

The Mental State of Arsonists as Determined by Forensic Psychiatric Examinations

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In this study we evaluated whether arsonists ($n = 98$) differ from homicide offenders ($n = 55$) in regard to psychiatric disorders, suicidality, and criminal responsibility in the context of forensic psychiatric pretrial examinations. Arsonists were mainly male, poorly educated, unemployed, and living in rural areas. Eighty-four percent of the arsonists and 62 percent of the homicide offenders had an alcohol abuse problem. This difference was statistically significant ($p = .002$). The arsonists more commonly had suicidal thoughts and attempted suicides. Over one-third of the arsonists used fire-setting as a suicide attempt. In comparing the arsonists with the control group, there was a statistically significant difference in the variables that indicate suicidality. Arsonists more commonly had diagnosed psychiatric diseases ($p = .008$). The incidence of psychoses was fourfold, chronic or severe depression about threefold, and mental retardation twofold when compared with the homicide offenders. Eighty-five percent of the arsonists had received psychiatric care before the crime was committed. The arsonists were more often found to be not criminally responsible for the crime committed ($p = .01$).

In the 1970s the police in Finland registered on average 263 acts of arson every year. The corresponding number in the 1980s was 532.¹ The number of arsons doubled from 1980 to 1989, from 368 cases to 748.² In 1960 there were less cases of arson than homicide, whereas since the mid-1970s, the number of arsons registered by the police has been twice as high as that of homicides.¹ A reliable international comparison of the rate of arson is difficult to determine,

because the crime statistics in different countries are heterogenous. However, a rough estimate is that 25 to 30 percent of all fires are set on purpose, and the increasing arson trend in Finland since the 1960s is analogous to the international trend in arson statistics.³⁻⁵

As far back as the 1950s, psychiatric research concerning criminal offenders has indicated that arsonists are more mentally disturbed than most other offenders. They are diagnostically a heterogenous group of offenders, who in the forensic psychiatric examination are not as often found to be as fully criminally responsible for the crime committed as other criminal offenders.⁶⁻¹²

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According to the present point of view, the act of arson is caused rather by impulsivity and loss of control by an arsonist, and not the deviant release of sexual tension as had been assumed earlier.^{13, 14}

According to some estimates, 10 to 40 percent of arsonists are psychotic at the time of setting a fire. Approximately 10 percent of arsonists have a diagnosis of schizophrenia.^{9, 10, 14} Over one-third of arsonists have a personality disorder, often with alcohol dependence. Borderline personality disorder and antisocial personality disorder are the most common types among arsonists.^{10, 15} In comparison with other criminal offenders, arsonists are found to be more disposed to develop depression than nonarsonists.⁴

Neuroses and other mild psychiatric disorders are not very common among arsonists. Less than 10 percent of arsonists have any diagnosed mental disorder. The diagnosis of pyromania is rare among arsonists.^{4, 8, 11, 14, 17, 19-21}

When the incidence of mental disorders found in studies concerning arsonists was compared with psychiatric disorders of Finnish prisoners,²² a higher incidence of psychoses and personality disorders was found among the arsonists. In Joukamaa's study of the health of Finnish prisoners (or the WATTU project), of the 903 prisoners examined, 4 percent were found to have a psychotic disorder and 18 percent a personality disorder; .9 percent of the study sample consisted of arsonists. Any other corresponding research concerning arsonists has not been carried out in Finland despite the rapidly increasing number of arsons.

The purpose of the current study is to

examine the incidence of mental disorders among arsonists on the basis of psychiatric diagnoses and evaluations of criminal responsibility, using homicide offenders as control subjects.

Materials and Methods

The study sample consisted of arsonists who had been given a forensic psychiatric examination at the University Hospital of Oulu, Finland between 1975 and 1993 ($N = 98$). There were 86 males and 12 females. Their ages ranged from 16 to 63 years ($M = 31.3$, $SD = 10.5$). The control group consisted of 55 individuals who had been under pretrial forensic psychiatric examination after committing a homicide. There were 42 males and 13 females, 15 to 68 years old ($M = 29.2$, $SD = 14.0$). There were not any statistically significant differences in age and sex distribution between the arsonists and the control group.

The following variables were recorded from the subjects' case records and the forensic psychiatric examination pronouncements drawn up by order of the court: age at the time of the crime, sex, residence, marital status, education, employment at the time of the crime, military service, previous crimes, psychiatric care before the crime, suicidality, and use of alcohol with resulting possible intoxication at the time of the crime.

DSM-III-R criteria were used to categorize offenders by diagnostic subtypes. Axis I and Axis II disorders were classified separately. In those cases, during the forensic psychiatric examination, in which the DSM-III-R criteria for diagnoses of mental disorders were not yet

Mental State of Arsonists

valid, the subject's diagnosis was chosen by using the DSM-III-R criteria corresponding to that of the former psychiatric diagnosis. The diagnosis *persona pathologica primitiva* (301.88) was the only exception in this study, as there is not any corresponding diagnosis in the present DSM-III-R criteria. The diagnosis of personality disorder not otherwise specified (3018X) was used instead.

On the basis of forensic psychiatric examination pronouncements, the criminal responsibility of the examined offenders was coded according to Finnish law into three different categories: fully responsible, diminished responsibility, and not responsible.

Statistical Analysis

The data were analyzed by microcomputer using the SPSS for Windows program.²³ The analyzing methods used were the chi-square test and the Student's *t* test. The result was considered statistically significant when the *p* value was $<.05$. We used a stepwise logistic regression analysis to find variables that had influenced the probability of committing arson.

Results

The arsonists differed from the homicide offenders in that they were more often single, had a lower level of education, did not work regularly because of unemployment or psychiatric diseases, and had experienced previous psychiatric outpatient or mental hospital care (see Table 1). One half of the arsonists had a previous criminal record. The homicide offenders were to a significant extent

more often city residents, better educated, and steadily employed, and they were found to have less mental disorders than the arsonists.

Eighty-four percent of the arsonists and 62 percent of the homicide offenders had an alcohol abuse problem. This difference was statistically significant ($p = .002$, $df = 1$, χ^2). On the basis of the forensic psychiatric examination pronouncements, a state of inebriation at the time of the crime was reliably reported by 94 arsonists and 54 homicide offenders. Eighty-six percent of those arsonists examined and 81 percent of the homicide offenders were under the influence of alcohol at the time the crime was committed. This difference was not statistically significant.

In this study sample, suicidal intent preceding the crime was reported on the forensic psychiatric examination by 84 of the arsonists and 54 of the homicide offenders. Therefore, only through these subjects was it possible to obtain reliable information about their previous suicidal behavior. The arsonists had, in comparison with the homicide offenders, more commonly experienced suicidal thoughts ($p = .001$, $df = 1$, χ^2) and attempted suicide ($p = .001$, $df = 1$, χ^2). Over one-third of the arsonists used the crime for a suicide attempt ($p = .01$, $df = 1$, χ^2) (Fig. 1).

In comparison with the control group, arsonists were found to have been more commonly diagnosed with psychiatric diseases (see Table 2). The difference was statistically significant ($p = .008$, $df = 4$, χ^2). The incidence of psychosis was fourfold, chronic or severe depression about threefold, and mental retardation

Table 1
Demographic, Criminologic, and Clinical Data for the Arson and Control Groups
at the Time of the Crime

Variable	Arson (n = 98), Number (%)	Control (n = 55), Number (%)	Significance, <i>p</i> -value
Age (years)			NS
Mean	31.3	29.2	
SD	10.5	14.0	
Sex			NS
Male	86 (88)	42 (76)	
Female	12 (12)	13 (24)	
Urban residence	39 (40)	34 (62)	.009
Marital status			NS
Unmarried	69 (70)	37 (67)	
Cohabitation/marriage	11 (11)	11 (20)	
Divorced/widowed	18 (18)	7 (13)	
Education			.004
Comprehensive school/school under 9 years	82 (84)	32 (63)	
Occupation (n = 97/n = 52 of working age)			.04
Employed	7 (7)	11 (21)	
Unemployed	65 (67)	29 (56)	
Disability pension	25 (26)	9 (17)	
Old age pension	0 (0)	3 (6)	
Military service (n = 86/n = 42 male)			NS
Accomplished	50 (58)	25 (59)	
No previous crimes	50 (51)	29 (53)	NS
Previous psychiatric care			.00002
None	14 (14)	25 (45)	
Outpatient	19 (19)	13 (24)	
Hospital	65 (66)	17 (31)	

twofold when compared with the homicide offenders.

The differences in the distributions of the subjects' responsibility for the crime were statistically significant. The arsonists were more often found to be not responsible for the crime committed ($p = .01$, $df = 1$, χ^2). Only 13 percent of the arsonists were found to be fully responsible, one-half were found to have diminished responsibility, and one-third were deemed not responsible for the crime (Fig. 2).

Finally, by using the stepwise logistic regression analysis, it was determined

which of the foregoing factors best distinguished the arsonists from the homicide offenders. These factors were previous psychiatric hospital care (OR) = 4.34; 95% confidence interval (CI), 2.00–9.43; $p = .0001$; $df = 1$, χ^2); poor basic education (OR = .404; CI, .172–.952; $p = .04$, $df = 1$, χ^2); and living in a rural area (OR = 2.05; CI, .946–4.42; $p = .06$, $df = 1$, χ^2).

Discussion

In Finland there are about 250 forensic psychiatric examinations conducted each

Mental State of Arsonists

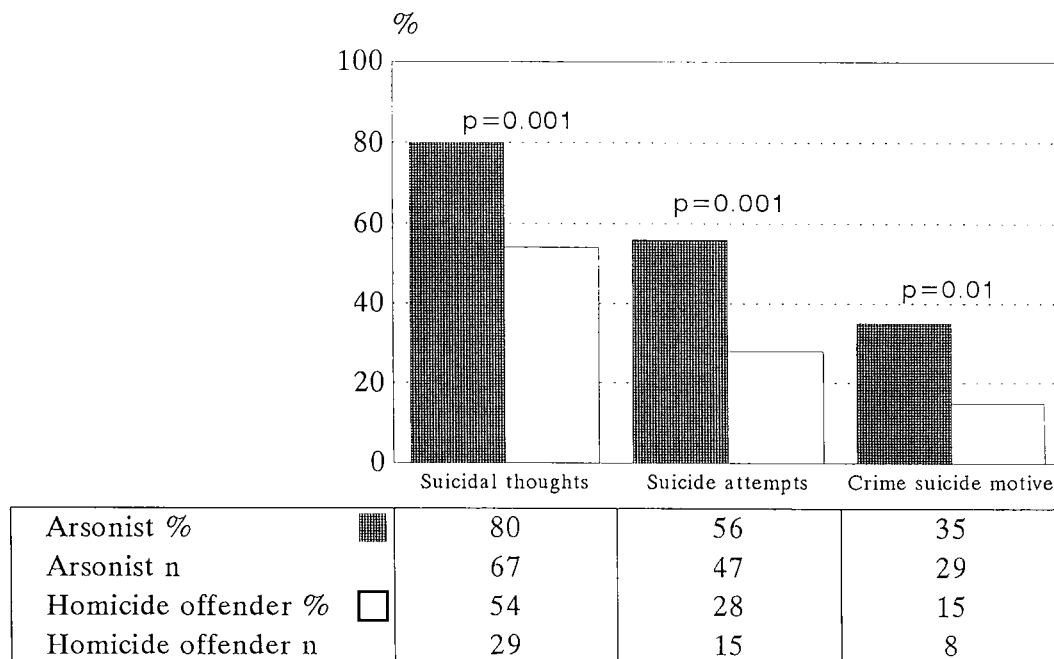


Figure 1. Proportion of suicidal thoughts, attempts, and crime as a motive for suicide.

Table 2
Psychiatric Diagnoses of Arsonists (DSM-III-R)

Variable	Arson (n = 98), Number (%)	Control (n = 55), Number (%)	Significance, p-value
Axis I			.008
No diagnosis	30 (31)	28 (51)	
Schizophrenia/other psychosis	18 (18)	2 (4)	
Severe mood disorder/chronic depression	14 (14)	3 (5)	
Alcoholism/Alcohol-induced organic mental disorder	31 (32)	16 (29)	
Pyromania	4 (4)	0 (0)	
Other:			
Adjustment disorder/senile dementia	1 (1)	6 (11)	
Axis II			NS
No diagnosis	42 (43)	18 (33)	
Personality disorder	46 (47)	34 (62)	
<i>Retardatio mentalis</i>	10 (10)	3 (5)	

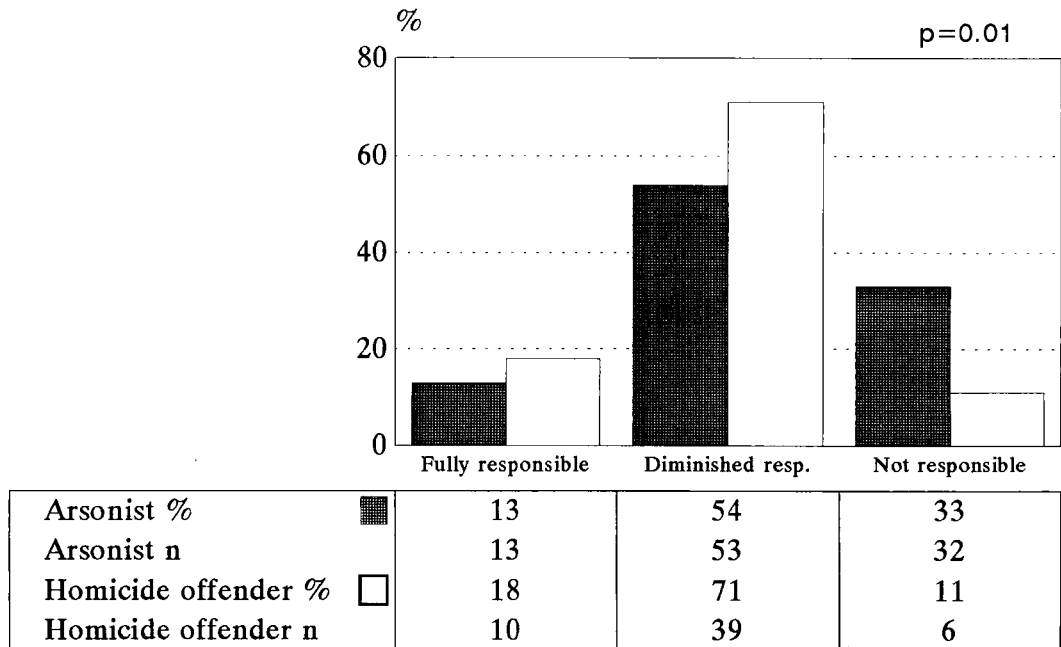


Figure 2. Distribution of criminal responsibility.

year; these are mainly carried out in six different hospitals. At the University Hospital of Oulu the forensic psychiatric team performs all of the examinations in Northern Finland, which is about seven to nine percent of all the examinations in Finland. For example, in the year 1993 the team performed 21 percent of the forensic psychiatric examinations of arsonists in Finland.

The court decides whether a mental examination of an offender is necessary on the basis of suspected psychiatric factors, and the National Board of Medicine indicates where it will take place. The examination procedure is the same in each center. This makes these study data sufficiently representative.

To our knowledge, forensic psychiatric examinations currently are conducted

more frequently and with lower psychiatric indications than previously. However, there is a possibility that the most intelligent arsonists are never arrested, and therefore the most healthy arsonists have never been recorded in psychiatric data.

According to our research results, arsonists who are referred for forensic psychiatric examination are mainly male, poorly educated, unemployed, living in rural areas, and suffering from a high incidence of mental problems. The most important psychiatric symptoms of arsonists were found to be suicidality in its different forms and the depression related to it, as well as the heavy use of alcohol. In previous forensic psychiatric studies, the incidence of affective disorders reported has been 10 to 15 percent⁴; and 30 to 85 percent of male arsonists and 20

Mental State of Arsonists

percent of female arsonists suffered from alcoholism.^{9,16}

We considered it a very important research finding that 85 percent of the arsonists had received psychiatric care before the crime in order to alleviate their mental problems. The psychiatric hospital care received before the crime was also the variable that in this research best distinguished the arsonists from the homicide offenders. None of the arsonists had been able to attach to psychiatric outpatient care without first being hospitalized.

It is noteworthy that only a small percentage (4%) of the examined arsonists fill the DSM-III-R criteria for a diagnosis of pyromania. In our opinion it is characteristic of an arsonist that he rarely is trying to wound other people; arson mostly serves as a way of avoiding suicide. An arsonist's inability to cope with his problems and his committing the crime under the influence of alcohol diminish the arsonists' control to the extent that the release of aggressive impulses manifests itself in criminal behavior.

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