

Gregory B. Leong,¹ M.D.

A Psychiatric Study of Persons Charged with Arson

REFERENCE: Leong, G. B., "A Psychiatric Study of Persons Charged with Arson," *Journal of Forensic Sciences*, JFSCA, Vol. 37, No. 5, September 1992, pp. 1319–1326.

ABSTRACT: A total of 29 court-referred individuals charged with arson were psychiatrically studied. From this pre-trial cohort from a large heterogeneous urban population base, a higher rate of psychosis was found than in other recent studies. However, consistent with these studies was the rarity of the diagnosis of pyromania. An important finding of this study was the substantial number of fires set by individuals who are homeless mentally disordered or substance abusing, or both.

KEYWORDS: psychiatry, criminalistics, arson, firesetting, psychosis, pyromania, homelessness

Since man's discovery of fire, perhaps best known from the Greek myth involving Prometheus, fire has traditionally been feared and respected as one of nature's most powerful forces. In more recent times, illegal firesetting, or arson, has been a major concern of law enforcement and has drawn the attention of twentieth century psychiatric researchers. Arson is defined in California (and similarly in other states) as the willful and malicious setting of fire to property [1].

Authors recently writing on arson almost invariably cite the 1951 seminal monograph by Lewis and Yarnell as the most comprehensive study of adult arsonists to date [2–4]. No study has had the large sample size of their study (1145). Prior to 1951, the psychiatric study of arson derived principally from the psychodynamic perspective [3]. Arson has generated for a long-standing interest especially with the once-popular hypothesis associating persons with pyromania as the prototypic noneconomically motivated firesetter. The psychiatric aspects of arson and pyromania have undergone extensive historical review in recent years and will not be repeated herein [3,4]. In addition, juvenile firesetters are not discussed as they represent a different subgroup of arsonists [3]. Instead, this article follows the trend of recent work in the area by examining a specific group of adult individuals.

This study focuses on a group of 29 individuals charged with arson. Three of these persons were not pre-trial defendants but insanity acquittees who were facing a Superior Court trial to determine if they remained sufficiently dangerous to allow extension of their psychiatric commitments beyond the trial court's original sentence [5]. These three persons were included in the group studied because, like the other 26 pre-trial arson defendants, they had not been convicted of the crime of arson. Though in the courtroom these three were no longer referred to as defendants, but respondents, this paper will not make this distinction. The characteristics of the 29 subjects are described and com-

Received for publication 10 Aug. 1991; accepted for publication 6 Jan. 1992.

¹Assistant Professor of psychiatry, University of California—Los Angeles School of Medicine; and staff psychiatrist, West Los Angeles Veterans Affairs Medical Center, Los Angeles, CA.

pared with other recent psychiatric studies of arson. This study also attempts to confirm the findings of recent studies with regard to the rarity of pyromania among adult arsonists as opposed to the substantial frequency found in Lewis and Yarnell's classic work [2].

Methods and Results

The data were collected from a private forensic psychiatric consultation practice. The 30 consecutive psychiatric evaluations of pre-trial adult defendants charged with arson (including the three insanity acquittee respondents noted previously) came from court-referred requests that spanned a 4½ year period from January 1987 to June 1991. One defendant was seen twice after having her competency to stand trial restored. The study represents a retrospective look at these 29 individuals and is similar in method to the chart-review procedure used in two other recent major studies of firesetters [6,7]. All defendants were interviewed while in custody.

Demographic Information

There were 23 men and 6 women in the sample. The mean age of the sample was 33.7 years. The men and women averaged 33.2 years (range 23 to 52) and 35.7 years (range 26 to 49), respectively. There were 12 (41.4%) whites, nine (31.0%) blacks, seven (24.1%) Hispanics, and one (3.4%) Asian. Among the men, there were nine (39.1%) whites, seven (30.4%) blacks, six (26.1%) Hispanics, and one (4.3%) Asian. Among the women, there were three (50%) whites, two (33.3%) blacks, and one Hispanic (16.7%). Twenty-five of the 29 subjects were single and had never married. Two men were separated and one woman was divorced. The marital status of one defendant was unknown. Two of the 29 defendants spoke only Spanish.

Psychiatric History and Diagnosis

Twenty-three (79.3%) of the sample had significant psychiatric histories that encompassed either inpatient civil psychiatric hospitalization or substantial psychiatric treatment while previously incarcerated that was equivalent to civil hospitalization. Of the four without significant known psychiatric history, one had brief outpatient treatment and another participated in an alcohol treatment program. The psychiatric history of two defendants were unknown.

Diagnoses were made on the basis of DSM-III-R [8]. For those defendants evaluated in the early part of 1987, the DSM-III [9] diagnosis was retrospectively converted to a DSM-III-R one. In those cases in which other psychiatric or psychologic assessments were available, that information was used in combination with the clinical interview to arrive at a diagnosis. Because there was not the luxury of an extended inpatient evaluation, only those diagnoses without a "rule out" status were made. Diagnoses are given in Table 1. Among the men, two were suspected of dissimulating an underlying psychotic disorder: one defendant was given a diagnosis of no mental disorder and another was given a diagnosis of alcohol abuse. However, there was an insufficient amount of information from either the interview of the defendant or available collateral sources to offer a psychotic diagnosis with reasonable medical probability.

Mental Condition at Time of the Arson

About half of the sample (51.7%) were psychotic at the time of the arson. Only one defendant acknowledged having taken his prescribed psychiatric medications at the time of the instant offense. Because the police generally do not obtain toxicologic testing on

TABLE 1—*Psychiatric diagnoses.*

	Males	Females
Schizophrenia	17	3
Bipolar disorder	1	0
Schizoaffective disorder	0	2
Substance abuse	5	2
Other		
Psychosis NOS	1	0
Organic Mental Disorder	1	0
Borderline Intellectual Functioning	1	0
Borderline personality disorder	0	1
No mental disorder	1	0

arrestees, unless they are contemplating charging the suspect with an intoxication-related crime, information about possible intoxicants used prior to the firesetting was obtainable only from the defendant. Three acknowledged such usage: one involving alcohol and two phencyclidine. Two others may have used alcohol and a psychostimulant, respectively, based on clues from the clinical history.

Revenge was the principal motive in six cases: a man burned his mother's car after she refused to give him money; a man burned a stranger's truck after delusionally believing the stranger had been persecuting him; a man burned a hillside after an argument with his social worker; a man burned his mother's property in her backyard after she refused to let him in the house; a woman tried to burn her former boyfriend's trailer because he was seeing another woman as well as controlling her mind; and a woman burned the porch of her former boyfriend's house because he was seeing another woman. Five of these six defendants suffered from a psychotic disorder.

Burned Property

Eight of the defendants burned their own room in the family home, their own residential property, or their own board and care facility. There were five men and three women in this group. Primary diagnoses for the eight included: schizophrenia (5), bipolar disorder, manic with psychotic features (1), schizoaffective disorder (1), and (psychotic) organic mental disorder (1). Seven of this group were actively psychotic at time of arson. However, two of these seven had nondelusional, but highly immature and socially inappropriate reasons for the firesetting: one to make certain her boyfriend could not return to her house and the other to escape from her father's house. The eighth defendant wanted to leave his board and care facility so he started a fire there.

Two defendants were board and care facility residents who set fires to get out of the board and care. Besides the defendant described above who set a fire in his own facility, the other started a fire in a trash dumpster and then called the police from a nearby pay phone to report his firesetting.

Five of the defendants were homeless at the time of the arson; all were male. Four of the five carried a diagnosis of schizophrenia and the fifth a diagnosis of alcohol abuse. Each of these persons apparently burned property to keep warm or cook food.

Criminal History

Six persons, three men and three women, had a history of firesetting or prior arson. In terms of other criminal history, see Table 2.

TABLE 2—*Prior criminal history.*

	Males	Females
Property crimes only	7	2
Violent crimes only	4	1
Both of above	4	0
None of above	2	2
Other (public intoxication)	1	0
Unknown	5	1

Psychiatric-Legal Issues

There were 17 (12 men, 5 women) requests for competency to stand trial. Fourteen of these were thought to be not competent to stand trial. Ten (8 men and 2 women) requests were for evaluation of the mental state (sanity) at the time of the arson. Three evaluations produced findings highly supportive of an insanity defense. Four requests were for sentencing evaluations (that is, defense attorney very likely assumed his client was guilty and wanted a dispositional alternative to present to the prosecution and judge). Three requests were for evaluation of dangerousness required for a commitment extension of an insanity acquittee. Lastly, there was one request for competency to waive Miranda rights.

Discussion

A MEDLINE and manual search of the anglophonic psychiatric literature found few studies of adult arsonists over the past decade. Studies using pre-trial psychiatric evaluations are highlighted in Table 3 [10–15]. Excluded from the table were an Irish study of a mixed group of firesetters that included prisoners, hospitalized firesetters, and hospitalized self-immolators [16]; a French study involving postconviction arsonists in both penal and hospital settings [17]; and chart-review studies examining the firesetting symptom among a state hospital population [6,7]. While these four excluded studies contain valuable information on firesetters, they are not easily comparable with the present sample of pre-trial arson defendants.

Five, four Canadian [10,12,14,15] and one American [11], of the pre-trial studies took place while the defendants were hospitalized on inpatient forensic wards. The sixth study had 70% of the evaluations performed while the defendant was on bail as an outpatient with the remaining 30% performed while the defendant was in jail custody of a large United States city [13].

The mean age of the present sample is 33.7 years, perhaps slightly older than found in other studies. The gender proportion of the present study was 79.3% male, similar to 76.5% found by Bradford [10] and 80.5% by Bourget and Bradford [14] when adding their female group to their comparison male group. The ethnic mix of the sample reflects the heterogeneous population of Los Angeles County's approximately 8.5 million residents, though the number of blacks appears at a higher proportion than exists in the actual population, a finding that is consistent with the New York sample, which found a disproportionately higher number of black female defendants. The ethnic makeup of this sample's males contrasts sharply with the 96.2% whites of the U.S. state hospital study [11].

The six pre-trial studies show great variability (range 0 to 42.1%) in the rates of a psychotic diagnosis among their subjects. Though the studies used different diagnostic systems [8,9,18,19], this alone could not account for the marked differences. In providing the percentage of psychotic cases in each study in Table 3, a recalculation was sometimes

TABLE 3—Recent studies of pre-trial arson defendants.

Study	N ^a	Mean Age ^b	Diagnostic System ^c	% Psychotic	Comments
Bradford, 1982	34 (26,8)	30.3	DSM-II	8.8 (3/34)	0% MR ^d
Koson & Dvoskin, 1982	26 (26,0)	28.5	RDC	34.6 (9/26)	96% white 15.4% MR
Hill et al. 1982	38 (38,0)	26	UNK	42.1 (16/38)	18% MR
Harmon et al. 1985	27 (0,27)	34.7	DSM-III	33.3 (9/27)	4% white 78% black 18% Hispanic
Bourget & Bradford, 1989	15 (0,15)	26.5	DSM-III-R	6.6 (1/15)	1 pyromania 6.7% MR
Regehr & Glancy, 1991	9 (9,0)	22.4	DSM-III	0	Compared with 77 male arsonists All used arson to express anger 33.3% MR

^aN = total number of sample (number males, number females).^bMean age of total sample.^cDSM = Diagnostic and Statistical Manual [II = second edition, III = third edition, III-R = third edition-revised; RDC = research diagnostic criteria; UNK = unknown.^dMR = mentally retarded.

needed as the data was presented with the total number of diagnoses, so the number of diagnoses exceeded the number of subjects. In this study, there were 87% and 83.3% of the men and women, respectively, carrying a psychotic diagnosis. While the sample size for the females is too small to be significant or to allow for comparison with previous studies, this result suggests the possibility that rates of psychosis may be underestimated in female arsonists. The overall rate (86.2%) of psychosis among all subjects is much higher than reported by previous recent pretrial studies. When summing the findings of the six pre-trial studies listed in Table 3, 25.5% of the defendants have a psychotic diagnosis (38 out of 149). The high rate of psychosis found in the present study is statistically significant when compared to the cumulative findings of recent pre-trial studies ($\chi^2 = 39.1$, $df = 1$, $P < 0.001$).

Among the studies listed in Table 3, only one defendant was given a diagnosis of pyromania. It should be noted that the diagnosis of pyromania can only be made in those studies using DSM-III or DSM-III-R. This series found none and this is consistent with the previous recent findings that indicate the lack of the diagnosis of pyromania. Hence, the results of this study and other recent pre-trial studies challenge the substantial number of arsonists with pyromania found in Lewis and Yarnell's classic study [2,4].

No diagnosis of mental retardation was made in this study, although one defendant had borderline intellectual functioning. Of those recent pre-trial studies with known results, the percentage of mentally retarded defendants ranged from 0% [10] to 33.3% [15].

In terms of motivation for the arson, only in six (20.7%) cases was revenge a principal motive. The present result appears to be somewhat less than the 38.2% found in the other mixed gender study [10] when recalculating that study's result by correcting for actual number of cases. Revenge was likely to have been a significant motive in other defendants, but two factors could have accounted for the present study's lower yield: a single interview as opposed to a longer term inpatient evaluation and the greater prevalence of psychotic thinking which could have obscured the actual motivation. In comparison to the other studies, psychotic reasons were more prevalent (51.7% of cases) than in other studies [10-15]. The present study's higher prevalence of psychotic reasons may however merely reflect the larger percentage of psychotic defendants than found in the comparison samples.

Intoxication appeared to be under-reported as a principal or contributing factor in the present group, but was similar to the finding that intoxication was not significant in the other mixed gender sample [10]. However, it differs markedly from the substantial number of male defendants in Koson and Dvoskin's state hospital group in which intoxication was a reported factor.

Consistent with Bradford's [10] mixed gender sample of 29.4% setting fire to their own places, 27.6% of the present sample did so. Three of the six women burned their own property consistent with 44% and 66.7% figures reported by the larger studies of female arsonists [13,14].

Geller in his study of state hospital patients found that arson may be linked to the deinstitutionalization movement in which discharge of patients is a primary goal [6]. The two defendants who set fires to get out of their board and care facilities can be considered representative of this deinstitutionalized group. Moreover, the present study also found another significant disenfranchised group that may have been in part the result of deinstitutionalization: five homeless arsonists, accounting for 17.2% of the sample, who set fires to keep warm or cook food. This reflects a significant social-legal problem, especially found in urban centers where large numbers of individuals who are homeless mentally disordered, or substance-abusing, or both, reside.

Of the six studies in Table 3, only in the study by Hill and colleagues [12] was there a significant attempt to gather past criminal history. However, they only tabulated the

total number of charges. Their major contribution consisted of performing a discriminant analysis of the criminal histories of their group of arsonists with property offenders and violent offenders. This yielded a picture of the arsonist as a 70% property offender and 30% violent offender. This prior finding appears to be not inconsistent with the findings in the present study with regards to the 16 men with known prior criminal history. Of these 16, seven previously committed property crimes, four violent crimes, four both property and violent crimes, and one an intoxication offense. That is, the total number of persons having a committed property crimes was greater than those having committed violent crimes. Table 2 also shows the substantial criminal records by both male and female arsonists, suggesting that arson is but a part of an individual's overall criminality.

This sample revealed six (20.7%) subjects, three male and three female, who were repeat arson offenders or firesetters. Recidivism rates vary in the literature with a 38% recidivism rate in Koson and Dvoskin's male sample [11], a 31.2% recidivism rate in Bourget and Bradford's male control group [14], and a 40% recidivism rate in Bourget and Bradford's female subjects [14].

In contrast to Bradford's finding that 21% of the pre-trial defendants were likely incompetent to stand trial [10], the rate of incompetency to stand trial in the present study was 48.3% (with this calculation including the insanity acquittees because such individuals can be found incompetent to stand trial). However, only in 17 of the 29 defendants was competency to stand trial an issue. When the court or defense attorney requested a competency evaluation, 82.4% were thought to be incompetent. This suggests the high degree of sophistication by defense counsel and the courts in referring persons thought to be incompetent to stand trial. Also in the Bradford study, 2.9% were believed to be potential candidates for the insanity defense [10]. In comparison, the present study found 11.5% of the cases (this calculation was made on a total of 26 with the exclusion of the three insanity acquittees) were thought to be viable candidates for the insanity defense. However, for cases in which a specific request for the insanity defense was made, 30% were potential insanity acquittees.

Future Directions

A major disadvantage of this study was lack of resources as compared to the forensic units or forensic clinic that carried out the prior studies and the present study's single interview design. In addition, this study was undertaken as a retrospective sample, akin to a chart review. Despite these limitations, the data collected in the present study yielded findings quite similar to other recent studies of pre-trial defendants. Of particular note was the high proportion of psychosis found in this sample. This finding can not be easily accounted for by a sampling bias, since the subjects were compiled over a long (4½ year) period of time. Additional study is needed to replicate the present study's finding, especially from a heterogeneous, multiethnic, urban sample. Similar future studies may elucidate whether the high rate of psychosis found among the present sample is in part a function of this diverse population.

The collection of different data as well as different ways of categorizing and analyzing this information makes comparing the findings of various studies difficult. Without standardization of data collection, the psychiatric study of arson will likely continue at an anecdotal pace. Perhaps the French system, in which all convicted arsonists, regardless of their legal disposition to a hospital or prison receive psychiatric evaluation [17] represents an optimal data collecting model. Nonetheless, another noteworthy finding of this study is that individuals who are homeless mentally disordered or substance-abusing persons or both, present an added dangerous dimension to the arson problem. Besides improved and standardized methods in data collection, the role of sociocultural factors

in arson committed by adults appears to be significant, and merits serious consideration in future psychiatric studies of arson.

Acknowledgment

The author thanks Rochelle L. Klein, M.B.A., for assistance with the statistical analysis.

References

- [1] Section 451, California Penal Code, West's California Codes, Penal Code, 1990 Compact Edition, St. Paul, West Publishing Co., 1990, p. 182.
- [2] Mavromatis, M. and Lion, J. R., "A Primer on Pyromania," *Diseases of the Nervous System*, Vol. 38, Nov. 1977, pp. 954-955.
- [3] Blumberg, N. H., "Arson Update: A Review of the Literature on Firesetting," *Bulletin of the American Academy of Psychiatry and the Law*, Vol. 9, No. 4, 1981, pp. 255-265.
- [4] Geller, J. L., Erlen, J., and Pinkus, R. L., "A Historical Appraisal of American's Experience with 'Pyromania'—A Diagnosis in Search of a Disorder," *International Journal of Law and Psychiatry*, Vol. 9, No. 2, 1986, pp. 201-209.
- [5] Section 1026.5, California Penal Code, West's California Codes, Penal Code, 1990 Compact Edition, St. Paul, West Publishing Co., 1990, pp. 446-448.
- [6] Geller, J., "Arson: An Unforeseen Sequela of Deinstitutionalization," *American Journal of Psychiatry*, Vol. 14, No. 4, April 1984, pp. 504-508.
- [7] Geller, J. L. and Bertsch, G., "Fire-setting Behavior in the Histories of a State Hospital Population," *American Journal of Psychiatry*, Vol. 142, No. 4, April 1985, pp. 464-468.
- [8] Diagnostic and Statistical Manual of Mental Disorders, 3rd ed. rev., American Psychiatric Association, Washington, DC, 1987.
- [9] Diagnostic and Statistical Manual of Mental Disorders 3rd ed., American Psychiatric Association, Washington, DC, 1980.
- [10] Bradford, J. M. W., "Arson: A Clinical Study," *Canadian Journal of Psychiatry*, Vol. 27, No. 3, April 1982, pp. 188-193.
- [11] Koson, D. F. and Dvoskin, J., "Arson: A Diagnostic Study," *Bulletin of the American Academy of Psychiatry and the Law*, Vol. 10, No. 1, 1982, pp. 39-49.
- [12] Hill, R. W., Langevin, R., Paitich, D., Handy, L., Russon, A., and Wilkinson, L., "Is Arson an Aggressive Act or a Property Offence? A Controlled Study of Psychiatric Referrals," *Canadian Journal of Psychiatry*, Vol. 27, No. 8, December 1982, pp. 658-664.
- [13] Harmon, R. B., Rosner, R., and Wiederlight, M., "Women and Arson: A Demographic Study," *Journal of Forensic Sciences*, Vol. 30, No. 2, April 1985, pp. 467-477.
- [14] Bourget, D. and Bradford, J. M. W., "Female Arsonists: A Clinical Study," *Bulletin of the American Academy of Psychiatry and the Law*, Vol. 17, No. 3, 1989, pp. 293-300.
- [15] Regehr, C. and Glancy, G., "Families of Firesetters," *Journal of Forensic Psychiatry*, Vol. 2, No. 1, May 1991, pp. 27-36.
- [16] O'Sullivan, G. H. and Kelleher, M. J., "A Study of Firesetters in the South-West of Ireland," *British Journal of Psychiatry*, Vol. 151, December 1987, pp. 818-823.
- [17] Yesavage J. A., Benezech, M., Ceccaldi, P., Bourgeois, M., and Addad, M., "Arson in Mentally Ill and Criminal Populations," *Journal of Clinical Psychiatry*, Vol. 44, No. 4, April 1983, pp. 128-130.
- [18] Diagnostic and Statistical Manual of Mental Disorders, 2nd ed., American Psychiatric Association, Washington, DC, 1968.
- [19] Feighner, J. P., Robins, E., Guze, S. B., Woodruff, R. A. Jr., Winokur, G., and Munoz, R., "Diagnostic Criteria for Use in Psychiatric Research," *Archives of General Psychiatry*, Vol. 26, January 1972, pp. 57-63.

Address requests for reprints or additional information to
 Gregory B. Leong, M.D.
 Psychiatry Service (B116A12)
 West Los Angeles VAMC
 11301 Wilshire Blvd.
 Los Angeles, CA 90073