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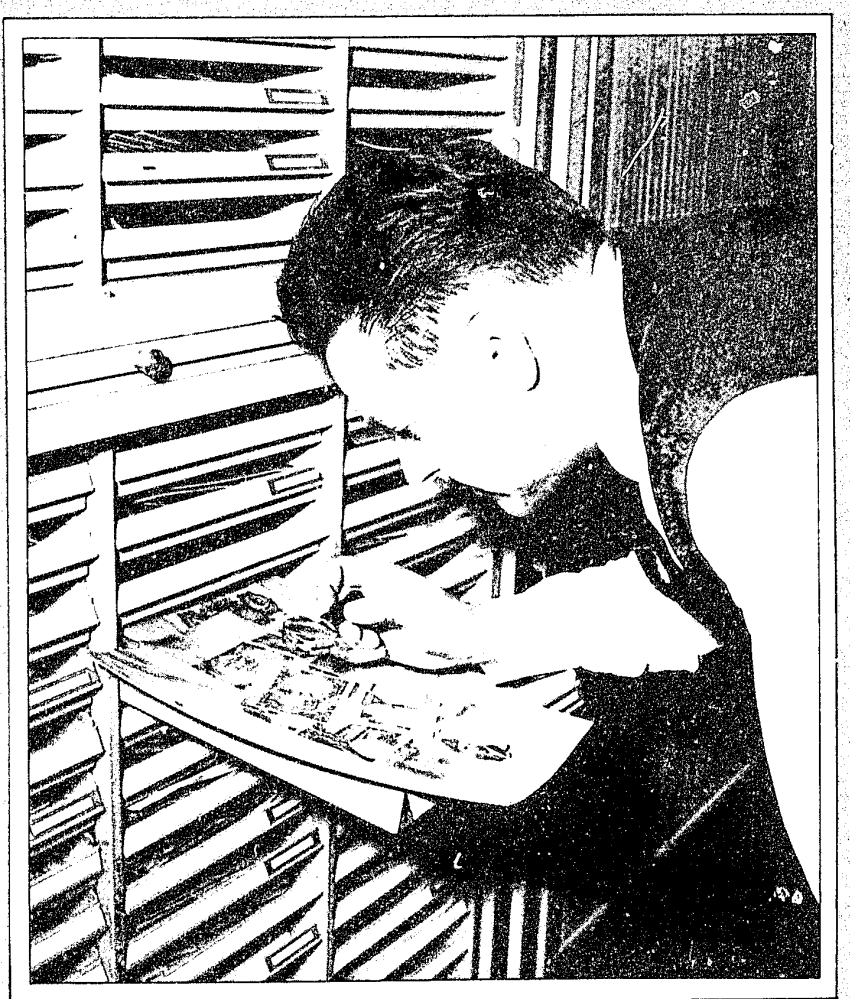

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United States Department of Justice
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ARSON
A Statistical Profile

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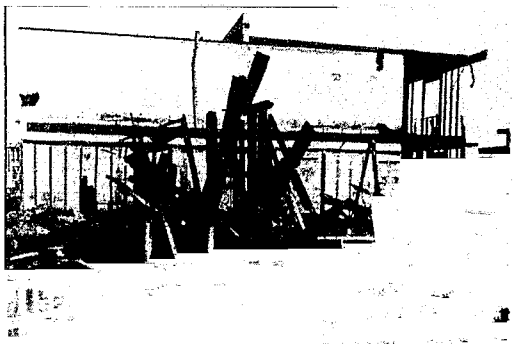
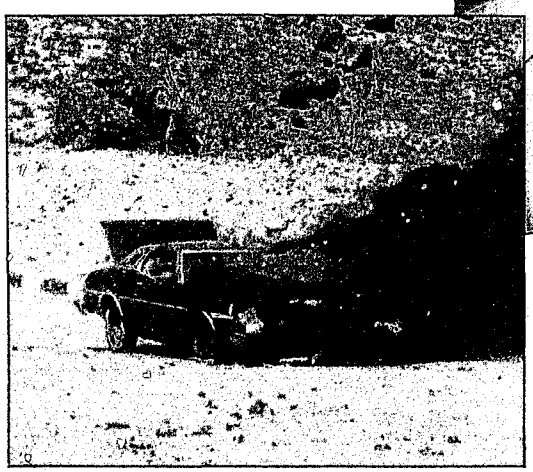


By order of a congressional mandate in 1978, arson was temporarily classified as the eighth Index crime, thus requiring the collection of data concerning its nature and extent by the FBI's Uniform Crime Reporting (UCR) Program. Further legislation, the Anti-Arson Act of 1982, has been issued in response to what was believed to be a dramatic rise in the cost and incidence of the crime. This directive calls for the permanent classification of arson as an Index crime and the release of a special statistical study describing its occurrence.

In many ways, arson is dissimilar to the seven other Index crimes with which it has been categorized. The credibility of statistics referring to the incidence of these crimes (and the entire UCR Program in general) depends on citizens voluntarily reporting crimes to law enforcement agencies and for those agencies to then voluntarily report to the national UCR Program. This system works well for the



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original Crime Index offenses because law enforcement agencies representing approximately 97 percent of the Nation's population submit data on these offenses. Arson, unlike these other crimes, is less definitive, and therefore, more likely to go unreported at either of the two levels. It is not always possible to establish a motive, victim, or sometimes, even the occurrence of a crime when initially dealing with suspicious fires. A fire of undetermined origin does not necessarily indicate that a crime has taken place or that a criminal investigation is warranted.

As a prelude to a more extensive data collection program devoted to arson, this article will address the nature, extent, and use of current arson statistics available within the FBI. Particular attention will be given to identifying shortcomings of the current data and to exploring ways to more effectively monitor and analyze the incidence of arson.

Offense Data

The UCR Program collects offense-related data for eight offenses known as Index crimes. These crimes, with the exception of arson, were selected because of their seriousness, frequency of occurrence, and likelihood of being reported to police. The greatest use of Crime Index data lies in UCR's ability to monitor fluctuations accurately and steadily over time; yet, it is in this very respect that arson data differ most noticeably from those for other crimes. The availability of only 4 years of reliable arson offense data belies attempts to isolate and analyze trends.

Despite an apparent heightened concern for arson and predictions of increases in its incidence and cost to the American public, UCR arson figures suggest a decline, as do those for overall crime, in recent years. Figure 1 shows arson offense rates per 100,000 inhabitants residing in different population groups. This table depicts the relatively urban nature of the crime, as evidenced by the fact that the ratio between the county arson rate and the city arson rate is approximately 2 to 3. Also portrayed in this table is the higher arson offense rate for cities with larger populations.

Figure 1

Number of Arsons per 100,000 Inhabitants—1983

Total U.S.	48.7
Total cities	54.5
Over 1,000,000 population.	96.2
500,000 to 999,999	65.9
250,000 to 499,999	83.5
100,000 to 249,999	62.0
50,000 to 99,999	50.6
25,000 to 49,999	36.2
10,000 to 24,999	29.0
Less than 10,000	27.8
Total counties	35.0
Rural counties	24.1
Suburban counties	41.4

Included among UCR arson offense statistics are data on types of property damaged, the estimated value of property damaged, whether the structures were inhabited, and the percentage of offenses cleared by law enforcement. A look at 1983 property classification statistics reveals that over half of reported arson offenses involved architectural structures and approximately one-fourth involved mobile vehicles. While only 1 percent of reported arson offenses involved industrial or manufacturing structures, the average value of the property damaged in these fires ($59,400) was much higher than for any other type

of structure. Overall, the average damage incurred per arson offense in 1983 was $9,400. Approximately one-seventh of the total structures burned were not in use at the time of the incident.

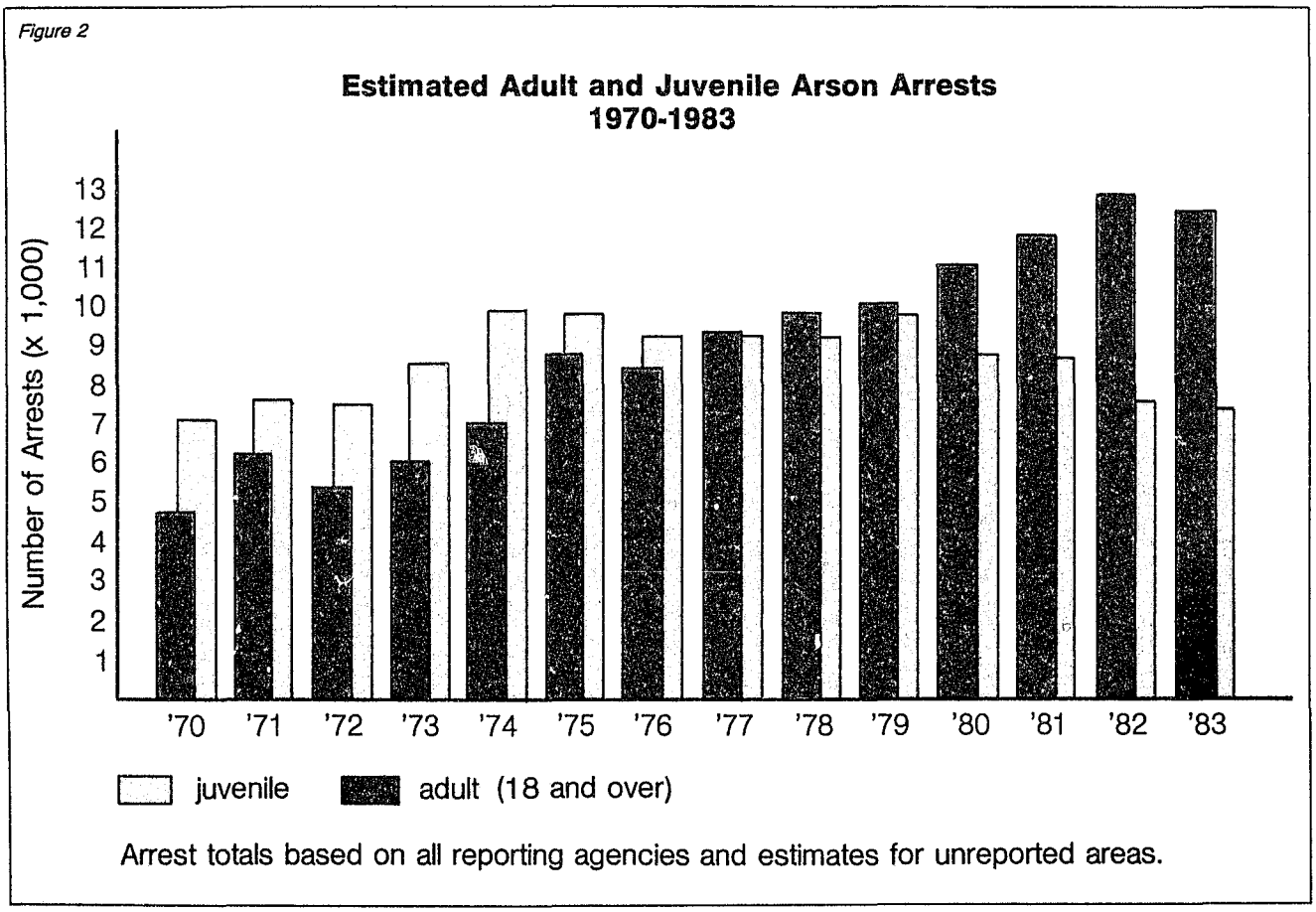
A lack of witnesses and the self-concealing nature of the crime tend to relegate the percentage of arson offenses cleared by law enforcement to among the lowest of any Index crime. Slightly over 17 percent of reported arson offenses were cleared during 1983, and among Index crimes, only burglary and motor vehicle theft had lower clearance rates. Of those arson offenses cleared, 34 percent involved only persons under 18 years of age. For all Index property crimes, approximately 23 percent of those crimes cleared involved only juveniles.

Arrest Data

Information concerning persons arrested for arson has been collected by the UCR Program since 1964. Unlike arson offense data, a high degree of historical continuity exists for the arrest statistics. Available on the local, State, and national levels, arrests are categorized by age, sex, and race variables and are considered to provide a reflection of the arson offender population.[1]

Although the number of reported arson offenses has declined in recent years, the number of arson arrests increased steadily up to 1981. Over the 14-year period from 1970 to 1983 (1970 was the first year that nationwide arrest estimates were published), the number of arson arrests has shown an increase (66 percent), exceeded only by those for forcible rape, larceny-theft, and aggravated assault among Index crimes. This overall rise is attributable to a dramatic 160-percent jump in adult (age 18 and over) arrests, an increase greater than that experienced among either juvenile or adult offenders for any

Figure 2



other Index crime. (See fig. 2.)

The frequency of arson arrests is similar to that for homicide. According to 1983 estimates, there were 19,800 arson arrests and 20,310 arrests for murder and nonnegligent manslaughter. Relating arrests to population, law enforcement agencies nationwide made approximately 9 arrests per 100,000 inhabitants for both arson and homicide. The number of estimated offenses for these crimes varies considerably, however, indicating the relative difficulty involved in solving arson crimes and apprehending the offender. UCR figures for 1983 show an estimated 19,300 murder and nonnegligent manslaughter offenses nationwide, as compared to over 100,000 reported arson offenses.

The most noticeable phenomenon observed from UCR arson arrest statistics, and one that is well-documented within arson-related literature, is the youth of the offender. Despite the declining percentage of youth involvement in arson arrests over the past decade and a half, the percentage of juvenile arson arrests in 1983 was second only to burglary among Index crimes. Almost one-fourth of all arson arrests in 1983 involved persons under the age of 15, and over 60 percent were among persons under 25 years of age. This representation by persons under 15 in arson is a level of involvement beyond that of any other crime for which UCR arrest data are collected, excluding categories limited to juveniles, such as violations of runaway, curfew, and loitering laws.

Arson arrest rates, which are equated to the actual population for any demographic group, provide an additional means for depicting the youth of the typical arson offender. In order to estimate the peak ages for arson arrest involvement, the data in figure 3 were computed. These age-specific arrest rates show that the peak age for total arson arrest involvement in 1983 was between 13 and 15 years.

Figure 3

Arson Age-Specific Arrest Rates* By Sex 1983

Age group	Total	Male	Female
12 and under	6.2	11.2	1.0
13 to 14	27.8	47.9	6.8
15	28.3	49.3	6.3
16	24.4	43.5	4.6
17	22.1	39.3	4.2
18	20.3	36.1	4.0
19	19.7	35.6	3.4
20	16.9	30.0	3.5
21	17.4	30.1	4.4
22	15.0	26.2	3.7
23	13.9	24.2	3.4
24	12.2	20.4	3.9
25 to 29	12.0	20.8	3.3
30 to 34	8.8	14.8	2.8
35 to 39	7.5	12.6	2.6
40 to 44	6.5	11.1	2.1
45 to 49	4.5	7.7	1.5
50 to 54	3.5	6.5	.7
55 to 59	1.9	3.3	0.6
60 to 64	1.2	2.3	0.3
65 and over	0.4	0.8	0.1
Total all ages	8.6	15.5	2.0

**Number of arrests per 100,000 inhabitants.*

Compared with other Index crimes, arson arrest rates show a further bias toward the youthful offender. As mentioned previously, murder is a crime with national arrest totals similar to arson; however, the peak ages for arrest rates show murder offenders to be considerably older than those for arson. In 1983, the peak age for murder arrests was between 18 and 19 years of age.

To further analyze changes in the demographic characteristics of the typical arson arrestee, it is helpful to look at arrest rates compared in a ratio format. Figure 4 shows the changing nature of the ratio between juvenile and adult arson arrest rates.

Figure 4

Ratio of Juvenile-to-Adult Arson Arrest Rates*

Year	Total	Male	Female
1965	3.3 : 1	3.4 : 1	1.6 : 1
1970	2.8 : 1	2.8 : 1	1.8 : 1
1975	2.6 : 1	2.5 : 1	2.0 : 1
1980	2.0 : 1	2.0 : 1	1.6 : 1
1983	1.5 : 1	1.5 : 1	1.1 : 1

**Arrest rate per 100,000 inhabitants belonging to a prescribed group.*

Since the number of arson arrests of adults has been increasing faster than of juveniles, it would be expected that the ratio of juvenile to adult arrest rates per capita should decline. Figure 4 shows that this is indeed the case, as evidenced by the fact that in 1965, there were over three juveniles arrested per capita for every one adult, but by 1983, this ratio had been reduced to less than 2 to 1. This table shows further that this decrease may be attributed to a reduction in the juvenile-to-adult arrest ratio among males, a shift that has lessened the total juvenile-to-adult ratio and resulted in nearly equal ratios for the sexes. These findings are particularly noteworthy because they are contrary to population trends. Between 1965 and 1983, the Nation's juvenile population declined while the adult population increased.

Arrest rates addressing the ratio between male and female arson offenders suggest a bridging of the gap between the sexes. In 1965, there were more than 12 male arson arrests for every female arrest. By 1983, this ratio had dropped steadily to under eight males for every female. This finding, together with increased involvement of adult arson offenders, is indicative of an overall trend toward more uniformity among the nature of crime and criminals.

With respect to race, the arson arrest rates for nonwhites versus whites has remained relatively constant since 1965. This ratio (2 to 1) was the lowest nonwhite/white arrest rate ratio registered for any Index offense in 1983. In other words, arson proved to be the least racially skewed crime among UCR Index offenses. The crimes of burglary and motor vehicle theft had the next lowest arrest rate ratio (approximately 3 to 1), while robbery had the highest (10 to 1).

Automated Identification Division System

An additional FBI arrest-based data source relating to arson is the Automated Identification Division System (AIDS). AIDS is a computerized program based on fingerprint cards submitted by law enforcement agencies throughout the Nation. In comparison with the UCR Program, the nature and design of AIDS allows for several different analytical approaches to arrest data. For instance, the UCR Program, by its design, can cross-tabulate data by age and sex only; AIDS allows for an analysis of every age group by sex and race and cross-tabulation between sex and race variables. Further, because AIDS is an assemblage of individual records, arrest data may be statistically (i.e., anonymously) analyzed from either the perspective of total arrests or individual arrestees. However, since the UCR Program is based on reported totals within an entire agency, only aggregate figures can be calculated. This aspect of AIDS also allows for a historical record of repeat arrestees and a measurement of recidivism for individual offenses.

In order to avoid contradictions, it should be noted that for several reasons, the overall number of arrests contained within AIDS is smaller than that contained within UCR. Most notable among the differences is that arrest records for persons under 18 years of age are included in AIDS only if they are to be prosecuted as adults. Therefore, these data should be considered as comprised of ostensibly adult offenders.

AIDS arson arrestee data cross-tabulated between sex and race variables show a greater level of involvement per capita for nonwhite women than for white women. Of all 1983 white arson arrestees, only 11 percent were female; however, when considering other races, women comprised 18 percent of all arrestees. In the 1983 U.S. population, women comprised the majority among all three of these racial groupings.

Cross-tabulation between age and race data reveals the peak age for arson arrest involvement to be lower among whites than blacks. AIDS data indicate the peak age for white arson arrestees was between 19 and 20 years of age and the peak age for black arrestees was between 23 and 26 years. Numbers of arrestees in other racial groupings were too small and too well-dispersed to offer valid conclusions.

Since AIDS is based on arrest records, not reported offenses, it allows for tracking of repeat offenders and calculation of the total arrests for which they account. Data for 1983, which are presented in figure 5, show that 7,261 persons accounted for 7,933 arson arrests. During the year, most of the offenders (91 percent) were arrested only once for arson. The average number of arson arrests per offender was 1.09 times, which ranks arson (together with aggravated assault) as having the fewest repeat arrestees among Index crimes.[2] The crimes of burglary and robbery (each with an average of 1.21 arrests per offender) had the highest level of repeat offenders among Index crimes.

In an effort to track arson arrestees' subsequent involvement in crime, AIDS data were obtained for a group of persons arrested for arson during 1974, and their arrest activity between 1975 and 1983 was studied. Of the 2,008 original arrestees, 163 (8 percent) were rearrested for arson within the following 9 years, and the remaining 1,845 arrestees had no subsequent arson arrests. For those who were rearrested for arson, four out of five persons had only one subsequent arrest for this offense.

Figure 5

Number of Arson Offenders by the Number of Times Arrested 1983

Number of times arrested for arson	Number of arson offenders	Arrests
1	6,636	6,636
2	580	1,160
3	43	129
4	2	8
5 or more	0	0
Total	7,261	7,933

The arrest record for all criminal activity by the 2,008 offenders showed that they accounted for 5,040 total arrests over these following 9 years. In other words, each 1974 offender accounted for an average of between two and three arrests during the 9-year period. Larceny, burglary, and assault proved to be the three most common crimes for which they were arrested, but it should be noted that these three crimes also registered the highest overall arrest totals according to 1983 UCR figures.

Conclusion

The information gleaned from these three types of data is helpful in gaining an understanding of both the crime of arson as well as its perpetrator, but it is far from all-inclusive. UCR offense-based arson data, which should ultimately be the best indication of the extent of the Nation's arson problem, are currently limited in terms of historical perspective and population coverage. Arson, unlike its Crime Index counterparts, is a crime that does not necessarily lend itself to police knowledge and reporting. Therefore, UCR arson offense statistics should be viewed as only as an indication of the national arson problem.

Although arrest statistics do not necessarily address the frequency with which a crime occurs, they are probably a more realistic indicator of law enforcement's involvement with arson. Used as an indicator of the demographic characteristics of a crime's offender, UCR arrest data are useful in supplying a description of the typical arson arrestee: He is often a young male and is usually white. Further, UCR arrest statistics provide a reliable indicator of arrest trends, a means of comparing characteristics of the perpetrator of one crime to those of another, and a high degree of historical continuity. Similarly, AIDS arrest data are helpful in describing characteristics of the arson arrestee, as well as showing arson recidivism and a measure of the arson arrestee's involvement with other crime.

While these data offer useful background information toward analyzing the current arson problem, they cannot provide a complete solution—more information regarding the incidence and characteristics of the crime is needed. As a means of explaining why the perpetrator commits the crime and how one can conceivably reduce its occurrence, data on the known methods and motives of the arsonist would provide the law enforcement administrator with more actionable data for crimefighting decisions.