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## A Comparison of Partner and Solo Arsonists

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**ABSTRACT:** Data on 225 adult arsonists arrested in a metropolitan county over a four-year period were systematically gathered. In each case 83 variables related to the arsonist and the arson were examined. The presence or absence of a partner in crime clearly differentiated two groups of arsonists. Partner and solo arsonists are characterized by a different level of social functioning and a different burden of mental impairment and criminal history. By focusing on the partner variable, it also becomes clear that the characteristics of the offense are related to those of the offender.

**KEYWORDS:** psychiatry, arson, comparative analysis, arsonists, partner, solo, relationship, psychosocial

Among the various classes of criminals, arsonists stand out as the least well characterized or understood. Since the publication by Lewis and Yarnell [1] of their classic monograph in 1951, no large-scale scientific studies of arsonists have been performed. Blumberg [2] recently identified some inherent methodological difficulties associated with studies of arsonists. These include small or biased samples, skewed data bases, and secretive subjects. In addition to the objective difficulties, the issue is further clouded by some popular misconceptions. Two polarized views of the arsonist exist. At one extreme is the image of the professional criminal who acts coldly for profit and evades the law; at the other, that of the mentally unbalanced pyromaniac who sets fires on impulse and for the relief of sexual tension. Neither stereotype has been validated by recent psychiatric or criminological research.

In terms of its social impact, arson is a crime that exacts large human and monetary losses, and sometimes alters the fabric of entire neighborhoods. However, a single arson episode can be anything from a fire in a trash can without damage or injury to a major blaze causing fatalities and destruction. The legal concept of arson emphasizes the method (fire setting) and the potential risk to persons in the property; the motive and the effects of the offense are not considered in the definition. The group of perpetrators defined by this legal concept is made up of subgroups with widely varying characteristics. Questions that badly need answers include who the arsonists are, why they act, whether there are particular kinds of offenders who engage in specific patterns of arson, and what dispositions are made by the

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courts. Efforts by law enforcement agencies, forensic mental health clinics, and the judiciary to deal effectively with arsonists are obstructed by the paucity of information about the natural history and characteristics of these offenders.

In order to meet the informational needs of the Forensic Mental Health Service of Erie County, NY, the authors conducted a study of arrested adult arsonists in that county. The purpose was to establish an accurate data base and to determine the relationship between the nature of the offense—arson—and the type of offender—the arsonist. The motive for the crime was central to our study. The prevailing opinion suggested the notion that arson is primarily a profit-making proposition, although in our clinical work such cases were the minority. Since we believed that any profit-making crime was likely to involve complicity, when we designed the data sheet we included the variable “partner.” This variable indicates the presence or absence of a partner, codefendant, or accomplice in crime. In fact, this variable discriminates effectively between two major groups of arsonists. In this paper the profiles of partner and solo arsonists in the study population are compared with regard to demographics, mental health history, criminal history, descriptors of the arson, including motive, and judicial processing. It will be shown that arsonists with partners differ significantly from solo arsonists on many variables.

### **The Literature**

Since the nineteenth century psychiatrists and criminologists have attempted to develop a useful classification of fire setters. The scientific literature on arsonists has been written largely by psychiatrists, since fire setting traditionally has been regarded as a crime committed by the mentally impaired. The figure of the pyromaniac, which was described in the nineteenth century European literature [3], has been particularly influential. The escalation of arson as a major profit-motivated crime has paralleled the growth of the insurance industry and is a phenomenon of the last several decades.

In the United States the most extensive study of pathological fire setters remains that of Lewis and Yarnell [1], who among their numerous findings reported that 70% of 1145 subjects were of subnormal intelligence. The diagnosis of pyromania appeared in up to 40% of male subjects. Psychological motivations for fire setting were emphasized by Freud [4] and pursued by the American psychiatric literature of the 1950s and 1960s, which was influenced by the psychoanalytic movement [5]. In general, unidimensional diagnostic approaches have not been rewarding in discriminating among arsonists. Recently some studies have addressed diagnostic, criminological, and psychosocial issues in samples of arsonists referred by the courts for psychiatric evaluation [6–8]. Although there is a criminological literature on criminal associations, we have not found any references in which the partnership issue is addressed as it refers to arsonists, much less the actual fires. Forensic psychiatrists who are studying the criminal as an individual have not paid enough attention to the psychological aspect of criminal partnerships [9].

### **Methods**

The sample for this study included persons aged 16 and over who were arrested for arson in Erie County from 1978 to 1981. This jurisdiction is located in western New York and comprises urban, suburban, and rural areas with a total population of one million; the city of Buffalo is the center. For the four-year period in question the records of all known arsonists were reviewed by using files from the Erie County Forensic Mental Health Service, the Sheriff's Department, and the Probation Department, as well as police reports. From the latter we derived much valuable information, including the charges, a description of the offenders' behavior at the time of the arrest, the circumstances of the offense, and the motives. The arrest record for each subject was obtained. In the course of the retrospective chart

review the files were cross-referenced and where necessary and feasible supplementary information was sought from other local courts and social agencies. A final *N* of 225 cases was obtained, comprising virtually all arrested arsonists for the period. Consequently, this study does not have a psychiatric selection bias, since all available adult arsonists were used regardless of whether a psychiatric referral was made. Our access to multiple interrelated data sources on practically all the study subjects greatly facilitated the collection and verification of the information. The confidentiality and anonymity of the study subjects were protected. Data were collected for 83 variables for each subject. The data were categorized as follows: demographics, including family background (28 variables); psychiatric history (7 variables); criminal record (6 variables); descriptors of the arson (11 variables); and judicial processing (21 variables). In many cases not all the information was available: the greatest difficulty was encountered with the family background data. Otherwise data were missing for 5 to 10% of the cases for any given variable. All percentages reported are for adjusted *N*s except where otherwise stated. Frequency distributions and cross tabulations were done with  $\chi^2$  tests of statistical significance. Variables related to arsonist demographics, mental health and criminal history, descriptors of the crime, and judicial processing were cross-tabulated with the variable partner, which indicated whether the arsonist acted as a solo criminal or with one or more accomplices.

## Results

Thirty-two percent (71 subjects, of whom 69 were male) of our sample had a partner. In 63 cases the partners were identified; in 44 cases they were included in the study. The profiles of partner and solo arsonists were compared with regard to demographics, family background, mental health history, criminal record, descriptors of the crime, and judicial processing. The data are tabulated accordingly.

### *Demographic Data (Table 1)*

The mean age of solo arsonists at the time of arrest (28.66 years, standard deviation [sd] = 11.25) is somewhat older than that of partners (25.0 years, sd = 10.25). However, the arsonists who had both a partner and a profit motive are significantly and substantially older (mean = 31.07 years, sd = 11.40) than the arsonists with partners who had motives other than profit (mean = 19.67 years, sd = 11.74);  $t = 3.79$ ,  $p < .01$ , one tailed, degrees of freedom (df) = 61. The younger group of partners is composed mainly of adolescents who committed arson as vandalism or some other form of emotional expression. The older group of partners is composed exclusively of profit-motivated arsonists. As may be seen in Table 1, a higher percentage of the younger persons arrested had partners than the two older age groups. Persons acting with partners are more likely to be male, white, and employed. It was expected that partners would be better educated and a slight but not significant trend consistent with that hypothesis was noted.

### *Family Data (Table 2)*

With regard to this data category, partners differ significantly from solo arsonists only through fathers' more consistent presence in the home in the former. The importance of this variable reflects the influence of the father on the socialization of the son. Data on marital status in both groups are skewed by the presence of numerous young individuals aged 16 to 20 years (34% of total), where the expectancy of marriage is low.

TABLE 1—Demographic data.

Variable	Partner		Solo		$\chi^2$	df <sup>a</sup>
	Percent	N	Percent	N		
Age, years						
16-20	52	37	20	30	23.433 <sup>b</sup>	2
21-25	17	12	20	29		
> 26	31	22	60	87		
Total	100	71	100	146		
Sex						
Male	97	69	82	120	9.553 <sup>b</sup>	1
Female	3	2	18	26		
Total	100	71	100	146		
Race						
White	74	52	58	85	5.265 <sup>c</sup>	1
Other	26	18	42	61		
Total	100	70	100	146		
Education						
Grade school	55	36	64	84	1.340	2
High school	40	26	33	44		
College	5	3	3	4		
Total	100	65	100	132		
Source of income						
Employment	50	33	23	33	31.930 <sup>b</sup>	4
Welfare	24	16	43	61		
Disability	3	2	25	34		
Other	23	15	9	13		
Total	100	66	100	141		

<sup>a</sup> For economy and space, some categories were collapsed after the  $\chi^2$  test was performed.

<sup>b</sup>  $p < .01$ .

<sup>c</sup>  $p < .05$ .

### *Mental Health and Criminal History Data (Table 3)*

A somewhat crude but nonetheless effective measure of the prearrest degree of mental health problems was created by counting the number of mental health agencies that knew a subject before arrest. Arsonists acting with partners were less likely to have a mental health history. Also, no arsonist who was psychotic at the time of arrest had a partner. Partners were less likely to have a criminal record and to be known to the Forensic Mental Health Service. As an index of social impairment, having had contact with that service carries the double connotation of being criminal and being "crazy." The magnitude of the differences between partners and solo arsonists with regard to these variables attests to the fact that solo arsonists bear a greater burden of mental and social impairment than partner arsonists. The frequency of arson recidivism is not significantly different and is probably understated in both groups in view of the low clearance rate for arson—only 10 to 20% of investigations lead to an arrest [10].

### *The Arson (Table 4)*

Partners usually set fires between midnight and dawn, while solo arsonists were equally active in the evening hours before midnight. Also partners used more sophisticated methods, for example, fire accelerants or a time device rather than matches and paper, caused higher dollar damages, and burned property at a greater distance from their own residence.

TABLE 2—Family data.

Variable	Partner		Solo		$\chi^2$	df
	Percent	N	Percent	N		
<b>Marital status</b>						
Married	8	5	14	19	6.706	4
Single	71	47	54	74		
Separated	4	3	12	16		
Divorced	14	9	17	25		
Widowed	3	2	3	4		
Total	100	66	100	138		
<b>Parents' marital status</b>						
Married	36	20	34	44	5.595	7 <sup>a</sup>
Single	4	2	8	10		
Separated	7	4	9	12		
Divorced	18	10	19	25		
Widowed	28	16	16	21		
Both deceased	7	4	12	15		
Total	100	56	100	127		
<b>Criminal record of father</b>						
Yes	13	4	15	12	0.152	1
No	87	28	85	66		
Total	100	32	100	78		
<b>Father absent from home</b>						
Always	25	12	45	48	7.834 <sup>b</sup>	2
Frequently	0	0	3	3		
Never	75	36	52	55		
Total	100	48	100	106		

<sup>a</sup>Some categories were collapsed after the  $\chi^2$  test was performed.

<sup>b</sup> $p < .05$ .

#### *Perpetrator at the Time of the Arson (Table 5)*

No partner was psychotic at the time of the offense, whereas 15% of the solo arsonists displayed mental impairment of sufficient severity to be considered psychotic. While substance abuse was frequently associated with the crime in both partners and solo arsonists, the proportion of intoxicated partners was smaller. Profit was the leading motive among partners. A striking finding was that 87% of the profit-motivated arsonists were among the partners. Among the solo arsonists revenge was by far the leading motive, while the profit motive was present only in four cases.

#### *Judicial Processing Variables Correlated With Partner (Table 6)*

Although partners caused higher property damages, they were charged with less serious degrees of arson. This paradoxical finding stems from the legal definition of arson, according to which the seriousness of the charge is related to the risk to which potential victims are exposed through their presence in the burning property, rather than to the motive or the actual injuries or damages resulting from the arson. Presumably "partners" set fire to either nonresidential property or to buildings where people were not present. Despite the lower charges, partners were more likely to be tried in a higher court and to be convicted, although they were also more likely to have a retained lawyer. A self-correcting mechanism thus appears to be operative in the process from the arrest through to the judicial disposition.

TABLE 3—*Mental health and criminal history.*

Variable	Partner		Solo		$\chi^2$	df
	Percent	N	Percent	N		
<b>Known to FMHS<sup>a</sup></b>						
Yes	32	23	78	114	42.841 <sup>b</sup>	1
No	68	48	22	32		
Total	100	71	100	146		
<b>Known to other mental health agencies</b>						
0 agencies	54	37	18	25	42.841 <sup>b</sup>	4
1 agency	25	17	22	32		
2 agencies	13	9	18	25		
3 agencies	4	3	24	35		
4 or more agencies	4	3	18	25		
Total	100	69	100	142		
<b>History of substance abuse</b>						
Yes	6	4	75	110	11.252 <sup>b</sup>	1
No	94	66	25	36		
Total	100	70	100	146		
<b>Criminal record</b>						
Yes	58	41	79	114	10.845 <sup>b</sup>	1
No	42	30	21	30		
Total	100	71	100	144		
<b>Prior arson arrest</b>						
Yes	10	7	8	11	0.306	1
No	90	64	92	133		
Total	100	71	100	144		

<sup>a</sup>FMHS = Forensic Mental Health Service.

<sup>b</sup> $p < .01$ .

## Discussion

If we focus on the variable of partnership, two clearly delineated groups of arsonists may be observed. The first and smaller group, partners, is characterized by a relatively high level of social functioning and a lower burden of mental impairment and criminal history. The second, far larger group of solo arsonists, is characterized by a low level of social functioning and a high frequency of mental impairment and criminal history. It has been our clinical observation that persons with a history of mental illness are far more frequently arrested for arson than the nonmentally disabled. For example, whereas about 20% of the arrested persons who appear in Buffalo City Court in any given month are known to the Forensic Mental Health Service, 63% of persons arrested for arson over a four-year span in Erie County were known to the service before their arrest. Many of these persons are revolving door patients and are known to one or more mental health agencies in the county other than the Forensic Mental Health Service. These people are not well socialized and have personal habits and characteristics that make them unemployable. Fully two thirds of the solo arrestees were supported by welfare or disability payments, in contrast to only 27% of the partner group. It should be noted that 23% of the partner group lists "other" as source of income. This referred primarily to young persons who were listed as having partners because they acted in concert with other youngsters, burning for excitement or as an act of vandalism.

The dynamic relationship between the offense and the offender is demonstrated in this study. Arsons may be differentiated by a number of characteristics, for example, method, time of day, and damages. A few are quite sophisticated in that technical means are used to

TABLE 4—*The arson.*

Variable	Partner		Solo		$\chi^2$	df
	Percent	N	Percent	N		
<b>Time of day</b>						
12:01 a.m. to 6:00 a.m.	78	35	38	52	32.413 <sup>a</sup>	7
6:00 a.m. to 12:00 noon	3	2	11	15		
12:01 p.m. to 6:00 p.m.	2	1	12	16		
6:01 p.m. to 12:00 midnight	17	10	39	53		
Total	100	48	100	136		
<b>Sophistication</b>						
Sophisticated	7	5	0	0	32.953 <sup>a</sup>	2
Moderate	35	24	10	15		
Primitive	58	38	90	109		
Total	100	67	100	124		
<b>Damages</b>						
> \$10 000	48	30	18	23	21.366 <sup>a</sup>	3
\$500 to \$10 000	22	14	25	33		
< \$500	24	15	51	66		
None	6	4	6	8		
Total	100	63	100	130		
<b>Location</b>						
Own home	7	5	40	57	24.729 <sup>a</sup>	3
Same building	3	2	2	3		
Next door to home	12	9	7	10		
Other	78	55	51	74		
Total	100	71	100	144		
<b>Distance from home</b>						
< 1 mile	51	36	78	112	14.122 <sup>a</sup>	1
1 mile or more	49	34	22	32		
Total	100	70	100	144		

<sup>a</sup>*p* < .01.

start the fire, but most are started with little more than a wad of paper and a match. They also differ as to the time of day when they are started and the type of structure or other property that is set afire. And, of course, they differ in relation to the amount of damage done. By focusing on the partner variable, it becomes clear that the characteristics of the offense are related to the characteristics of the offender.

Personal qualities that are responsible for the interactive relationship appear to be the adaptive capacity and social development of the perpetrator. Persons acting with partners set fires in the early hours of the morning and do much damage, that is, their fires are effective. Nonetheless, these same persons tend to be arrested on a lesser arson charge than persons acting alone. The differentiating factor between first and second degree arson and the lesser degrees of arson is the presence of the former of potential personal injury victims at the site of the fire. The solo arsonist is more likely to have burned or tried to burn his own residence, or to have set a fire closer to his own residence. It is noteworthy that no partner was diagnosed as having been psychotic at the time the crime was committed.

Motive for the crime is of special significance. It should be noted that only 30 of the 225 persons arrested for arson were thought to have been motivated by profit. Of the 30, 26 had

TABLE 5—*Motive and mental state.*

Variable	Partner		Solo		$\chi^2$	df
	Percent	N	Percent	N		
Psychotic at time of arson						
Yes	0	0	15	22		
No	100	71	85	124	11.906 <sup>a</sup>	1
Total	100	71	100	146		
Intoxicated at time of arson						
With drug or alcohol	40	24	54	73		
With drugs and alcohol	2	1	9	12	8.358 <sup>b</sup>	2
Not intoxicated	58	34	37	51		
Total	100	59	100	136		
Motive for arson						
Profit	37	26	3	4		
Revenge	16	11	47	68		
Vandalism	20	14	8	13		
Excitement	17	12	8	12	68.629 <sup>a</sup>	7
Deathwish	1	1	6	8		
Anger	0	0	3	4		
Cry for help	5	4	12	17		
None given	4	3	13	18		
Total	100	71	100	144		

<sup>a</sup> $p < .01$ .<sup>b</sup> $p < .05$ .

partners in crime. Profit was the most frequent motive for persons with partners, but the least frequent motive for solo arsonists. On the other hand, solo arsonists acted for revenge and usually faced higher charges. These findings highlight the social inadequacy of the solo arsonist, which at least in part is a reflection of the burden of mental disability upon the behavior of these individuals.

Crime for profit is part of our economic system. Economic systems are social systems. It follows that an economically motivated crime is far more likely to have multiple offenders than is a noneconomically motivated crime. It is true of all crime, not just arson, that conspiracy and complicity can nearly always be found where the motive for the crime is economic gain. The relationship between partner arsonists and crime for profit becomes stronger by correcting for the influence of age. A number of younger individuals who were arrested for arson had acted in gangs. Consequently, they were included in the study as having had partners in crime. The motive for these persons tended to be excitement or vandalism, but no person over age 25 who had a partner was thought to have had excitement as a motive.

In summary, a criminal partnership requires persons who have the abilities to plan, trust each other, and execute a course of action. The individual must be able to form and maintain an interpersonal relationship using social skills. Psychotic and most mentally disabled persons lack those skills, and by definition have seriously impaired interpersonal relationships. The presence or absence of partners is not to be thought of as a causal variable. However, it appears to correlate with a number of other variables with sufficient consistency to delineate a subgroup of offenders who are characterized by a higher level of social functioning. We believe that the characteristics of arsons can be used to predict whether or not the offense was done by accomplices. Surely, these clues would help law enforcement personnel.



TABLE 6—Judicial processing.

Variable	Partner		Solo		$\chi^2$	df
	Percent	N	Percent	N		
Source of defense						
Assigned attorney	24	17	55	79	18.393 <sup>a</sup>	1
Retained attorney	76	54	45	65		
Total	100	71	100	144		
Charge (degree of arson)						
1st	0	0	1	1	30.397 <sup>a</sup>	3
2nd	21	14	61	87		
3rd	66	44	33	47		
4th	13	9	5	8		
Total	100	67	100	143		
Charges additional to arson						
Yes	42	30	41	60	0.026	1
No	58	41	59	86		
Total	100	71	100	146		
Trial court						
State	63	45	46	67	5.630 <sup>b</sup>	1
Municipal	37	26	54	78		
Total	100	81	100	145		
Disposition by court						
Sentenced	27	18	23	34	13.212 <sup>b</sup>	6
Probation	52	35	33	47		
Fined	0	0	2	3		
Youthful offender	0	0	1	1		
Pending	3	2	4	6		
Dismissed	18	12	34	49		
Not guilty, insane	0	0	3	5		
Total	100	67	100	145		

<sup>a</sup> $p < .01$ .<sup>b</sup> $p < .05$ .

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### References

- [1] Lewis, N. D. and Yarnell, H., "Pathological Firesetting (Pyromania)." *Nervous and Mental Diseases Monograph* 82. Coolidge Foundation, New York, 1951.
- [2] Blumberg, N. H., "Arson Update: A Review of the Literature on Firesetting." *Bulletin of the American Academy of Psychiatry and the Law*, Vol. 9, No. 4, 1982, pp. 255-265.
- [3] Marc, M., "Considerations medico-legales sur la monomanie et particulierement sur la monomanie incendiaire," *Annales de Hygiene Publique et Medicine Legale*, Paris, 1833, pp. 391-484; cited in Ref. 1, pp. 9-10.
- [4] Freud, S., "The Acquisition of Power over Fire," *International Journal of Psychoanalysis*, Vol. 13, Oct. 1932, pp. 405-410.
- [5] Kaufman, I., Heims, L. W., and Reiser, D. E., "A Re-Evaluation of the Psychodynamics of Fire-setting," *American Journal of Orthopsychiatry*, Vol. 31, No. 1, Jan. 1961, pp. 123-136.
- [6] Koson, D. F. and Droskin, J., "Arson: A Diagnostic Study," *Bulletin of the American Academy of Psychiatry and the Law*, Vol. 10, No. 1, 1982, pp. 39-49.
- [7] Bradford, J. M., "Arson: A Clinical Study," *Canadian Journal of Psychiatry*, Vol. 27, No. 3, April 1982, pp. 188-193.

- [8] Hill, R. W., Langevin, R., Paitich, D., Handy, L., Russon, A., et al, "Is Arson an Aggressive Act or a Property Offence? A Controlled Study of Psychiatric Referrals." *Canadian Journal of Psychiatry*, Vol. 27, No. 8, Dec. 1982, pp. 648-654.
- [9] Cormier, B. M., Kennedy, M., Obert, A., Sengowitch, G. M., Sanbuehler, N. J., and Phiffault, A. L., "Some Psychological Aspects of Criminal Partnerships." *Canadian Journal of Corrections*, Vol. 3, No. 4, Oct. 1961, pp. 445-455.
- [10] *Crime in the U.S.*, FBI Uniform Crime Reports for the U.S., Annual for 1981. U.S. Department of Justice. Washington, DC.

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