

**A REPORT OF ESSENTIAL FINDINGS
FROM A STUDY OF SERIAL ARSONISTS**

Allen D. Sapp, Ph.D.
Professor of Criminal Justice
Central Missouri State University
Warrensburg, Missouri

Timothy G. Huff, M.A.
Violent Crime Case Analyst
Federal Bureau of Investigation
Arson and Bombing Investigative Services Subunit
National Center For The Analysis of Violent Crime
FBI Academy, Quantico, Virginia

Gordon P. Gary, Special Agent
Bureau of Alcohol, Tobacco, and Firearms
Arson and Bombing Investigative Services Subunit
National Center For The Analysis of Violent Crime
FBI Academy, Quantico, Virginia

David J. Icove, Ph.D.
Federal Bureau of Investigation
Arson and Bombing Investigative Services Subunit
National Center For The Analysis of Violent Crime
FBI Academy, Quantico, Virginia

Philip Horbert, Special Agent
Bureau of Alcohol, Tobacco, and Firearms
Explosives Technology Branch
Washington, DC



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INTRODUCTION

Purpose of Study

This research study is part of a series of studies conducted by the National Center for the Analysis of Violent Crime (NCAVC) located at the FBI Academy in Quantico, Virginia. The NCAVC was established as a law enforcement oriented behavioral science and data processing center designed to consolidate research, training, investigative and operational support functions for the purpose of providing expertise to any legitimate law enforcement agency confronted with unusual, bizarre and/or repetitive violent crime. The staff of the Center is joined by faculty from major universities, members of the mental health and medical professions, and other law enforcement representatives (NCAVC, 1992).

In 1986, a subunit was established within the Center to study arson and bombings. Representatives from the Bureau of Alcohol, Tobacco, and Firearms joined the Center staff to serve in the Arson and Bombing Investigative Services Subunit (ABIS). This arrangement is based upon a concurrent investigative responsibility with the FBI in these areas. The subunit has conducted a series of studies on arson and serial arsonists (See Icove and Estep, 1987; Icove and Gilman, 1989; Icove and Horbert, 1990; Sapp, Gary, Huff and James, 1993a; see also Douglas, Burgess, Burgess and Ressler, 1992). Services provided by the ABIS to other Federal, State, local and foreign law enforcement agencies include advice on investigative techniques and strategies, interviewing strategies, and prosecutorial analyses.

Statement of Problem

This study was undertaken as part of the research and investigative support functions of the Arson and Bombing Investigative Subunit (ABIS). The study arose from an awareness of the extent of serial arson in the United States. Serial arson is an offense committed by firesetters who set three or more fires with a significant cooling off period between the fires (Douglas, et al, 1992). Arson is a violent crime, often taking the lives of innocent people, while also causing tremendous financial losses in property. According to the Uniform Crime Reports produced by the FBI (1992), arsons in 1991 exceeded one billion dollars in property loss. Arson is the second leading cause of deaths in residential fires (Federal Emergency Management Agency, 1988). Despite the huge losses in property and the deaths caused by arson, relatively little research has been conducted on arsonists. Most of the available research is in the form of clinical studies of very small numbers of arsonists. (See Geller, 1992 for an extensive review of the literature on arson studies in forensic psychiatry). This study is intended to fill some of the gaps in knowledge about arsonists, particularly the serial arsonists.

REVIEW OF RELATED LITERATURE

Characteristics of Arson

The primary source of information on the characteristics of arson is the Uniform Crime Report (UCR) series produced annually by the FBI. Arson was added to the Part I offenses in the UCR in 1978. Use of official statistics, such as the UCR, is problematic. All of the index offenses reported in the UCR are based only on crimes known to the police. Thus unreported or undetected crimes are not included and the UCR presents data on only a portion of all index crimes. Secondly, all law enforcement agencies do not provide comprehensive and accurate reports to the FBI for inclusion in the UCR. Therefore, in addition to being limited to crimes known to the police, the UCR is further limited to offenses reported by law enforcement.

Jackson (1988) noted that arson reports in the UCR have a number of unique characteristics. The definition of arson used in the UCR reporting guides precludes fires that are not determined by investigation to have been intentionally set. Therefore suspicious or unknown origin fires, even if arson is suspected, are not included. A second problem pointed out by Jackson (1988) is the dual investigative roles of fire and police services. The result of this dual role is that some arsons are not reported by law enforcement even if the fire service has classified a fire as an arson. Overall, the conclusion is that arson is undercounted and underreported.

An analysis of Uniform Crime Report data was made for this study for the ten year period 1982 - 1991. Starting the analysis period with the 1982 statistics allowed three years for the data to stabilize since many agencies had no prior experience in reporting arson data. The 1982 UCR was

also the first to compute an arson rate. Over the ten year period, these data have been remarkably consistent even though the full arson picture across the nation has never been depicted.

The analysis indicated an average arson rate of 50.9 arsons per 100,000 population . The range in the rate over the ten years was from a low of 48.3 per 100,000 in 1991 to a high of 57.3 in 1982. While the range of data seems to indicate a significant decrease in the arson rate, that decrease has not been linear and may well reflect differences in reporting practices and number of agencies reporting.

During the period, structure fires accounted for an average of 56.9 percent of all arsons. Vehicle fires averaged 26.1 percent of the reported arsons and other arsons accounted for the remaining 18.0 percent. Over the ten year period, the average monetary loss value for each arson was \$12,792. The average clearance rate for all arsons was 18.3 percent.

Characteristics of Arsonists

The UCR also reports some of the demographic characteristics of arsonists. These data are based on arrests for arson and do not reflect the entire population of arsonists. However, they do provide a basis for understanding some of the attributes of arsonists. During the ten years from 1982 to 1991, 41.6 percent of all arrestees for arson offenses were under 18 years of age and 63.3 percent were under 25 years of age. Males accounted for 87.0 percent of all arrestees for arson. Three-fourths (75.1 percent) of persons arrested for arson were white, 23.6 percent were black and the remaining 1.3 were of other races.

Research on arsonists has tended to focus on either single or small numbers of attributes. (See, for example, Awad and Harrison, 1976; Bourget and Bradford, 1987; Harmon, Rosner and Weiderlight, 1985;

Pettigrew, 1987; Robbins, Herman and Robbins, 1969; Trent, 1988). Much of the literature has offered typologies or methods of classifying arsonists. Geller (1992) provides an extensive review of the literature on the characteristics of arsonists.

The research on arsonists has tended to reflect fairly consistent findings. Most firesetters are young white males, with juveniles, under age 18, accounting for about 40 percent of all arsons and those under 25 accounting for nearly two-thirds of all fires (Lewis and Yarnell, 1951; Hurley and Monahan, 1969; MacDonald, 1977; Rider, 1980; Hill, et al, 1982; Molnar, et al, 1984; Pettigrew, 1987). Many come from dysfunctional families (Lewis and Yarnell, 1951, Wolford, 1972; Levin, 1976, Rider, 1980). They often have one or both natural parents missing from the home during childhood (Lewis and Yarnell, 1951; Macht and Mack, 1968; Hurley and Monahan, 1969; Rider, 1980).

Other attributes and characteristics common in the literature about arsonists include poor marital adjustment (Lewis and Yarnell, 1951; Levin, 1976), poor occupational adjustment (Hurley and Monahan, 1969; Inciardi, 1970; Wolford, 1972), and poor academic performance (Lewis and Yarnell, 1951; Levin, 1976; Vandersall and Wiener, 1970). Findings are mixed on intelligence since the most intelligent arsonists may escape detection (Levin, 1976). Hurley and Monahan (1969), however, found most arsonists to be of average or higher intelligence.

Motives for Firesetting

It is in the area of motives that most of the literature on firesetting and arson has concentrated. The literature also offers a number of classification schemes and typologies, most often based on motives. Geller (1992) offers an exhaustive review of that literature and identifies 20 or more attempts to

classify arsonists into typologies. Several of the earlier typologies contributed significantly to the current understanding of the motives and profiles of arsonists (in particular, see Lewis and Yarnell, 1951; Steinmetz, 1966; Robbins, 1967; Hurley and Monahan, 1969; Inciardi, 1970; Vandersall and Wiener, 1970; Wolford, 1972; and Levin, 1976). In a more recent work, Sapp, et al (1993b) followed the Crime Classification Manual typology in their study of the motives of shipboard arsonists.

Geller (1992) adds another classification to the literature, more clinically focused than most of the others. He notes that arson may be unassociated with psychobiologic disorders or may be associated with medical or neurological disorders, or mental disorders. Geller (1992) also separates juvenile firesetting and juvenile fireplay from the adult arsonists. His listing of arsons unassociated with psychobiologic disorders closely resemble the classification contained in the Crime Classification Manual (Douglas, et al, 1992). In this report, the Crime Classification Manual typologies of motives will be used throughout.

METHODOLOGY OF THE STUDY

Purpose

The purpose of the study was to identify the attributes, characteristics, motives, and patterns of life history of serial arsonists to assist in producing criminal investigative analyses consisting of characteristics and traits of such offenders. In addition, the study was intended to develop information about the characteristics of the offenses committed by serial arsonists. A study of this type is particularly useful in developing typologies and offense and offender characteristics.

Research Goals

This project was planned and implemented with several research goals designed to meet specific needs of arson investigators and prosecutors. The goals included:

- Identify common characteristics of arsons committed by serial arsonists.
- Identify common motives and related characteristics of arsonists who repeatedly set fires.
- Determine if serial arsonists share common characteristics with other arsonists.
- Determine the extent to which serial arsons may be classified in accordance with the Crime Classification Manual for serious crimes developed at the NCAVC. (See Douglas, et al, 1992).
- Identify any related characteristics that would be of assistance to investigators of serial arsons.

Research Methods

The research involved the identification of incarcerated serial arsonists. A total of 83 serial arsonists, whose conviction was final, with no appeals pending, agreed to participate in the study. The subjects were free to participate or not in the study and free to answer or not answer any question posed. Each subject clearly understood that their participation would not benefit them in any manner. Many of the interviews were tape recorded or videotaped. The convicted arsonists were interviewed using a comprehensive protocol to collect information on a variety of aspects of the arsonists' offenses, characteristics and life history. The protocol was then analyzed to extract information on 168 variables that were encoded for computer analysis. In addition, a case study summary was developed for each of the 83 arsonists. The data were analyzed using descriptive statistics and cross-tabulations to examine relationships between variables.

The study involved two purposive samples. The first sample of 42 subjects, representing one eastern and one western state were all interviewed a dozen years before the second sample. The second sample involved 41 subjects in several different state correctional systems who were interviewed in 1990-1992. The states were selected to provide a geographically representative sample of the United States. Similar protocols were used for the two samples. After data collection was completed, the two samples were compared to ensure that they were compatible and did not differ significantly on the critical variables. The samples were found to be compatible without significant differences and then were combined into a single sample for analysis.

Nearly 1,000 incarcerated arsonists' records were reviewed in the nearly three dozen facilities visited by the researchers. Those facilities included prisons, jails and mental health facilities. Approximately 200 inmates were selected for interview. Of this number some were unavailable for interview, some refused, others did not cooperate. Some who cooperated were found to not be serial arsonists. The final sample for this study involved 83 serial arsonists, including 42 subjects from the earlier interviews and 41 from the more recent ones.

Definition of Terms

The following terms are used throughout the report and are defined here to facilitate understanding of the findings and conclusions of the research.

Arson - Arson is the willful and malicious burning of property (Douglas, et al, 1992). The criminal act of arson is divided into three elements (DeHaan, 1991):

1. There has been a burning of property. This must be shown to the court to be actual destruction, at least in part, not just scorching or sooting (although some states include any physical or visible impairment of any surface).
2. The burning is incendiary in origin. Proof of the existence of an effective incendiary device, no matter how simple it may be, is adequate. Proof must be accomplished by showing specifically how all possible natural or accidental cases have been considered and ruled out.
3. The burning is shown to be started with malice, that is, with the specific intent of destroying property (p.324).

Arsonist - A person apprehended, charged and convicted of one or more arsons (Douglas, et al, 1992).

Accelerant - Accelerants are any type of material or substance added to the targeted materials to enhance the combustion of those materials and to accelerate the burning (Douglas, et al, 1992).

Mass Arson - Mass arson involves an offender who sets three or more fires at the same location during a limited period of time (Douglas, et al, 1992).

Serial Arson - Serial arson involves an offender who sets three or more fires with a cooling-off period between the fires (Douglas, et al, 1992).

Spree Arson - Spree arson involves an arsonist who sets three or more fires at separate locations with no emotional cooling-off period between the fires (Douglas, et al, 1992).

Limitations of the Study

The major limitation of this study is derived from the use of incarcerated serial arsonists as subjects. It is recognized that incarcerated arsonists may not be representative of all offenders since they represent only a small percentage of all those who commit arson offenses. Use of incarcerated subjects introduces a bias into the results that is explicitly recognized by the researchers. However, the complexity and the nature of the crime of arson, the sanctions applied to those known to have committed the offense, and the ethical issues of identifying and interviewing non-convicted arsonists all precluded use of other than incarcerated subjects.

The sample used is a purposive sample and is not random. The sample is one of serial arsonists who were available for research purposes. Having said this, it must be recognized that some serial arsonists interviewed had very successful fire setting careers for years, involving scores, and

sometimes hundreds, of fires. Much of their reported data would be the same if they were available and willing interviewees prior to arrest.

This was an exploratory study, offering not generalizations for a wider population, but instead providing hypotheses about the serial arsonist that should be further examined in subsequent research. The findings are not experimental since no control group was used in the research. The findings should not be viewed as predictive of future activities but instead as a tool to assist in developing further research.

Report Format

The data are presented in tables depicting the original survey question and the frequency and percentage of responses for each level of the question. Readers will note that some questions were answered by only a portion of the respondents because the question was simply not answered by some of the interviewees. In these cases, the total number of respondents (N-size) is noted in the table. The reader also may note that in some tables the numbers and percentages do not add to 100 percent; this is the result of rounding. In tables in which the percentages add to greater than 100 percent, respondents were permitted to select more than one answer per question.

FINDINGS

Attributes of Serial Arsonists

Gender

As expected, by far the majority of the serial arsonists were male (78, 94.0 percent). There were five females (6.0 percent) in the study samples. These proportions are similar to those for all arrested arsonists as reflected in the Uniform Crime Reports (UCR). For the years 1982 through 1991, the percentage of all persons arrested for arson who were males averaged 87.0 percent. Table 1 depicts the gender distribution of the sample.

Table 1
Gender of Serial Arsonists
(N = 83)

Gender	Number	Percent
Male	78	94.0
Female	5	6.0

Race

The ethnicity of the interviewees are reflected in Table 2. A total of 68 (81.9 percent) were white, eight (9.6 percent) Afro-American, six (7.2 percent) Hispanic and one (1.2 percent) of the sample was a Native American. These proportions were similar to the Uniform Crime Reports of the ethnicity of persons arrested for arson. Over a ten year period (1982 - 1991), the average percentage of whites in the UCR arson arrest data was

75.1 percent. To date no research, including this study, has shown that race is a correlate of arson.

Table 2
Ethnicity of Serial Arsonists
(N = 83)

Ethnicity	Number	Percent
White	68	81.9
Afro-American	8	9.6
Hispanic	6	7.2
Native American	1	1.2

Physical Attributes

Information was solicited on physical attributes of the sample. The mean height of the sample was 69 inches, with a range from 63 inches to 76 inches. The mode of the distribution was 71 inches and the median height was 69 inches. The serial arsonists ranged in weight from 110 pounds to 285 pounds. The mean weight was 167 pounds. The mode of the distribution was 150 pounds and the median was 160 pounds.

Information also was collected on the presence of body tattoos among the subjects. Of 72 of the interviewees, one-half (36) had some type of tattoo. A total of 19 (26.0 percent) of 73 respondents reported some form of physical disfigurement. (See Table 3.)

Table 3
Serial Arsonists with Tattoos
and Disfigurements

Attribute	Number	Percent
Tattoos	36	43.4
Disfigurements	19	22.9

Marital Status

Most of the arsonists interviewed were single (54, 65.9 percent). Only five (6.1 percent) were married at the time of the interviews. Seven (8.5) reported living with another person and three (3.7 percent) were separated from their spouse. One was widowed and 12 (14.6 percent) were divorced. One declined to discuss marital status. The distribution of the responses are reflected in Table 4.

Table 4
Marital Status
of Serial Arsonists
(N = 82)

Marital Status	Number	Percent
Single	54	65.9
Significant Other	7	8.5
Married	5	6.1
Separated	3	3.7
Divorced	12	14.6
Widowed	1	1.2

Marital History

Detailed marital history was supplied by 41 of the interviewees. Of those who responded to marital history questions, 22 (53.7 percent) had never been married. Fifteen others (36.6 percent) had been married one time and four reported multiple marriages. (See Table 5.) Two of the four had been married two times and two had three marriages. Overall, the marital status and history of the respondents suggested a general lack of stability in interpersonal relationships.

Table 5
Marital History
of Serial Arsonists
(N = 41)

Marital History	Number	Percent
Never Married	22	53.7
Married Once	15	36.6
Multiple Marriages	4	9.7

Education

Data were collected on educational history of the serial arsonists. The educational level of the sample ranged from completion of the third grade to four years of college. Overall, the mean educational achievement level was 10.2 years completed. As reflected in Table 6, 33.3 percent of the sample had less than a tenth grade education and 90.7 percent had a high school education or less.

Table 6
Educational Level
of Serial Arsonists
(N = 82)

Highest Grade Completed	Number	Percent	Cumulative Percent
3	1	1.3	1.3
4	2	2.7	4.0
5	2	2.7	6.7
6	5	6.7	13.4
7	1	1.3	14.7
8	4	5.3	20.0
9	10	13.3	33.3
10	11	14.7	48.0
11	12	16.0	64.0
12	20	26.7	90.7
13	1	1.3	92.0
14	3	4.0	96.0
15	1	1.3	97.3
16	2	2.7	100.0

Academic Performance

Academic performance data was supplied by 37 of those interviewed. Only eight (21.6 percent) reported having good to excellent academic performance records. Ten (27.0 percent) stated that their academic performance had been average. The remaining 51 percent had either fair (18.9 percent) or poor (32.4 percent) academic performance. The distribution is depicted in Table 7.

Table 7
Academic Performance
(N = 37)

Performance	Number	Percent
Good to Excellent	8	21.6
Average	10	27.0
Fair	7	18.9
Poor	12	32.4

Degrees Received

The 20 interviewees who reported completion of high school included 11 with a General Educational Development (G.E.D.) diploma and nine with a regular high school diploma. Eighteen others had no diploma and one claimed a bachelor's degree. (See Table 8.)

Table 8
Educational Degrees or Diplomas
Held By Serial Arsonists
(N = 39)

Degree or Diploma	Number	Percent
None	18	46.2
G.E.D. Diploma	11	28.2
High School Diploma	9	23.1
Bachelor Degree	1	2.6

Military Record

A total of 41 of the serial arsonists provided information about their military service history. Of the 41, only seven (17.1 percent) served in the

military services. An additional 13 (36.1 percent) tried to join the military forces but were rejected. Five were rejected because they had a criminal history. Three others failed the physical examination and two failed the written test. Rejection reasons were unknown for the remaining three who were rejected.

Four of the seven (57.1 percent) reported moderate difficulty in adjusting to military discipline and life style, one (14.3 percent) reported frequent difficulty, and one (14.3 percent) claimed only average difficulty. All six held lower enlisted ranks, four at the lowest rank, E-1 and two attained the rank of E-2. Two of the six were charged with criminal offenses, one with theft and the other with unauthorized absence. Only two left the service with an honorable discharge. Three received an undesirable discharge and one a general discharge. Five of the six served in the United States Army and one in the Navy. All served a single term of enlistment or less. Additional military history was not available for the other arsonist who served in the military.

Intelligence Quotient

Measures of intelligence (IQ) scores were available for 24 of the members of the sample. The 24 had a mean IQ score of 104.5 and a range from a low of 59 to a high of 145. The modal score was 114 and the median was 113. The scores were equally distributed with eight falling below 100, eight between 100 and 120, and eight above 120. Only three of the scores were below 90. Overall, the distribution of IQ scores suggested that serial arsonists are generally of average or above intelligence.

Sexual Preference

Sexual preference information was provided by 69 of the 83 interviewees. Most (52, 75.4 percent) reported their sexual preference as heterosexual. Six (8.7 percent) stated their preference as homosexual and 11 (15.9 percent) claimed to be bisexual. The distribution of the sexual preferences of serial arsonists are reflected in Table 9.

Table 9
Sexual Preference
of Serial Arsonists
(N = 69)

Sexual Preference	Number	Percent
Heterosexual	52	75.4
Homosexual	6	8.7
Bisexual	11	15.9

Life History of Subjects

Criminal History

One of the more noteworthy findings of this study was the extent of prior criminal activity by the members of the sample studied. A total of 71 (86.6 percent) reported prior felony arrests and 45 (63.4 percent) had multiple prior felony arrests. The most common single felony was a prior arson arrest (23.9 percent). Other felony arrests were reported for burglary (2), child molestation (2), aggravated assault (1), auto theft (1), Driving while Intoxicated (1), attempted arson (1) and robbery (1). (See Table 10.)

Table 10
Felony Arrest Records
of Serial Arsonists
(N = 71)

Felony Arrests	Number	Percent
Multiple Arrests	45	63.4
Arson	17	23.9
Aggravated Assault	1	1.4
Burglary	2	2.8
Grand Theft Auto	1	1.4
DWI	1	1.4
Robbery	1	1.4
Attempted Arson	1	1.4
Child Molestation	2	2.8

In addition to the extensive felony records, 28 of the interviewees reported misdemeanor records. Nearly two-thirds (64.3 percent) had multiple misdemeanor arrest records. (See Table 11.) Other misdemeanor arrests were reported for petty theft (4), traffic offenses (2), driving under the influence (1), trespass (1), verbal abuse (1) and harassment (1).

Table 11
Misdemeanor Arrest Records
of Serial Arsonists
(N = 28)

Misdemeanor Arrests	Number	Percent
Multiple Arrests	18	64.3
Petty Theft	4	14.3
Traffic	2	7.1
DUI/DWI	1	3.6
Trespass	1	3.6
Verbal Abuse	1	3.6
Harassment	1	3.6

Institutional History

Another noteworthy aspect of the life histories of the sample was the extent that the members had spent time in various types of institutions. The institutional history of the 83 members of the study group is shown in Table 12. Three of the group had spent time in an orphanage. One of the three had been in an orphanage on two separate occasions. Over one-fourth of the sample (23, 27.7 percent) had spent time in foster homes, collectively averaging 1.6 placements each, for a total of 36 foster home placements.

Over one-half (45, 54.2 percent) had been held in juvenile detention, with an average of 4.1 such detentions each. The total number of juvenile detentions reported was 184. A total of 43 sentences to state juvenile facilities were reported by 26 (31.3 percent) of the sample. An average of 1.6

such placements were noted. An even higher percentage (56, 67.5 percent) reported being placed in county jails an average of 4.9 times each. Collectively the sample accounted for 275 different incarcerations in county jails.

Prison sentences were also common in the background of the serial arsonists. A total of 87 sentences to state prisons were reported by 43 of the interviewees, an average of two incarcerations each. Only three of the group, however, had served a sentence in a federal prison, with one of the three serving two such sentences. Four others reported other types of institutions including a military boarding school (1), halfway house (1), and unspecified correctional institution (2).

Table 12
Institutional History
of Serial Arsonists

Type Institution	Number of Arsonists	Mean Times in Institution
Orphanage	3	1.3
Foster Home	23	1.6
Juvenile Detention	45	4.1
State Juvenile Home	26	1.7
County Jail	56	4.9
State Prison	43	2.0
Federal Prison	3	1.3
Mental Health	38	3.2
Other Institutions	4	1.25

In addition to the criminal justice system institutions, the members of the sample had extensive mental health system involvement. The interviewees reported a total of 275 stays in a mental health institution. The 38 arsonists had an average of 3.2 commitments each to mental health facilities.

Medical History

Medical histories were available for 39 of the serial arsonists and slightly over one-half had some form of significant medical problems in their background. Three (7.7 percent) reported a congenital handicap and seven (17.9 percent) a handicap resulting from an injury. Four (10.3 percent) had a prior serious illness and eight (20.5 percent) reported a chronic illness. The remaining 17 (43.6 percent) had an unremarkable medical history. Table 13 illustrates the medical history of the serial arsonists.

Table 13
Medical History
of Serial Arsonists
(N = 39)

Medical History	Number	Percent
Congenital Handicap	3	7.7
Injury Handicap	7	17.9
Serious Illness	4	10.3
Chronic Illness	8	20.5
Unremarkable	17	43.6

Psychological History

Psychological histories were available for 26 of the serial arsonists. Of that number, nine (34.6 percent) had multiple psychological problems. Seven reported other problems and diagnoses which included, one each, depression, dyslexia, brain damage, psychotic outbursts, borderline personality disorder, stress related personality disorder, and unspecified psychological hospitalization. More common problems included alcoholism (3), childhood hyperactivity (2), and suicidal tendencies (5). Details of the distribution of reported psychological problems are provided in Table 14.

Table 14
Psychological History
of Serial Arsonists
(N = 26)

Psychological History	Number	Percent
Depression	1	3.8
Dyslexia	1	3.8
Alcoholism	3	11.5
Hyperactive Child	2	7.7
Brain Damage	1	3.8
Suicidal	5	19.2
Unspecified Problem	1	3.8
Psychotic Outbursts	1	3.8
Borderline Personality	1	3.8
Stress Related	1	3.8
Multiple Diagnoses	9	34.6

Suicide Attempts

Another noteworthy aspect of the psychological histories of the serial arsonists was the prevalence of prior suicide attempts by members of the group. No fewer than 21 (25.3 percent) reported at least one suicide attempt. These numbers are interesting when compared to the psychological histories that reflect that only five members of the sample had been treated for suicidal tendencies.

Work History

Regular Occupation

Regular occupational information was provided by 39 of the serial arsonists. None of the 39 were involved in professional occupations. The most commonly occurring response was menial laborer (11, 28.2 percent). Nine (23.1 percent) members of the sample held skilled laborer positions and four (10.3 percent) had office or clerical jobs. Three (7.7 percent) noted their regular occupation was maintenance work and three others reported police or security officer positions. Medical service, food service and service worker were each claimed by 2 (5.1 percent) of the sample. Single members of the group studied noted regular occupation as retail sales, fire service, and homemaker. This distribution is shown in Table 15.

Table 15
Regular Occupation
of Serial Arsonists
(N = 39)

Regular Occupation	Number	Percent
Menial Laborer	11	28.2
Skilled Laborer	9	23.1
Retail Sales	1	2.6
Service Worker	2	5.1
Maintenance Worker	3	7.7
Police - Security	3	7.7
Fire Service	1	2.6
Office - Clerical	4	10.3
Food Service	2	5.1
Homemaker	1	2.6
Medical Service	2	5.1

Job Stability

Most of those reporting a regular occupation indicated a generally stable (44.7 percent) or stable (42.1 percent) job history. Only five of the group reported being usually unemployed. (See Table 16.)

Table 16
Job Stability History
of Serial Arsonists
(N = 38)

Job Stability	Number	Percent
Generally Stable	17	44.7
Stable	16	42.1
Usually Unemployed	5	13.2

Social History

Neighborhood

Most of the serial arsonists grew up in neighborhoods described as middle class (42, 66.7 percent). The remaining third of the responding arsonists indicated the socioeconomic status of their childhood neighborhood as lower class (21, 33.3 percent). None claimed an upper class neighborhood as shown in Table 17.

Table 17
Neighborhood Socioeconomic Status
of Serial Arsonists
(N = 63)

Socioeconomic Class	Number	Percent
Middle Class	42	66.7
Lower Class	21	33.3

School Atmosphere

Attendance at school was apparently not a pleasant or memorable experience for most of the serial arsonists. Most (45, 70.3 percent) reported an emotional atmosphere in school as cold or troubled. Nineteen others, however, indicated their school had an emotional atmosphere described as warm and friendly. (See Table 18.)

Table 18
School Emotional Atmosphere
of Serial Arsonists
(N = 64)

Relationship	Number	Percent
Warm - Friendly	19	29.7
Cold - Troubled	45	70.3

Playmates

Although school provided a less than desirable emotional environment for most of the sample, their relationships with playmates during the years between age four years and 12 years was described as warm and friendly by about two-thirds of the sample. As indicated in Table 19, one interviewee reported mixed relationships and the remainder indicated that childhood relationships with playmates were cold and troubled.

Table 19
Relationship With Playmates
Ages 4 - 12
(N = 58)

Relationship	Number	Percent
Warm - Friendly	39	67.2
Cold - Troubled	18	31.0
Mixed	1	1.7

Family History

Socioeconomic Status

Most of the homes of the respondents were described as socioeconomically comfortable or average (59.5 percent). Only three claimed to live in an advantaged home while six each noted a marginal, but self-sufficient and a sub-marginal home socioeconomic status. Table 20 illustrates the distribution of responses to this inquiry.

Table 20
Socioeconomic Status of the Homes
of Serial Arsonists
(N = 37)

Socioeconomics	Number	Percent
Advantaged	3	8.1
Comfortable - Average	22	59.5
Marginal but Self Sufficient	6	16.2
Sub-marginal	6	16.2

Family Stability

Nearly one-half of the subjects in the study provided information on the stability of their family during childhood. (See Table 21.) The answers were nearly evenly split between usually stable (52.6 percent) and chronically unstable homes (47.4 percent).

Table 21
Family Stability History
of Serial Arsonists
(N = 38)

Level of Stability	Number	Percent
Usually Stable	20	52.6
Chronic Instability	18	47.4

Relationship with Mother

Only 36 of the serial arsonists provided comments on their relationship with their mother. Most of those responding (25, 69.4 percent) reported a warm and close relationship. Nine (25.0 percent) indicated the relationship was cold and distant and two (5.6 percent) depicted the relationship as hostile and aggressive. (See Table 22.)

Table 22
Relationship With Mother
(N = 36)

Relationship	Number	Percent
Warm - Close	25	69.4
Cold - Distant	9	25.0
Hostile - Aggressive	2	5.6

Relationship with Father

A total of 70 of the interviewees offered evaluations of the relationship with their father. The responses are reflected in Table 23. In contrast to the relationships with mothers that were reported predominantly as warm and close, relationships with fathers were much more likely to be characterized as cold and distant (42.9 percent) or hostile and aggressive (18.6 percent). Warm and close relationships with the father were reported by 38.6 percent). The distribution is reported in Table 23.

Table 23
Relationship With Father
(N = 70)

Relationship	Number	Percent
Warm - Close	27	38.6
Cold - Distant	30	42.9
Hostile - Aggressive	13	18.6

Family Structure

Data were available for 80 of the serial arsonists on family structure during childhood. A total of 46 (57.5 percent) were raised in an intact family with both natural parents present. Nine (11.3 percent) were in reconstituted families with a natural parent and a stepmother (1) or stepfather (8). Three (3.8 percent) lived with their natural father only and 10 (12.5 percent) with their natural mother only. Seven (8.8 percent) resided in foster homes and five (6.3 percent) with other relatives. Overall, as shown in Table 24, about

two-thirds (68.8 percent) had an intact or reconstituted family during their childhood.

Table 24
Childhood Family Structure
of Serial Arsonists
(N = 80)

Caretakers	Number	Percent
Both Natural Parents	46	57.5
Natural Father Only	3	3.8
Natural Mother Only	10	12.5
Father, Stepmother	1	1.3
Mother, Stepfather	8	10.0
Foster Home	7	8.8
Other Relatives	5	6.3

Forty of the serial arsonists provided information about birth order. Ten (25.0 percent) were first born children and 7 (17.5 percent) were second children. Twelve (30.0 percent) were third born . The remaining 11 (27.5 percent) were fourth to eleventh in birth order. The mean, modal and median birth order for the sample was third.

Eleven (13.4 percent) of the serial arsonists saw their natural mother leave the home, through death, divorce, abandonment or separation, before their 17th birthday. The age of the subject at the departure of the mother ranged from one year of age to 16 years with a mean age of 6.4 years. Fifteen (19.0 percent) reported the natural father left the family before the 17th birthday of the subject. The range was the same as for the mother's

departure. The mean age of the arsonists at the time of the father's leaving the home was 6.9 years.

Family Atmosphere

The serial arsonists (n = 63) reported that their family emotional atmosphere was more likely to be cold and distant (33, 52.4 percent) than warm and friendly (28, 44.4 percent). Two of the subjects noted the emotional atmosphere was mixed, suggesting one parent was warm and friendly while the other was cold and distant. (See Table 25.)

Table 25
Family Emotional Atmosphere
of Serial Arsonists
(N = 63)

Relationship	Number	Percent
Warm - Friendly	28	44.4
Cold - Distant	33	52.4
Mixed	2	3.2

Religious History

Several notable findings were reflected when the religious background and degree of religiosity of the subjects were analyzed. Childhood homes of the 26 respondents to this inquiry were characterized as deeply religious by 11 (42.3 percent) and moderately religious (15, 57.7 percent). (See Table 26.)

Table 26
Religious Character of Home
of Serial Arsonists
(N = 26)

Relationship	Number	Percent
Deeply Religious	11	42.3
Moderately Religious	15	57.7

One-half (19) of the 38 subjects who responded to questions about current degree of religiosity reported active involvement in religion while seven (18.4 percent) reported moderate religious involvement. Twelve subjects (31.6 percent) described themselves as non-religious. The distribution of the responses to the inquiry about current religiosity is illustrated in Table 27.

Table 27
Current Religious Involvement
of Serial Arsonists
(N =38)

Involvement	Number	Percent
Actively Involved	19	50.0
Moderately Involved	7	18.4
Non-Religious	12	31.6

As shown in Table 28, 34 of the subjects reported current religious affiliation. One-half (17) were members of the Catholic Church, 12 (35.3 percent) were Protestants, and five (14.7) were of the Jewish faith .

Table 28
Current Religious Affiliation
of Serial Arsonists
(N = 34)

Relationship	Number	Percent
Catholic	17	50.0
Protestant	12	35.3
Jewish	5	14.7

History of Arsons by Subjects

Age Factors

The serial arsonists reported the age of their first arson as part of this study. The responses ranged from age 4 to age 41. The mean age for the first arson was 15 years. The modal age was 14 and the median was 14. Additional data was collected on the number of arsons committed at various age groups. Data and age information was available for 1,474 arsons. Twelve (14.5 percent) set one or more fires before the age of six. Most set only one fire before age six although two fires were set by three of the group and one set three fires before age six. The twelve arsonists under six years of age set an average of 1.4 fires each. (See Table 29.)

Table 29
Fires Set Before Six Years of Age
By Serial Arsonists
(N =12)

Number of Fires Set	Number of Offenders	Percent
1	8	66.7
2	3	25.0
3	1	8.3

A total of 25 (30.1 percent) of the serial arsonists set one or more fires between the ages of 6 to 10. The number of fires ranged from one to 13. The 25 arsonists set a total of 99 fires, averaging four fires each. Most (60 percent) set one or two fires between the ages of 6 and 10. (See Table 30.)

Table 30
Fires Set At Ages 6 - 10 Years
By Serial Arsonists
(N = 25)

Number of Fires Set	Number of Offenders	Percent
1	6	24.0
2	9	36.0
3	2	8.0
4	2	8.0
5	1	4.0
6	1	4.0
12	2	8.0
13	2	4.0

By ages 11 - 13, 27 of the serial arsonists were setting fires. Their firesetting activity ranged from a single fire to 20 fires. The 27 offenders set a total of 123 fires, averaging 4.6 each. The distribution of the responses to this question is depicted in Table 31.

Table 31
Fires Set At Ages 11 - 13 Years
By Serial Arsonists
(N = 27)

Number of Fires Set	Number of Offenders	Percent
1	9	33.3
2	5	18.5
4	1	3.7
5	2	7.4
6	4	14.8
7	1	3.7
9	1	3.7
10	3	11.1
20	1	3.7

During the early teenage years of 14 - 16, 25 (30.1 percent) of the serial arsonists set fires. The numbers reported ranged from 1 to 108 arsons, totaling 317 fires. (See Table 32.) The total number of fires set by the 25 serial arsonists between the ages of 14 and 16 was 317. The average was 9.4 fires each.

Table 32
Fires Set At Ages 14 - 16 Years
By Serial Arsonists
(N = 25)

Number of Fires Set	Number of Offenders	Percent
1	10	28.6
2	4	11.4
3	4	11.4
4	2	5.7
5	3	8.6
6	5	14.3
10	2	5.7
15	2	5.7
35	1	2.9
50	1	2.9
108	1	2.9

In the age group from 17 to 18 years of age, 34 (41.0 percent) were active in setting fires. The total number of arsons committed by serial arsonists in this age group was 306, an average of 9.0 fires each. The range of firesetting, as shown in Table 33, was from one to 104 fires.

Table 33
Fires Set At Ages 17 - 18 Years
By Serial Arsonists
(N = 34)

Number of Fires Set	Number of Offenders	Percent
1	9	26.5
2	3	8.8
3	6	17.6
4	3	8.8
5	3	8.8
7	1	2.9
8	1	2.9
10	2	5.9
12	2	5.9
13	1	2.9
15	1	2.9
60	1	2.9
104	1	2.9

Table 34 points out the decrease in firesetting activity by serial arsonists as they moved into the age group 19 - 21. Only 22 of the arsonists (26.5 percent) set fires at this age. The total number of fires set was 93 and the mean number by the offenders was 4.2 fires each.

Table 34
Fires Set At Ages 19 - 21 Years
By Serial Arsonists
(N = 22)

Number of Fires Set	Number of Offenders	Percent
1	7	31.8
2	3	13.6
3	1	4.5
4	2	9.1
5	3	13.6
6	2	9.1
7	1	4.5
10	2	9.1
15	1	4.5

Twenty-five of the serial arsonists (30.1 percent) were involved in setting fires in the age group 22 - 29. While in this age range, the 25 arsonists set a total of 216 fires, an average of 8.6 each. The numbers of fires set ranged from one to 28. See Table 35 for the distribution of the responses.

Table 35
Fires Set At Ages 22 - 29 Years
By Serial Arsonists
(N = 25)

Number of Fires Set	Number of Offenders	Percent
1	4	16.0
2	2	8.0
3	2	8.0
4	3	12.0
5	3	12.0
6	1	4.0
7	1	4.0
9	1	4.0
10	1	4.0
12	1	4.0
14	1	4.0
18	1	4.0
20	1	4.0
24	1	4.0
27	1	4.0
28	1	4.0

Only about one-third of the 83 serial arsonists were over 30 years of age when the interviews were conducted and that is reflected in the numbers of arsonists active at the older ages. Between 30 and 35 years of age, 11 members (13.3 percent) of the sample set fires. As illustrated in Table 36, the numbers of fires set ranged from one to 125. The average was 13.5 fires each. The average is inflated because one offender reportedly set 125 fires.

Table 36
Fires Set At Ages 30-35 Years
By Serial Arsonists
(N =11)

Number of Fires Set	Number of Offenders	Percent
1	4	36.4
2	2	18.2
4	1	9.1
11	1	9.1
12	1	9.1
15	1	9.1
125	1	9.1

In the late thirties age group, four (4.8 percent) serial arsonists between the ages of 36 and 40 set a total of 53 fires. Table 37 provides the distribution of their firesetting activity, which ranged from one to 40 fires. The four offenders averaged 13.3 fires each.

Table 37
Fires Set At Ages 36 - 40 Years
By Serial Arsonists
(N = 4)

Number of Fires Set	Number of Offenders	Percent
1	1	25.0
2	1	25.0
10	1	25.0
40	1	25.0

Three (3.6 percent) of the sample set fires between 41 and 50 years of age. There were only five offenders in this age group in the entire sample. The three accounted for 117 fires, 115 of them set by a single offender. (See Table 38.) The sample contained only one individual, aged 51 years, over 50 and he denied any firesetting activity after age 50.

Table 38
Fires Set At Ages 41 - 50 Years
By Serial Arsonists
(N = 3)

Number of Fires Set	Number of Offenders	Percent
1	2	66.7
115	1	33.3

States Where Arsons Committed

The 83 serial arsonists set fires in 16 different states. None set fires in more than two states and those tended to be adjacent states. This suggests that serial arsonists, compared to other types of serial offenders, are less mobile in their fire setting activities. This assumption is supported by the data that indicated that 95 percent set fires in areas with which they were acquainted.

Number Fires Set

The 83 serial arsonists in this study set a total of 2,611 fires. This total averaged to 31.5 arsons by each offender. Based on the average monetary value loss of all arsons in the United States in 1991 (\$11,980), these fires would represent a monetary value loss of \$29,450,000. But the costs and losses resulting from the arsons committed by this group of serial arsonists were not limited to property damage. Seven people died in five separate arsons committed by members of the study sample.

Number Times Questioned

A portion of the sample (37, 44.6 percent) responded to questions about being questioned by law enforcement about arsons. The 37 indicated that they had been questioned an average of 3.7 times each without being arrested for an arson. This suggests that many of the serial arsonists are suspected by law enforcement and are sought out as likely suspects.

Number Times Not Caught

On average, the serial arsonists indicated that they set 25.3 fires without being questioned or apparently becoming a suspect. When the serial arsonists were arrested and convicted, on average, they were convicted of 3.4 fires. These numbers sum to almost exactly the average number of fires set by the serial arsonists (31.5 each). Thus, for this sample of serial arsonists, each set about 31 fires, each was questioned but not charged in 3 of those fires, and each was ultimately charged and convicted of three arsons. The remaining 25 arsons did not result in questioning or charges filed. These numbers suggest a clearance rate, defined as cleared by arrest, for serial arson of about 11 percent.

How Apprehended

When the serial arsonists were apprehended, a variety of factors contributed. As shown in Table 39, the factor involving the efforts of law enforcement investigators was the primary factor, accounting for 38.0 percent of the apprehensions. The second most common factor was the arsonist confessing after questioning or turning himself or herself in to law enforcement. Other major factors were witnesses (12.7 percent), caught in the act (9.9 percent), and informants (7.0 percent). Recovery of key evidence at the scene (4.2 percent) and committing an arson in jail (4.2 percent) were also commonly listed factors in apprehension of the arsonist. Other factors included being caught fleeing the scene (1.4 percent) and a combination of these factors (1.4 percent).

Table 39
Method of Apprehension
of Serial Arsonists
(N = 71)

Method	Number	Percent
Turned Self In or Confessed	15	21.1
Informant	5	7.0
Witness	9	12.7
Key Evidence Recovered	3	4.2
Law Enforcement Investigation	27	38.0
Caught in Act	7	9.9
Arson While in Jail	3	4.2
Caught Fleeing Scene	1	1.4
Multiple Events	1	1.4

Place of Arrest

The serial arsonists were arrested at a variety of places. Table 40 reflects the distribution of the responses of the 39 subjects who responded to this question. Some, having multiple arrests for arson, indicated that they were arrested at different places for the various offenses (9, 23.1 percent). Eight (20.5 percent) were arrested at their residence. Others (5, 12.8 percent) were arrested at the crime scene or while fleeing the scene of the arson. Four (10.3 percent) were arrested at their workplace and three (7.7 percent) at some residence other than their own.

Table 40
Place of Arrest
of Serial Arsonists
(N = 39)

Place of Arrest	Number	Percent
Crime Scene	5	12.8
Fleeing Scene	5	12.8
Subject's Residence	8	20.5
Subject's Workplace	4	10.3
Police Station	5	12.8
Another's Residence	3	7.7
Other (Combination)	9	23.1

Actions Taken to Avoid Identification

Given the relative success of avoiding arrest for arson, with a clearance rate of only 11 percent found in this study, it could be assumed that serial arsonists may take actions to avoid identification. However, the data did not support that assumption. Less than one-fourth of the responding serial arsonists took any kind of action to avoid identification. Those actions are given in Table 41. Only nine of 38 reported wearing gloves (6, 15.8 percent), removing evidence (2, 5.3 percent), and using a disguise (1, 2.6 percent) in an attempt to avoid identification. The offender that used a disguise changed his hair style, clothing, and used shoe polish to make his skin black. No less than 76.3 percent took no action to avoid identification.

Table 41
Actions Taken To Avoid Identification
by Serial Arsonists
(N = 38)

Actions	Number	Percent
None	29	76.3
Wore Gloves	6	15.8
Removed Evidence	2	5.3
Disguised Self	1	2.6

Resistance to Arrest

The serial arsonists were asked about their reactions to being placed under arrest. Their responses are provided in Table 42. Four (10.5 percent) of 38 who responded to this question attempted an escape from the arresting officers. Three (7.9 percent) reportedly struggled with the officers and two (5.3 percent) both struggled and attempted an escape. The remainder (29, 76.3 percent) offered no resistance to the arrest.

Table 42
Resistance to Arrest
(N = 38)

Actions	Number	Percent
Attempted Escape	4	10.5
Physical Struggle	3	7.9
No Resistance	29	76.3
Combination	2	5.3

Plea to Charges

Most of those charged with arson pleaded guilty to the charges. Twenty (52.6 percent) pled guilty from the start of proceedings and four others (10.5 percent) changed an initial not guilty plea to guilty before trial. Three differed in their pleas on separate trials, pleading guilty in one and not guilty in a later trial. Eleven of the 38 respondents maintained a plea of not guilty through trial. (See Table 43.)

Table 43
Plea to Charges
by Serial Arsonists
(N = 38)

Plea Entered	Number	Percent
Guilty	20	52.6
Not Guilty	11	28.9
Changed to Guilty	4	10.5
Combination	3	7.9

Characteristics of The Offenses

Area and Timing of The Fires

Forty of the serial arsonists provided information on the general area and the timing of arsons. One (2.5 percent) set fires at work or at school. Three others (7.5 percent) set fires while enroute to or from work or school. Most (17, 42.5 percent) set fires after work or school hours and four (10.0 percent) reserved their arson activities until weekends. Ten (25.0 percent) set

fires in their own home and five (12.5 percent) evidenced no general pattern other than setting multiple fires in multiple locations. (See Table 44.)

Table 44
Area and Timing of the Arsons
(N = 40)

Location	Number	Percent
Work or School	1	2.5
To/From Work/School	3	7.5
After Work Hours	17	42.5
Days Off -Weekends	4	10.0
Multiple Locations	5	12.5
Home or Other	10	25.0

Distance from Home

Serial arsonists do not exhibit patterns of extensive travel to the locations of their arsons. As depicted in Table 45, 50 percent set fires within one mile of their home and 70 percent within two miles. Two (2.7 percent) selected arson targets within one block of their residence and five (6.8 percent) percent set fires at home or in the institution where they resided. Four (5.4 percent) traveled only one to two blocks from home, nine (12.2 percent) committed their arsons within two to five blocks of home, and 22 (29.7 percent) set fires within one mile of their residence. Another 15 (20.3 percent) ventured as far as two miles. Longer distances were less frequently reported with three arsonists (4.1 percent) setting fires in the two to five mile range, four (5.4 percent) from five to 10 miles, two each (2.7 percent) at distances of 10 - 20 miles and 20 to 40 miles. Only one (1.4 percent)

reported traveling beyond the 40 mile distance to commit offenses. Five others noted that the distances varied for their arsons.

Table 45
Distance From Home
to Locations of Arsons
(N = 74)

Distance	Number	Percent
0 - 1 Block	2	2.7
1 - 2 Blocks	4	5.4
2 - 5 Blocks	9	12.2
1/2 to 1 Mile	22	29.7
1 - 2 Miles	15	20.3
2 - 5 Miles	3	4.1
5 - 10 Miles	4	5.4
10 - 20 Miles	2	2.7
20 - 40 Miles	2	2.7
40 - 60 Miles	1	1.4
Varied Distances	5	6.8
Home or Institution	5	6.8

Mode of Transportation

The mode of transportation for most of the arsonists involved walking to the scene where they committed the offense. Since most set fires no further than one or two miles from their residence it is not surprising that 60.8 (48) percent walked to the scene. Four others (5.1 percent) rode a bicycle and two (2.5 percent) a motorcycle. Fourteen of the serial arsonists used a vehicle with an automobile being the choice of 13 (16.5 percent) of

the arsonists. One offender drove a truck. Six noted that they set fires at locations that required no travel and five indicated they used different modes of transportation for their arson activity. The distribution of the responses on mode of transportation are provided in Table 46.

Table 46
Mode of Transportation
to Scene of Arsons
(N = 79)

Mode	Number	Percent
Walked	48	60.8
Bicycle	4	5.1
Motorcycle	2	2.5
Automobile	13	16.5
Truck	1	1.3
Already at Scene	6	7.6
Mixed Modes	5	6.3

Vehicle Condition

Only 24 of the sample owned automobiles or other vehicles. Fifteen of those vehicles (62.5 percent) were reportedly well cared for and another eight (33.3 percent) were described as having average wear and tear. Only one had a neglected or poor condition vehicle. (See Table 47.) Five of the serial arsonists had special equipment such as a Citizen's Band radio (2), police scanner (1), six band radio (1), or spotlight (1) on their vehicle.

Table 47
Vehicle Condition
(N = 24)

Condition	Number	Percent
Well Cared For	15	62.5
Average Wear & Tear	8	33.3
Neglected - Poor	1	4.2

Living Arrangements

The serial arsonists (n = 43) reported a variety of living arrangements at the time they were committing arsons. Table 48 reflects those arrangements. Ten (23.3 percent) were living with their parent(s) and seven (16.3 percent) were living alone. Six had one or more roommates with two (4.7 percent) living with a female roommate, three (7.0 percent) with a male roommate, and one (2.3 percent) with a roommate of both sexes. One was residing with his spouse and two (4.7 percent) with a spouse and children. Three (7.0 percent) lived with grandparents, six (14.0 percent) were in an institution, and eight (18.5 percent) had differing types of living arrangements while offending.

Table 48
Living Arrangements
at Time of Arsons
(N = 43)

Arrangements	Number	Percent
Parents	10	23.3
Alone	7	16.3
Female Roommate	2	4.7
Male Roommate	3	7.0
Both Sex Roommates	1	2.3
Spouse	1	2.3
Spouse and Children	2	4.7
Grandparents	3	7.0
Institution	6	14.0
Mixed	8	18.5

Type Housing

The serial arsonists had several types of residences at the time the arsons were committed. Eight (18.1 percent) lived in a rooming house, one (2.4 percent) in a hotel or motel, ten (23.8 percent) in an apartment, and 18 (42.9 percent) in a single family residence. Five (11.9 percent) indicated their primary residence was in an institution. This distribution is shown in Table 49.

Table 49
Type of Residence
at Time Arsons Committed
(N = 42)

Type Residence	Number	Percent
Rooming House	8	18.1
Hotel or Motel	1	2.4
Apartment	10	23.8
Single Family House	18	42.9
Institution	5	11.9

Familiarity with Area

Almost all of the serial arsonists set fires in areas with which they were acquainted. A total of 39 of 41 (95.1 percent) indicated that was the situation for their offenses. These data, shown in Table 50, are supported by the previous information on distances traveled to set fires. Most of the serial arsonists set fires within a distance no more than two miles from their home (See Table 45 above.)

Table 50
Arsonist Acquainted With Area
Where Arsons Committed
(N = 41)

Acquainted with Area	Number	Percent
Yes	39	95.1
No	2	4.9

Accomplices Involved

Accomplices took part in the serial arsonists criminal acts in 20.3 percent of the cases. In the remainder, the arsonist worked alone (79.7 percent). The sixteen serial arsonists who reported having an accomplice included 14 who had a male accomplice, one with a female, and one had both a female and a male who accompanied them during their commission of arson offenses. It is interesting that those with accomplices set considerably fewer fires (average 6.1 fires) than those who worked alone (average 32.6 fires). This information, coupled with the information on methods of apprehension, suggests that some of the apprehensions were the result of accomplices turning in the arsonist to police (See Table 51.)

Table 51
Other Persons Involved
in Arsons
(N = 79)

Persons Involved	Number	Percent
Alone	63	79.7
Others Involved*	16	20.3

* Includes 14 males, 1 female and 1 case of both male and females accomplices.

Target Selection

Serial arsonists (n = 33) had no particular discernible pattern of target selection for their fires. As Table 52 shows, a variety of ways of selecting a target were used. The most common response to the question about target selection was the use of multiple methods, depending on circumstances(11, 32.4 percent). The second most frequently occurring response was random

target selection (6, 17.6). The third most frequently cited method was for convenience (4, 11.8 percent). Two each (5.9 percent) included target selection criteria as (a) place of employment, (b) within walking distance, (c) for profit, (d) for minimal damage, and (e) for best results. One each reported knowledge of the target and place of residence as target selection factors.

Table 52
Method of Target Selection
(N = 33)

Method	Number	Percent
Knew The People	1	2.9
Worked There	2	5.9
Random Selection	6	17.6
Walking Distance	2	5.9
Knowledge of Target	1	2.9
For Profit	2	5.9
Convenience	4	11.8
Lived There	1	2.9
For Minimal Damage	2	5.9
For Best Results	2	5.9
Multiple Methods	11	32.4

Access To Targets

The methods of gaining access to an arson target were much more patternable. (See Table 53.) The most commonly reported method of entry into a target structure was through open entryways, a method reported by

37.8 percent (14) of the serial arsonists. Seven (18.9 percent) broke into the structures and six (16.2 percent) used multiple methods to gain access to the selected target. Five (13.5 percent) noted that their fires were set outside and required no access. Similarly, four (10.8 percent) lived at the scene of the fires and another (2.7 percent) had a key to the structures. Overall, 80 percent of the arsonists did not break into the buildings or structures where they set fires.

Table 53
Means of Gaining Access
to Arson Targets
(N = 37)

Means	Number	Percent
Open Entry	14	37.8
Broke In	7	18.9
Had a Key	1	2.7
Lived There	4	10.8
Set Outside	5	13.5
Multiple Means	6	16.2

Mechanics of Offense

A variety of questions were posed to learn the mechanics of the arson offense. The responses to those inquiries are presented in this section of the report.

Accelerant Used

Material available at the scene was the accelerant of choice for 58.9 percent (30) of the serial arsonists. Gasoline was selected by 17.8 percent (13) and 9.6 percent (7) used other petroleum products as an accelerant.

Ten (13.7 percent) of the serial arsonists did not restrict their use of accelerants to one particular type, instead relying on a variety of accelerants depending upon circumstances. The distribution is depicted in Table 54.

Table 54
Type of Accelerant Used
in Arson Fires
(N = 73)

Type Accelerant	Number	Percent
Gasoline	13	17.8
Other Petroleum	7	9.6
Available Materials	43	58.9
Multiple Accelerants	10	13.7

Ignition Devices

Matches were the predominant ignition device used by the serial arsonists with 57.9 percent (44) using book matches and 7.9 percent (6) using wooden matches. A cigarette lighter was used to ignite arson fires by 17.1 percent (13). More sophisticated methods were much less common. Five (6.6 percent) used a combination of ignition devices and two (2.5 percent) each reported the use of Molotov cocktails and cigarette devices. One (1.3 percent) each used road flares, flare gun, candle and gunpowder to ignite their fires. See Table 55 for the distribution of the responses.

Table 55
Ignition Devices Used
By Serial Arsonists To Set Fires
(N = 76)

Type Device	Number	Percent
Wooden Matches	6	7.9
Book Matches	44	57.9
Cigarette Lighter	13	17.1
Combination	5	6.6
Molotov Cocktail	2	2.6
Cigarette Device	2	2.6
Road Flare	1	1.3
Flare Gun	1	1.3
Candle	1	1.3
Gunpowder		1.3

Items Left at Scene

One of the sources of critical evidence of arsons is the presence of materials left at the scene by the arsonist. Thirty-eight members of the sample reported leaving items at the scene of their arsons. Table 56 reflects the responses and their distribution.

Table 56
Anything Left At the Scene
by The Serial Arsonists
(N = 78)

Items Left at Scene	Number	Percent
Yes	38	48.7
No	40	51.3

The most common item left at the scene was matches (17, 47.2 percent). Five (13.9 percent) of the serial arsonists left gas cans and four (11.1 percent) left the ignition devices behind when they departed from the arson scene. Ten others (27.8 percent) reported leaving a variety of items, such as beverage cans, paper, and bits of fuel. (See Table 57.)

Table 57
Items Left At Scene
by Serial Arsonists
(N = 36)

Item Left at Scene	Number	Percent
Gas Can	5	13.9
Matches	17	47.2
Devices	4	11.1
Cigarette Lighter	2	5.6
Multiple Items	8	25.0

Items Removed from Scene

Twenty-two of the serial arsonists responded to an inquiry about removing items from the scene before igniting a fire. As Table 58 reflects, there was no particular item that was consistently removed from arson scenes. Most of those items can generally be classified as items for personal use or for possible resale. Two each (9.1 percent) reported removing tools, money, furniture, and valuables. One each (4.5 percent) removed vehicle stereos, clothes, appliances, a vehicle, a jack knife, personal items and alcoholic beverages.

Table 58
Items Removed From Scene
By Serial Arsonists
(N = 22)

Item Removed	Number	Percent
Vehicle Stereo	1	4.5
Tools	2	9.1
Money	2	9.1
Clothes	1	4.5
Appliances	1	4.5
Vehicle	1	4.5
Furniture	2	9.1
Jack Knife	1	4.5
Valuables	2	9.1
Personal Items	1	4.5
Alcohol	1	4.5

Seven (31.8 percent) of the 22 responding arsonists removed multiple items. The multiple items were primarily valuables, such as money, personal items and tools.

Post-Offense Behavior

We were interested in the behavior and post-offense behavior of the serial arsonist. The subjects were asked what they did immediately after setting the fire. They were also asked if they returned to the scene of the arson to observe the action or to view the damage caused by the fire.

Movements

Seventy of the serial arsonists provided information on immediate post-offense movements. Twenty-two (31.4 percent) remained at the scene of the fire. Twenty (28.6 percent) went to another location, away from the scene, to observe the fire and the action involved in fighting it. Another 28 (40 percent) departed from the scene and did not return. Slightly over one-half (37, 52.9 percent) did return to the scene at some time after the fire. (See Table 59.)

Table 59
Action Taken After Setting a Fire
By Serial Arsonists
(N = 70)

Action	Number	Percent
Remained at Scene	22	31.4
Went to Another Location to Observe	20	28.6
Returned to Scene Later	37	52.9
Left, Never Returned	28	40.0

Totals add to more than N and 100 percent due to multiple responses.

The return to the fire scene ranged from minutes after the fire was set to as much as a week later, although 97.3 percent returned to the scene within 24 hours of the arson. The distribution of time before returning to the scene is shown in Table 60. Four of ten (40.5 percent) returned within 20 minutes and 64.0 percent returned within four hours. Another 5.4 percent returned before eight hours had elapsed and yet another 27.0 percent before 24 hours. Only one offender noted that return to the scene was typically from one to seven days after the fire.

Table 60
Time Before Returning to the Scene
(N = 37)

Time	Number	Percent
0 - 10 Minutes	7	18.9
10.1 - 20 Minutes	7	18.9
20.1 - 30 Minutes	1	2.7
30.1 - One Hour	5	13.5
1.1 - 2 Hours	3	8.1
2.1 - 4 Hours	1	2.7
4.1 - 8 Hours	2	5.4
8.1 - 24 Hours	10	27.0
1 - 7 Days	1	2.7

Changes in Behavior After Offense

After setting a fire, the serial arsonists exhibited a wide range of behaviors. General behavioral changes (18, 21.7 percent) was the most commonly occurring change. Other significant changes included following the case in the media (15, 18.1 percent), increasing alcohol or drug use (14, 16.9 percent), resetting fires in the same location (11, 13.3 percent) and communications with the police or the media (10, 12.0 percent). Others reported such behavioral changes as confiding in another person about the crime (8, 7.6 percent), communicating with the victim (7, 8.4 percent), and interjecting themselves in the case (6, 7.2 percent). Other reported changing residence (5, 6.0 percent), physical deterioration (5, 6.0 percent), and a combination of these various changes (5, 6.0 percent). Others kept souvenirs (4, 4.8 percent), left town (4, 4.8 percent), felt remorse and guilt (4, 4.8 percent), increased religious fervor (3, 3.6 percent), and changed jobs (3, 3.6 percent). The distribution of the responses are shown in Table 61, on the next page.

Other Offense-Related Behaviors

Inquiries were made about other behaviors related to the offense of arson. Information was available on 1,450 fires as to type of target and frequency of selection of those targets.

Table 61
Post Offense Behaviors
of Serial Arsonists
(N = 83)

Behavior	Number	Percent
Followed Case in Media	15	18.1
Kept Souvenirs	4	4.8
Communicated with Police or Media	10	12.0
Communicated With Victim	7	8.4
Interjected Self in Case	6	7.2
Confided in Another	8	9.6
Increased Use of Drugs or Alcohol	14	16.9
Changed Residence	5	6.0
Increased Religious Fervor	3	3.6
Changed Jobs	3	3.6
Physical Deterioration	5	6.0
Left Town	4	4.8
Behavioral Changes	18	21.7
Reset Fires at Same Location	11	13.3
Felt Remorse, Guilt	6	4.8
Combination	3	6.0

Types of Arson Targets

Residential structures were the target of 10.5 percent of the arsons. Businesses accounted for 18.1 percent of the arsons committed by the serial arsonists in this study. Other structures were the targets of the serial arsonists in 14.6 percent of the 1,450 fires. Overall, the serial arsonists selected structures 43.2 percent of the time. Vehicles were the target of the serial arsonists in 16.3 percent of the offenses. The serial arsonists selected a target in the other than mobile or structure category for 40.5 percent of the fires they set. (See Table 62.)

Table 62
Arsons by Type of Target
(N = 1,450)

Type Target	Number	Percent
Residences	152	10.5
Businesses	263	18.1
Other Structures	211	14.6
Vehicles	237	16.3
Vegetation	239	16.5
Other Targets*	348	24.0

* Includes trash cans, bins, dumpsters, mattresses, sleeping bag, clothing, toys and rags.

Number Fires Set One Place

By far a majority of the serial arsonists set only one fire in a location. However, some returned to set new fires in the same place many times. The distribution of that practice is illustrated in Table 63. Four (4.5 percent) of the serial arsonists reported setting two fires at the same place and seven (10.6 percent) reported three fires in the same location. Two others (3.0 percent) stated they had set as many as four fires in the same location and three other serial arsonists reported setting four, seven and 11 fires in a single location.

Table 63
Number of Fires Set In One Place
By Serial Arsonists

(N = 66)

Number of Fires Set	Number of Offenders	Percent
1	13	77.3
2	4	4.5
3	7	10.6
4	2	3.0
7	1	1.5
9	1	1.5
11	1	1.5

Residence Arsons

Thirty of the serial arsonists provided data on fires they set in residences and the frequency of choosing a residence as a target. As shown in Table 64, the range of residence fires was from a single fire set in a residence to 75 such arsons. The most commonly occurring response was one fire (43.3 percent) in a residence. Four (13.3 percent) reported setting two residential structure fires and seven (23.2 percent) admitted to three. Two of the offenders claimed five fires and others credited themselves with 6, 8, 11, and 75 fires each. Overall, the 30 serial arsonists who responded to this inquiry set a total of 152 fires in residences, averaging 5.1 arsons each.

Table 64
Number of Fires In Residences
Set By Serial Arsonists
(N = 30)

Number of Fires Set	Number of Offenders	Percent
1	13	43.3
2	4	13.3
3	7	23.3
5	2	6.7
6	1	3.3
8	1	3.3
11	1	3.3
75	1	3.3

The fires set in residences were most likely to be set in garages or on porches (7, 26.5 percent). Bedrooms (5, 19.0), living rooms (3, 14.3 percent), hallway and stairs (2, 9.5 percent), and closets (2, 9.5 percent) were other common areas for firesetting in residences. Only one fire (4.8 percent) was reportedly set in a dining room and in a basement and utility area. (See Table 65.)

Table 65
Location of Arsons in Residences
(N = 21)

Location	Number	Percent
Living Room	3	14.3
Dining Room	1	4.8
Bedroom	5	19.0
Hallway or Stairs	2	9.5
Basement/Utility Area	1	4.8
Porch or Garage	7	26.5
Closet	2	9.5

Business Arsons

A total of 22 serial arsonists discussed their firesetting activities that involved business. (See Table 66.) One-half (11, 50.0 percent) claimed only one fire in a business while two reported they had set in excess of 100 each. Two stated they had set five fires each in businesses and one each reported 4,5,7, and 28. The total number of fires set in businesses by these 22 serial arsonists was 263, an average of 12.0 each.

Table 66
Number of Fires In Businesses
Set By Serial Arsonists
(N = 22)

Number of Fires Set	Number of Offenders	Percent
1	11	50.0
2	5	22.7
4	1	4.5
5	1	4.5
7	1	4.5
28	1	4.5
100+	2	9.1

Other Structure Arsons

Thirty-three serial arsonists reported setting a total of 211 fires in other structures, an average of 6.4 each. The range of firesetting in this category of arson target was from a single fire (12, 36.4 percent) to two (6.1 percent) who reported 50 fires each. Nine (27.3 percent) stated they had set two fires and three (9.1 percent) claimed 3 fires in other types of structures. The remainder reported 4, 5, 6, 7, 8, 14, and 28 each. (See Table 67.)

Table 67
Number of Fires In Other Structures
Set By Serial Arsonists
(N = 33)

Number of Fires Set	Number of Offenders	Percent
1	12	36.4
2	9	27.3
3	3	9.1
4	1	3.0
5	1	3.0
6	1	3.0
7	1	3.0
8	1	3.0
14	1	3.0
28	1	3.0
50	2	6.1

Vehicle Arsons

A total of 237 fires were set in vehicles by 21 serial arsonists, an average of 11.3 each. One offender reported setting 75 vehicle fires, one reported 70, another 48. Twelve of the 21 stated they had set only one vehicle fire and two each claimed two and three fires. (See Table 68.)

Table 68
Number of Fires In Vehicles
Set By Serial Arsonists
(N = 21)

Number of Fires Set	Number of Offenders	Percent
1	12	57.1
2	2	9.5
3	2	9.5
7	1	4.8
15	1	4.8
48	1	4.8
70	1	4.8
75	1	4.8

Vegetation Arsons

Fires were set in vegetation and in wildlands by 31 of the serial arsonists, accounting for 239 arsons. This yielded an average of 7.0 for each of the offenders who admitted firesetting in this category. The range was from eight (25.8 percent) who set a single vegetation fire to one who set 40. The distribution is reflected in Table 69.

Table 69
Number of Fires In Vegetation
Set By Serial Arsonists
(N = 31)

Number of Fires Set	Number of Offenders	Percent
1	8	25.8
2	7	22.6
3	3	9.7
4	2	6.5
5	1	3.2
10	3	9.7
14	3	9.7
25	1	3.2
28	1	3.2
30	1	3.2
40	1	3.2

Other Locations

A total of 33 of the serial arsonists disclosed a total of 348 fires set primarily in trash cans, bins, and dumpsters. The average number of fires of this type reported by the serial arsonists was 12.0 each. Two of the offenders stated they had lit more than 100 such fires each. Only 27.6 percent reported only one fire of this type, suggesting repeat behavior was more common here than in the other types of fires. (See Table 70.)

Table 70
Number of Fires In Other Locations
Set By Serial Arsonists*
(N = 33)

Number of Fires Set	Number of Offenders	Percent
1	8	27.6
2	5	17.2
3	3	10.3
4	1	3.4
5	1	3.4
6	2	6.9
9	1	3.4
10	1	3.4
12	2	6.9
15	1	3.4
19	1	3.4
25	1	3.4
100+	2	6.9

* Includes 20 offenders who reported setting fires in trash cans, bins and dumpsters; three who set fires in clothing, sleeping bag, and rags; five who burned mattresses; and one who reported setting fire to some toys as a juvenile.

Increase in Frequency

No evident pattern was noted in frequency changes of arson offenses by serial offenders. Of the 30 who provided information about the frequency of their offenses, nearly equal percentages increased (33.3 percent) and

decreased (36.7 percent) the frequency of their offenses over time. Slightly fewer (26.7 percent) maintained a consistent frequency of firesetting. (See Table 71.)

Table 71
Change in Offense Frequency
by Serial Arsonists
(N = 30)

Frequency	Number	Percent
Increased Frequency	10	33.3
No Change	8	26.7
Decreased Frequency	11	36.7
Varied	1	3.3

Increase in Severity

While the frequency of firesetting did not significantly change over time, the severity of offenses did. Of 37 serial arsonists who answered the questions about severity of their offenses, 64.9 percent increased severity over time. (See Table 72.)

Table 72
Changes in Offense Severity
by Serial Arsonists
(N = 37)

Severity Increased	Number	Percent
Yes	24	64.9
No	13	35.1

Spree and Mass Arson

Since all of the arsonists selected for this study were serial arsonists, it was necessary to determine if any of them also committed mass or spree arsons in addition to their serial activities. As defined in the Crime Classification Manual (Douglas, et al, 1993), mass arson involves setting three or more fires at a single location at the same time. Six (7.2 percent) of the sample reported at least one case of mass arson. Six also reported going on a spree of arson, setting three or more fires without a significant cooling off period between the fires. Two of the sample reported both mass and spree activities in addition to the serial arsons. The distribution of serial arsonists by type arson activities is shown in Table 73.

Table 73
Type of Arsons Committed
by Serial Arsonists
(N = 83)

Type	Number	Percent
Serial Only	69	83.2
Serial and Spree	6	7.2
Serial and Mass	6	7.2
Serial, Spree and Mass	2	2.4

Alcohol and Drug Involvement

Alcohol Use

Nearly one-half (39, 47.6 percent) of the sample used alcohol before setting fires and 26 others (31.7 percent) reported significantly different use at the time of fires. (See Table 74.) The significantly different use involved drinking more heavily than normally.

Table 74
Alcohol Use
by Serial Arsonists
(N = 82)

Alcohol Use	Number	Percent
Used Before Fires	39	47.6
Significantly Different at Time of Fires	26	31.7

Drug Use

One in three of the serial arsonists used drugs, other than alcohol, before setting fires and 5.1 percent increased drug use significantly at the time of setting fires. (See Table 75.) Overall, 16.9 percent (14 offenders) reported increasing alcohol or drug use after setting a fire.

Table 75
Drug Use
by Serial Arsonists
(N = 78)

Drug Use	Number	Percent
Used Before Fires	26	33.3
Significantly Different at Time of Fires	4	5.1

Motives and Reasons for Firesetting

Reasons Given

Table 76 presents the reasons given by the arsonists for setting fires. Revenge was the most frequent reason reported with 53 (63.9 percent) of the sample including revenge as a reason. The revenge motivation was expressed as anger, hostility, getting even, frustration, and hatred. Excitement was the second most frequently occurring response with 22 (26.5 percent) offering that reason. Among the excitement reasons were thrills, recognition, power, and attention. Various types of emotional problems, including alcoholism, family problems, and depression, were reasons given by 19 (22.9 percent) of the sample. Ten (12.0 percent) gave profit as a reason for their fire-setting and eight (9.6 percent) listed vandalism as a

reason. Four others (4.8 percent) stated that they had set fires to conceal a crime.

Table 76
Reasons for Firesetting
(N = 83)

Reason	Number	Percent
Revenge	53	63.9
Excitement	22	26.5
Emotional Problems	19	22.9
Profit	10	12.0
Vandalism	8	9.6
Conceal a Crime	4	4.8

Totals exceed number of cases and 100 percent due to multiple answers by some interviewees.

Precipitating Stress Factors

In addition to providing reasons for their arson activities, 37 of the serial arsonists listed stress factors in their lives that may have precipitated the arsons. Those factors are listed in Table 77. Seven (18.9 percent) each listed multiple stress factors, financial difficulties and conflict with their parents as precipitating stress factors. Six (16.2 percent) reported conflict with a significant other in their life at the time of arson activities and five indicated they were undergoing a significant life event. These events included their mother having a baby, the death or murder of a friend or relative and moving to a new school. Three (8.1 percent) gave mental or emotional problems as a factor and two (5.4 percent) listed physical illness as a factor.

Table 77
Precipitating Stress Factors
(N = 37)

Stressor	Number	Percent
Financial Difficulties	7	18.9
Conflict with Parents	7	18.9
Conflict - Significant Other	6	16.2
Illness	2	5.4
Mental Problems	3	8.1
Significant Life Event*	5	13.5
Multiple Stressors	7	18.9

* Includes deaths in family, murder of relative, mother having a baby, moving to new school.

Feelings When Setting Fire

The most common feeling or emotion expressed by the serial arsonists when they were setting a fire was anger (27, 33.3 percent). Eight (9.9 percent) each indicated they felt happy or felt no particular emotion when setting fires. Seven others (8.6 percent) reported feeling scared when lighting a fire and five (6.2) said they were frustrated. Three (3.7 percent) reported feeling sad and 23 (28.4 percent) indicated that combinations of feeling were the norm for them. The distribution of the responses are depicted in Table 78.

Table 78
Feeling When Setting Fires
(N = 81)

Feeling	Number	Percent
Angry	27	33.3
Frustrated	5	6.2
Sad	3	3.7
Afraid	7	8.6
Happy	8	9.9
No Particular Feeling	8	9.9
Combinations	23	28.4

Concerns About Being Caught

Related to emotions and feelings when setting fires is the concern or lack of concern about being caught for setting fires. As illustrated in Table 79, few of the serial arsonists were concerned about being caught. Eleven (17.7 percent) felt there was no chance of being caught, 10 (16.1 percent) thought the chance was slight and 12 (19.4 percent) thought there was a strong chance. Nearly one-half (27, 43.5 percent) did not even entertain the idea of being caught.

Further questioning indicated that 39.7 percent said they would still have set a fire even if they thought they would be convicted of doing so. The remaining 62.3 said they would not set a fire if they knew they would be convicted.

Table 79
Chances of Being Caught and Convicted
(N = 62)

Chance	Number	Percent
No Chance	11	17.7
Slight Chance	10	16.1
Strong Chance	12	19.4
Didn't Consider	27	43.5
Combination	2	3.2

Planning Before Commission

It is fair to assume that individuals with only a slight concern or no concern about being caught would not spend a great deal of time and effort planning a crime. However, that is not borne out by the data. Nearly one-half (46.2 percent) of the serial arsonists left home with the intention of setting a fire, and they reported that their fires were intentional and premeditated. Another 35.9 percent indicated the fires were impulsive and 12.8 percent indicated they were opportunistic and unplanned. See Table 80 for the distribution of the responses.

Table 80
Planning by Serial Arsonists
(N = 39)

Planning	Number	Percent
Premeditated	18	46.2
Impulsive	19	35.9
Opportunistic	5	12.8
Combination	2	5.1

Classification of Serial Arsonists

All but ten of the serial arsonists could be classified by motive according to the Crime Classification Manual (Douglas, et al, 1993). As shown in Table 81, the most common type of motive was revenge with 34 (41.4 percent) of the offenders exhibiting behavior consistent with this motive. Excitement motivated arsonists accounted for another 30.5 percent (25) of the total. Six (7.3 percent) exhibited vandalism as a motive. Vandalism includes malicious mischief, one of the primary behaviors exhibited in this classification. Four (4.8 percent) each had the behavioral traits associated with arson for profit and arson for crime concealment. Five of the 83 serial arsonists were classified as mentally disordered, based on their reported reasons and motives. Those reasons included psychological problems (2), religious fervor (1), and "evil spirits" (2). The remaining 5 members of the sample exhibited mixed motives.

Table 81
Type Arsonist
(N = 83)

Type	Number	Percent
Vandalism	6	7.3
Revenge	34	41.4
Excitement	25	30.5
Crime Concealment	4	4.8
Profit	4	4.8
Mentally Disordered	5	6.1
Mixed Motives	5	6.1

Vandalism

The Crime Classification Manual (Douglas, et al, 1993) describes vandalism motivated arson as that based on “malicious and mischievous motivation that results in destruction or damage” (p. 167). At least one of the vandalism motivated arsonists in this study was in the vandalism motive sub-group of peer/group pressure, reporting that many of his arsons were part of gang activity and juvenile pranks performed with other persons. The remaining five are best classified as willful and malicious mischief arsonists, setting fires simply to destroy things.

Revenge

Revenge motivated fires are set as a form of retaliation for some real or perceived wrong. The broad classification of revenge motivated arsonists

is further divided into sub-groups based on the target of the retaliation. As reflected in Table 82, serial arsonists are more likely to direct their retaliation at institutions and society than at individuals or groups. In this study, 20 of the 34 revenge motivated arsonists (58.8 percent) directed their retaliation against society in general. Two of the five women in the sample were classified as revenge motivated societal retaliation arsonists. Seven arsonists (20.6 percent) sought revenge against institutions of society. Five (14.7 percent) set personal revenge fires and two (5.9 percent) set fires to retaliate against a group. One of the personal retaliation arsonists was female.

Table 82
Revenge Motivated Serial Arsonists
(N = 34)

Type	Number	Percent
Personal Retaliation	5	14.7
Group Retaliation	2	5.9
Institutional Retaliation	7	20.6
Societal Retaliation	20	58.8

Excitement

Douglas, et al (1992) classify excitement motivation arsonists into several sub-classifications. Included are thrills motivated, recognition motivated, sexual motivation, and attention motivation arsonists. The most common type of excitement motivated arsonist found in this study was the thrills type, accounting for 17 of the 25 (68.0 percent) of the excitement category. (See Table 83.) One woman was classified as an excitement motivated, thrills seeker arsonist. The thrill seeker sets fires because s/he

craves the excitement that is satisfied by firesetting (Douglas, et al, 1992:170). Four (16.0 percent) of the excitement motivated arsonists were classified as recognition seekers. These arsonists are sometimes described as the “hero” type, often remaining at the scene of the fire to warn others, to report the fire or to assist in fire fighting efforts. This type of arsonist craves the recognition and praise s/he receives for their efforts. Four (16.0 percent) others were attention seekers. These arsonists set fires to gain attention and to meet their needs of being important.

Table 83
Excitement Motivated Serial Arsonists
(N = 25)

Type	Number	Percent
Thrills	16	64.0
Recognition	4	16.0
Attention	4	16.0

Crime Concealment

Four of the serial arsonists were classified as crime concealment motivated. According to the Crime Classification Manual (Douglas, et al, 1992), the arson is secondary to another crime and is set to hide or conceal the primary crime activity. In the four cases in this study, the primary crime was burglary. After burglarizing a business or a residence, the serial arsonists set fire to the structure to destroy the evidence of the burglary.

Profit

Four other serial arsonists were classified as profit motivated arsonists. Arson for profit is a fire set for the purpose of achieving material gain either directly or indirectly (Icove, Schroeder and Wherry, 1979). The four serial arsonists in this study set fires for others for a price. They are called "torches for hire" in the criminal culture.

Mixed Motives

Five of the serial arsonists exhibited mixed motives, sometimes behaving as though motivated by one type of motive and then at another time, by another. As an example of mixed motives, one serial arsonist set some fires for vandalism, later set several in revenge of a perceived wrong, and still later was hired to burn businesses for profit.

Mentally Disordered Motives

Five others had emotional problems (2), or blamed "evil spirits" (2) or religious fervor (1) as reasons for the arson activity. This group included one of the five females in the sample. None of these five arsonists exhibited patterns of behavior that allowed classification according to the Crime Classification Manual (Douglas, et al, 1992). For purposes of this study, we have classified the five offenders as having mentally disordered motives. When clinically evaluated, at least some of these five serial arsonists would probably be classified according to the psychobiologic categories suggested by Geller (1992).

SUMMARY AND CONCLUSIONS

Attributes of the Serial Arsonists

This research on serial arsonists has findings that consistently agree with previous research on arsonists. Most of the serial arsonists were young, white (81.9 percent) males (94.0 percent), with one-half aged 27 or younger at the time of the interviews. The data on firesetting by these serial offenders reflects (of 1,474 fires, for which age data were available, that) 58.7 percent were set by the offenders before age 18 and 79.7 percent before age 29. These findings are similar to those discussed in the review of literature (Lewis and Yarnell, 1951; Hurley and Monahan, 1969; MacDonald, 1977; Rider, (1980); Hill, et al, 1982; Molnar, et al, 1984; Pettigrew, 1987).

The overall marital adjustment and history of the serial arsonists was poor and suggested the offenders had a lack of stability in interpersonal relationships (Lewis and Yarnell, 1951; Levin, 1976). The average educational level of the serial arsonists was a tenth grade education with over 90 percent achieving high school or less. The overall poor academic performance evidenced in this study was also found in studies of other arsonists (Lewis and Yarnell, 1951; Levin, 1976; Vandersall and Wiener, 1970). Hurley and Monahan (1969) found most arsonists to be of average or higher intelligence and similar findings were noted here with two-thirds of average or higher intelligence.

The offenders in this study also had poor military performance and records with only two of seven completing a term in the military with an honorable discharge. Inciardi (1970) found similar poor military records in

his study of paroled arsonists. One-half had tattoos and one-fourth had some type of disfigurement. Similar findings were reported by Lewis and Yarnell (1951). Finally, the sexual preference of the serial arsonists reflected 25 percent who identified their preference as homosexual or bi-sexual.

Life History of Subjects

One of the more noteworthy findings of this study was the extent of prior criminal activity by the members of the sample studied. A total of 71 (86.6 percent) reported prior felony arrests and 45 (63.4 percent) had multiple prior felony arrests. Additionally, one in three reported a misdemeanor arrest record with most having multiple misdemeanor arrests.

Another noteworthy aspect of the life histories of the sample was the extent that the members had spent time in various types of institutions. The 83 offenders had been placed in some form of institution a total of 637 times. The institutions ranged from orphanages to federal prison. While not all reported such an institutional placement, the overall average was more than eight placements each. The placements in orphanages and foster homes reflect family instability. Placements in juvenile homes, state and federal prisons are suggestive of criminal lifestyles. Juvenile detention placements reflect either family instability or criminal activity. A total of 38 of the serial arsonists had 275 placements in mental health institutions, reflecting the emotional and mental instability of the offenders.

Over one-half of the serial arsonists reported significant medical histories and almost one-half had psychological histories. A noteworthy aspect of the psychological histories of the serial arsonists was the prevalence of prior suicide attempts by members of the group. One in four had reportedly attempted suicide at least once.

Only about one-third had regular occupations and none of those were employed in professional positions. Overall, the poor occupational adjustment of these serial offenders was similar to that previously reported in the literature (Hurley and Monahan, 1969; Inciardi, 1970; Wolford, 1972).

The family situation for most of the serial arsonists was either comfortable, or at least self-sufficient. At least one-half of the homes were described by the offenders as usually stable. These self reports, however, may be questioned when other variables indicative of family stability are considered. The previously discussed orphanage and foster home placements are indicative of less than stable home environments. A total of 46 (57.5 percent) were raised in an intact family with both natural parents present. Nine (11.3 percent) were in reconstituted families with a natural parent and a stepmother (1) or stepfather (8). Three (3.8 percent) lived with their natural father only and 10 (12.5 percent) with their natural mother only. Seven (8.8 percent) resided in foster homes and five (6.3 percent) with other relatives. Overall about two of three lived in either an intact or a reconstituted family.

In addition, the serial arsonists noted that relationships with their mothers and fathers were often cold, distant, hostile or aggressive. Less than one-third described parental relationships as warm or close. Of the 36 arsonists who evaluated the maternal relationship, 25 noted the relationship was warm and close and 11 noted otherwise. When the paternal relationship was discussed in the interviews, 70 responded. Of those 70, only 27 rated the relationship as warm and close and 43 noted cold, distant, or hostile and aggressive.

Looking at all of the data leads to the conclusion that many of the serial arsonists came from dysfunctional families, a finding in agreement

with most previous research. (Lewis and Yarnell, 1951, Wolford, 1972; Levin, 1976, Rider, 1980). They often had one or both natural parents missing from the home during childhood. That finding also agrees with earlier research on arsonists (Lewis and Yarnell, 1951; Macht and Mack, 1968; Hurley and Monahan, 1969; Rider, 1980).

History of Arsons by Subjects

The age related arson data is interesting in several ways. Analysis of 1,474 arsons, where the age of the arsonist was known, revealed that 58.7 percent of the fires were set before age 18 and 79.7 percent before age 30. It was interesting to note that 625 (42.6 percent) were set between the ages of 14 and 18. A notable drop in the number of fires, the number of arsonists, and the average numbers of fires set was found at age 19 to 21. The 35 serial arsonists who set fires between the ages of 14 and 16 years averaged 9.1 fires each during those ages. Between 17 and 18 years, 34 offenders averaged 9.0 fires each. In contrast, between the ages of 19 and 21 years, 22 offenders set an average of 4.2 fires. In the two earlier age groups, the total fires exceeded 300 for the 14 - 16 year old age group and for the 17 - 18 year old age group. For the 19 - 21 age group, the total was less than 100 arsons.

However, the decrease in arson activity did not hold throughout the older age groups. Those aged 30 or older set more fires, on average, than did the younger arsonists. The averages went from 13.5 arsons in the 30 - 35 age group, 13.3 arsons in the 36 - 40 age group, and 33.7 arsons each in the 41 - 50 age group. Overall, the conclusions are evident. There are considerably more juvenile offenders whose firesetting activities decrease or end around age 19. Even so, the serial arsonists who continue their criminal firesetting after that age become more frequent offenders, setting more fires than their younger counterparts.

The offenders in this sample of serial arsonists each set about 31 fires. They were questioned but not charged in 3 of those fires, and ultimately charged and convicted of three arsons. The remaining 25 arsons did not result in questioning or charges filed. These numbers suggest a clearance rate for serial arson of about 11 percent. Arson clearance rates nationally, according to the Uniform Crime Reports, averaged 18.3 percent for the period 1982 - 1991. The data would suggest that arsons committed by serial arsonists have a lower clearance rate than the overall national rate.

Several of the variables in the study reflected the relative lack of mobility for serial arsonists. Most (61 percent) walked to the scene of the fires they set, with 70 percent of the fires set within a radius of two miles or less from the residence of the serial arsonist. Almost all of the arsons were committed in areas with which the serial arsonist was acquainted. Few owned vehicles and most set fires in their own state, town or neighborhood.

Most were apprehended through the efforts of law enforcement investigators, although nearly 15 percent confessed or turned themselves in to police. Almost none took any steps to avoid identification. They accepted responsibility for their arsons and pled guilty to charges. Most either did not consider the probabilities of being caught or rated those chances as slim. Many would have set the fires even if they thought they would be convicted. The findings from these variables suggest that much of the serial arson activity is compulsive in nature.

Characteristics of The Offenses

There were no discernible patterns in the overall target selection of the serial arsonists. A wide range of responses were given to questions about target selection. The methods of gaining access to an arson target were much more patternable. The most commonly reported method of entry into a target

structure was through open entryways, a method reported by 37.8 percent of the serial arsonists. Another 18.9 percent broke into the structures and 16.2 percent used multiple methods to gain access to the selected target.

Accomplices took part in the serial arsonists' criminal acts in 20.3 percent of the cases. The sixteen serial arsonists who reported having an accomplice included 14 who had a male accomplice, one a female, and one had both a female and a male who accompanied them during their commission of arson offenses. It is interesting that those with accomplices set considerably fewer fires (average 6.1 fires) than those who worked alone (average 32.6 fires). This information, coupled with the information on methods of apprehension, suggests that some of the apprehensions were the result of accomplices turning the arsonist in to police.

Almost all of the serial arsonists used unsophisticated methods in setting fires. They used available materials, paper, and gasoline as the most common accelerants and matches or cigarette lighters for ignition of the fires. Few used any kind of hand made device in their arsons. Nearly one-half left items at the scene, including items that would be key evidence. About one-fourth of the arsonists removed items, mostly valuables, from the scene before igniting a fire.

After setting a fire, about one-third of the serial arsonists remained at the scene of the fire. About one-fourth usually went to another location, away from the scene, to observe the fire and the action involved in fighting it. Another 40 percent departed from the scene and did not return. Slightly over one-half did return to the scene at some time after the fire. The return to the fire scene ranged from minutes after the fire was set to as much as a week later although, 97.3 percent returned to the scene within 24 hours of the arson.

Residential structures were the target of 10.5 percent of the arsons. This contrasts with an average of 34.1 percent of arsons reported in the UCR for the period 1982 - 1991. The large difference in these data may be explained by the numbers of nuisance fires set by the 'serial arsonists. Nuisance fires are less likely to be included in official arson reports. Businesses accounted for 18.1 percent of the arsons committed by the serial arsonists in this study. The percentage of businesses and commercial structures victimized by arson in the ten year UCR data was 13.3 percent. Other structures were the targets of the serial arsonists in 14.6 percent of the 1,450 fires. Other structures accounted for only 8.6 percent of the UCR arsons based on a ten year average. Overall, the serial arsonists selected structures 43.2 percent of the time. In the ten year average of the UCR data, structure fires of all types accounted for an average of 55.1 percent of the fires. Vehicles were the target of the serial arsonists in 16.3 percent of the offenses while the national UCR average for all arsons was 26.1 percent vehicles. A major difference was noted in the UCR category of other than structural or mobile targets where the 10 year average was 18.0 percent. In contrast, the serial arsonists selected a target in this category for 40.5 percent of the fires they set. (See Table 62.) That serial arsonists would set more fires in vegetation and in non-structures, such as trash bins and dumpsters, should not be surprising. Many of the serial arsonists set fires for excitement and any fire may provide that excitement. The large difference in this category could, however, be explained by the failure to include such fires in the local law enforcement counts of arsons.

By far the majority of the serial arsonists set only one fire in a location. However, some returned to set new fires in the same place many times. While the frequency of firesetting did not significantly change over

time, the severity of offenses did. Of 37 serial arsonists who answered the questions about severity of their offenses, 64.9 percent increased severity over time.

Nearly one-half of our sample used alcohol before setting fires and 26 others reported significantly different alcohol use at the time of fires. One in three of the serial arsonists used drugs other than alcohol before setting fires and 5.1 percent increased drug use significantly at the time of setting fires. The significantly different use involved heavier than normal substance use by the individual. Overall, 16.9 percent reported increasing alcohol or drug use after setting a fire.

Motives and Reasons for Firesetting

A variety of reasons and contributing stress factors were reported by the members of the study group. These reasons and stress factors reflect the general lack of skills of the arsonists in dealing with problems of life in general. As evidenced in the findings, the serial arsonists generally had failed in almost every aspect of their lives. Despite most having average or above intelligence and most coming from families that were relatively comfortable socioeconomically, the life histories of serial arsonists are replete with failures. They failed in interpersonal relationships in the family, with playmates, in marriage, and in school. Their occupational history reflects more failure and most have either extensive psychological histories or medical histories. For many, arson may be only thing they have tried in their life that yields relative success.

All but five of the serial arsonists could be classified by motive according to the Crime Classification Manual (Douglas, et al, 1993). The most common motive was revenge with 41.4 percent of the offenders.

Excitement motivated arsonists accounted for another 30.5 percent, vandalism (7.3 percent), and 4.8 percent each had motives of arson for profit and arson for crime concealment. Five members of the sample had mixed motives. The remaining five offenders were classified as mentally disordered with severe psychological problems (2), religious fervor (1), and "evil spirits" (2) as motivation factors. The mentally disordered motive classification is not included in the Crime Classification Manual.

In the revenge motivated arsons, the majority directed their retaliatory arsons against institutions and society. Personal and group retaliation arsons tend to be single occurrence events since the desired revenge may be gained through a single act of arson. However, revenge against institutions and society may require, in the mind of the arsonist, multiple acts of arson to fully extract the desired level of revenge. The personal and group retaliation serial arsonists exhibited repeated hostility against other persons and other groups, suggesting that their potential targets might never be exhausted. Thus, they exhibited serial arson behavior even though their individual targets would normally be the recipient of a single arson offense.

These preliminary, descriptive results are the first step in a comprehensive examination of the data collected in this study. Hopefully, the completed analyses will add to the body of knowledge about one of the most serious of crimes, arson, and specifically about the offenders who repeatedly commit this crime.



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