



PII S0145-2134(97)00044-6

# SELF-REPORTED HEALTH AND BEHAVIORAL PROBLEMS AMONG ADOLESCENT VICTIMS OF RAPE IN FRANCE: RESULTS OF A CROSS-SECTIONAL SURVEY

MARIE CHOQUET

INSERM, Villejuif Cedex, France

JEAN-MICHEL DARVES-BORNOZ

University Psychiatric Clinic, Tours Cedex, France

SYLVIE LEDOUX, ROBERT MANFREDI, AND CHRISTINE HASSLER

INSERM, Villejuif Cedex, France,

## ABSTRACT

**Objectives:** To measure the prevalence rate of rape among French adolescents; to analyze the associated health and behavioral problems; to analyze the use of the health care system by rape victims.

**Method:** A national representative sample of 8,140 students attending public secondary schools in France (grades 8 to 12) filled in a self-administered questionnaire (274 questions) on health and behavior problems (acceptance rate = 87%). Each rape victim in the sample ( $n = 61$ ) was matched to two nonvictims ( $n = 122$ ).

**Results:** The reported prevalence rate of rape was .8% (.9% among girls, .6% among boys). For both boys and girls, there was a relationship between rape and current sleep difficulties, depressive symptoms, somatic complaints, tobacco consumption, and behavior problems (running away, violent behavior, stealing, and school absenteeism). Additional problems were associated for boy rape victims: attempted suicide, regular use of alcohol and of illicit drugs. Rape victims did consult health professionals, but the majority saw neither a mental health specialist nor a social worker.

**Conclusion:** The findings indicate that rape victims, especially boys, have more behavior problems and health problems than nonrape victims. Authors suggest that adolescents who have ran away from home, attempted suicide, or manifested violent behavior should be systematically asked about rape. © 1997 Elsevier Science Ltd

*Key Words*—Rape, Sexual child abuse, Adolescent, General population, Behavior.

## INTRODUCTION

RESEARCHERS AND CLINICIANS agree that childhood sexual abuse is a major public health concern (Sheldrick, 1991). A history of childhood sexual abuse is associated with a greater risk of

---

This survey was supported by the French Health Directorate ("Direction Générale de la Santé"), the National Public Health Network ("Réseau National de Santé Publique"), the "Mutuelle Générale de l'Éducation Nationale" and the French Committee for Health Education ("Comité Français d'Éducation à la Santé").

Received for publication August 1, 1996; final revision received February 27, 1997; accepted March 1, 1997.

Reprint requests should be addressed to Marie Choquet, Ph.D., INSERM, U. 169, 16 avenue Paul-Vaillant-Couturier, 94807

psychopathology in adult life, although some recent reports indicate that long-term impairment may be less severe than previously suggested. Most authors have focused on either adult populations (Baker & Duncan, 1985; Breslau, Davis, Andreski, & Peterson, 1991; Pope & Hudson, 1992; Van der Kolk, Perry, & Herman, 1991; Winfield, George, Swartz, & Blazer, 1990), even though psychological effects appear from early adolescence (Putman & Trickett, 1993), or on clinical samples (Atlas & Hiott, 1994; Darves-Bornoz, Degiovanni, & Gaillard, 1995; Mannarino, Cohen, & Berman, 1994; Rowan & Foy, 1993), although obviously not all rape victims seek mental health services (Koss, 1992). In addition, most studies of childhood sexual abuse group together all types of sexual abuse, including abuse without direct genital contact and attempted intercourse.

Rape appears to be an important topic to explore in population samples, especially among adolescents (Halpérin et al., 1996). Little research has examined rape in nonclinical adolescent populations (Ageton, 1983; Baker & Duncan, 1985; Finkelhor & Dziuba-Leatherman, 1994) and none has been done in France, partly because of methodological difficulties (obtaining a large nationally representative sample, selecting appropriate questions) and ethical considerations (school, public health, and parental authorization and possible strong emotional reactions from youngsters). Furthermore, sexual abuse, especially rape, has remained a taboo subject (Gabel, 1992).

As part of a national survey on health behavior among high school students (Choquet & Ledoux 1994), we asked whether they had been victims of violence, rape in particular. The questions about rape had four primary purposes. First, we wanted to illustrate the feasibility and utility of gathering information concerning rape directly from adolescents (Finkelhor & Dziuba-Leatherman, 1994) in particular, by means of self-administered anonymous questionnaires of representative samples. Our second aim was to measure the prevalence of rape among French adolescents and to analyze the victims' social characteristics. We hypothesized that rape was as frequent in France as in the USA (Finkelhor & Dziuba-Leatherman, 1994) and that rape is associated with social problems (Cicchetti & Toth, 1995; Finkelhor & Dziuba-Leatherman, 1994). We also intended to analyze the most common health and behavioral problems associated with rape (Bagley & Ramsey, 1986; Burgess & Holmstrom, 1974) in order to find indicators that could help concerned professionals (GP, pediatrician, school doctors and nurses, social workers) to suspect that adolescents had been raped. Thus, we examined indications that could be identified easily by health professionals (health problems) and social service workers (behavior problems). Our final goal was to analyze how rape victims utilized the health care system, and in particular, the type of professionals they consulted. We hypothesized that rape victims sought care more often than nonvictims, although not necessarily for the immediate consequences of the rape.

## METHODS

### *Procedure*

The survey was carried out by INSERM Unit 169 and the Ministry of Education between March and May 1993. The sample was designed to be representative of public secondary school students across the nation (Choquet & Ledoux, 1994). In France, 80% of the students go to public schools, 20% to private schools. We selected eight of the 26 school districts in mainland France according to district size (< 120,000 students, 120,000 to 180,000 students, 180,000 to 300,000 students, > 300,000 students) and geographic location (North, South, East, West, Paris metropolitan area) and drew a random sample of 1% from each area. The schools ( $n = 186$ ) were randomly selected

according to type (junior high, senior high, and vocational schools) and size (< 400 pupils, 400 to 600 pupils, 600 to 900 pupils, > 900 pupils); 578 classes (containing 14,278 students) were randomly selected in these schools. Three school principals refused to participate (their students represented 3.0% of the initial sample), 7.0% of the students were absent on the day of the survey, 1.4% did not participate for scholastic reasons (preparation for examinations, training programs), and 1.3% of parents and 1.0% of adolescents refused to participate. In total, 12,391 students, or 87.3% of the initial sample, filled out the questionnaire. Among them, 4,251 students (34.3%) were in the first two grades of junior high school, and 8,140 (65.7%), in higher grades. Only the latter group was asked the question on rape.

School nurses or doctors explained the questionnaire procedure to students in class and remained available to provide additional information during the hour the students were given to fill in the questionnaire.

### *Measurement of Variables*

The questionnaire was derived from the Choquet-Ledoux-Menke study (1988) and the WHO-HBSC study (World Health Organization, Health Behavior among School Children, Aaro, Wold, & Kannas, 1986). The multiple choice questions ( $n = 274$ ) concerned sociodemographic characteristics, schooling, prescription and illicit drug consumption, delinquent and violent behavior, attempted suicide, experience as victims of violence, health complaints, lifestyle, and opinions about health education. The questionnaire was tested in a pilot phase limited to 100 adolescents (in three schools) in order to find out if the teens understood the questions and accepted the questionnaire.

The question concerning rape was part of the questions concerning sexual assault: "I have at some time during my life been victim of sexual assault (yes/no). If yes, I was victim of an attempted rape (yes/no); a rape (yes/no); another sexual assault (yes/no)." The student could select all three of the choices. Only 2.4% of the subjects did not reply to the question. Sixty-two subjects (.8% of the total sample) answered that they had been raped, 173 subjects (2.1%) reported an attempted rape, and 154 (1.9%) another sexual assault. One was excluded from the analysis because of nonresponse to the sociodemographic questions.

Health complaints during the previous 12 months were assessed by multiple choice items (never, rarely, fairly often, very often) about sleep disorders (sleeping badly, nightmares, waking during night), depressive symptoms (feeling of depression, unhappiness, hopelessness about the future, desire to cry, suicidal thoughts), and somatic complaints (tiredness, headaches, stomach complaints, vomiting, dizziness). The categories (fairly often—very often) were combined because we sought to assess the extent of frequently recurrent symptoms.

Behavior problems during the previous 12 months were investigated by questions about school absenteeism (truancy, arriving late, being absent at least once), violent behavior (fighting, hitting or breaking things when angry, robbing and extortion from other students), running away from home, stealing, alcohol consumption (wine, beer, hard liquor), drunkenness, and tobacco use. We also asked about lifetime illicit drug use (cannabis, heroin, cocaine, inhaled drugs, medical products) and lifetime suicide attempts (number). Behaviors with high prevalence rates (violent behavior, school absenteeism, alcohol, tobacco, and drug consumption) were considered in the analysis only when they were chronic.

Concerning school absenteeism, frequent (truancy, arriving late, or being absent for one or more days) was considered; for violent behavior, often (fighting and/or hitting or breaking things when angry and/or robbery or extortion of other youth); for alcohol consumption one drink of an alcoholic beverage (beer, wine, or hard liquor) at least twice per week, or becoming drunk at least three times a year; for cigarette smoking at least one cigarette daily; for drug

consumption cannabis, heroin, cocaine, inhaled drugs, or narcotic medical products at least 10 times (lifetime).

Consultations during the past 12 months were investigated by asking the number of consultations with a GP, a school doctor, a mental health professional (psychiatrist or psychologist), a school nurse, and a social worker. Subjects were classified into two groups (no consultation/at least one) for each type of professional.

### *Statistical Analysis*

The prevalence rate of rape was calculated by sex, age (in accord with the distribution of the data, 2 groups were considered: < 16 years old, 16 years old and over), and place of residence (city, suburb, rural area). We compared victims to nonvictims according to nationality (French/non-French), parents' matrimonial status (married/separated) and father's employment status (employed/unemployed).

Because of the substantial difference in the size of the victim group ( $n = 61$ ) and the nonvictim group ( $n = 7,944$ ), we chose to reduce the size of the latter by matching. Computer assistance helped us to match each rape victim to two nonvictims by sex, age, school district, and school level. Two groups were thus obtained: the rape victims ( $n = 61$ ) and a control group ( $n = 122$ ). Since the prevalence rate of rape differed according to sex and age, we first tested the hypothesis of homogeneity by the Breslow-Day test (which tested the null hypothesis that the association between rape and health complaints or behavior problems is the same across sex and age categories). When the Breslow-Day test was not significant ( $\alpha = .10$ ), the two groups were compared by the  $\chi^2$  test. Odds ratios, adjusted for sex and age (< 16 years old; 16 years old and over), were calculated (ORa), as well as their 95% confidence intervals (CI). When the Breslow-Day test was significant, the results were analyzed by sex, using the  $\chi^2$  test or, if there were too few subjects, the Fisher's 2-tailed exact test. The analysis was completed by logistic regression.

SAS version 6.08 software on a VAX 6,000 was used for bivariate analysis and BMDP software (Dixon, 1988) for logistic regression.

### *Subjects*

Boys accounted for 48.7% of the students, and girls, 51.3%. Mean age was 16.2 years ( $SD = 2.02$ ). Students of foreign nationality comprised 11.5% of the sample; the parents of 22.3% were separated at the time of the survey; the fathers of 11.5% were unemployed; and 38.2% were living in urban areas, 27.6% in suburbs and 34.3% in rural areas.

## RESULTS

### *Prevalence of Self-Reported Rape*

Among the adolescents of our sample, .8% reported that they had been raped (.9% of the girls, .6% of the boys, *NS*). In the group under 16 years of age, .9% of the boys ( $n = 14$ ) and .7% of the girls ( $n = 12$ ) reported rape ( $\chi^2 = 1.0$ ,  $df = 1$ , *NS*). In the older group (16 years old and over), .4% of the boys ( $n = 9$ ) and 1.1% of the girls ( $n = 26$ ) had been raped ( $\chi^2 = 8.8$ ,  $df = 1$ ,  $p = .003$ ). The prevalence rate, which did not differ significantly among girls by age ( $p = .12$ ) was higher among younger boys than among older ones ( $p < .03$ ). Rape prevalence was higher among subjects living in suburbs (1.1%) or cities (.8%) than for those living in rural areas (.4%,  $\chi^2 = 7.6$ ,  $df = 2$ ,  $p < .03$ ).

Victims were more frequently than nonvictims of nonFrench nationality ( $\chi^2 = 3.9$ ,  $df = 1$ ,  $p =$

**Table 1. Sleep Disturbances and Depressive Symptoms Reported by Adolescent Rape Victims (RV) Compared With Controls (C). (In %)**

|                                | RV<br>(n = 61)<br>% | C<br>(n = 122)<br>% | Difference |        |                   |
|--------------------------------|---------------------|---------------------|------------|--------|-------------------|
|                                |                     |                     | $\chi^2$   | Prob   | OR a <sup>a</sup> |
| (Last 12 Months)               |                     |                     |            |        |                   |
| Fairly Often, Very Often       |                     |                     |            |        |                   |
| Slept badly                    | 33                  | 16                  | 7.2        | 0.01   | 2.7 [1.3–5.7]     |
| Had nightmares                 | 28                  | 11                  | 7.8        | 0.01   | 3.2 [1.4–7.2]     |
| Woke during the night          | 56                  | 21                  | 21.9       | <0.001 | 4.7 [2.5–9.0]     |
| Felt depressed                 | 49                  | 33                  | 4.5        | 0.03   | 2.0 [1.1–3.8]     |
| Felt unhappy                   | 46                  | 16                  | 19.3       | <0.001 | 4.5 [2.3–8.8]     |
| Felt hopeless about the future | 51                  | 32                  | 5.9        | 0.02   | 2.2 [1.1–4.3]     |
| Felt like crying               | 55                  | 26                  | 15.1       | <0.001 | 3.7 [1.9–7.1]     |
| Had suicidal thoughts          | 43                  | 11                  | 24.2       | <0.001 | 6.1 [2.9–12.5]    |

For all  $\chi^2$ ,  $df = 1$ .

<sup>a</sup> Adjusted for sex and age (<16 years old, 16 years old, and over).

.05), and from single-parent families ( $\chi^2 = 9.4$ ,  $df = 1$ ,  $p = .01$ ). There was no difference in paternal employment rates between the two groups.

#### *Comparison of Rape Victims and Controls*

**Health complaints.** Independent of sex and age (Breslow-Day test = *NS*), rape victims reported a higher prevalence of sleep disorders and depressive symptoms than controls did (Table 1). In decreasing order of significance, problems reported were suicidal thoughts, waking during the night, feeling unhappy, desire to cry, nightmares, sleeping badly, hopelessness about the future, and feeling depressed.

Independent of sex and age (Breslow-Day test = *NS*), rape victims reported a higher rate of somatic complaints (Table 2). In decreasing order of significance, complaints reported were vomiting, dizziness, and tiredness. Headaches and stomach complaints were not more frequent among rape victims than among controls.

Logistic regression that included rape as the dependent variable and health problems significantly associated with rape as well as sex and age as covariables confirm the importance of psychological problems, especially suicidal ideas (OR = 4.1 [1.8-9.4]), feeling unhappy (OR = 2.9 [1.3-6.4]) and nightmares (OR = 2.7 [1.1-6.4]). After logistical regression, the other variables did not remain in the model.

**Table 2. Somatic Symptoms Reported by Adolescent Rape Victims (RV) Compared With Controls (C). (In %)**

|                          | RV<br>(n = 61)<br>% | C<br>(n = 122)<br>% | Difference |        | OR a <sup>a</sup> |
|--------------------------|---------------------|---------------------|------------|--------|-------------------|
|                          |                     |                     | $\chi^2$   | Prob   |                   |
| (Last 12 Months)         |                     |                     |            |        |                   |
| Fairly Often, Very Often |                     |                     |            |        |                   |
| Felt tired               | 67                  | 46                  | 7.4        | 0.01   | 2.4 [1.3–4.7]     |
| Had headaches            | 37                  | 26                  | 2.1        | 0.15   | 1.6 [0.8–3.4]     |
| Stomach complaints       | 33                  | 32                  | 0.03       | 0.85   | 1.1 [0.5–2.1]     |
| Felt like vomiting       | 23                  | 7                   | 10.7       | <0.001 | 4.3 [1.8–10.3]    |
| Felt dizzy               | 22                  | 7                   | 9.0        | 0.003  | 3.9 [1.6–9.7]     |

For all  $\chi^2$ ,  $df = 1$ .

<sup>a</sup> Adjusted for sex and age (<16 years old, 16 years old, and over).

**Table 3. Consumption of Alcohol, Tobacco, and Drugs Reported by Adolescent Rape Victims (RV) Compared With Controls (C), by Sex. (In %)**

|                            |          | Difference |                        |        |
|----------------------------|----------|------------|------------------------|--------|
|                            | RV %     | V %        | $\chi^2$               | Prob   |
| Boys                       | (n = 23) | (n = 46)   |                        |        |
| Frequent use of:           |          |            |                        |        |
| Alcohol <sup>a</sup>       | 45       | 7          | 13.4                   | <0.001 |
| Tobacco <sup>b</sup>       | 52       | 13         | 12.2                   | <0.001 |
| Illicit drugs <sup>c</sup> | 52       | 0          | Fisher 2-tailed <0.001 |        |
| Girls                      | (n = 38) | (n = 76)   |                        |        |
| Frequent use of:           |          |            |                        |        |
| Alcohol <sup>a</sup>       | 11       | 13         | 0.16                   | 0.69   |
| Tobacco <sup>b</sup>       | 53       | 31         | 4.9                    | 0.03   |
| Illicit drugs <sup>c</sup> | 8        | 11         | 0.20                   | 0.68   |

For all  $\chi^2$ , *df* = 1.  
<sup>a</sup> Alcohol consumption: One drink of an alcoholic beverage (beer, wine, or hard liquor) at least twice per week, or becoming drunk at least three times a year.  
<sup>b</sup> Cigarette smoking: At least one cigarette daily.  
<sup>c</sup> Drug consumption: Cannabis, heroin, cocaine, inhaled drugs, or narcotic medical products at least 10 times (lifetime).

*Behavior Problems*

Substance abuse differed significantly between rape victims and their controls (Breslow-Day test, *p* < .001). Male rape victims used alcohol, tobacco, and illicit drugs at higher rates than controls: almost half the victims smoked daily, consumed alcohol regularly, or had used illicit drugs at least 10 times. Among girls, rape victims reported more regular tobacco consumption than controls did, but there was no difference in the use of alcohol or illicit drug (Table 3).

Lifetime suicide attempts also differed significantly (Breslow-Day test *p* < .001). Among the boys, 52% of the rape victims and only 2% of the control group (Fisher's 2-tailed test = 1.6 × 10−6) had attempted suicide; among the girls, 22% of the rape victims and 12% of controls ( $\chi^2$  = 1.78, *NS*) had a history of attempted suicide.

Independent of sex and age (Breslow-Day test = *NS*), the rape victims reported other behavior problems more often than their controls (Table 4). In decreasing order of significance, problems reported were running away, regular violent behavior, stealing, and regular school absenteeism.

Logistic regression that included rape as the dependent variable and behavior problems significantly associated with rape, and sex and age, as covariables, confirm the importance of running

**Table 4. Behavior Problems Reported by Adolescent Rape Victims (RV) Compared With Controls (C). (In %)**

|                                      | RV            | C              | Difference |         | OR <sup>a</sup> |
|--------------------------------------|---------------|----------------|------------|---------|-----------------|
|                                      | (n = 61)<br>% | (n = 122)<br>% | $\chi^2$   | Prob    |                 |
| (Last 12 Months)                     |               |                |            |         |                 |
| School absenteeism <sup>b</sup>      | 35            | 13             | 11.7       | 0.001   | 3.4 [1.7–7.8]   |
| Violence <sup>c</sup>                | 54            | 18             | 24.5       | <0.0001 | 6.0 [3.0–12.2]  |
| Runaway                              | 38            | 4              | 35.1       | <0.0001 | 14.4 [6.0–33.8] |
| Theft from parents or a public place | 37            | 13             | 13.8       | <0.0001 | 4.1 [2.0–8.5]   |

For all  $\chi^2$ , *df* = 1.  
<sup>a</sup> Adjusted for sex and age (<16 years old, 16 years old, and over).  
<sup>b</sup> School absenteeism: Frequent (truancy, arriving late, or being absent for one or more days).  
<sup>c</sup> Violent behavior: Often (fighting and/or hitting or breaking things when angry and/or robbery or extortion of other youth).

**Table 5. Consultation Reported by Adolescent Rape Victims (RV) Compared With Controls (C). (In %)**

|                              | RV<br>(n = 61)<br>% | C<br>(n = 122)<br>% | Difference |       |
|------------------------------|---------------------|---------------------|------------|-------|
|                              |                     |                     | $\chi^2$   | Prob  |
| (Last 12 months)             |                     |                     |            |       |
| Consulted at Least Once:     |                     |                     |            |       |
| General practitioner         | 91                  | 92                  | 0.11       | 0.74  |
| School doctor                | 27                  | 24                  | 0.23       | 0.60  |
| Psychiatrist or psychologist | 25                  | 7                   | 9.05       | 0.003 |
| School nurse                 | 52                  | 50                  | 0.08       | 0.74  |
| Social worker                | 27                  | 11                  | 5.91       | 0.02  |

For all  $\chi^2$ ,  $df = 1$ .

away (OR = 13.0 [3.6–47.1]), attempted suicide (OR = 4.3 [1.5–12.3]) and violent behavior (OR = 3.5 [1.5–8.4]). After logistical regression, the other variables did not remain in the model.

#### *Medical, Paramedical, and Social Consultation*

Independent of sex and age (Breslow-Day test = NS), during the past 12 months a higher percentage of rape victims than of controls (Table 5) had consulted psychiatrists or psychologists (ORa = 4.4 [1.7–11.6]) and social workers (ORa = 4.4 [1.2–7.0]). There were no significant differences between the two groups concerning the consultation of primary health professionals.

## DISCUSSION

### *Methodology*

This national survey is the first in France to investigate adolescent health; it concerned only secondary school students and included numerous aspects of health problems (274 questions). The question about rape was preceded by a screening question about sexual assault and accompanied by two other possible responses (attempted rape, other sexual assault), thus ranking types of sexual assault. The question about rape was intended to elicit information about sexual acts accompanied by violence (Koss, 1992) only, and not about nonconsensual but nonviolent sexual acts (Spira & Bajos, 1993). Future surveys ought to ask, as well, about the subject's age at the time of the rape, its circumstances, the rapist's status, and whether a complaint was filed.

Nevertheless, the very low nonresponse rate to the rape question (2%) illustrates that it is possible to gather data on this (taboo) issue with a short question in a self-administered health questionnaire and to analyze large nonclinical population samples (Finkelhor & Dziuba-Leatherman, 1994). Furthermore, spontaneous comments by subjects showed that they received the questionnaire well, and even "finally had a chance to talk about it."

The question on rape covered the subject's entire lifetime, whereas those about the covariates were restricted to the 12 months before the questionnaire. If, as Putnam and Trickett (1993) and Halpérin and colleagues (1996) report, the peak incidence of rape occurs during adolescence (for boys and girls), it is all the more important to take into account current health and behavior problems.

Our results concerned only adolescents enrolled in school (90% of adolescents between 16 and 18 years of age are enrolled in school, INSEE 1994) and actually present in school the day of the survey (87% of the target sample). We assume that the prevalence rate of rape would be higher if we had been able to include truants and drop-outs (Choquet & Iksil, 1994).



### *Prevalence of Rape Among Adolescents*

Fewer than 1% of French adolescents reported that they had been raped. The prevalence among girls (.9%) was similar to that among U.S. girls in the same age group (1.3% according to Finkelhor & Dziuba-Leatherman, 1994) and lower than that among older age groups (4% according to Breslau et al., 1991, 15% according to Koss, Gidycz, & Wisniewsk, 1987). The data about boys is sparse, partly because most previous studies have investigated only female populations (Hasting & Kern, 1994; Mannarino et al., 1994; Mullen, Martin, Anderson, Romans, & Hebison, 1993; Russell, 1983). None of the boys interviewed in the Finkelhor study (Finkelhor & Dziuba-Leatherman, 1994) reported having been raped.

Based on our results, we can estimate that among the 5.8 million students between 11 and 19 years old, 46,400 have been raped. Official statistics indicate that of the 700 rapes for which convictions are obtained annually, 32% concern youngsters under 15 years old. School social services noted that social workers receive 2,000 cases of sexual abuse every year. The official data thus largely underestimate the reality that adolescents report.

The low prevalence rate among older boys is quite surprising. While it may be related to age-related artifacts, we suggest a different hypothesis: since the truancy and drop-out rates are highest among the older boys (Choquet & Ledoux, 1994; Institut National des Statistiques et Études Économiques, 1995) and since the boys who are truant or dropout have more often been raped than those who do not (Choquet & Iksil, 1994), we suppose that this apparently lower rate of rape among boys is related to the fact that boys who have been raped tend to have school attendance problems.

### *Risk Groups*

The subgroups at risk in our sample were teens living in the suburbs, those of nonFrench nationality, and those whose parents were separated. This pattern is quite similar to that reported in previous studies (Breslau et al., 1991; Cicchetti & Toth, 1995; Finkelhor, 1993; Mullen et al., 1993).

### *Health Complaints and Behavioral Problems Among Rape Victims*

Our data suggested that victims experienced more problems than control subjects. For both boys and girls, rape was associated with behavior problems (especially running away from home, attempted suicide, and violence) and health complaints (especially suicidal thoughts, feeling unhappy, and nightmares). These troubles are often at the origin of social and school problems and difficulties in human relationships.

Boys who reported rape had additional troubles. Their rates (compared to controls) of attempted suicide and regular alcohol or illicit drug consumption were higher than among female victims (compared to controls). We do not know if these additional troubles were subsequent to the rape, but this might be an interesting hypothesis to explore in the future.

This survey did not allow us to assess any cause-and-effect association between rape and health complaints and behavior problems. These problems are, however, very similar to symptoms of posttraumatic stress disorder (Breslau et al., 1991; Darves-Bornoz et al., 1995), for example recurrent nightmares, running away, suicide attempts, sleep disturbances, violence, and regular consumption of alcohol or drugs. We cannot exclude the possibility that the rape postdated the development of these symptoms; Askevis (1995) has shown, for example, that runaways are sometimes raped while living on the street.

### *Consultation*

Rape victims consulted primary health professionals, such as General Practitioners, and school nurses; our data did not indicate, however, whether they discussed the rape or whether they



received adequate care. According to some reports, professionals often learn about rape only after years of interviews (Gabel, 1992), and victims are often reluctant to bring charges (Koss, 1992).

While it might be useful to ask all adolescents during a medical or paramedical consultation if they have been raped, the question is essential for runaway adolescents, those with violent behavior, and those with suicidal thoughts. For boys, attempted suicide and regular alcohol and drug consumption could be added to this list.

It is important to note that the majority (75%) of French rape victims did not consult a psychiatrist or a psychologist in spite of recurrent symptoms, especially attempted suicide and drug consumption.

## CONCLUSION

Reported prevalence rate of rape was .8% among secondary school pupils in France, a proportion clearly higher than that reported by (to) official sources. Rape victims, especially boys, have more behavioral and health problems than nonvictims; in particular they ran away more often, had suicidal thoughts, attempted suicide, and behaved violently. The majority of victims have not consulted a mental health professional. These results should alert French officials to this substantially underestimated problem. It should also modify the practices of mental health professionals. An exploration of this trauma among adolescents, especially among those with behavior problems, would be a first step in this direction.

*Acknowledgement*—The authors would like to thank the following for their participation in the data collection: Dr. Brice, Consultant physician to the Minister of Education; Mr. Forestier, National Director of secondary schools; Messrs Monnier, Bonneau-Walzer, Fischer, Mrs. Seneterre and Mrs. Narboni; the doctors, nurses, social workers, and principals of the schools of eight participating Academies; the parents and the adolescents; for their methodological advice: Drs. Chavance and Moreau.

## REFERENCES

- Aaro, L. E., Wold, B., & Kannas, L. (1986). Health behavior among schoolchildren, A WHO cross-national survey. *Health Promotion*, **1**, 17–33.
- Ageton, S. S. (1983). *Sexual assault among adolescents. A national study*. Boulder, CO: Behavioral Research Institute.
- Askevis, M. (1995). *La fugue, des fugueurs : de l'approche clinique à l'approche épidémiologique*. Diplôme d'Etudes Approfondies de l'Université Paris VII (URF Sciences Humaines).
- Atlas, J. A., & Hiott, J. (1994). Dissociative experience in a group of adolescents with a history of abuse. *Perceptual and Motor Skills*, **78**, 121–122.
- Burgess, A. W., & Holmstrom, I. M. (1974). Rape trauma syndrome. *American Journal of Psychiatry*, **131**, 981–987.
- Bagley, C., & Ramsey, R. (1986). Sexual abuse in childhood: Psychological outcome and implications for social work practice. *Journal of Social Work and Human Sexuality*, **4**, 33–47.
- Baker, A. W., & Duncan, S. P. (1985). Child sexual abuse: A study of prevalence in Great Britain. *Child Abuse & Neglect*, **9**, 457–467.
- Breslau, N., Davis, G. C., Andreski, P., & Peterson, E. (1991). Traumatic events and post traumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry*, **48**, 216–222.
- Choquet, M., & Iksil, B. (1994). *Jeunes en insertion*. Paris, France: INSERM.
- Choquet, M., & Ledoux, S. (1994). *Adolescents. Enquête nationale*. Paris, France: INSERM, Documentation Française.
- Choquet, M., Ledoux, S., & Menke, H. (1988). *La santé des adolescents*. Paris, France: INSERM, Documentation Française.
- Cicchetti, D., & Toth, S. L. (1995). A developmental psychopathology perspective on child abuse and neglect. *Journal of the American Academy of Child & Adolescent Psychiatry*, **34**, 541–565.
- Darves-Bornoz, J.M., Degiovanni, A., & Gaillard, P. (1995). Why is Dissociative Identity Disorder infrequent in France? *American Journal of Psychiatry*, **152**, 1530–1531.
- Dixon, W. J. (1988). *BMDP statistical software manual*. Berkeley, CA: University of California Press.
- Finkelhor, D. (1993). Epidemiological factors and the clinical identification of child sexual abuse. *Child Abuse & Neglect*, **7**, 67–70.
- Finkelhor, D., & Dzuiba-Leatherman, J. (1994). Children as victims of violence. A national survey. *Pediatrics*, **94**, 413–420.

- Gabel, M. (1992). *Les enfants victimes d'abus sexuels*. Paris, France: PUF.
- Halpérin, D. S., Bouvier, P., Jaffé, P. D., Mounoud, R. L., Pawlak, C. H., Laederach, J., Rey Wicky, H., & Astié, F. (1996). Prevalence of child abuse among adolescents in Geneva: Results of a cross sectional survey. *British Medical Journal*, **312**, 1326-1329.
- Hasting, T., & Kern, M. (1994). Relationships between bulimia, childhood sexual abuse, and family environment. *International Journal of Eating Disorders*, **15**, 103-111.
- Institut National Des Statistiques Et Études Économiques (1995). *Données sociales 1994*. Paris, France: INSEE.
- Koss, M. P. (1992). The underdetection of rape: Methodological choices influence incidence estimates. *Journal of Social Issues*, **48**, 61-75.
- Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology*, **55**, 162-170.
- Mannarino, A. P., Cohen, J. A., & Berman, S. R. (1994). The relationship between preabuse factors and psychological symptomatology in sexually abused girls. *Child Abuse & Neglect*, **18**, 63-71.
- Mullen, P. E., Martin, J. L., Anderson, J. C., Romans, S. E., & Herbison, G. P. (1993). The effect of child sexual abuse on social, interpersonal, and sexual function in adult life. *British Journal of Psychiatry*, **165**, 35-47.
- Pope, H. G., & Hudson, J. I. (1992). Is childhood sexual abuse a risk factor for bulimia nervosa? *American Journal of Psychiatry*, **149**, 455-463.
- Putnam, F. W., & Trickett, P. K. (1993). Child sexual abuse: A model of chronic trauma. *Psychiatry*, **56**, 82-95.
- Rowan, A. B., & Foy, D. W. (1993). Post-traumatic stress disorder in child sexual abuse survivors: A literature review. *Journal of Traumatic Stress*, **6**, 3-20.
- Russell, D. E. (1983). The incidence and prevalence of intrafamilial and extrafamilial sexual abuse of female children. *Child Abuse & Neglect*, **7**, 133-146.
- Sheldrick, C. (1991). Adult sequelae of child sexual abuse. *British Journal of Psychiatry*, **147**, 214-216.
- Spira, A., & Bajos, N. (1993). *Les comportements sexuels en France*. Paris, France: La Documentation Française.
- Van Der Kolk, B. A., Perry, J. C., & Herman, J. L. (1991). Childhood origins of self-destructive behavior. *American Journal of Psychiatry*, **148**, 1665-1671.
- Winfield, I., George, L. K., Swartz, M., & Blazer, D. G. (1990). Sexual assault and psychiatric disorders among a community sample of women. *American Journal of Psychiatry*, **147**, 335-341.

## RÉSUMÉ

**But:** Premièrement, mesurer la prévalence du viol parmi les adolescents français. Deuxièmement, analyser les problèmes de santé et de comportement associés. Troisièmement, évaluer l'utilisation du système de santé par les victimes de viol.

**Méthode:** Un échantillon national représentatif de 8.140 étudiants des écoles secondaires publiques en France (grades 8 à 12) ont rempli un questionnaire auto-administré (274 questions) concernant des problèmes de santé et de comportement (taux d'acceptat).

**Résultats:** Le taux de viol rapporté était de 0,8% (0,9% parmi les filles, 0,6% parmi les garçons). On a noté aussi bien chez les filles que chez les garçons, une relation entre le viol et des troubles du sommeil, des symptômes dépressifs, des plaintes so.

**Conclusion:** Les données montrent que les victimes de viol, surtout les garçons présentent plus de problèmes de comportement et de santé que les non-victimes. Les auteurs suggèrent que les adolescents fugueurs, ayant essayé de se suicider, ou présentant un.

## RESUMEN

**Objetivos:** Primero, medir la prevalencia de violación en adolescentes francesas. Segundo, analizar los problemas de salud y conducta asociados a la violación. Tercero, analizar el uso del sistema de salud que hacen las víctimas.

**Método:** Una muestra representativa de 8140 estudiantes que asistían a la escuela pública secundaria en Francia (de 8vo. A 12vo. Grados) completaron un cuestionario auto-administrado (274 preguntas) sobre problemas de salud y de conducta (índice de aceptación 87%). Cada víctima de violación de la muestra ( $n = 61$ ) fue apareada con dos no víctimas ( $n = 122$ ).

**Resultados:** La prevalencia de violación fue .8% (.9% entre las muchachas, .6% entre los muchachos). Tanto para los varones como para las hembras, existía una relación entre la violación y alteraciones del sueño actuales, síntomas depresivos, quejas somáticas, consumo de tabaco y problemas conductuales (fuga, conducta violenta, robo y ausentismo escolar). Para los muchachos víctimas de violación se asociaron otros problemas adicionales: alcohol y drogas ilícitas. Las víctimas de violación sí consultaron los profesionales de la salud, pero en la mayoría de los casos no vieron ni a un especialista de la salud mental ni a una trabajadora social.

**Conclusión:** Los resultados indican que las víctimas de violación, especialmente los varones, tienen más problemas de conducta y de salud, que los que no han sido violados. Los autores sugieren que a los adolescentes que se fugan del hogar, intentan suicidarse o demuestran conducta violenta; se les debe preguntar sistemáticamente sobre la posibilidad de violación.