Sex Offenders Who Claim Amnesia for Their Alleged Offense

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Information relating to demography, history, and psychiatric functioning was collected for 20 consecutive individuals presenting to the Sexual Behaviours Clinic of the Royal Ottawa Hospital who claimed amnesia for their alleged sexual offenses. In addition, comparison groups of admitter and nonadmitter sex offenders were established to isolate relevant psychopathological constructs within the primary study group. Amnestic offenders displayed higher degrees of violence and fulfilled diagnostic criteria for potentially more harmful paraphilia.

Much attention has been paid to sexual offenders in the last few decades. Researchers have looked at various aspects of deviant sexual behavior, including classification, etiology, diagnostic procedures, and effectiveness of different treatment methods.[1–5]

In a similar fashion, the phenomenon of amnesia in relation to criminal behavior has remained a matter of debate.[6–10] Without elaborating here on its legal implications, we will mention a few relevant clinical issues. Previous studies have reported claims to amnesia in 10 to 70 percent of homicides.[7, 9, 10] Factors found to be involved included alcohol intoxication and high emotional arousal during the crime.[6, 7, 10] A main question is how to differentiate true amnesia from "faked" or malingered amnesia. Despite several attempts to solve the dilemma, there is still no easy answer.[6–10] Most studies looked at the dichotomy of "organic" versus "psychogenic" amnesia, where organicity was felt to reflect true or genuine amnesia.[7, 10] Amnesia also has been characterized as either anterograde or retrograde, hazy, partial, or complete.[6, 7, 9] Although these distinctions are academically interesting, they have a limited application in criminal cases, because the majority of these amnesias seem to be functional in origin and are usually limited to a single event.[6, 7]

This study focuses on an exploration of the psychopathology of individuals who claim amnesia for their sex offenses. Al-

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though there was no valid measure by which to judge the legitimacy of the alleged perpetrators' claims, it was hypothesized that these individuals would display elevated degrees of psychopathology and prominent impairment in regard to their sexual functioning. By comparing the sample with a group of admitting sex offenders and a group of nonadmitting sex offenders, the authors also wished to verify whether amnesia in such cases might be construed as a mechanism allowing disavowal of the offense. Should this be the case, one would expect amnestic offenders to resemble the group of nonadmitters on selected variables.

Methods

Twenty consecutive individuals presenting to the Sexual Behaviours Clinic who claimed amnesia for their sexual offense(s) were examined in detail. This sample group consisted predominantly of court-ordered outpatients referred for pretrial examination, although a small number of inpatients admitted either to a medium- or minimum-security setting also were included. All subjects included in the sample group were found guilty on legal outcome. Notwithstanding their legal status, an informed written consent is required from all individuals undergoing testing in the sexual behavior clinic and thereby is included in clinical research projects.

Comparison groups of convicted sex offenders who admitted to their offense (admitters) and those who did not admit to their offense (nonadmitters) were established through a computerized random number-generated selection. Each group included 20 individuals, presumably representative of all sex offenders, who had been referred to the Sexual Behaviours Clinic for assessment between 1980 and 1986. Table 1 shows the initial distribution of sex offenders before randomization.

The three groups underwent standard, semistructured psychiatric clinical and diagnostic interviews. Whenever relevant, diagnoses fulfilling the DSM-III-R criteria were recorded. A variety of basic demographic data was systematically collected on each subject. Standardized data collection procedures in operation in the research department included the following instruments: a questionnaire developed by the investigators, the Bradford Sexual History Inventory (BSHI, 1987), which derives information about the subject's sexual history and current sexual behavior; Minnesota Multiphasic Personality Inventory (MMPI)[11]; Weschler Adult Intelligence Scale, revised (WAIS-R)[12]; Derogatis Sexual Functioning Inventory (DSFI)[13]; Buss-Durkee Hostility Inventory (BDHI)[14]; and Michigan Alcohol Screening Test (MAST).[15] Self-reports of sexual interest and activity also were obtained, in which subjects were asked to evaluate their sexual interests on a scale from 1 to 5 and to indicate the number of sexual activities leading to orgasm in the

Table 1
Total Population of Sex Offenders

	Frequency	Percent
Nonadmitters	189	26.7
Admitters	490	69.3
Amnesia	28	4.0
Total	707	100

previous seven days. Laboratory testing included a sex hormone profile, with the measurement of plasma testosterone and other hormone levels. Penile tumescence testing (a computerized assessment procedure by which the subject's level of erection or sexual arousal to selective sexual stimuli such as rape and pedophilia is measured in a laboratory setting) was completed on most subjects.[1] The Rape Index and Assault Index are ratios based on the highest response to a consenting adult stimulus and the highest response to a rape (nonconsenting) or assault adult stimulus. The Pedophile Index represents in turn the ratio of highest responses to a consenting adult stimulus and to a child stimulus.

When clinically indicated, a number of cases also underwent more elaborated organic testing, such as electroencephalography (EEG), cerebral tomography, and glucose tolerance testing.

The data were coded for computer analysis using the Statistical Package for Social Sciences.[16] Descriptive statistics including mean, standard deviation, frequency, and percentage were selected when appropriate. The Student-Newman-Keuls procedure and analysis of variance also were used to determine whether differences between the groups were statistically significant. Some clinical vignettes were selected to illustrate relevant findings.

Case Reports

Case 1 A. was a young man charged with attempted murder. On the day of the alleged crime, he had been drinking a considerable amount of alcohol, which was contrary to his usual habit. He was with a female acquaintance who rejected his sexual advances. She accompanied A. back to his house, and he went out to fetch wood for the fireplace. He reported amnesia for what subsequently occurred but found on his return that she had been stabbed. He did not remember having sexually assaulted her.

At that time, A. had a steady girlfriend and had sexual intercourse once or twice a week. A background inquiry revealed that he had always had difficulty in making lasting friendships. His parents separated when he was a child, and his mother remarried after some delay. He had a psychiatric contact as a teenager when he was found to present an adjustment reaction with depressive features.

He was admitted for a pretrial examination and two weeks later complained of numbness in both legs and inability to move his legs. He was examined by a specialist, who concluded he had a conversion paralysis.

An EEG showed a mild paroxysmal bitemporal disturbance, with somewhat irregular background activity and fairly frequent diffuse slow waves. Further findings for EEGs performed while awake, while asleep, and with nasopharyngeal leads were normal. Tomography findings of the brain were normal. Neuropsychological testing showed no consistent evidence of cerebral dysfunction. His WAIS-R Full Scale IQ was 85, his verbal IQ 87 and his performance IQ 85. The MMPI subscales for schizophrenia, depression, paranoia, psychastenia, and hypochondriasis were elevated.

He completed a full sexual behaviors

assessment with and without alcohol. His Rape Index was 0 on both occasions. The Assault Index was elevated at 2.97 when tested without alcohol and 1.27 when tested with alcohol. His sexual hormones profile was essentially normal.

A diagnosis of a sexual disorder, paraphilia not otherwise specified (manifesting sexual aggression), was made.

Case 2 B., a young man in his twenties, was charged with aggravated sexual assault and first-degree murder. He had spent what seemed to be a quiet evening with his girlfriend, discussing their relationship and the prospect of living together. He had consumed approximately eight beers and some wine during the afternoon. They went to bed, and the next thing he reports remembering was waking up some 18 hours later in a hospital. He was brought to an emergency department after being found wandering outside. The girlfriend was subsequently found dead.

His early background was unremarkable. He was a moderate weekend drinker. He denied any sexually deviant practices and had been previously married for a two-year period. A separation in the preceding year had been precipitated by his wife being unfaithful.

EEG studies were conducted under normal and alcohol-loaded conditions and yielded unremarkable results. During a five-hour GTT, the EEG showed some diffuse slowing after hyperventilation at three hours into the test. This was likely attributable to mild hypoglycemia at 2.2 nmol/L. His glucose curves consistently showed hypoglycemic reactions at three hours on repeat glucose tolerance testing.

A cerebral tomography was normal. His full scale IQ was 93, with 14 points difference between verbal IQ (88) and performance IQ (102). The memory quotient on the Wechsler Memory Scale was normal at 106. MMPI showed mild to moderate depression. Tests for detection of malingered amnesia using voice stress analysis and polygraph examinations were done elsewhere and gave equivocal results.

His sexual hormone profile was essentially normal. On penile tumescence testing, he showed substantially higher responses to mutually consenting sex, even in the presence of alcohol.

It was hypothesized that the mild hypoglycemic reactions might have been a contributing cause to anterograde amnesia.

Case 3 C., a 30-year-old man charged with sexual assault, also had been drinking heavily before the alleged offense. He remembered being at home drinking until midevening and claimed amnesia for subsequent events until he found himself in the police station the next day. He had evidently gone to a shop where he physically assaulted a woman and unsuccessfully attempted to have her perform fellatio.

C. was born three months prematurely but had developed normally. Academically he was "slow" and attended special programs. He had a long history of alcohol abuse and dependency, with withdrawal symptoms and previous blackouts. He had a history of being violent when drunk. He also had previous convictions for theft and impaired driving. He was treated for a neurotic depression in his early twenties.

Although his reported sexual outlet involved consenting heterosexual relationships, he occasionally masturbated to rape fantasies. He was convicted of sexual assault several years before his presentation and claimed that he had been drinking at the time.

Findings for an EEG were normal. A Tc 99m HMPAO single-photon emission computed tomography brain scan was performed and showed a decrease in perfusion to the right temporal lobe compared with the left. Full scale IQ was 84 with verbal IQ at 82 and performance IQ at 92. Memory quotient was in the low-average range. He had difficulty in the delayed recall of visual material. MMPI showed moderate depression.

A sexual behaviors assessment pointed out abnormalities in his sexual functioning. On the DSFI, a discrepancy was noted between the measurement of his sexual functioning as such and his reported level of sexual satisfaction. The Michigan Alcoholism Screening Test, at 61, was high above the cut-off point of 7, strongly indicating alcohol addiction. Sex hormones generally were within the normal range. Penile tumescence testing without alcohol was highly suggestive of "rape proneness," with the Rape Index at 2.33. With 0.09 to 0.08 alcohol levels, Rape Index was 1.4.

The final diagnoses were sexual disorder—paraphilia not otherwise specified; and psychoactive substance use disorder—alcohol dependency.

Results

Mean age of the amnestic group, admitters group, and nonadmitters group was respectively 33.10, 36.70, and 35.45 years. Full scale IQ was respectively 93.36, 90.22, and 90.33 in the same three groups. These variables yielded no significant differences among the three groups, and the same applied to serum testosterone levels. Demographic variables such as marital status and employment status also were not contributory. We will not report on statistical analyses of such tests as MMPI, WAIS-R, DSFI, or MAST, because these instruments failed to elicit any significant differences among the groups and did not seem to contribute to the overall findings.

Table 2
Alcohol Use and Violence of the Offense

	Frequency (percent)		
	Nonadmitters	Admitters	Amnesia
Use of alcohol			
Offense under *influence*	3 (15.8)	8 (40.0)	16 (80.0)
Usual abuse	8 (42.1)	14 (70.0)	12 (60.0)
Violence			
Low violence	14 (87.6)	13 (16.7)	11 (58.0)
High violence	1 (6.3)	3 (16.7)	6 (31.7)
Homicide	1 (6.3)	2 (11.1)	2 (10.5)

Characteristics of the Victims The mean age of the victims was 10.10 and 10.12 years, respectively, in the admitters and the nonadmitters groups. The amnestic offenders seemingly had been involved with older victims (mean age 20.57 years), but this was not statistically significant using the Student *t* test. Uniformly in all three groups, the victim was much more often female than male. In the majority of instances, the offenders were not

acquainted with the victims before the events.

Alcohol Use and Violence of the Offense A substantial number of offenders admitted to habitual use and abuse of alcohol. A high percentage (80%) of amnestic individuals reported the use of alcohol at or around the time of the alleged offense. Forty percent of admitters made a similar report, in contrast to only 15.8 percent of the nonadmitters.

Violence of the offense was divided in three categories. Low violence refers to verbal assault, threats of assault with or without a weapon, and all instances of sexual assault in which there was no other resulting bodily harm. High violence includes serious assaults with or without a weapon, assaults causing bodily harm, and potential homicide.

In comparison with the other two groups, amnestic offenders had used more violence in the perpetration of their offenses. The nonadmitters had generally been involved in less violent acts.

Sexual Deviations and Sexual Behaviors Assessment A variety of paraphilias were diagnosed using DSM-III-R criteria and reported accordingly in Table 3. The coexistence of more than one paraphilia occurred in only rare instances and is not reported here. Interestingly, amnestic offenders were more likely than either admitters or nonadmitters to be sexually aggressive or to show rape-proneness.

On self-report of sexual interest, amnestic offenders (mean, 1.90) significantly differed from admitters (mean, 2.75) and nonadmitters (mean, 2.44) by reporting a lower sexual interest. Similarly, the amnestic group (mean, 1.52) scored significantly lower than admitters (mean, 4.1) on the sexual activity score but did not differ from the nonadmitters (mean, 1.61). These results were significantly different at the 0.05 level with the Student *t* Test and analysis of variance.

Table 3
Types of Paraphilia

	Frequency (percent)		
	Nonadmitters N = 20	Admitters N = 20	Amnesia N = 20
No paraphilia	0	0	1 (5.0)
Exhibitionism	2 (10.0)	1 (5.0)	0
Pedophilia	15 (75.0)	17 (85.0)	9 (45.0)
Atypical (sexual aggression)	3 (15.0)	1 (5.0)	9 (45.0)
Others	0	1 (5.0)	1 (5.0)

On the BDHI, a measure of irritability and hostility, amnestic offenders (mean, 23.65) scored significantly lower than admitters (mean, 34.05). This was statistically significant at the 0.05 level. Mean for nonadmitters was 28.31 with no statistically significant difference from the amnestic group.

Summarized results for penile tumescence testing or physiological assessment *per se* are found in Table 4. An index

Table 4
Physiological Assessment Indexes (No Alcohol)

	Rape Index (SD)	Pedophile Index (SD)
Nonadmitters	1.04 (3.39)	0.97 (1.52)
Admitters	0.28 (0.66)	2.10 (2.56)
Amnesia	1.47 (4.70)	0.36 (0.59)

greater than 1.0 is usually accepted as bearing clinical significance. The group of admitters had the highest mean heterosexual pedophile index at 2.10 under arousal conditions. In contrast, the amnestic group had the highest mean rape index at 1.47 under arousal conditions.

Discussion

Sex offenders who claimed amnesia for their offense represented only four percent of the total population of sex offenders who were assessed in the Sexual Behaviours Clinic within a specific time period. Keeping in mind that the scope of the study remains limited because of its largely retrospective nature and relatively small samples, some interesting findings do, however, emerge. In comparison with the other two groups, amnestic offenders more often committed the offense under the influence of alcohol. Case 2 provides a good example of alcohol intoxication leading to a hypoglycemic state and anterograde amnesia. The relationship between amnesia and alcohol has been reported elsewhere, and it was felt that further exploration was indicated.[6, 8] The usual abuse of alcohol, prevalent in all three groups, did not seem to be a factor in either protecting from or participating to the amnesia. Drinking histories of amnestic offenders showed no consistency and were therefore inconclusive. Only rare cases admitted to the ingestion of drugs other than alcohol. Careful attention was paid to determine as accurately as possible the involvement of substances. When organic causes are suspected, a full neurological work-up may prove not valuable, although EEGs were performed routinely in the present work and findings were normal in the vast majority of subjects.

As a group, amnestic offenders displayed higher degrees of violence on a continuum from low violence to homicide. In fact, 42.2 percent had caused severe bodily harm, including homicide, in contrast to 12.6 percent of the nonadmitters and 27.8 percent of the admitters. This also was consistent with 45 percent of the amnestic individuals fulfilling criteria for potentially more harmful paraphilia, i.e., atypical paraphilia with sexual aggression, rape, or sexual sadism. Although the standard deviation was fairly high, the mean rape index of 1.47 was consistent with these data.

The majority of admitters and nonadmitters were pedophiles. Admitters, in particular, differed significantly from the amnestic individuals in terms of a higher self-reported sexual interest and activity. They also scored higher on the BDHI. One could argue that admitters may have been more honest in their answers to the questionnaire. Interestingly, amnestic offenders did not differ significantly from nonadmitters in that respect, which might support the initial hypothesis if it were not for other findings reported above.

Indeed, this preliminary work again raises the delicate question of how to distinguish accurately between genuine cases and others. This study, at the most, suggests that amnestic offenders are different. The validity of polygraphic lie detection tests, hypnosis, or sodium amytal interviews has been questioned on numerous occasions.[6, 17, 18] Others have attempted to define the various forms of

memory deficits and link them with specific clinical pictures.[6–8] Schacter has tested the "feeling-of-knowing" procedure but observed considerable overlap between the ratings made by genuine and by simulating individuals.[6, 9] To our knowledge, a noncontroversial procedure that would allow an accurate distinction of both groups has not been developed.

We already hypothesized that sex offenders who claimed amnesia had a distinct profile, and our data indicate particular trends. Pursuant to this preliminary study, further work in this field seems indicated. A useful approach might be to combine a number of standard measurements in addition to exploring the possible role of dissociative processes at the time of the commission of the crime. A history of previous dissociative or amnestic events with or without substances would likely provide useful information as part of a standard inquiry in such cases. The eye-roll sign and hypnotic induction profile developed by Spiegel and Spiegel[19] may prove to be useful adjuncts. Indeed, the eye-roll sign is seen as a measure of biological hypnotic potential with excellent test-retest reliability. Another dissociative screening device, the Dissociative Experiences Scale[20] is reported to be a reliable and valid instrument to quantify dissociation and distinguish subjects with a dissociative disorder from those without this disorder. Parwatikar *et al.*,[10] in a comparative study of 105 accused murderers, confirmed that those who claimed amnesia scored higher on the neurotic triad scales of the MMPI, rendering this instrument likely to be useful on a large-scale analysis.

To provide new insights in the research on amnesia, we believe that the validity and reliability of whichever procedure is used should be tested thoroughly. Further research in this area will certainly represent an interesting and stimulating challenge.

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