

ISSUE PAPER #2

A R S O N

in

OKLAHOMA

Statistical Analysis Center

Oklahoma Crime Commission

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Statistical Analysis Center Staff

Dr. Glen K. Wallace, SAC Director

Jim Wilson, Manager of Statistics

Jon Steen, Data Analyst

Patrick Sweeney, Systems Analyst

Grace Barr, Data Entry/Retrieval Supervisor

Sharon Baldwin, Data Entry/Retrieval Specialist

Neal Gilson, Field Representative

Patricia Lowther, Contract Research Consultant

Sheila Long, Secretary

Michael Lowther, SAC/Planning Liasion

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## ISSUE PAPER SUMMARY

### Arson in Oklahoma

An issue paper prepared by the Statistical Analysis Center of the Oklahoma Crime Commission discusses the crime of arson.

The paper describes the volume, trends, rates, nature, and characteristics of persons arrested for arson nationally, and in Oklahoma. County-by-county statistics regarding arson arrests in Oklahoma are also provided for a four year period, as is data on system processing of arson cases for a recent 2 year period.

Included in the paper are brief discussions of problems involved in describing the crime of arson, and in successful investigation and prosecution of arson cases.

In closing, the paper suggests some broad future directions for research/data collection and strategies to help address the crime of arson in the state.

## INTRODUCTION

This issue paper is the second in a series of brief summaries of major crime problems in the state of Oklahoma, planned by the Statistical Analysis Center of the Oklahoma Crime Commission.

The purpose of these papers is to gather data relevant to a particular crime problem from a variety of sources, and disseminate that information to key audiences in a succinct format.

It is not the intention of the Statistical Analysis Center that these papers be in-depth research documents, although materials contained may indicate areas needing further research.

# A R S O N

## DEFINITION

The willful and malicious burning of another's property or the burning of one's own property for some improper purpose.

## TREND

YEAR	Number of Arrests	Rate Per 100,000 Population
1975 .....	181	6.7
1976 .....	225	8.1
% Change .....	+24.3%	+20.9%
1977 .....	294	10.5
% Change .....	+30.7%	+29.6%
1978 .....	223	Unavailable
% Change .....	-24.2%	Unavailable

## FEATURES

Most Frequent Month ..... Unavailable  
 Most Frequent Time of Day ..... Night  
 Most Frequent Arrestee:  
     Age Group ..... 25 - 29 Yrs.  
     Sex ..... Male  
     Race ..... White

## VOLUME

A description of the volume of arson is extremely difficult to provide. Fires are generally classified into 5 categories: Accidental, Natural, Incendiary, Suspicious, and Unknown Cause. It has been suggested that the amount of arson is best measured by the number of Incendiary and Suspicious fires plus one-half of the number of fires of Unknown Cause. #1. As Oklahoma apparently has no central repository of information on fires in the State, even the above-noted type of estimation on the incidence of arson is not possible. The closest approximation, statewide, must, therefore, be based on the number of arrests made for the crime of arson. Needless to say, such a description of volume will be a considerable underestimation of the actual amount of this type of crime.

During 1978, there were a total of 223 arson arrests reported to the Oklahoma State Bureau of Investigation. Arson arrests comprised .2% of all arrests made in the State during 1978. Thirty-four of Oklahoma's seventy-seven counties (or 44%) accounted for all the reported arson arrests for the year. Only 6 counties reported 10 or more arson arrests during 1978 (See Table I and Map A).

## TREND

The four year arson arrest trend from 1975-1978, indicates that such arrests increased by 23.2% overall between 1975 and 1978. The peak year during this four-year period was 1977, with a total of 294 arrests. In 1978, arson arrests were down by 24.2% from the 1977 arrest level.

The number of counties reporting arson arrests has fluctuated between 1975 and 1978, with 1977 showing the most counties reporting such arrests (40 or 52%). In 1978, 34 of the State's 77 counties (or about 44%) reported arrests for arson. Eleven counties have consistently shown no arson arrests over the four-year period. Eight other counties have shown no such arrests for the past three years. The State's two most populated counties (Oklahoma and Tulsa) have consistently accounted for over one-third of all the State's arson arrests. (See Table I and Maps A-D).

## RATE

In 1977, there were 10.5 arson arrests per 100,000 inhabitants in Oklahoma, which is an increase of 20.9% over the 1976 rate. From 1975 - 1977, the arson arrest rate rose by a total of 56.7%. Population estimates for 1978 were not available at this time; however, a decrease in the arson arrest rate of perhaps as much as 20% from 1977 to 1978 is anticipated. (As the only data available currently in Oklahoma is arrests for arson, the calculation of a rate per 100,000 inhabitants is appropriate. However, if data

were available on the incidence of arson - or number of arson-type fires - it would appear that the calculation of an arson rate would most appropriately be based on the number of structures or buildings at risk. Interestingly, this distinction in the calculation of arson rates is not made in the national literature on arson, perhaps due to the difficulty in obtaining data on the number of structures in existence in a given area).

#### NATURE

Very limited data is available in Oklahoma on the nature of arson, due largely to the fact that arson is not currently classified as an Index Crime and is, therefore, not subject to reporting requirements necessary to describe the nature of the crime.

Nationally published data suggests that arson is a crime perpetrated at night and against residential structures (possibly largely against multiple dwelling residential structures.) #2. These studies further indicate that the use of liquid fire accelerants (e.g., gasoline) is the most common method of arsonists. #3.

The National Fire Protection Agency estimated that in 1977, there were 177,000 incendiary and/or suspicious fires in structures in the U.S., resulting in the loss of 700 civilian (i.e., non-firefighters) lives and \$1,159,000 worth of property. #4. Such losses do not include losses from incendiary motor vehicle fires nor incendiary wildfires (Incendiary wildfires, alone, resulted in an estimated \$60 million worth of loss in 1975). #5. Losses are also calculated only on direct property loss, and do not include the additional costs incurred for fire department operation, burn injury treatment, insurance company operating expenses, or productivity losses. Oklahoma City Fire Department figures for an 11-month period (8-1-77 to 6-30-78) indicated that the 290 arsons investigated, resulted in \$2,596,740 property loss, and 7 deaths. #6.

Tables 2 and 3 provide additional data on incendiary/suspicious building and motor vehicle fires, along with their estimated property losses, for the U.S., for 1974. Such information is outdated and non-state specific; however, it points out some startling perspectives with regard to fires and the seemingly insignificant (compared to the major Index Crimes) #7. crime of arson.

#### PERSONS ARRESTED

According to arson arrest data in Oklahoma, persons over 17 years of age (i.e., adults) account for over half of all arson arrests. In 1978, adults comprised 64.1% of all arson arrestees. The majority of arson arrestees are also typically White (See Table 4). Males comprise most of the arrests, representing 91% of all adult arson arrestees in 1977, and 92.4% of all juveniles

arrested for arson. In 1977, the most frequently arrested age group for arson was the 25-29 year old category. For juvenile arson arrestees, the most frequently represented age group was those youth 10 years of age or younger. (See Tables 5 and 6). Oklahoma's arson offender profile is similar to that documented by an earlier New York study of paroled adult arsonists, for whom the average age was 27 years; 80% of whom were White, and 98% of whom were male. #8.

There are several main motives which are typical of arsonists: profit, revenge, spite, jealousy, crime concealment, intimidation, vandalism, excitement, and pyromania. According to a 1964 New York City Study of persons convicted of arson, revenge was the main motive for adult arsonists, whereas vandalism was the primary motive for juvenile arsonists. #9. Several other studies of arsonists indicate that such offenders may also be characterized by some or all of the following traits: problem drinking, lower IQ, less education, and single marital status. #10. (See Tables 7 and 8).

#### SYSTEM PROCESSING OF ARSONISTS

According to criminal justice system processing data, there were a total of 231 filings for arson in the State for 1977 and 1978 combined. 31.6% of the cases filed were dismissed; 22.5% were still pending in May of 1979; 2.3% were acquitted; and 43.3% either pleaded or were found guilty. Twenty-six percent of those found or pleading guilty received a sentence involving incarceration; these 26 cases accounted for 11.3% of the cases filed. In other words, in less than half the arson cases filed, a conviction is obtained, and about one-tenth of the cases filed result in an incarcerative sentence. (See Figure 1).

Table 9 provides a brief comparison of arrests/filings/convictions for the State and the eleven counties with the highest number of arson arrests for the two-year period 1977-1978. Filings are considered as a percentage of arrests, and convictions as a percentage of filings. (Caution should be exercised, however, in comparing arrests with other system processing data, as the statistical sources are different and frequently not comparable).

#### SUMMARY OF ARSON PROBLEMS IN OKLAHOMA

The main problem in dealing with arson in Oklahoma at present is the unavailability of data. There is no central collection and storage point for information on fires - by the 5 main categories previously mentioned - to provide statistics on the incidence of arson. Also, information regarding the nature of arson is not collected by local law enforcement in their Uniform Crime Reporting System.

In addition to lack of data for research on arson, there are three other major categories of problems in dealing with the

crime of arson - both nationally and on the State level.

The investigation of arson cases is extremely difficult, as there are usually no witnesses and physical evidence at the crime scene is easily destroyed by the fire itself, extinguishment materials, and the clean-up process following a fire.

There are also administrative problems regarding the responsibility for arson investigations. Fire department personnel typically lack knowledge of criminal investigation procedures/techniques, while law enforcement staff do not usually have adequate training with regard to fire/arson investigations. This problem is magnified in rural areas where local law enforcement may be severely understaffed and fire departments consist solely of volunteer personnel. The decision of which agency - law enforcement or fire department - is to handle arson cases is, in itself, a problem in many jurisdictions.

The "State-of-the-Art" in arson investigation also is problematic; apparently, much of the equipment utilized in investigating arson is inaccurate and/or inappropriate for detecting certain causes of incendiary fires. Furthermore, at least some of the more reliable equipment is prohibitively expensive, especially for less populous or smaller jurisdictions.

Finally, the prosecution of arson cases is extremely difficult. As previously noted, witnesses are very rare, and thus physical circumstantial evidence must be used to establish the case. Such a situation requires more trial preparation and experience on the part of the prosecutor, and a considerable amount of expert scientific testimony. #11.

#### SUGGESTIONS FOR FUTURE DIRECTIONS

It is suggested that the current "Arrest Disposition Reporting System" (ADRS) maintained by the Statistical Analysis Center of the Oklahoma Crime Commission, be utilized to compile arson/arsonist data, with the cooperation of the State Fire Marshall's Office, and the Oklahoma State Bureau of Investigation. Furthermore, there should be established a centralized collection/repository point for data on all fires - by the 5 main categories. Local law enforcement should report information similar to that required on the Index Crimes, to the Oklahoma State Bureau of Investigation. If the F.B.I. forms/instructions to accomplish this step are not forthcoming in the near future, the Oklahoma State Bureau of Investigation should proceed on its own to institute such a practice.

The recommendation in the official joint guidelines of the International Association of Chiefs of Police and the International Association of Fire Chiefs that fire departments handle fire/arson investigations and law enforcement agencies handle the criminal investigations once arson has been detected, should become practice in all jurisdictions of the State.

Specialized training in arson detection, criminal investigation, prosecution, and case law should be provided to all fire, law enforcement, prosecutorial, and judicial personnel who are likely to encounter such cases. Emphasis should be placed on those geographical areas showing the greatest arson problems (as currently measured by arson arrests).

Consideration should be given to creating one or more centralized arson detection, criminal investigation, and prosecution units in the State to provide assistance to jurisdictions which cannot afford specialized personnel and/or equipment for dealing with arson. Existing investigative resources (i.e., the State Fire Marshall's Office) should be given additional manpower, if at all possible.

Table 1. Arson Arrests in Oklahoma: 1975 - 1978

Area	1975 Arrests	1976 Arrests	1977 Arrests	1978 Arrests
STATE	181	225	294	223
Adair	1	0	0	0
Alfalfa	1	0	0	0
Atoka	1	2	0	1
Beaver	3	0	0	0
Beckham	0	0	0	0
Blaine	0	0	1	0
Bryan	3	0	6	1
Caddo	2	3	1	1
Canadian	3	3	4	10
Carter	10	6	10	4
Cherokee	0	1	0	1
Choctaw	0	0	0	0
Cimarron	0	0	0	0
Cleveland	2	15	14	14
Coal	0	0	4	0
Comanche	5	20	7	6
Cotton	0	0	1	0
Craig	0	2	1	1
Creek	0	5	2	2
Custer	1	0	0	1
Delaware	0	0	0	0
Dewey	0	0	0	0
Ellis	0	0	0	0
Garfield	1	0	0	1
Garvin	5	1	4	0
Grady	0	4	1	0
Grant	0	0	0	0

Table 1. (continued)

Area	1975 Arrests	1976 Arrests	1977 Arrests	1978 Arrests
Greer	1	0	0	0
Harmon	0	0	1	0
Harper	0	2	0	0
Haskell	0	2	1	1
Hughes	0	2	1	0
Jackson	1	0	0	0
Jefferson	0	0	2	0
Johnston	4	0	0	0
Kay	4	7	0	2
Kingfisher	0	1	0	0
Kiowa	0	3	0	0
Latimer	6	6	0	0
LeFlore	0	9	4	8
Lincoln	1	0	5	2
Logan	0	4	0	0
Love	0	0	2	0
McClain	0	0	2	0
McCurtain	5	2	0	1
McIntosh	0	1	0	1
Major	0	0	0	0
Marshall	2	0	0	0
Mayes	1	1	0	0
Murray	2	0	1	0
Muskogee	8	4	11	8
Noble	0	0	0	0
Nowata	1	4	1	1
Okfuskee	0	0	2	0
Oklahoma	43	61	97	77

Table 1. (continued)

Area	1975 Arrests	1976 Arrests	1977 Arrests	1978 Arrests
Okmulgee	0	1	1	8
Osage	1	2	4	0
Ottawa	2	0	6	1
Pawnee	0	1	0	0
Payne	1	0	2	4
Pittsburg	0	1	3	0
Pontotoc	0	0	4	2
Pottawatomie	6	1	4	10
Pushmataha	4	3	0	1
Roger Mills	0	0	0	0
Rogers	1	0	1	1
Seminole	0	0	3	0
Sequoyah	10	7	1	5
Stephens	0	2	11	2
Texas	0	1	2	1
Tillman	5	0	0	0
Tulsa	23	31	60	32
Wagoner	0	1	0	0
Washington	5	2	5	10
Washita	0	0	0	0
Woods	2	1	0	0
Woodward	3	0	3	0

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Table 2. Incendiary Building Fire Losses  
by Type of Occupancy, 1974 \*

Type of Occupancy	Total Number of Fires	% Incendiary or Suspicious	Average Loss, All Fires (\$)	Estimated Loss from Arson (\$ millions)
Schools and colleges	35,500	75	3,500	93
Churches	5,400	51	6,300	17
Storage	68,500	35	6,300	153
Offices and banks	8,100	34	6,900	19
Restaurants	26,800	31	2,400	20
Hotels	30,200	25	2,300	17
Retail stores	78,700	25	4,800	93
Apartment buildings	151,500	20	2,000	61
Hospitals	15,600	13	1,300	3
Nursing homes	9,300	13	600	0.8
Industrial	60,200	9	11,200	61
Mobile homes	29,700	7	2,600	5
Family dwellings	661,400	7	1,200	53

Table 3. Incendiary Motor Vehicle Fires, 1974\*

Basis	Number of Fires	% of All Vehicle Fires	Loss Value (\$ millions)
Incendiary and suspicious	42,000	6.6	9
Incendiary and suspicious plus 1/2 unknown cause	274,000	42.9	58

\*Source: Arson and Arson Investigation, National Institute of Law Enforcement and Criminal Justice, 1977.

Table 4. Oklahoma Adult/Juvenile Arson Arrests: 1975 - 1978\*

Race (%)	Juvenile 1975	Adult 1975	Juvenile 1976	Adult 1976	Juvenile 1977	Adult 1977	Juvenile 1978	Adult 1978
White	82.9	85.6	81.5	85.5	87.6	73.5	78.7	80.4
Black	11.4	10.8	14.8	10.3	10.5	20.6	12.5	11.9
Indian	4.3	3.6	3.7	3.4	1.0	4.8	8.7	7.7
TOTAL	70	111	108	117	105	189	80	143
Percent of Total Arson Arrest	38.7%	61.37%	48.0%	52.0%	35.7%	64.3%	35.9%	64.1%

\*Source: Oklahoma Uniform Crime Reports for 1975-1978,  
Oklahoma State Bureau of Investigation.

Table 5. Oklahoma Adult Arson Arrests: 1975 - 1977\*

Demographic Characteristics	1975	1976	1977
Male	92.8%	89.7%	91.0%
Female	7.2%	10.3%	9.0%
18 Yrs.	11.7%	12.8%*	12.7%
19 Yrs.	7.2%	8.6%	7.4%
20 Yrs.	2.7%	6.0%	7.9%
21 Yrs.	6.3%	7.7%	8.5%
22 Yrs.	4.5%	4.3%	5.3%
23 Yrs.	4.5%	6.0%	3.7%
24 Yrs.	7.2%	5.1%	2.1%
25-29 Yrs.	19.8%*	8.6%	16.4%*
30-34 Yrs.	10.8%	11.1%	11.6%
35-39 Yrs.	9.9%	9.4%	6.9%
40-44 Yrs.	4.5%	8.6%	6.9%
45-49 Yrs.	1.8%	5.1%	2.1%
50-54 Yrs.	5.4%	3.4%	4.8%
55-59 Yrs.	0.0%	2.6%	2.1%
60-64 Yrs.	2.7%	0.0%	0.5%
65 Yrs. + Over	0.9%	0.9%	1.1%
White	85.6%	85.5%	73.5%
Black	10.8%	10.3%	20.6%
Indian	3.6%	3.4%	4.8%
TOTAL	111	117	189

\*Source: Crime in Oklahoma reports for 1975-1977, Oklahoma State Bureau of Investigation.

Table 6. Oklahoma Juvenile Arson Arrests: 1975 - 1977\*

Demographic Characteristics	1975	1976	1977
Male	92.9%	98.2%	92.4%
Female	7.1%	1.8%	7.6%
10 Yrs. + Under	28.6%*	25.0%*	24.8%*
11-12 Yrs.	15.7%	19.4%	16.2%
13-14 Yrs.	28.6%*	23.1%	19.0%
15 Yrs.	15.7%	3.7%	14.3%
16 Yrs.	2.9%	10.2%	13.3%
17 Yrs.	8.6%	18.5%	12.4%
White	82.9%	81.5%	87.6%
Black	11.4%	14.8%	10.5%
Indian	4.3%	3.7%	0.9%
TOTAL	70	108	105

\*Source: Crime in Oklahoma reports for 1975-1977, Oklahoma State Bureau of Investigation.

**Table 7. Motives of Convicted Arsonists, New York City, 1964\***

Motive	Adults (%)	Juveniles (%)
Revenge	47	5
Pyromania	30	14
Malicious mischief (vandalism)	10	80
Crime concealment	9	2
Insurance fraud	4	0

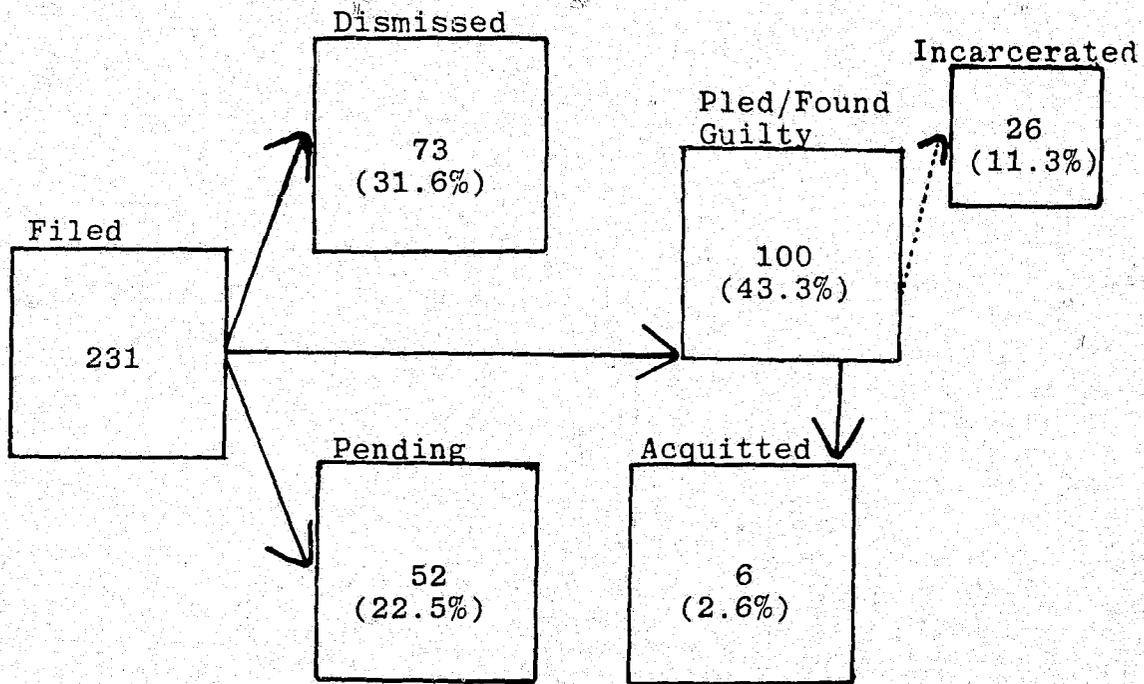
**Table 8. Motives of Paroled Adult Arsonists \***

Motive	% of Subjects	Average Age	Average IQ	Problem Drinkers (%)
Revenge	58	28	84	64
Excitement	18	23	96	91
Crime concealment	7	22	112	40
Fraud	7	29	110	20
Transfer (see text)	7	19	<70	0
Vandalism	4	18	75	40
<b>Average</b>		27	90	55

\* Source: Arson and Arson Investigation, National Institute of Law Enforcement and Criminal Justice, 1977.

FIGURE 1.

System Processing of Arson Cases: 1977 and 1978\*



\*Source: Arrest Disposition Reporting System data for 1977-1978; Statistical Analysis Center, Oklahoma Crime Commission.

Table 9

ARSON ARRESTS/FILINGS/CONVICTIONS FOR  
STATE AND SELECTED AREAS: 1977 & 1978\*

Geographic Area	1977&1978 Arrests	1977&1978 Filings	1977&1978 Convictions
State	517	231 (44.7% arrests)	100 (43.3% filings)
Canadian Co.	14	1 (7.2% arrests)	0 (0% filings)
Cleveland Co.	28	9 (32.2% arrests)	6 (66.7% filings)
Comanche Co.	13	6 (46.2% arrests)	4 (66.7% filings)
LeFlore Co.	12	13 (108.3% arrests)	7 (53.9% filings)
Muskogee Co.	19	12 (63.2% arrests)	2 (16.7% filings)
Oklahoma Co.	174	59 (33.9% arrests)	31 (52.6% filings)
Okmulgee Co.	9	1 (11.1% arrests)	0 (0% filings)
Pott. Co.	14	0 (0% arrests)	0 (no filings)
Stephens Co.	12	3 (25.0% arrests)	3 (100% filings)
Tulsa Co.	92	33 (35.9% arrests)	12 (36.4% filings)
Washington Co.	15	5 (33.3% arrests)	3 (60.0% filings)

\*Sources: Arrest data from Oklahoma State Bureau of Investigation Uniform Crime Report System; Filing and Conviction data from Arrest Disposition Reporting System; Statistical Analysis Center, Oklahoma Crime Commission.









## REFERENCES

1. National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, Arson and Arson Investigation (1977), p. 4.
2. J.A. Inciardi, "The Adult Firesetter, a Typology," Criminology, August, 1970, pp. 145-155.
3. Arson and Arson Investigation, p. 63.
4. Fire Journal, Vol. 72, No. 5 (Sept., 1978), pp. 67-72, p. 125.
5. Arson and Arson Investigation, pp. 11-14.
6. Oklahoma City Fire Department Statistics, August 1, 1977 - June 30, 1978.
7. The Major Index Crimes are: murder, rape, robbery, burglary, larceny, aggravated assault, and motor vehicle theft.
8. Inciardi, pp. 145-155.
9. E. Robbins and L. Robbins, "Arson with Special Reference to Pyromania," New York State Journal of Medicine, March 15, 1967, pp. 795-798.
10. Inciardi, pp. 145-155, and M.R. Wolford, "Some Attitudinal, Psychological, and Sociological Characteristics of Incarcerated Arsonists," Fire and Arson Investigation, April-June, 1972.
11. Arson and Arson Investigation, pp. 31-35.

SOURCES

Fire Journal. Vol. 72, No. 5, September, 1978.

Inciardi, J.A. "The Adult Firesetter, a Typology,"  
Criminology, August, 1970.

National Institute of Law Enforcement and Criminal Justice,  
Law Enforcement Assistance Administration. Arson and  
Arson Investigation, U.S. Government Printing Office,  
Washington, D.C., October, 1977.

Oklahoma City Fire Department. Fire Department Statistics,  
August 1, 1977 - June 30, 1978, Oklahoma City, Oklahoma.

Oklahoma State Bureau of Investigation-Uniform Crime Report  
Division Statistics.

Robbins, E. and Robbins, L. "Arson with Special Reference  
to Pyromania," New York State Journal of Medicine,  
March 15, 1967.

Statistical Analysis Center, Oklahoma Crime Commission.  
"Arrest Disposition Reporting System" statistics.

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