

## 5. Patterns of Arson

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### *Abstract*

Internationally, arson has a relatively high dark number. Limited attention is paid to this offence in terms of research. In this chapter some characteristics of firesetters are given in terms of gender and age pattern. Single arson is compared with serial arson. Patterns of motives and mental condition of the perpetrators are presented and illustrated with case vignettes. Different approaches of classification are discussed in this text.

### *Résumé*

Au plan international, il y a un relativement important chiffre noir pour ce qui concerne les incendies volontaires. Il y a assez peu d'intérêt porté par la recherche à cette infraction. Dans ce chapitre, nous décrivons les caractéristiques des pyromanes en termes de genre et d'âge. Les incendies uniques seront comparés aux incendies en série. Nous présenterons et illustrerons à l'aide de cas cliniques, les tendances relatives aux mobiles et à l'état mental des auteurs. Nous débattons enfin de différentes approches en matière de classification.

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### 1. *Introduction*<sup>2</sup>

In the Netherlands in 2008 14000 indoor fires took place: 50% in apartments / homes, 11% appeared to be arson. From the 29000 outdoor fires at least 44% was considered as arson or vandalism (Brandweerstatistiek 2008). Comparable tendencies are to be seen internationally.

Only a part of the arson cases is solved, this certainly has to do with the fact that in several cases the physical evidence is destroyed by the fire. Investigators must then rely on other sources. In cases of fire the dark number (statistically and most literally) of arson cases remains uncertain, but nevertheless probably high.

As far as the offending history and reoffending are concerned arson is more akin to property offending rather than to violent offending. If reoffending occurs it is more likely that this will be in non-violent crime areas (Rice & Harris, 1996; Gannon & Pina, 2010).

Although arson occurs frequently in daily life, and it belongs to common practice in criminal law and forensic mental health limited attention is paid to it in terms of research.

### 2. *Gender*

Most research on arson is done on male offenders. A reason for this is that they commit the majority of criminal acts of arson. Edwards & Grace (2006) studied 44 serial arsonists of which 89% was male and only 11% female. Also in Japan only 12% of all serial arsonists, between 1982-2005, were female (Wachi et al., 2007). Demographically, female arsonists are likely to be single, unemployed, and have limited educational background. They are likely to have a high prevalence of various behavioural disturbances, tend to have a history of deliberate self-harm and suicidal ideation. Studies found that female arsonists had a high prevalence of personality disorder, showed high scores on clinical scales and had low self-esteem. For female arsonists, other studies have shown revenge as a key motivation for women committing arson (Canter & Almond, 2002).

The study of Wachi et al. (2007) focuses on Japanese female arsonists, more precisely serial female arsonist. They found that the mean age of female serial arsonists was 37.6 years, 43 % of them were unemployed, 49 % were married, 18 % had mental retardation and 12 % psychiatric disorders (28 % in total had mental problems due to comorbidity). Female offenders committed their crimes in a very limited area around their home. They can be characterized by going to a place with a lighter and setting fire directly to combustible materials such as a newspaper. Most of the women in the sample (66%) showed signs of

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<sup>2</sup> The author wishes to thank Mrs. Lydia Dalhuisen for her assistance in preparing this text.

an expressive crime scene theme; they were likely to be motivated by their emotional distress and the excitement of setting and seeing the fire. The generally limited pattern of spatial behaviour is consistent with this type of crimes. 13% of female offender had instrumental motivations. They acted less emotional and more goal-directed. Offenders were often motivated by revenge. The offenders travelled in wider areas.

In the present study 50 % of the female arsonists travelled less than 100m across their series of offences. This is different from male offenders, who travel further.

### *3. The meaning of age*

Arson is strongly linked to youth disorder. Brigades estimate that half of all property arsons, and around a third of vehicle fires, are committed by individuals 18 or under (Canter & Almond, 2002). Youngsters are responsible for 36% of property arson and 39% of vehicle arson (Canter & Almond, 2002). A distinction must be made between young children who play with fire and have no malicious intent and youth using fire as a form of vandalism. 89% of detected fire-vandals were aged 6-15. In a study slightly less than two-thirds of criminal offenders were aged between 17-22 years, identifying older adolescents as the main perpetrators of crime concealment arson (Canter & Almond, 2002). The mean age of offenders having an adaptive mode of arson is 17 years (Fritzon, Canter & Wilton, 2001). This is consistent with Canter & Almond, because vandalism and cover-up crimes fall within this specific category.

Kennedy et al (2006) state that involvement in previous fire-setting behaviour was found in cases of child and adolescent firesetters and is the best predictor of recidivistic fire-setting behaviour (also Kolko 2002). The fact that initial fire-setting behaviour is the best predictor of future recidivism conveys further support for the importance of evaluating the child's firesetting history, both when predicting risk of possible recidivism and tailoring suitable treatment plans for the child. They warn that it must be noted that although it appears that previous involvement with fire-setting may predict recidivistic behaviour, the extent of past fire-setting behaviour cannot explain why some individuals initially engage in such behaviours.

The recidivists were noted to have greater levels of interest in fire and fire related activities, displayed more covert antisocial behaviours, and were more likely to be male and older than non-recidivists. Recidivists also reported poorer social skills and higher levels of family dysfunction than other fire-setters. A diverse array of variables has therefore been identified in this review as being potentially important in explaining and predicting the risk of recidivistic behaviour in young fire-setters. Understanding these factors is imperative, especially in designing appropriate intervention strategies for this heterogeneous group.

There are certain types of arson which are more likely executed by multiple offenders. First, as of youth disorder, arson is often committed by groups of young people, and peer pressure plays a role. Also with criminal arson multiple offenders are involved (Canter & Almond, 2002).

#### 4. *Single act or serial arson*

Following Canter & Almond (2002) serial offending is common with arsonists who set fire as a means of emotional expression. This type of offenders is likely to have pre- convictions for arson and a history of police contact for nuisance offences.

In a study on whether or not there are defined subgroups of arsonists that may have an increased risk of repeated fire-setting it was found that the subjects considered to be of diminished responsibility for psychiatric reasons are the most problematic group among all of the arsonists in the sample. The arsonists who were partly responsible and who did not commit any crimes other than arson, showed the highest number of fire-setting incidents (Barnett, Richter & Renneberg, 1999). In a case of serial offending geographical profiling using the circle theory of environmental range of Canter and Larking can be useful. In a study by Edwards and Grace (2006) it was found that 84% of the serial offenders had offence sites contained in the criminal range, providing additional evidence that the Canter & Larkin assumption that criminal range can be described in terms of a circle is valid.

There are wide differences in the likelihood of recidivism of arsonists, ranging from 4 to 60% (Brett, 2004). In a twenty year follow up study the likelihood of recidivism of arsonists was examined (Soothill & Pope, 1973). Only 3 out of 67 cases (4%) showed evidence of a further conviction for arson in the twenty-year period up to the end of 1971. Of course it is possible that others also continued the behaviour and did not get caught or convicted.

Mentally disordered fire-setters have higher rates of recurrence of fire-setting than non-mentally disordered fire-setters and commit fewer common offences other than fire-setting. Arson recidivists appear to have heterogeneous psychiatric disorders, including schizophrenia, bipolar disorder, substance abuse, personality disorders as well as mental retardation. The most important diagnostic categories of arson recidivists were personality disorders, psychosis and mental retardation, often with comorbid alcoholism. Psychotic as well as mentally retarded recidivists were mostly pure arsonists. Repeating arsonists with personality disorder, in contrast, often exhibited various types of criminal behaviour and arson appeared to be only one expression of a wide range of criminal activity (Lindberg et al., 2005).

## 5. Motives

Prins et al (1985) tried to present a more refined classification of motivation of arsonists than had been offered in the past. The basic classification of motivation may be reduced to the following elements: for financial reward or to cover up another crime, for political purposes, self-immolation as a political gesture, for pathological reasons or mixed motives. Therefore they screened 113 cases of arson in order to find out the motive. However distinguishing and finding a *single* motive was difficult. The crime of arson is frequently very complex in aetiology. The authors present a more precise classification of motives for arson: for financial reward, to cover up another crime, for political purposes, self-immolation as a political gesture, for mixed motives, due to the presence of an actual mental or associated disorder, due to motives of revenge, as an attention-seeking act, as a means of deriving sexual satisfaction/excitement, by young adults, by children.

Barnett et al (1994) mention as the motives for individuals to set fires: revenge, hatred, envy, jealousy and disappointed love are most often seen in adults. For adolescents, motives such as malignity, anger, rage, the fun of extinguishing a fire, arrogance and the craving for recognition prevail.

Fire-setting by adolescents out of boredom is quite common in various societies. In groups of fire-setters political reasons sometimes occur.

## 6 A model

Fritzon, et al (2001) suggest as a framework an action system that presents two aspects which can be located internally or externally: the sources of the action and the effect/target of the action. This gives rise to four basic modes of functioning: adaptive, expressive, integrative, and conservative.

Sources of action in relation to agent	The effect/target of the action in relation to agent	Mode of functioning
External	External	Adaptive
Internal	External	Expressive
Internal	Internal	Integrative
External	Internal	Conservative

This action system framework provides a number of specific hypotheses for the consideration of criminal behaviour. The four modes of acting will be distinguishable in an analysis of criminal activities. Individuals who operate in the different modes will have appropriately distinct personal characteristics. The results identified the four themes of action system functioning for arson:

*Adaptive mode:* In terms of arson, this can be seen as a form of activity which takes advantage of environmental opportunities for setting fires, where the

actual target is less important than the desire to modify it. Vandalism/cover up another crime. The act of firesetting arises from opportunities presenting themselves during other illegal activities.

*Expressive mode:* arson as a means of emotional acting out. This form of arson is likely to involve properties which the individual is able to derive vicarious attention from burning. This can result in serial fire-setting.

*Integrative mode:* internal distress results in an act of fire-setting which is also directed internally, at the arsonist him-herself.

*Conservative mode:* the system relates to events that emerge outside the system and have an effect inside. This is often the case when the arsonist is feeling the need to take revenge for a real or imagined wrong-doing.

An examination of the personal characteristics of the arsonists also produced four variable groupings. Four sub-sets of arsonists were found:

*Adaptive: Delinquent.* Younger with a mean age of 17 years.

*Expressive: Repeat Arsonist.* Setting fire is a significant aspect of their way of life.

*Integrative: Psychiatric History*

*Conservative: Failed Relationship*

A combined analysis of the four action scales and four characteristics scales also supported the structural hypothesis of the action system model in that the modes of functioning revealed in the acts of arson does have the expected correlations with the appropriate characteristics of the arsonists.

## 7. Mental condition

### *Case: psychotic patient*

Patient is a 24 year old Vietnamese man, who was adopted by a Dutch family. He had difficulties in coping with changes in his life. From the age of seven onwards he was a problem child for his parents and others involved in his education.

The adoption is at the source of his basic distrust and more and he feels less and less accepted. He is intelligent but did not complete his education as a cook. He had several jobs which he repeatedly quit.

He developed delusions under the influence of television: he thought he was the American president's son. As a counter attack he wanted to explode his house and set fire to it.

He was considered to be suffering from a paranoid schizophrenic disorder, and hence to be fully irresponsible at the time of committing the crime. The court decided to impose a special measure for mentally disordered offenders.

### *Case mentally handicapped person*

The patient is a 20 year old Dutch man, suffering from a genetically oriented mental handicap. He grew up in an alcoholic

family and had different stepfathers. He was affectively neglected and had to take care of his younger brothers and sisters. He was slow in his actions.

He was accused of setting fire in different houses. He was addicted to gambling, needed money for it and obtained it via theft. During a burglary he set fire to the house even though the person who lived there was still at home. The man survived but had to be taken to hospital. Probably the fires were caused by the fact that he had to live with his parents again. He apparently did not have an adequate style of coping with this frustration, disappointment and anger.

Harris & Rice (1996) made a typology of 243 mentally disordered offenders in Canada, in an eleven year time span. The four groups were internally homogeneous and clearly distinct from one another. The authors distinguished the latter as psychotics (mainly delusional, 33%), unassertive (mainly angry and/or revengeful, 28%) multi-firesetters (not delusional, 23%) and criminals (16%). This typology appears to be important for treatment purposes.

Two clusters of firesetters (the unassertive and the multi-fire-setters), who added together represent more than half of the sample, are extremely unassertive compared to both the general population and other populations. In both these clusters of offenders, the motives of anger and revenge are very common. For the offenders, then, assertion training is profitable in order to reduce the likelihood of future firesetting. The correlational and clustering methods cannot prove the causation in firesetting cases, but indirectly support the thesis that firesetting is often due to assertion deficits. The group, most likely to commit further acts of firesetting was the criminals group, the very same group which was the most likely to commit violent offences. The authors stressed that this group, far from being unassertive, was considerably overassertive. For these offenders, who are most likely to be diagnosed as personality disordered, treatment designed to increase assertion is definitely not indicated, although techniques designed to reduce aggression may be helpful. For the firesetters in the psychotic cluster, treatments designed to reduce their symptomatology may have the greatest chance of reducing the likelihood of future firesetting since their motives are frequently delusional.

Harris & Rice (1996) conclude that examination of the four subtypes yielded information that may be useful in predicting risk among mentally ill firesetters as well as in designing effective programmes.

Based on an extensive review of the literature Barnett & Spitzer (1994) conclude that adult fire-setters more frequently than other delinquents suffer from mental illness, especially if recidivism has occurred. Most frequent diagnosis in adult fire-setters seems to be the personality disorder, followed by the diagnosis of psychosis.

Contrary to patterns of arson in the past the diagnosis of pyromania is rare. (Bourget & Bradford 1989; Plinsinga, et al 1997; Doley, 2003). According to

DSM-IV-TR pyromania is one of the impulse control disorders.<sup>3</sup> As the inclusive criteria of pyromania count: 1) The patient must have set fires deliberately and purposefully on more than one occasion. 2) The patient must have experienced feelings of tension or emotional arousal before setting the fires. 3) The patient must indicate that he or she is fascinated with, attracted to, or curious about fire and situations surrounding fire (for example, the equipment associated with fire, the uses of fire, or the aftermath of firesetting). 4) The patient must experience relief, pleasure, or satisfaction from setting the fire or from witnessing or participating in the aftermath. As exclusive criteria of pyromania are mentioned: The fire setting is not the result of other needs (revenge, financial gain, etc.) or the result of another mental disorder (dementia, mental handicap, drug intoxication, conduct disorder, manic episode, antisocial personality disorder). (See also Geller, 1992 for differences in psychopathological knowledge presented in US courts).

As comorbid diagnoses can be mentioned: schizophrenia, substance dependence, affective disorders and/or personality disorders. Although older sources suggest a link, there is no relationship between firesetting and sexual psychopathology (Prins et al, 1985).

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<sup>3</sup> As impulse control disorders are mentioned: intermittent explosive disorder, kleptomania, pyromania, pathological gambling and trichotillomania.



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