in 2 by 2 chi-square test was used, the sexual offenders against three or more victims as a group had significantly more judicial history of previous sexual crimes than the sexual offenders against one victim (Yates's Correction $=38.09,\ 1\ df,\ p<0.01),$ and than the sexual aggressors against two victims (Yates's Correction $=3.98,\ 1\ df,\ p=0.04).$ There were no significant differences in terms of judicial history of previous sexual crimes between the aggressors against one victim and the offenders against two victims (Yates's Correction $=1.04,\ 1\ df,\ p=0.31).$

We also evaluated the criminal offenses that involved related or nonrelated victims. We used the definition of the actuarial instrument Static-99,31 in which a related victim is considered someone with whom the relationship would be sufficiently close so that marriage would normally be prohibited, such as parent, uncle, grandparent, and stepsister. Spouses (married or commonlaw), however, were considered related. To determine whether steprelationships should be regarded as related or not, we took into account the nature and the length of the pre-existing relationship between the offenders and the victim. Step-relationships that lasted less than two years were considered unrelated (e.g., stepcousins, stepchildren). Adult stepchildren were considered related if they lived for two years in a child-parent relationship with the offender. In our analysis, 57 (38.25%) sexual offenders against one victim, 10 (40%) sexual aggressors against two victims and 6 (25%) sexual offenders against three or more victims abused related victims, and these differences were not statistically significant $(\chi^2 = 1.68, 2 \text{ df}, p = 0.43).$

2. Psychometric measures

A 3 X 5 Multivariate Analysis of Variance (MANOVA) was conducted with offender groups (against one victim, two victims and three or more victims) as the independent variable and DAST, BIS-11, SADD, SAST, and Static-99 total scores

Table 1 - Sociodemographic features of sexual aggressors against one, two, and three or more victims

Feature	Aggressors of one victim	Aggressors of two victims	Aggressors of three or more victims	р
	(n = 149)	(n = 25)	(n = 24)	
Age, mean (SD)	38.42 (11.92)	43.12 (11.12)	42.87 (12.83)	$F = 2.71, p = 0.07^a$
Victims' age, mean (SD)	13.47 (6.37)	10.76 (4.81)	13.58 (7.53)	F = 2.02, p = 0.14
Race, n (%)				$\chi^2 = 5.24$, 4 df, p = 0.26 ^b
White	105 (70.47%)	19 (76%)	14 (58.33%)	
Black	34 (22.82%)	3 (12%)	9 (37.5%)	
Mulatto	10 (6.71%)	3 (12%)	1 (4.17%)	
Education, n (%)				χ^2 = 6.78, 2 df, p = 0.03 * ^b
Fourth grade or less	92 (61.75%)	11 (44%)	9 (37.5%)	
More than fourth grade	57 (38.25%)	14 (56%)	15 (62.5%)	
Marital status, n (%)				$\chi^2 = 3.12$, 4 df, p = 0.54^b
Married	72 (48.32%)	10 (40%)	8 (33.33%)	
Separated	29 (19.46%)	7 (28%)	5 (20.83%)	
Single / Widowed	48 (32.22%)	8 (32%)	11 (45.84%)	
Criminal recidivism history, n (%)				
Yes	0	1 (4%)	7 (29.17%)	$\chi^2 = 45.35$, 2 df, p < 0.01* ^b
Personal history of sexual abuse, n (%)				₹
Yes	5 (3.36%)	3 (12%)	7 (29.17%)	$\chi^2 = 20.47, 2 \text{ df, p} < 0.01^{*b}$
Time (in months) of penalty, mean (SD)	118.06 (59.99)	144.10 (66.18)	298.47 (244.74)	$F = 32.54, p < 0.01^a$
Monthly Income (in "R\$", the Brazilian currency), mean (SD)	624.56 (581.67)	602.40 (461.26)	1313.33 (3582.23)	$F = 2.81, p = 0.06^a$

^{*} p < 0.05

^a One-way ANOVA

^b Pearson Chi-Square

Table 2 - Means and SD: psychometric tests

Variable	Mean	SD	p
DAST			F (2, 195) = 0.86, p = 0.43
Sexual offenders against one victim (n = 149)	4.34	7.78	
Sexual offenders against two victims (n = 25)	3.08	6.63	
Sexual offenders against three or more victims (n = 24)	2.42	6.77	
BIS-11			F (2, 195) = 8.49, p < 0.01**
Sexual offenders against one victim (n = 149)	70.05	10.52	
Sexual offenders against two victims (n = 25)	73.60	14.12	
Sexual offenders against three or more victims (n = 24)	79.58	8.44	
SADD			F (2, 195) = 0.07, p = 0.93
Sexual offenders against one victim (n = 149)	12.99	13.93	
Sexual offenders against two victims (n = 25)	14.16	13.95	
Sexual offenders against three or more victims (n = 24)	13.08	16.55	
SAST			F (2, 195) = 6.87, p < 0.01**
Sexual offenders against one victim (n = 149)	4.13	4.26	•
Sexual offenders against two victims (n = 25)	6.16	5.08	
Sexual offenders against three or more victims (n = 24)	7.50	5.85	

^{**} p < 0.01

entered as the dependent variables. The overall MANOVA was significant (Pillai's F (10, 384) = 5.28, p < 0.01, ∂ n² = 0.24). An analysis of univariate effects revealed significant effects for the BIS-11 total score, F (2, 195) = 8.49, p < 0.01, SAST total score, F (2, 195) = 6.87, p < 0.01, and Static-99 total score, F (2, 195) = 14.09, p < 0.01.

Mean and standard deviation for all measures are listed in Table II. Post hoc testing using the Bonferroni adjustment method indicated that on the BIS-11 the sexual offenders against three or more victims evidenced significantly higher scores than the sexual aggressors against one victim (mean difference = -9.53, p < 0.01). With reference to the SAST, the sexual offenders against three or more victims showed significantly higher scores than the sexual aggressors against one victim (mean difference = -3.37, p < 0.01). The sexual aggressors against three or more victims also showed significantly higher mean scores on the Static-99 than the sexual offenders against one victim (mean difference = -1.98, p < 0.01) and than the sexual aggressors against two victims (mean difference = -1.96, p < 0.01). An analysis of univariate effects did not reveal significant effects for the SADD total score, F (2, 195) = 0.07, p = 0.93, nor for the DAST, F (2, 195) = 0.86, p = 0.43.

A multinomial logistic regression analysis was performed on group status as outcome and three predictors: BIS-11, SAST, and personal history of being sexually abused. A test of the full model with all predictors against a constant-only model was statistically reliable χ^2 (6) = 28.84, p < 0.01. The variance in group membership accounted for was marginal with Nagelkerke $R^2 = 0.17$. Predicting success was impressive for the combined group with 75.3% of these offenders being correctly classified. According to the Wald criterion, the BIS-11 total scores reliably predicted the group of sexual offenders against one victim with reference to the group of the sexual offenders against three or more victims (Wald = 5.63, p = 0.02, OR = 0.94, CI = 0.90-0.99), and the personal history of being sexually abused also predicted the group of aggressors against one victim with reference to the group of the aggressors against three or more victims (Wald = 7.83, p < 0.01, OR = 0.14, CI = 0.03-0.55). According to the same criterion, none of these three variables reliably predicted the group of the sexual offenders against two victims with reference to the group of the offenders against three or more victims.

Discussion

This study supports the findings of previous researches which indicate that the serial sexual offenders show some different characteristics from the sexual offenders against one victim, such as

higher impulsivity level and more frequent history of being sexually abused.³³

The lack of differences between the sexual offenders against two victims and the other groups of sexual aggressors in relation to the continuous variables, except for the Static-99, can reveal that the sexual aggressors against two victims tend to be a less stable group than those who target one victim or three or more victims, or even that these offenders may be a mixed group.

Criminologists have generally pointed out that sexual offenders show low educational levels and that the insertion of these inmates into a pedagogic program, even if inside penitentiaries, could decrease the criminal recidivism.^{4,5} Although the offenders also presented low educational levels in this research, the serial sexual aggressors revealed higher educational levels than nonserial offenders. Although few offenders against three or more victims were included in this study, it is possible to think that these types of criminals present different motivations and needs in comparison with the other groups. According to Stevens, many theorists affirm that rape is motivated by a subculture where the social learning is weak.⁵ Perhaps this idea implies that if an individual is socialized in a ghetto the likelihood that he will engage in violent crime is greater than an individual who has been adequately socialized. However, as this research illustrates, this is not completely true.

Some studies state that many sexual offenders suffered sexual abuse in their childhood. 4,20,21 However, while statistics of adult sex offenders with prior victimization range from 35% to 80%, and it is believed that an individual with a history of sexual abuse has a greatly increased likelihood of committing similar offenses, becoming a sexual offender seems to be just one possible consequence for male victims. Many evidences point out that most victims do not become sexual aggressors.^{20,21} In this study, 15 (7.57%) sexual offenders reported the history of being sexually abused during childhood. Comparing the sexual offenders against three or more victims and the sexual offenders against one victim, the former reported significantly more history of sexual abuse than the latter, and this fact confirms some findings in the literature about consequences of sexual abuse experience. 21,22 It is important to consider that the investigation of history of sexual abuse among these offenders was carried out during a face-to-face interview, evaluating this date as a categorical variable. Besides, it is possible that many inmates did not report this fact to the interviewers for many reasons, such as: some subjects could have suppressed and therefore failed to report conscious memories of abuse, others could have fear of revealing such an intimate fact to unknown persons in a nontherapeutic relationship, and some offenders can have preferred to lie during all interview.

Impulse-control disorders are characterized by impulsivity or aggression and loss of control. Among these disorders are pathological gambling, trichotillomania, intermittent explosive disorder, pyromania, self-injurious behavior, kleptomania, and compulsive shopping. The impulsivity can often be severe, even when it does not take one of the forms outlined above, and this often happens with the forensic population.³⁴ Some studies have shown that impulsivity and emotional distress are related to illegal activities and aggression, as well as risk-taking in sexual relationship.^{35,36}

Lynam et al. also contended that impulsiveness is an important factor associated with criminal activities, even if the neighborhood context influence is included in the analysis.³⁷

Certainly, highly impulsive people are overrepresented in prisons.³⁸ The seeking of sensation, very well described among impulsive people, may be an essential psychological mechanism involved with the recurrence of sexual aggression. Actually, among serial criminals the impulsivity level appears to be higher than among nonserial offenders. Hence, if one commits these crimes in a society where regulatory laws are present and respected, he must be poor at controlling his impulses, poor at rationally calculating what is in his own best interests and acting in accordance with his own calculations.

With reference to the SAST scores, the present study produced mixed results. A one-way ANOVA indicated that the sexual offenders against three or more victims evidenced significantly higher scores than did the sexual offenders against one victim. However, in the multinomial logistic regression, the SAST scores were not a reliable predictor. The reason for this can be the small sample of sexual offenders against three or more victims included in this study. Other possible explanation for this can be the inclusion of two variables – BIS-11 and SAST – which measure similar aspects, that is, impulsive problems, in the logistic regression analysis.

The characteristic of recurrence among the serial sexual offenders can be in part explained by a higher impulsivity level. Although drug problems have not shown differences between serial and nonserial sexual offenders, we may not rule out the important role of alcohol and drug consumption in sexual aggression. Drug consumption has also been associated with violent behavior, but less frequently than alcohol use.³⁹

Alcohol consumption has been described in the literature as an important factor related to sexual offense. This consumption can impair the capacity to take decisions, regulate affects and control the impulsiveness. ¹⁰ General alcohol consumption could be related to sexual assault in many ways. First, men who drink heavily do so in social situations that frequently lead to sexual assault, such as a casual or spontaneous date at a party or in a bar. Second, heavy drinkers may routinely use intoxication as an excuse for engaging in socially unacceptable behavior, including sexual assault. Third, certain personality characteristics, such as impulsivity and antisocial behavior, may increase men's propensity both to drink and to commit sexual assault. ¹⁵ However, in our study, alcohol consumption and the problems associated with its use weren't different between serial and nonserial sexual offenders.

This research showed that serial sexual offenders present some different characteristics from nonserial sexual offenders, and these findings can help to develop more effective proposals for the management of these types of inmates. The available treatment programs for sexual offenders are still rare in our community, and therefore need to be created and developed based on scientific evidence. The available treatment programs for sexual offenders are still rare in our community, and therefore need to be created and developed based on scientific evidence. The available treatment evidence of the sexual offenders are still rare in our community, and therefore need to be created and developed based on scientific evidence. The available treatment programs for sexual offenders are still rare in our community, and therefore need to be created and developed based on scientific evidence.

Out of the three previously formulated hypotheses for this study, we were not able to verify any differences among the groups with respect to alcohol and drug consumption. This must mean that the usage of these substances is important in sexual aggression, but it may not be a good factor that sets apart the serial from nonserial sexual offenders. This can also mean that serial sexual offenders more frequently suffer from some mental disorders associated with impulsive symptoms, such as paraphilia and personality disorders, than nonserial sexual aggressors.

Future studies might improve the validity of these findings by employing more precise measures of personality disorders and paraphilias.

In spite of the fact that the scientific literature discusses two methods of risk assessment – clinical and actuarial – there is an unambiguous evidence that it is reasonable and readily defensible to conclude that the predictive efficacy of actuarial methods of risk assessment are superior to clinically derived assessments.³⁸ As it was possible to predict, according to the Static-99, the serial group showed greater mean scores than nonserial sexual offenders.

Our sample size was based on published data, with one of the largest numbers of sexual aggressors evaluated by structured clinical interviews for psychiatric disorders, such as alcohol and drug problems and sexual impulsivity.¹

There are, however, a number of methodological difficulties in this study: 1) although comparisons have been made between different sexual aggressors according to the number of victims involved, there was no recruited control group. Comparisons with other offending groups, perhaps violent offenders, would be particularly relevant; 2) we relied on self-reported questionnaires; 3) this study was cross-sectional, which may preclude a causal inference; 4) the evaluation of history sexual abuse was based on two possible answers (yes/no) and was carried out in a face-to-face interview; 5) the number of sexual aggressors against more than two victims was small, what can have harmed some results.

Conclusion

An adequate system of classification of sexual offenders can contribute to develop our understanding of sexual assaults and their perpetrators, and to construct a good etiological theory. However, the enormous heterogeneity among sexual offenders creates several problems in terms of validity and reliability. One kind of classification consists of dividing the aggressors according to the number of the victims involved. Our research shows that there are some differences between aggressors against one victim and offenders against three or more victims, and this may contribute to the improvement in the assessment of offenders, in the design and evaluation of treatment, and in the prediction of future risk.

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References

- Dunsieth NW Jr., Nelson EB, Brusman-Lovins LA, Holcomb JL, Beckman D, Welge JA, Roby D, Taylor P Jr, Soutullo CA, McElroy SL. Psychiatric and legal features of 113 men convicted of sexual offenses. J Clin Psychiatry. 2004;65(3):293-300.
- Shaw JA, editor. Sexual aggression. Washington: American Psychiatric Press; 1996.
- 3. Myhill A, Allen J. *Rape and sexual assault of women: the extent and nature of the problem. Findings from the British Crime Survey.* London: Home Office Research Study; 2002.
- Siegel LJ, editor. Criminology: theories, patterns, & typologies. Belmont: Wadsworth / Thomson Learning; 2004.
- Stevens DJ, editor. Inside mind of sexual offenders: predatory rapists, pedophiles, and criminal profiles. New York: Authors Choice Press; 2001
- Prentky RA, Knight RA. Identifying critical dimensions for discriminating among rapists. J Consult Clin Psychol. 1991;59(5):643-61.
- Polaschek DL. The classification of sex offenders. In: Ward T, Laws DR, Hudson SM, editors. Sexual deviance: issues and controversies. London: SAGE; 2003. p. 154-71.
- Knight RA, Prentky RA. Classifying sexual offenders: the development and corroboration of taxonomic models. In: Marshall WL, Laws DR, Barbaree HE, editors. Handbook of sexual assault: issues, theories, and treatment of offender. New York: Plenum; 2003. p. 23-52.
- Testa M. The impact of men's alcohol consumption on perpetration of sexual aggression. Clin Psychol Rev. 2002;22(8):1239-63.
- Abbey A, Clinton-Sherrod AM, McAuslan P, Zawacki T, Buck PO. The relationship between the quantity of alcohol consumed and the severity of sexual assaults committed by college men. *J Interpers Violence*. 2003;18(7):813-33.
- Knight RA, Sims-Knight JE. The developmental antecedents of sexual coercion against women: testing alternative hypotheses with structural equation modeling. *Ann N Y Acad Sci.* 2003;989:72-85; discussion 144-53.
- Hanson RK, Bussiere MT. Predicting relapse: a meta-analysis of sexual offender recidivism studies. J Consult Clin Psychol. 1998;66(2):348-62
- 13. Sinha R, Easton C. Substance abuse and criminality. *J Am Acad Psychiatry Law.* 1999;27(4):513-26.
- 14. Abbey A, Zawacki T, Buck PO, Clinton AM, McAuslan P. Alcohol and sexual assault. *Alcohol Res Health*. 2001;25(1):43-51.
- Abbey A, Zawacki T, Buck PO, Testa M, Parks K, Norris J, Martin SE, Livingston JA, McAuslan P, Clinton AM, Kennedy CL, George WH, Davis KC, Martell J. How does alcohol contribute to sexual assault? Explanations from laboratory and survey data. *Alcohol Clin Exp Res*. 2002;26(4):575-81.
- George WH, Stoner SA. Understanding acute alcohol effects on sexual behavior. Annu Rev Sex Res. 2000;11:92-124.
- Quinsey VL, Harris GT, Rice ME, Cormier CA, editors. Violent offenders

 appraising and managing risk. Washington: American Psychological Association Press; 2003.
- Aromaki AS, Lindman RE. Alcohol expectancies in convicted rapists and child molesters. Crim Behav Ment Health. 2001;11(2):94-101.
- 19. O'Hare T. Risky sex and drinking contexts in freshman first offenders. *Addict Behav.* 2005;30(3):585-8.
- Pope VT. Prevalence of childhood and adolescent sexual abuse among sex offenders. Psychol Rep. 2001;89(2):355-62.
- Salter D, McMillan D, Richards M, Talbot T, Hodges J, Bentovim A, Hastings R, Stevenson J, Skuse D. Development of sexually abusive behaviour in sexually victimised males: a longitudinal study. *Lancet*. 2003;361(9356):471-6.
- Lee JK, Jackson HJ, Pattison P, Ward T. Developmental risk factors for sexual offending. Child Abuse Negl. 2002;26(1):73-92.
- 23. Bradley SJ, editor. Affect regulation and the development psychopathology. London: The Guilford Press; 2000.
- Guay JP, Proulx J, Cusson M, Ouimet M. Victim-choice polymorphia among serious sex offenders. Arch Sex Behav. 2001;30(5):521-33.
- Brasil. Estatuto da Criança e do Adolescente (ECA). Lei n. 8.069 de 13 de julho de 1990. 8a ed. São Paulo Atlas; 1999.
- 26. Mayfield D, McLeod G, Hall P. The CAGE questionnaire: validation of a new alcoholism screening instrument. *Am J Psychiatry*. 1974;131(10):1121-3.

- 27. Raistrick D, Dunbar G, Davidson R. Development of a questionnaire to measure alcohol dependence. *Br J Addict.* 1983;78(1):89-95.
- Schneider JP. How to recognize the signs of sexual addiction. Asking the right questions may uncover serious problems. *Postgrad Med*. 1991;90(6):171-4, 177-82.
- Barratt ES, Stanford MS, Kent TA, Felthous A. Neuropsychological and cognitive psychophysiological substrates of impulsive aggression. *Biol Psychiatry*. 1997;41(10):1045-61.
- Gavin DR, Ross HE, Skinner HA. Diagnostic validity of the drug abuse screening test in the assessment of DSM-III drug disorders. Br J Addict. 1989:84(3):301-7.
- Hanson RK, Thornton D. Improving risk assessments for sex offenders: a comparison of three actuarial scales. Law Hum Behav. 2000;24(1):119-36.
- Da Silveira DX, Vieira AC, Palomo V, Silveira ED. Escala de rastreamento para dependência de sexo – Validade de critério e confiabilidade. In: Gorenstein C, Andrade LHSG, Zuardi AW, editors. Escalas de Avaliação Clínica em Psiquiatria e Psicofarmacologia. São Paulo: Lemos; 2000. p. 321-8.
- Burgess AW, Hazelwood RR, Rokous FE, Hartman CR, Burgess AG. Serial rapists and their victims: reenactment and repetition. *Ann N Y Acad Sci.* 1988;528:277-95.
- Stone MH. Psychotherapy with impulsive and compulsive patients. In: Oldham JM, Hollander E, Skodol AE, editors. *Impulsivity and Compulsivity*. Washington: American Psychiatric Press; 1996. p. 231-60.
- Giotakos O, Bourtsoukli P, Paraskeyopoulou T, Spandoni P, Stasinos S, Boulougouri D, Spirakou E. Prevalence and risk factors of HIV, hepatitis B and hepatitis C in a forensic population of rapists and child molesters. *Epidemiol Infect*. 2003;130(3):497-500.
- Cherek DR, Moeller FG, Dougherty DM, Rhoades H. Studies of violent and nonviolent male parolees: II. Laboratory and psychometric measurements of impulsivity. *Biol Psychiatry*. 1997;41(5):523-9.
- Lynam DR, Caspi A, Moffitt TE, Wikstrom PO, Loeber R, Novak S. The interaction between impulsivity and neighborhood context on offending: the effects of impulsivity are stronger in poorer neighborhoods. J Abnorm Psychol. 2000;109(4):563-74.
- Baltieri DA, Andrade AG. Alcohol and drug consumption and sexual impulsivity among sexual offenders. In: Brozner EY, editor. New research on alcohol abuse and alcoholism. New York: Nova Science Publishers; 2006. p. 133-72.
- Taylor P. Addictions and dependencies, their associations with offending.
 In: Gunn J, Taylor P, editors. Forensic Psychiatry. Clinical, Legal and Ethical Issues. London: Butterworth-Heinemann; 1995. p. 435-89.
- Frenken J. Sexual offender treatment in Europe: an impression of cross-cultural differences. Sex Abuse. 1999;11(1):87-93.