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Psychiatric Aspects of Arsonists*

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ABSTRACT: Arson is a major source of property damage, injury and death in the United States. Many people who commit arson have extensive psychiatric histories and symptoms at the time of their fire-setting. However, traditionally the law enforcement community and the mental health community have not shared information about the characteristics of people who set fires.

This study examined mental health records and/or prison files from 283 arsonists. 90% of arsonists had recorded mental health histories, and of those 36% had the major mental illness of schizophrenia or bipolar disorder. 64% were abusing alcohol or drugs at the time of their firesetting. Pyromania was only diagnosed in three of the 283 cases.

Different motives for setting fires are discussed; many patients were both angry and delusional. A survey instrument, which captures both psychiatric and legal data, is included. Suggestions are made for gathering future "profiling" information. A matrix approach to coding diagnosis and behavior is presented.

KEYWORDS: forensic science, arson, forensic psychiatry, substance abuse

Arson is a crime that causes major financial disasters and often leads to death or disfigurement. In some cases it is carefully planned, as when a businessman decides to burn an empty warehouse and collect the insurance. However, it often is an angry impulsive act, requiring no tools other than a match or lighter, and possibly a container of gasoline.

The number of arsons reported in the United States is large: a total of 81,753 in 1997. The actual number is much larger. Agencies reporting their arson experience to the FBI for that 12-month period represented only 67% of the total population of the country. Many arsons are unreported. The monetary damage per arson was over $11,000 (1).

An estimated 14,715 arrests were made, which translated to a dismal 18% of the crimes cleared by arrest, according to the FBI (1). Therefore, any assistance in detecting arsonists should be useful to the law enforcement community. Preventing arson would be of incalculable benefit to all.

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Arson is commonly defined as the willful and malicious setting of a fire, although there are variations on that definition, depending on state law. Both elements, willful and malicious, usually must be present for the crime to occur. The Calif. Penal Code, Section 451, states that: "A person is guilty of arson when he or she will fully and maliciously sets fire to or burns or causes to be burned or who aids, counsels, or procures the burning of, any structure, forest land, or property."

Arson is one of the easiest crimes to commit on the spur of the moment, needing no weapon. Gasoline is easy to obtain, and it takes only seconds to light a match to a pile of clothes or a curtain. One of the author's (ECR) hypotheses is that people who have problems with impulse control are more likely to both set fires and to commit other uncalculated crimes. In addition, arson does not require a face-to-face confrontation with a victim. Gasoline can be poured in the dark of night under cover and ignited by a revenge-minded arsonist. Many people are killed in fires that are not directed at them specifically. The targeted individual in an apartment complex, for example, may succumb to the fire as may unintended victims in adjacent units. Firefighters are sometimes killed fighting the fires, and occasionally motorists or pedestrians die in traffic collisions with speeding fire engines. An arsonist may not predict the ultimate consequences of his or her act.

Law enforcement officials often classify criminals by their crime. One question this paper attempts to address is whether arsonists are a unique group of criminals, or whether arson is only one of a spectrum of crimes they commit.

Should firesetting be categorized as impulsive or compulsive behavior? Historically, firesetting is viewed as compulsive behavior, reflecting an obsession with fire. Pyromania, a behavior characterized by the urge to set fires, is a recognized psychiatric diagnosis, described in the Diagnostic and Statistical Manual of Mental Disorders (DSM–IV) (2). It is categorized under "Impulse Control Disorders, Not Otherwise Specified," along with kleptomania and pathological gambling.

Law enforcement officials, however, have questioned whether pyromania is a valid motive or explanation for most firesetting behavior (3). Should firesetting be considered and treated as a problem of impulse control, of compulsive behavior, or as a simple criminal act?

The largest study of firesetting is the still widely quoted monograph *Pathological Firesetting (Pyromania)* by Nolan D.C. Lewis and Helen Yarnell, published in 1951 (4). They examined 1500 records of firesetters, and categorized their motives. However, psychiatric diagnosis and patterns of substance abuse have changed dramatically since then.

Although there have been some recent studies of arsonists, the number of subjects studied is usually small and based on arsonists in psychiatric facilities. The research done by the mental health community usually ignores the method of arson employed and the details of the crime scene.

The reports from police and fire investigators, on the other hand, usually focus on types of accelerant used, char patterns, and other crime scene evidence and details. They usually do not record previous psychiatric history or substance abuse of a defendant, since that information may be either not available to them, or not presented in terms a layman (or non-mental health practitioner) can understand.

An exception to the inherent problem with previous studies by the mental health community and public safety personnel may be the studies by the Federal Bureau of Investigations (FBI) and the Bureau of Alcohol, Tobacco and Firearms (ATF). In one monograph, *Essential Findings From a Study of Serial Arsonists*, data from interviews with 83 serial arsonists were examined (5). Other studies by the FBI were spawned by this major work (6). FBI and ATF analysts often make use of the data in this publication in attempting to predict the character and traits of unknown offenders (i.e., "profiling").

The research presented here represents a large cohort of arsonists to examine the relationship between fire-setting, psychiatric diagnosis, substance abuse, medical illness, and the methods and motives of firesetters. It is based on the records of 283 firesetters. The data collected includes: 1) demographics; 2) the target or victim; 3) motive; 4) criminal history; 5) psychiatric diagnosis, including suicidality; 6) substance abuse; and 7) medical history.

An important caveat is that, as in many past studies, cases detailed were not all randomly selected. In addition, many files lacked all the relevant information. Thus this does not purport to be a totally random study, but nevertheless yields some interesting trends. Hopefully future research by both the law enforcement and the psychiatric community will gather data in a more comprehensive manner.

Previous Studies of Arsonists

There are numerous descriptions of the motives of firesetters throughout recent history. The prototypical psychoanalytic interpretation is that of Freud: "It is as if primitive man had the impulse, when he came into contact with fire, to gratify an infantile pleasure in respect to it and put it out with a stream of urine . . . putting out fire by urination . . . represented a sexual act in man. . . ." (7). In 1951, Lewis and Yarnell published what is still the most comprehensive study of firesetters to date, about 1500 cases (4). They reported cases largely collected from the National Board of Fire Underwriters and categorized the motives.

There have recently been a number of studies of firesetters, usually focusing on hospitalized psychiatric patients (8–16). Female firesetters have been the subject of especial attention (17–22). Children and adolescents also have been the subject of extensive study (23–25).

Of great interest is the research into biochemical markers of impulsive behavior, including fire-setting. Several researchers have examined the cerebrospinal fluid of alcoholics and firesetters, and found low concentrations of a metabolite of serotonin, 5-hydroxyindoleacetic acid, or 5-HIAA (26–28). In general, impulsive behavior seems to be characterized by low 5-HIAA levels (26–27). The significance of this is not yet clear, but has implications for treatment.

The FBI and ATF have extensively studied arson and arsonists. They distinguish six motives, each with subcategories: 1) vandalism; 2) excitement; 3) revenge; 4) crime-concealment; 5) profit; and 6) extremist (29).

Their research led to the developing hypothesis that psychotic or delusional individuals set fires for any of the above six motives. They emphasize that, although the motive may seem bizarre to others, it is logical to the mentally ill arsonist. An example of this is the diagnosed paranoid schizophrenic who believed ministers of churches were inciting muggers to attack and rob him. In retaliation, he began torching churches in acts of revenge.

Methods

At the time of the collection of these data, the first author, Dr. Ritchie, was doing a forensic psychiatry fellowship through Walter Reed Army Medical Center. She had access to records at the FBI Academy at Quantico, VA; Clifton T. Perkins Hospital Center (the State of Maryland's forensic hospital); and the Disciplinary Barracks at Ft. Leavenworth (the centralized military confinement facility).

All the collected case files of arsonists in the Behavioral Science Unit of the FBI were reviewed ($n = 220$). Records of all patients whose presenting crime was arson from the last five years at Clifton T. Perkins were examined ($n = 48$). All the records of inmates at Leavenworth were also studied who had arson or attempted arson as one of their charges ($n = 17$).

The second author, Mr. Huff of the National Center for the Analysis of Violent Crime of the FBI, was responsible for most of the collection of information in the FBI files. He and his colleagues traveled to prisons, principally in California, collecting cases and interviewing many of the firesetters. In some of these records, psychiatric data was scanty. Therefore, the information collected reflect a variable amount of documented psychiatric diagnosis and treatment.

The records from Clifton T. Perkins were the most extensive in the evaluation of psychiatric history. Treatment cases of arsonists who had been referred for assessment of either competency to stand trial or for criminal responsibility were examined. However, they often lacked details of the crime scene, which may be important in assessing the mental status of an offender.

Finally, both the mental health and legal files of cases from the United States Disciplinary Barracks (USDB) at Ft. Leavenworth in Kansas were assessed, including both the mental status of the offender and the details of the crime.

Information gathered included the following: 1) demographics of the offender; 2) characteristics of the arson, including the physical target and the victim; 3) impulsiveness of the crime; 4) motive for the arson; 5) prior criminal history, including previous arsons; 6) prior psychiatric history, to include diagnoses, medications, and suicide attempts; 7) documented psychiatric symptoms before, during and after the arson; and 8) medical and neurological history.

Our ability to gather and interpret data had its limitations. First, many cases examined did not have all the relevant information sought. As shown in the tables, variables studied almost always represent less than the total of 283 cases. Second, the records from the FBI files were not totally randomly selected. They included a high proportion of arsons in which murder occurred and cases of multiple firesetting. In all FBI cases, the offender(s) were convicted. Third, the Perkins cases were of patients who had been hospitalized to determine or restore competency, or who had been judged "Not Criminally Responsible" by the court. Thus they represent a high level of psychiatric pathology. Fourth, an estimate was made about the impulsivity of the crime, based on the data in the records. Because not all of the information

was available in the record, the estimate must be considered only as that.

This paper discusses data from the entire cohort. However, not all the data collected is presented because of space limitations. Other data are available upon request.

Case Examples

A brief presentation of six cases follows, to illustrate the issues. The first three cases are from the FBI files, the next two from Perkins, and the last from Leavenworth. Minor details have been changed to conceal the identity of the subjects.

Case 1—Police were called to a house that was gutted by fire. The owner of the house, a 77-year-old woman, was found dead inside.

The house was located in a drug-infested area in Southern California. The victim had been instrumental in calling the police's attention to the drug dealing activities.

The man who set the fire was easily caught. He said that he had been paid in methamphetamine rocks to burn the house. The leader of the local gang had been infuriated by this woman's attempts to clean up the area, and had paid him to burn it down.

Case 2—A man set fire to the hallway in front of his apartment. The fire spread, and four people died in the blaze.

The landlord had threatened to evict him the day before for nonpayment of the rent. He had a history of homelessness and of schizophrenia. After his conviction, he was placed back on antipsychotic medication.

Case 3—A man was upset because his girlfriend had left him. He became intoxicated, stabbed her, and set a fire to conceal the blaze.

Case 4—A 39-year-old female, with a history of numerous psychiatric hospitalizations and prison sentences, was brought to Clifton T. Perkins for assessment of competency and criminal responsibility. She had called 911. The rescue squad, who had been summoned numerous times before, refused her request to bring her to her brother's house. She threatened, "If you don't take me there, I will burn my house down!"

They left. She then poured kerosene on the floor of her state-owned house, lit a match, and left.

In the investigation, it was learned she had stopped her Tegretol (carbamazepine, an anticonvulsant) and Haldol (haloperidol, an antipsychotic) several days before, and had drunk several beers before she called 911. She had a history of mild mental retardation and occasional psychotic episodes, leading to a variety of psychiatric diagnoses.

She was found competent and criminally responsible and returned to the jail. There she became psychotic and was sent back to Perkins until she was again found competent to stand trial.

Case 5—A 23-year-old woman was asked to leave the home by her parents, because they had caught her smoking crack cocaine in the house. As she left, she set fire to the curtains with her lighter, and the house burned down.

Case 6—An enlisted man was angry at his commanding officer, who was planning to discharge him from the Army for a number of disciplinary problems. He went into the captain's office, poured gasoline, and lit a fire. He was apprehended by the military police, still with the smell of gasoline on his hands.

Summary of Results

Only 20.5% of the arsonists were married. Nearly half (47.7%) were unemployed, 30% did blue-collar work, 9.3% attended school, and only 3% had "white-collar" jobs. Seventy-nine percent were between 18 and 49 years of age, and only 5% were over 49. (See Table 1. Demographics.)

Of the crimes where property was the target, 12% of offenders burned their own home, 11.7% burned that belonging to a spouse/lover or former spouse/lover, and 8% burned the house belonging to parents. The home of strangers was the target in 10.5% of cases, and that of acquaintances in 13.8%. Other common targets included churches, vehicles, group homes, mental health facilities, jails, and vegetation. (See Table 2. Target of the Crime.)

When the crime had an identified person as the target, the spouse or ex-spouse was the victim in 12.5% of cases, the parents in 6.6%, siblings in 4.0%, strangers is 24%, and the offender himself or herself in 11.0% of cases. In the latter cases, eight were suicide attempts. (See Table 3. Victim of the Crime.)

As to the means of lighting the fire, a match was used in 51.1% of fires, a lighter in 16.4%, and an incendiary device in 7.4%. An accelerant (gasoline, kerosene, or lighter fluid) was used 71% of the time. (See Table 4. Method Used and Impulsivity.)

The level of impulsivity of the crime varied widely, although 50% were considered very impulsive. (See Table 4.) In 55.3%, no other crimes were committed with the arson.

Revenge was the most prominent motive, accounting for 37.4% of cases. Fire was set to conceal a crime (murder, breaking and entering, and embezzlement) in 15% of cases. Eight (2.8%) of the arsons were for the purpose of attempting suicide. (See Table 5. Motive of Arsonist.)

Offenders had extensive criminal histories; 70.6% with misdemeanors and 51.6% with felonies. Most did not have a previous arson conviction, although 25.4% did. (See Table 6. Previous Criminal Record.)

TABLE 1—*Demographics.*

Age	Less than 18	18–29	30–39	39–49	Over 49
$n = 273$	34 12.5%	128 27%	74 27.1%	24 8%	13 4.8%
Sex	Male	Female			
$n = 283$	234 82.7%	49 17.3%			
Race	Black (AA)	White	Hispanic	Other	
$n = 258$	78 30.1%	140 54.1%	29 11.2%	11 4.2%	
Occupation	No job	Blue collar	White collar	In school	Other
$n = 237$	113 47.7%	71 30.0%	7 3.0%	22 9.3%	24 10.1%
Marital Status	Married	Single	Separated/	Too young	Widowed
$n = 264$	54 20.5%	149 56.4%	Divorced	11 4.2%	2 0.8%
			48 18.2%		

TABLE 2—*Target of the crime. Property n = 275.*

Private Home	Own home	Spouse/lover	Ex-spouse	Parents	Stranger	Acquaintances
	33 12%	20 7.3%	12 4.4%	22 8.0%	29 10.5%	38 13.8%
Public Dwelling	Church	Apt Build	Gov Build	Vehicle	Vegetation	Other
	5 1.8%	6 2.2%	7 2.5%	26 9.5%	12 4.4%	65 23.3%

TABLE 3—*Victim of the crime. Property n = 272.*

Victim	Spouse/lover	Ex-spouse	Parents	Stranger	Sibling	Acquaintance	Self	No One	Other
	23 8.5%	11 4.0%	18 6.6%	66 24.3%	11 4.0%	81 29.8%	30 11.0%	16 5.8%	16 5.9%

TABLE 4—*Method used and impulsivity.*

Means of Lighting Fire	Match	Lighter	Incediary Device	Other	
n = 176	90 51.1%	29 16.5%	13 7.4%	44 24.7%	
Accelerant Used	Gasoline	Kerosene	Lighter Fluid	Other	None
n = 214	70 32.7%	2 0.9%	11 5.1%	68 31.8%	63 29%
Threats Prior to Crime	Letters	Phone Calls	Verbal	None	Other
n = 257	1 0.4%	8 3.1%	28 10.9%	216 84%	4 1.6%
Other Crimes Committed	Murder	Robbery	Drug Dealing	None	Other
with Arson	56 20.0%	24 8.6%	4 1.4%	155 55.3%	41 14.6%
n = 280					
Impulsivity of Act	One	Two	Three	Four	Five
(as judged by researcher)	69 24.8%	70 25.2%	33 11.9%	85 30.6%	21 7.6%
n = 278					
1 = most 5 = least					

TABLE 5—*Motive of arsonist. n = 281.*

Vandalism	Mischief		Peer/Group Pressure	Other			
n = 45	40 14.6%		0	5 1.5%			
Excitement	Thrill Seeker		Attention Seeker	Recognition	Sexual Perversion		Other
n = 16	9 3.2%		2 0.7%	1 0.4%	0		4 1.4%
Revenge	Personal		Societal	Institutional	Group	Intimidation	Other
n = 105	Retaliation		2 0.7%	16 5.7%	0	2 0.7%	5 1.8%
	80 28.5%						
Crime-Concealment	Murder	Suicide	Breaking and Entering	Embezzlement	Larceny	Destroying	Other
Motivated	35 12.5%	0	6 2.1%	1 0.4%	5 1.8%	Records	0
n = 47						0	
Profit-Motivated	Fraud		Employment	Parcel Clearance		Competition	Other
n = 18	11 3.9%		3 1.1%	0		1 0.4%	3 1.1%
Extremist-Motivated	Terrorism		Discrimination	Riots/Civil			
n = 0	0		0	Disturbance			
				0			
Other	Murder	Murder	Not Known	Delusional	Attempted Suicide		Attempt
n = 50	of Adult	of Child	13 4.6%	25 8.9%	8 2.8%		Murder
	3 1.1%	0					1 0.4%

TABLE 6—*Previous criminal record.*

Misdemeanors	None	One	Two	Three	Four	Five	Over Ten	
n = 265	78 29.4%	49 18.5%	44 16.6%	27 10.2%	15 5.7%	38 14.3%	14 5.3%	
Felonies	None	One	Two	Three	Four	Five to ten	Over Ten	
n = 233	104 41.6%	64 25.6%	32 12.8%	17 6.8%	7 2.8%	19 7.6%	7 2.8%	
Previous Arson	None	One	Two	Three	4–24			
Convictions	197 74.6%	31 11.7%	13 4.9%	13 4.9%	10 3.8%			
n = 264								
Previous Arson	None	One	Two	Three	Four	Over Four		
Admissions	193 79.4%	10 4.1%	7 2.9%	6 2.6%	13 5.3%	14 5.8%		
n = 243								
Previous Arsons	None	One	Two	Three	Four	Over Four	Over Ten	Over 100
Suspicions	179 74.9%	8 3.3%	4 1.7%	9 3.8%	2 0.8%	18 7.5%	16 6.7%	3 1.3%
n = 239								
Finding in Court	Guilty	Not guilty	NCR or	Incompetent	Guilty but in		Other	
n = 279	222 79.6%	0%	NGRI	12 3.6%	Juvenile Court		6 2.2%	
			22 7.9%		17 6.7%			

TABLE 7—*Psychiatric history.*

	Primary Diagnosis $n = 239$		Secondary Diagnosis $n = 208$		Total	
None	23	9.6%	81	38.9%	23	9.6%
Schizophrenia	59	24.7%	3	1.3%	62	25.9%
Bipolar D/O	11	4.6%	13	6.3%	24	10%
Major Depression	10	4.1%	2	1.0%	12	5.0%
Anxiety Disorder	1	0.4%		0%	1	0.4%
Pyromania	3	1.3%		0%	3	1.3%
Impulse Control D/O		0%	1	0.4%	1	0.4%
Antisocial PD	8	3.3%	7	3.4%	15	6.3%
Narcissistic PD	2	0.8%	1	0.5%	3	1.3%
Borderline PD	4	1.7%	4	1.9%	8	3.3%
Schizoid PD	2	0.8%	1	0.5%	3	2.0%
Other PD	8	3.3%	9	4.3%	17	7.1%
ADHD	12	5.0%	7	3.4%	19	7.9%
MR	7	2.9%	2	1.0%	9	3.7%
PTSD	1	0.4%	1	0.5%	2	0.8%
Pervasive Development D/O	1	0.4%		0%	1	0.4%
Intermittent Explosive D/O	1	0.8%	1	0.5%	2	0.8%
Adjustment D/O	2	1.6%	1	0.5%	2	0.8%
Alcohol Dependence	62	25.9%	22	10.5%	84	35%
Drug Dependence	12	5.0%	42	20.2%	54	22.6%
Conduct D/O	9	3.8%	8	3.8%	17	7.1%
Delusional D/O	1	0.4%		0%	1	0.4%
Multiple Diagnoses		0%	2	1.0%	2	8.4%

TABLE 8—*Substance abuse.*

	Substance Abuse at Time of Crime					
	Primary Substance $n = 220$		Secondary Substance $n = 160$		Total	
None	71	37%	125	78.1%	71	3.7%
Alcohol	106	55.2%	2	1.3%	108	56.2%
Cocaine	8	4.2%	2	1.3%	10	5.2%
Marijuana		0%	9	5.6%	9	4.1%
Heroin	1	0.5%		0%	1	0%
Amphetamines	3	1.6%	9	5.6%	12	6.2%
PCP	2	1.0%	3	1.0%	5	2.6%
LSD	1	0.5%	1	0.6%	2	1.0%
"Glue"		0%		0%		0%
Other		0%	9	5.6%	9	4.7%
	History of Substance Abuse Five Years Prior to the Crime					
	Primary Substance $n = 217$		Secondary Substance $n = 190$		Total	
None	43	19.8%	80	42.1%	43	19.8%
Alcohol	153	70.5%	1	0.5%	154	71%
Cocaine	9	4.1%	15	7.9%	24	11.1%
Marijuana	3	1.4%	37	19.5%	40	22.2%
Heroin		0%	5	2.6%	5	4.6%
Amphetamines	4	1.8%	6	3.2%	10	3.2%
PCP	2	0.9%	5	2.6%	7	0.5%
LSD		0%	1	0.5%	1	0.5%
"Glue"	1	0.5%		0%	1	0.5%
Other	2	0.9%	40	21.1%	42	19.3%

Previous psychiatric pathology was also widespread. There was no recorded psychiatric diagnosis in only 9.6% of cases; 25.9% had a diagnosis of schizophrenia, 10% a diagnosis of bipolar disorder, and 5% of major depression. Alcohol dependence was diagnosed in 35% of cases, and other drug dependence in 22.6%. Three (1.3%) were given a diagnosis of pyromania. (See Table 7. Psychiatric History.)

TABLE 9—*Psychiatric symptoms.*

Psychiatric Symptoms in Days Prior to Crime (Leading 2 SX) $n = 71$		
Agitation	7	10%
Depression	18	25.4%
Mania	6	8.5%
Suicidality	8	11.3%
Irritability	6	8.5%
Psychosis	24	33.8%
Delusions	25	35.2%
Paranoia	21	29.6%
Isolation	2	2.8%
Self-Mutilation	1	1.4%
Psychiatric Symptoms in Previous Year (Leading 2 SX) $n = 73$		
Appetite Decrease	1	1.4%
Agitation	12	16.4%
Depression	17	23.3%
Mania	4	0.5%
Suicidality	8	11%
Irritability	11	15.1%
Psychosis	24	32.9%
Delusions	22	30.1%
Paranoia	21	28.8%
Hallucinations	8	11.0%
Self-Mutilation	3	4.1%
Psychiatric Symptoms After the Crime (Leading 2 Sx) $n = 72$		
Insomnia	2	2.8%
Agitation	10	13.9%
Depression	20	27.8%
Mania	5	0.7%
Suicidality	10	13.9%
Irritability	8	11.1%
Psychosis	14	19.4%
Delusions	23	31.9%
Paranoia	18	25%
Hallucinations	12	6.7%
Isolation	1	0.1%
Self-Mutilation	3	0.4%

Over half (55.2%) were abusing alcohol at the time of the crime. Cocaine, amphetamines, and other drugs were often present; only 36% did not have substance use recorded at the time of the fire-setting. (See Table 8. Substance Abuse.)

Only 71 of the files recorded psychiatric symptoms at the time of the arson. Common psychiatric symptoms at the time of the crime were agitation, depression, psychosis, delusions, and paranoia. These symptoms were also pronounced before and after the arson. (See Table 9. Psychiatric Symptoms.)

A high proportion of patients were on psychiatric medication, especially antipsychotics and lithium, before and after the crime. Fewer were on medication at the time of the arson, which implies noncompliance. For example, 33.6% were on antipsychotic medication after the crime, and only 7.8% at the time of the crime. Lithium was prescribed after the fire in 11.6%, but less than half of those were taking it at the time of the arson. (See Table 10. Psychiatric Medications.)

Suicidal behavior was very common in defendants: 35% of the records noted a suicide attempt before the arson, and 15.9% afterwards. (See Table 11. Suicide Attempts.) Eighty-one subjects had a broad range of recorded medical diagnoses. Epilepsy or seizures were diagnosed in 16 cases.

Discussion

Targets were often the offenders' own home, or that of family members. Other popular targets included schools, vegetation, cars, jail cells, and mental health facilities. Therefore, law enforcement officials should carefully evaluate estranged spouses and children after a dwelling has been set on fire. Obviously they should also query those who may have had a grudge against the victim.

Mental health workers sometimes underestimate the amount of damage that can be done with a match. Strict control of lighters and matches should be maintained in all psychiatric facilities.

The question of impulsiveness was globally assessed by studying the motive and method of setting the fire, prior criminal history, and psychiatric pathology. Half of our cases were very impulsive, and very few showed evidence of a compulsive fascination with fires.

Our data show that convicted arsonists have a varied criminal history, with a variety of offenses ranging from prostitution to armed robbery to murder.

Revenge is easily the most common motive seen here. However, many of the people who started a fire to "get back" at somebody

TABLE 10—*Psychiatric medications.*

Psychiatric Medication at the Time of the Crime (Primary 2 Meds) $n = 128$						
None	Neuroleptics	Lithium	Anticonvulsant	Antidepressants	Antianxiety	Other
113 88.3%	10 7.8%	7 5.5%	2 1.6%	1 0.8%	1 0.8%	1 0.8%
Psychiatric Medications in Year Prior to Crime (Primary 2 Meds) $n = 145$						
None	Neuroleptics	Lithium	Anticonvulsant	Antidepressants	Antianxiety	Other
88 60.7%	41 28.3%	21 14.5%	5 3.4%	4 2.8%	3 2.1%	10 7.0%
Psychiatric Medications After Crime (Primary 2 Meds) $n = 146$						
None	Neuroleptics	Lithium	Anticonvulsant	Antidepressants	Antianxiety	Other
73 50.0%	49 33.6%	17 11.6%	6 4.1%	19 13.1%	7 4.9%	5 3.4%

TABLE 11—*Suicide attempts.*

Number of Suicide Attempts before Crime $n = 160$	None	One	Two	Three	Four	Over five
	104 65%	27 16.9%	11 6.9%	4 2.5%	6 3.8%	8 5.0%
Number of Suicide Attempts after crime $n = 144$	None	One	Two	Three	Four	Over five
	121 84%	14 9.7%	1 0.7%	4 2.8%	0	4 2.7%

were also actively suffering from psychotic symptoms. There is little evidence here to support the older psychoanalytic theories of sexual tension that finds a relief through fire setting. (The caveat should be made, however, that is unlikely that many defendants had a psychiatric interview that focused on their upbringing, fantasies, and other psychoanalytic data.)

Over one third of subjects had a major psychiatric diagnosis of schizophrenia or bipolar disorder, which are usually characterized by impaired judgment and impulsivity. Substance abuse was extremely common. In contrast, anxiety disorders and posttraumatic stress disorder (PTSD) were rare. (The percentage of personality disorders, especially antisocial personality disorder, is probably underreported, considering so many of the subjects had a criminal record.) A diagnosis of pyromania was very rare.

Based on the numbers of subjects who were on medication before and after, but not during the act, noncompliance with psychiatric medication is a high risk factor for fire-setting in patients with major psychiatric illness.

Unfortunately, data on psychiatric symptoms at the time of the crime were usually lacking; hopefully, in the future, it should be recorded in a more systematic fashion.

Of note is the number of subjects who set fires partly or totally because of delusional beliefs, hallucinations, or paranoia. Revenge may have been their motive, but the reason for revenge was delusional.

What then is the "profile" of the arsonist? The demographics would include being male, unmarried, unemployed, and with a history of criminal behavior, psychiatric disease and/or substance abuse. This profile also fits that for many other criminals.

This study, and the variable amount of legal, criminal, and psychiatric data available, argues for a more systematic study of the connection between them. Clearly law enforcement and mental health workers should use a comprehensive approach, utilizing elements from each discipline in attempting to understand arsonists' behavior.

Further data analysis is under way to see if there is a consistent pattern between demographics, choice of target and motive, prior criminal history, psychiatric pathology, and substance abuse.

A matrix approach should be employed to study firesetting behavior, taking into account motive, overt behavior, the underlying psychiatric pathology, and the presence of substance abuse. This could be developed in a manner similar to the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV), with different axes to code the different elements. Motive could be one axis, psychiatric symptoms another, and substance use a third.

Since arson is correlated with other impulsive behavior, treatment should require therapy or medication to decrease impulsiveness. Medications that decrease impulsive behavior, such as the mood stabilizers, antidepressants, or antipsychotic agents, should prove useful.

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