

Firesetting and firesetters in the Netherlands

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Firesetting and firesetters in the Netherlands

Individualization, identification and treatment

Brandstichting en brandstichters in Nederland.
Individualisatie, identificatie en behandeling
(met een samenvatting in het Nederlands)

PROEFSCHRIFT

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aan de Universiteit Utrecht
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Preface

Six years ago, when honeymooning in Kenya, I received a telephone call from Professor Frans Koenraadt asking whether I was interested in a position as a student assistant for the section of Forensic Psychiatry and Psychology of the Willem Pompe Institute. Little did I know that this particular phone call was the starting point of a journey in which the completion of this PhD thesis is an important, but certainly not the final, destination. As a student assistant I was already involved in research on firesetting and firesetters and when I obtained my Master's Degree in Criminal Law, Frans Koenraadt asked me whether I would be interested in expanding this research on firesetting and firesetters in the Netherlands in the form of a PhD project. The topic of firesetting and in particular the lack of academic and scientific knowledge regarding such a harmful phenomenon intrigued me, and I felt challenged to try and fill this void drawing on both my legal and psychological background.

Conducting PhD research has allowed me to develop personally, not only as a scholar, but in many other aspects of life. Over the years I have learned that the process of trying to get somewhere is just as important as the final result, and at the end of the road leading to this monograph, it is now time to pause and express my gratitude. I could not have done this without the help of my supervisors. First, I would like to thank Professor Frans Koenraadt. His enthusiasm for the field of forensic mental health is contagious and his inspirational and meticulous comments, but above all his faith and encouragement, have been essential. In addition, I really appreciated the help of Professor Ferry de Jong who contributed to this PhD thesis by offering his elaborate knowledge on criminal law and attention for readability. I am very grateful to Dr. Marieke Liem for her help with the empirical part of this study, especially regarding methodological issues and considerations. Finally, I would like to thank Dr. Jos van Mulbregt for his essential support, particularly regarding legal issues applied to the field of forensic mental health, and also for his attention for detail combined with a real bird's-eye view. As to my supervisors, I am grateful to the members of the Doctoral Examination Committee for their efforts in reading and reviewing my manuscript: Prof. dr. M.M. Boone, Dr. M. Kempes, Prof. dr. G. McGauley (sadly, she passed away before this book went into print), Prof. dr. G. Meynen, and Prof. dr. J. Vijselaar.

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I am proud to be part of the section of Forensic Psychiatry and Psychology of the Willem Pompe Institute, with its unique academic coherent focus on multidisciplinary cooperation between jurists, criminologists and forensic psychiatrists and psychologists. I want to thank all my colleagues for their help, support and sociability. In particular I am grateful to Wieneke Matthijsse for her meticulous editing and practical support in the completion of my manuscript.

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Finally, I would like to thank my parents, family and friends, who have given great support over the years. And last but not least: my loving husband Rob, I could not have done this without his moral and practical support.

Lydia Dalhuisen
Utrecht, July 2016

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Chapter 1

Introduction

We all use fire in one way or another. Since the domestication of fire at least four hundred thousand years ago, fire has played an important role in the survival of man. The mastering and domestication of fire, in addition to the development of language, is considered as one of the most important human achievements. In addition to practical applications, important purifying and cleansing values are attributed to fire. This symbolic meaning of fire is evident from both religion and literature.¹ However, fire holds a striking ambiguity: in addition to these positive features fire can be destructive, if its inherent destructiveness cannot be controlled. This can occur accidentally, but in some instances fires are started intentionally with (potentially) devastating consequences. Firesetting is an offence with unique characteristics clearly setting it apart from other criminal behaviour like aggression, property crime and sexual offences. To set a fire, someone does not have to be particularly strong or smart. With minimum effort, maximum result can be achieved. Usually, the actual outcome of the crime (e.g. total destruction of an apartment block with multiple casualties) is not proportionate to the act. However, the consequences of a fire are uncertain and the possible devastating effects often unknown to the offender.

The destructiveness of fire is reflected in cases of firesetting, a social and criminological problem that has the potential to cause much damage. Fire claims human lives, and those who survive are likely to experience prolonged emotional and physical problems.² Ninety-two lives were lost in over 36,000 fires registered in the Netherlands in 2013; 85 percent of those outdoors and almost 20 percent of those indoors were started deliberately.³ In Great Britain, fire and rescue services attended over 88,000 ‘primary fires’ (i.e. fires in buildings or vehicles, with casualties or attended by more than five appliances) in 2013–2014, of which 25 percent were caused deliberately.⁴ In addition to the intangible harm, firesetting also results in financial damage. In 2011 almost 41,000 fires were registered in the Netherlands accounting for 764 million

1 Goudsblom, 1992.

2 Lundin & Jansson, 2007.

3 Statistics Netherlands, 2014.

4 Department for Communities and Local Government, 2015.

Euros in damage.⁵ Because of these negative consequences and the frequency with which it occurs, deliberate firesetting demands a societal response.

The act of firesetting and its perpetrators are central in this monograph. In particular, this study aims to increase knowledge on individualization, identification and treatment of firesetters in the Netherlands by: a) providing a historical and contemporary background to this phenomenon; b) reviewing theoretical literature from various perspectives to develop an explanatory model of firesetting; c) reviewing literature on characterizing, categorizing and treatment of firesetters; d) dividing firesetters into subgroups; e) looking at detectable characteristics of subgroups; and finally f) developing a treatment model for subgroups of firesetters.

1 Terminology

1.1 *Legal qualification of firesetting*

Various behaviours that are related to fire and firesetting are punishable in the Dutch Criminal Code. This book and most research deals with Article 157 and to a lesser extent with Article 158 of the Dutch Criminal Code. Article 157 concerns arson (and intentionally causing an explosion or flood); Article 158 deals with causing fire (or an explosion or flood) through negligence. These crimes are part of a group of offences that pose a threat to the general safety of persons and property, and regarding which the perpetrator could not beforehand estimate the concrete consequences of their actions.⁶ However, an important criterion is that danger for persons or goods would have been objectively foreseeable. This means that at the time of the offence the danger must have been foreseeable with general experience (objectively).⁷ If this foreseeable danger to people or property is absent, the act may fall under the more general Article 350 regarding destruction of property with significantly lower maximum sentences. Other legal articles where setting fire is relevant are Article 159 (impeding the extinguishing of fire), Article 328 (setting fire to commit insurance fraud), and Article 429 (acting in such a manner as to cause risk of fire). It is clear that firesetting can have different legal qualifications, depending on the act, the intention and the degree of guilt. Occasionally, despite the severity of this offence, firesetting is seen as subordinate to other crimes like murder. In these instances, firesetting is seen as the means to carry out the murder or to cover up evidence, and firesetting subsequently remains unmentioned in the indictment. It must be noted that Article 328 is rarely ever

5 Statistics Netherlands, 2012.

6 Fokkens, 1998.

7 HR 17 februari 2009, LJN BG1653, *NJ* 2009, 120.

used, possibly because the maximum prison sentence is much lower. Most instances of deliberate firesetting are qualified under Article 157.

1.2 Operationalisation of firesetting in research

The available Dutch empirical studies demonstrate the ambiguity that exists in the operationalization of firesetting. Often, firesetting is labelled as an aggressive offence or grouped with violent crimes.⁸ In addition, many studies describe firesetting as a form of destruction or vandalism.⁹ In other research, firesetting is conceptualized as a crime without violence.¹⁰ Sometimes, firesetting is understood as a separate category, whilst other crimes are clustered.¹¹ Finally, there are studies that include firesetting in a residual category, with various other crimes such as defamation,¹² joyriding,¹³ and poisoning of drinking water.¹⁴ These multiple ways of classification show the lack of clarity about the precise meaning and place of firesetting in scientific research. This is a complicating factor when different sources of research are compared.

1.3 Terminology used in this book

In this book the term **arson** refers to the legal definition of intentional firesetting, and if not mentioned otherwise refers to Article 157 of the Dutch Criminal Code.¹⁵ Although elements of the legal definition are similar across the world, such as the intentionality of the act and the damage caused by the fire, differences between jurisdictions exist.¹⁶ To transcend these differences this book uses the more neutral term **firesetting** to denote the behaviour of intentionally starting a fire. Only if the legal definition is meant specifically will the term arson be used. It must be noted that **pyromania** is a diagnostic category in the DSM-5. This is an impulse control disorder where the person affected sets fires deliberately on multiple occasions out of fascination for or attraction to fire or fire-related circumstances and experiences tension or arousal beforehand and pleasurable emotions afterwards. Although the media suggest otherwise, in cases of firesetting pyromania is rarely diagnosed.¹⁷

8 Berghuis & Tigges, 1979; Van der Laan, Groen & Bogaerts, 2005; Van Emmerik, 1989.

9 Kalidien & De Heer-de Lange, 2011; Snippe, Naayer & Bieleman, 2006.

10 Hamerlynck, Doreleijers, Cohen-Kettenis, Vermeiren & Nauta-Jansen, 2006.

11 Canton, 2004; Koenraadt, Langbroek, Tigchelaar & Van der Velde, 2010; Slotboom, Wong, Swier & Van der Broek, 2011.

12 Addink, Lekkerkerker & Vermeij, 2010.

13 Kruissink & Verwers, 2002.

14 Van Kordelaar, 2002.

15 See Section 1.1.

16 Burton, McNiel & Binder, 2012; Federal Bureau of Investigation, 2012; Gannon & Pina, 2010.

17 Koenraadt, Dalhuisen & Nijman, 2015; Plinsinga, Colon & De Jong, 1997; see also Chapter 6 Section 2.3.

The Netherlands: some background information

For a good understanding of the findings in this book, it is important to provide some context on the Netherlands and its criminal-law and forensic mental health care system. The Netherlands is a small country in Western Europe with 17 million inhabitants. With a total surface area of 41,543 km² (16,033 sq mi) and a population density of 408 people per km² it is very densely populated. It is a welfare state with a very high standard of living in general.

The Netherlands has a civil-law tradition, in which the main rules and principles are codified and those written codifications form the primary source of law. The main codifications in the criminal justice system are the Dutch Criminal Code covering the core crimes and infractions as well as some general articles on *inter alia* sanctions (penalties and measures) and criminal defence, and the Dutch Code of Criminal Procedure with procedural rules and regulations.

In the Netherlands criminal accountability can be diminished or absent for reasons of insanity. Pre-trial forensic mental health evaluations are conducted to assess the degree of criminal accountability. In cases where criminal accountability is lacking, an offender cannot be punished but a measure can be imposed, like placement in a psychiatric hospital or a so-called *tbs measure*. In cases of diminished criminal accountability, treatment measures can be imposed in addition to a penalty. These treatment measures are mostly effectuated in forensic mental health care facilities with various security levels depending on the type of offenders and the risk they present to society.

2 Epidemiological information regarding fire and firesetting in the Netherlands

One possible explanation for the lack of knowledge on the Dutch situation regarding firesetting is the fact that many cases of firesetting remain unresolved. Here, the *dark number* plays an important role, because it is unclear how many instances of firesetting are not reported or simply not recognized as such. And in those instances where a fire is recognized as the result of firesetting, finding the one(s) responsible is difficult due to the often covert and indirect nature of the offence.

2.1 Prevalence

In the period 2000-2013 there is an annual average of over 44.5 thousand fires reported in the Netherlands. Most of these concern outdoor fires (over 28.5 thousand on average), over 14 thousand fires were indoor fires and on average around 1,750 chimney fires were registered annually.¹⁸ Firesetting is an important cause of indoor and outdoor fires. On average 9,548 of these fires

18 Statistics Netherlands, 2001-2014.

are caused by firesetting (22.3%). Of the indoor fires on average 1,596 fires are caused deliberately (11.2%) and 7,952 of outdoor fires are caused by firesetting (27.9%). Figure 1.1 shows the annual number of indoor and outdoor fires and the proportion of firesetting. This line graph shows a remarkable decline in the number of reported fires, which can be contributed particularly to the sharp decline in outdoor fires. Preventive measures, such as closing post boxes and dustbins around New Year's, have helped reduce the number of outdoor fires.

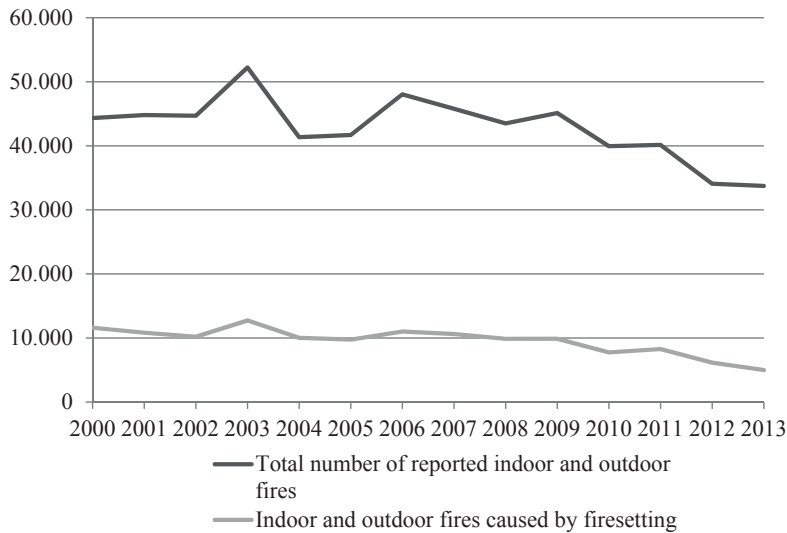


Fig. 1.1. Number of reported indoor and outdoor fires and the proportion of fires caused by firesetting based on Fire Statistics Netherlands 2000-2014.

2.2 Police data

On average, in the Netherlands 7,522 acts of firesetting were registered annually by the police in a case file (*proces-verbaal*) in the period 2005-2014.¹⁹ Of these registered cases on average 1,619 (21.4%) were solved, in the sense that at least one suspect is known to the police even if this suspect denies involvement or is a fugitive. The term 'solved' should therefore not be taken too literally in this respect. Table 1.1 gives an overview of the numbers per year. From this table it follows that the proportion of solved arson cases is about 20-22 percent.

¹⁹ It should be noted that in the criminal statistics used here, firesetting is classified based on the law, i.e. Article 157 and Article 158 of the Dutch Criminal Code. These articles refer to intentional or neglectful firesetting and to a lesser extent causing an explosion, but also to intentionally or neglectfully causing a flood. When interpreting these data it must therefore be taken into account that it does not concern firesetting exclusively, although causing a flood is extremely rare, justifying the use of these data for insight into the number of instances of firesetting in the Netherlands.

Table 1.1. Number of registered cases of arson, solved arson cases and the number of registered suspects.

Year	N	Solved	Percentage solved	Registered suspects
2005	9,320	2,174	23.3	4,820
2006	9,415	2,115	22.5	4,930
2007	9,350	1,965	21.0	4,310
2008	8,655	1,760	20.3	3,935
2009	8,280	1,675	20.2	3,215
2010	7,095	1,455	20.5	2,355
2011	6,970	1,515	21.7	2,435
2012	6,105	1,375	22.5	2,185
2013	5,305	1,140	21.5	1,745
2014	5,025	1,015	20.2	1,535

Source: Statistics Netherlands 'Registered crime, offences and suspects by region, 2005-2014'.

Of the average of 1,619 cases of firesetting that were solved annually in 2005-2014, 1,197 cases on average were registered by the Public Prosecution's office and brought to court. In an average of 530 cases (44%) this led to a conviction, with or without the imposition of punishment. Table 1.2 provides an overview of the number of registered court cases and cases disposed per year. It is striking that the number of registered criminal cases and the number of verdicts have reduced remarkably in recent years. This may well be linked to the general decline in fires in recent years. However, the number of settlements also declined whilst the relative number of dismissals by the Public Prosecution's office increased, raising the question whether this decline in registered cases has something to do with available resources and the strive for better resolution rates.

Table 1.2. Number of registered criminal cases of arson and number of cases settled by the Dutch courts of first instance per year.

Year	Number of cases registered in court	Decisions by the Public Prosecution's office			Verdicts by courts of first instance		
		Subpoena	Settlement (transaction/punishment order)	Dismissal	Total*	Guilty verdicts	Number of acquittals
2005	1,575	1,055	300	190	810	750	45
2006	1,685	1,150	315	250	870	795	60
2007	1,675	1,105	255	285	785	720	50
2008	1,455	950	185	315	780	685	80
2009	1,140	775	165	225	600	520	65
2010	985	650	95	190	500	420	65
2011	935	605	95	180	425	375	40
2012	890	625	65	230	410	350	45
2013	840	550	50	270	450	375	60
2014	790	485	15	260	385	310	55

Source: Statistics Netherlands 'Offences, prosecution and trial, 2005-2014'.

*This table does not depict the number of dismissals of criminal charges or cases in which prosecution was barred.

Figure 1.2 below visualizes the funnel effect that can be seen in the identification, prosecution and conviction of firesetters. The first bar of this bar chart refers to the average number of reported instances of firesetting per year in the period 2000-2013 to give a starting point. The following bars concern the period 2000-2014 and give the average number of firesetters registered by the police, the number of solved cases, the number of arson cases brought to court and the number of guilty verdicts. These figures clearly show that many cases of (alleged) firesetting remain unresolved and perpetrators unknown, making it impossible to recover the damage.

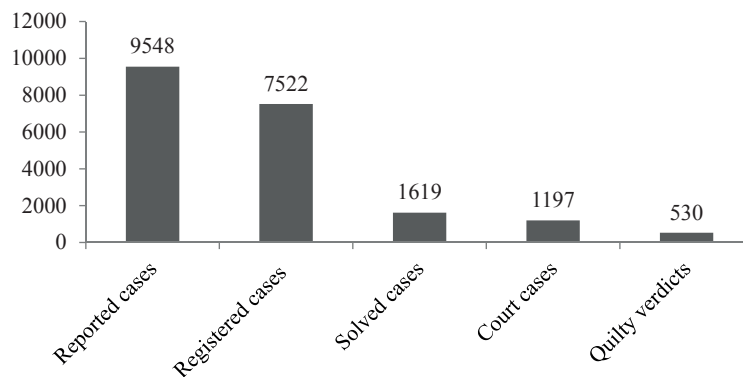


Fig. 2. Visualization of the funnel effect from reported cases to guilty verdicts for 2000-2014.

2.3 Firesetting in Dutch court: an impression

From the foregoing it is clear that only in a small number of cases of deliberate firesetting a culprit is brought to court. This section gives an impression of verdicts in cases of firesetting in the Netherlands. Looking at Dutch court rulings in cases of arson published online for the period 2012-2013 a total of 302 rulings could be found, of which 122 cases were relevant (i.e. arson could be proven).²⁰ Regarding the representativeness of the findings it must be noted that these cases are only a small selection found in a specific period of time. In addition, not all verdicts are published online, which means that it remains unclear how many arson offenders were actually convicted. The 122 relevant cases were analysed looking at the following aspects: the type of court (first instance or appeal), whether a forensic mental health evaluation was conducted, criminal accountability, the indictment, the type of arson that was proven (endangering goods and/or persons, single or multiple), and the verdict with measures, special conditions, (conditional) imprisonment and (conditional) community service. The majority of cases concerned rulings in first instance (n = 105/122, 86%), with pre-trial forensic mental health evaluations conducted in the majority of cases (n = 84/122, 69%). Of the 84 evaluated offenders, six were fully accountable (7%), 26 slightly diminished (38%) and 31 diminished in accountability (37%), five were deemed severely diminished in accountability (6%) and six unaccountable (7%). In five cases no conclusion on criminal accountability could be given, which means that in those cases the premise of full accountability holds (6%) and in another five cases the conclusion was not included in the judgment (6%).

From the verdicts it is clear that a distinction can be made between pure firesetters who have committed no other offences apart from firesetting and non-pure firesetters who also have other crimes in their indictment. Table 1.3 gives an overview of the judicial findings and the legal qualification for both groups. In order to gain clear insight into verdicts in cases of firesetting, only verdicts of pure firesetters were analysed. A judicial finding including other crimes, such as murder or theft, obscures the picture regarding the verdict given.

²⁰ www.rechtspraak.nl; see Appendix 1.

Table 1.3. Overview of judicial findings and legal qualifications for pure and non-pure firesetters in the Netherlands for the period 2012-2013.

Judicial findings	Legal qualification	Pure firesetters	Non-pure firesetters
Single arson	Endangering goods	16	18
	Endangering persons	1	4
	Endangering goods and persons	29	23
Multiple arsons	Endangering goods	2	7
	Endangering goods and persons	6	5
	Endangering goods (multiple times) and endangering persons (once)	1	7
	Endangering goods (once) and endangering persons (multiple times)	1	1
		56	65*

Note: * In one case of non-pure firesetting, the precise legal qualification was unclear.

Of the 56 rulings in which only arson is proven no special conditions are given to a suspended sentence nor is a measure imposed in 16 cases (29%). In more than half of the cases ($n = 30$; 54%), however, a special condition is imposed with the suspended part of the sentence, a conditional *tbs measure*²¹ is provided in three cases (5%) and in three verdicts *tbs* with compulsory treatment is imposed (5%). In one verdict the firesetter is dismissed regarding all legal proceedings but a *tbs* measure is imposed (2%), and in three judgments this dismissal of all legal proceedings is combined with placement in a psychiatric hospital (5%). A prison sentence is imposed in 50 cases (89%) with an average of 18.9 months and a suspended prison sentence is also common ($n = 37/56$, 66%) with an average duration of 7.2 months. Community service is less often imposed ($n = 10/56$, 18%) averaging 165 hours.

This brief impression of verdicts in arson cases shows that in many cases of pure firesetting some form of treatment is imposed, often as a special condition to a suspended part of a sentence. An in-depth analysis of the verdicts shows that these treatments are general and mainly entail that the convicted firesetter must follow instructions and report to probation services regularly. However, in some cases the verdict mentions a particular form of treatment (e.g. cognitive skills training) and a specific treatment facility. Nevertheless, these treatments are not specifically aimed at treating firesetting behaviour and in the rare instances that the verdict explicitly imposes a specific form of treatment this often involves other issues, such as alcohol dependence or impulsiveness. Only in one judgment is the special condition set that the offender can no longer be active in the (volunteer) fire department or fire department-related activities. But even in this case the verdict does not require treatment specifically targeted at the firesetting behaviour or fire interest.

21 See Section 3.3.

No clear conclusions can be drawn based on the analysis of judgments due to individual differences. However, it can be noted that judges often describe the mode of treatment (outpatient or inpatient), duration of treatment (often with the duration of the suspended sentence as a maximum), and in some cases also the focus of treatment (e.g. addiction) and type of treatment (e.g. cognitive skills training). However, in none of the judgments treatment specifically aimed at the firesetting behaviour is mentioned. This may imply that from a judicial point of view the need for firesetting-specific treatment is not felt. It might also be argued that (severely) mentally ill persons who have set fire do not get convicted in the first place, because the prosecutor may decide on a dismissal on the grounds of health. However, in the period 2005-2015 on average only 35 cases annually were dismissed for health reasons also including physical problems. So, more likely, this lack of mentioning firesetting-specific treatment can be attributed to the fact that at this moment this treatment is virtually non-existent in the Netherlands.

3 Current knowledge on firesetting in Dutch literature

Firesetting is underrated in Dutch empirical research and literature. Despite the severity of its consequences, in the Netherlands little research has been devoted to firesetting and firesetters. In several leading sources, like the Dutch criminological handbooks, the subject is completely ignored.²² And in its almost sixty years' existence, the leading Dutch criminological journal *Tijdschrift voor Criminologie* has never devoted an article to firesetting.²³ Although the subject of firesetting is underrated, some efforts have been made to study this phenomenon. This section uses this (limited) knowledge to give insight into the position of firesetting and firesetters in Dutch (empirical) literature, criminal law and criminology.

3.1 Pre-trial forensic mental health evaluations of Dutch firesetters

Firesetting is an offence that often poses questions about the mental sanity of the offender and forensic mental health evaluations are often requested by the court.²⁴ The evaluations are conducted to see whether a psychological or psychiatric disorder was present at the time of the offence affecting the free will of a person, possibly resulting in diminished or absent criminal liability.²⁵

22 Lissenberg, Van Ruller & Van Swaaningen, 2001; Van Dijk & Brouwers, 2011.

23 An observation also made by De Haan in his presentation 'Brand in de samenleving' [Fire in society] held in 2010 at the conference 'Brandende vragen' [Burning questions] by FPK Assen, the Netherlands.

24 Van Kordelaar, 2008.

25 Kelk & De Jong, 2013.

Criminal accountability is measured on a 5-point scale ranging from fully accountable via slightly diminished, diminished and severely diminished in accountability to unaccountable.²⁶ The risk of re-offending is also assessed, and a forensic mental health recommendation is given to inform the judge on the indications and contraindications for treatment measures which can be imposed.²⁷

In the Netherlands, pre-trial forensic mental health evaluations can take place on an inpatient or outpatient basis. Inpatient evaluations are mostly conducted in the Pieter Baan Centre. Annually around 10 suspected firesetters are evaluated there.²⁸ Van Berkel conducted an empirical study on the characteristics of a group of 100 male firesetters who were examined in the Pieter Baan Centre comparing them with 100 other male offenders. Results showed among other things that firesetters had more limited social skills and significantly less often committed offences with a direct aggressive component.²⁹

An indication of the proportion of firesetters in outpatient pro Justitia evaluations is given by Canton who analysed all (predominantly outpatient) pre-trial forensic mental health evaluations in the district courts of Arnhem and Zutphen and a random selection of those in Den Bosch in the period 1993-1995. The study population consisted of 755 adult suspects examined pro Justitia. Arson was the index offence in 82 cases (11%).³⁰ More recently, Van Kordelaar investigated all outpatient pro Justitia reports for the years 2004 to 2006 registered in the Forensic Registration and Information System (FRIS) of the Netherlands Institute for Forensic Psychiatry and Psychology (NIFP).³¹ In this period a total of 15,517 adults and 5,660 juveniles were evaluated, in 1,132 (7.3%) and 330 (6.0%) of cases for alleged arson. Table 1.4 provides an overview of the psychological condition of the examined adult and juvenile firesetters.³²

A study of Antillean suspects shows that between 2000 and 2006 in the Netherlands 989 Antillean suspects were evaluated, with 18 suspected of firesetting (1.8%).³³ This percentage is much lower, which corresponds to findings that firesetting appears to be an autochthonous Dutch crime.³⁴

26 Van Mulbregt, 2009; Since the introduction of a guideline for psychiatrists in 2012 there has been discussion about the number of scales that should be used in the forensic mental health assessment of accountability (5-point scale versus 3-point scale). Also among psychologists currently no consensus exists, however the 5-point scale is still used and was the standard in this study.

27 Bal & Koenraad, 2000; Sierink & Van Mulbregt, 2007; see also Chapter 4.

28 Harte & Barendregt, 2007; Hesper, 2003; Van der Berg, 2004.

29 Van Berkel, 1994.

30 Canton, 2004.

31 Van Kordelaar, 2008.

32 Idem; it must be noted that one individual can be diagnosed with multiple disorders.

33 Vinkers, de Beurs, Barendregt, Rinne & Hoek, 2010.

34 Hesper, 2003; Van Emmerik, 2001.

Table 1.4. Psychiatric disorders in adults and youth suspected of firesetting that underwent a pre-trial mental health evaluation on an outpatient basis in 2004-2006 (Van Kordelaar, 2008).

	Adults	Youth
Psychotic disorders	173	3
Mood disorders	161	13
Use of cannabis and alcohol	462	80
Poly drug use	218	29
Developmental disorder	46	51
ADHD	42	44
Conduct disorder	38	127
Mental retardation	65	65
Severe mental retardation	18	18
Organic syndromes	20	-
Paraphilia	4	-
Cluster A personality disorder	18	3
Cluster B personality disorder	285	3
Cluster C personality disorder	47	2
Personality disorder NOS	285	7
Developing personality disorder	5	79

The most common mental health problems in firesetters evaluated in an outpatient setting are substance abuse and personality disorders (see Table 1.4). Another study on outpatient forensic mental health evaluations in the years 2001-2006 confirmed that firesetters mainly suffer from Cluster B personality disorders. However, this study shows that firesetters are overrepresented in the group with Cluster C personality disorders.³⁵ Impulse control disorders such as pyromania are not found in the overview of Van Kordelaar, further substantiating the rareness of the diagnosis of pyromania. It is remarkable that Van Kordelaar has not studied autism as a separate category. In the Dutch literature, little is known about a possible link between autism and delinquent behaviour, such as firesetting.³⁶ By contrast, foreign studies have established a clear link between autism (especially Asperger's Syndrome) and firesetting, which is also recognized in clinical practice in the Netherlands.³⁷

3.2 Mental health of firesetters in prison

Some older studies give insight into the mental health of imprisoned firesetters. In his report 'Mentally disturbed prisoners' (*Psychisch gestoorde gedetineerden*) Verhagen surveyed psychiatrists working in prisons. His study showed that

35 11.3 percent of all Cluster C personality disorders; Pen, De Groot & Van Kordelaar, 2008.

36 Draaisma, 2010.

37 Idem; Mouridsen, 2012.

twelve percent of mentally ill prisoners was detained for firesetting.³⁸ Another study found that 24 out of 300 inmates placed at the forensic observation and treatment ward from 1 April 1981 to 18 July 1985 were detained for firesetting (8%).³⁹ Of these 24 firesetters, 67 percent was criminally unaccountable for their offence.⁴⁰ These studies show that firesetters in prison often have psychological problems.

3.3 *Firesetters with a special measure for mentally ill offenders*

In the Netherlands if an offender is deemed unaccountable or their criminal accountability is found to be (severely) diminished, a treatment measure can be imposed. ‘Tbs’ (terbeschikkingstelling) entails compulsory treatment for offenders of certain (serious) offences who pose a threat to society because of their psychiatric disorder. A tbs measure is not a form of punishment and lasts until a court determines – based on information from behavioural experts – that there is no longer a danger of relapse.⁴¹ For crimes that did not cause (a threat of) bodily harm, a tbs measure cannot exceed the duration of four years. A study examining the imposition of conditional tbs measures (i.e. the actual measure will not be executed if certain conditions are met) between 2002 and 2006 shows that firesetting is the main crime in 57 out of 298 cases (19%).⁴² Although firesetters form a substantial part of the conditional tbs population, the studies discussed below specifically deal with unconditional tbs.

In earlier years (1958-1962 and 1970), about four percent of the tbs impositions concerned firesetters.⁴³ This percentage rose in later years to fourteen percent in 1995.⁴⁴ Compared to other offences, firesetting is an offence with an above-average chance of tbs being imposed with five and a half percent of offenders receiving tbs (see Table 1.5). Only in cases of homicide did a higher percentage of offenders receive a tbs measure.⁴⁵ Studies of the population of different tbs hospitals show percentages ranging from seven percent for all patients⁴⁶ to over ten percent of male patients and almost one in three female patients being hospitalized for firesetting.⁴⁷

38 Verhagen, 1987.

39 This ward was founded in the early 1980s to provide mental health care to detainees that could no longer be maintained in regular correctional facilities due to their serious mental illness or disruptive behaviour. This ward is currently part of the Penitentiary Psychiatric Centre in Amsterdam.

40 Tuinier, 1989.

41 See also Koenraadt & Mooij, 2007; Van Marle, 2002.

42 Von Bergh, Siesling & Jacobs, 2008.

43 Hamers, 1986; Van Panhuis, 1997.

44 Van Panhuis, 1997.

45 Van Dijk & Brouwers, 2011.

46 De Vogel & De Ruiter, 2004; Van Nieuwenhuizen et al., 2011.

47 Graat, Lammers & Bloemsaat, 2011.

The length of stay in tbs hospitals has increased.⁴⁸ However, for firesetters this increase is smaller. Research by Brand and colleagues regarding the time during which offenders with a tbs measure were hospitalized between 1981 and 1994 shows that firesetters had a mean stay of 4.8 years versus 5.7 years for other offenders.⁴⁹ In addition, the percentage of firesetters in so-called long-stay wards is lower than in regular units.⁵⁰ This shorter duration compared to other types of offenders may be explained by their treatability,⁵¹ or the fact that in cases of firesetting without danger to persons the duration is legally maximized to four years.

Table 1.5. Tbs measures imposed between 1997-2009 for offences with an above-average chance of receiving a tbs measure.

	Number of offences	Tbs measures imposed	Percentage
Homicide	16.179	927	5,7
Arson	5.215	286	5,5
Sexual offences	9.484	415	4,4
Sexual offences victimizing children	2.733	51	1,9
Property crimes with a seriously violent component	1.961	29	1,5
Serious violent crimes	8.702	108	1,2

Source: Van Dijk & Brouwers (2011).

3.4 Treatment of firesetters in tbs hospitals

It is clear that a considerable number of firesetters suffer from mental disorders. Not much is known about treatment of these offenders in the Netherlands. However, more in general a study by Van Greeven on the treatment of 71 patients in a tbs hospital (Van der Hoeven) from 1991 to 1993 suffering from a personality disorder showed that the best predictor of positive treatment effect was 'firesetting'. Firesetters responded better to treatment and improved twelve times better on personality disorder-related characteristics than other types of offenders. In addition, being a firesetter was also a positive predictor of change in psychoneurotic symptoms.⁵² A study by Timmerman and Emmelkamp evaluating the effect of cognitive behavioural treatment on 39 patients including firesetters in another tbs hospital (Veldzicht) found this form of therapy to be effective in improving coping skills and personality traits,

48 Van Gemmert, 2009.

49 Brand, Diks & Van Emmerik, 1998.

50 De Kogel & Verwers, 2003.

51 See Section 3.4.

52 Greeven, 1997.

and in reducing psychopathological symptoms.⁵³ In the treatment cognitive-behavioural principles were applied in a supportive environment.⁵⁴

The final phase of a tbs measure usually includes the possibility of (un) supervised leaves. During these leaves, a person can practise staying outside the walls of the hospital and as such they form an important element of treatment. In 2008 most firesetters went on leave (68%), but unsupervised leave started at a later stage for them compared to other types of offenders.⁵⁵

In the past ten years, the tbs measure has been under pressure, partly because of the uncertain duration and the combination with (long) prison sentences but also because of violent escapes. These and other developments negatively influence the rate at which tbs measures are imposed and also affect the composition of the tbs population.

3.5 *Recidivism in Dutch firesetters*

Few Dutch studies on recidivism in firesetters are available. A study of the entire population of former tbs patients in various outflow cohorts from 1974 to 1993 shows that in the period 1979-1983 the tbs measure was ended for 422 people. Of these people, two percent had committed arson. In the period 1984-1988, arson was the relapse crime in five percent of 373 former tbs patients. And in the period 1989-1993 314 persons were released from the tbs hospital, following which arson was the relapse offence in four percent of cases.⁵⁶ The overall risk of recidivism after a tbs measure (i.e. not only for arson but all offences) is higher than firesetting specific recidivism. However, a decrease in general recidivism rates is seen, with approximately 45 percent of recidivism after two years in the 1970s to around 20 percent of two-year recidivism in the period 2004-2008.⁵⁷

Forensic mental health evaluations include an assessment of the risk of recidivism. Nowadays, standardized risk assessment tools are often used to predict the chance of relapse.⁵⁸ However, at this moment a sound basis for acceptable risk assessment tailored to firesetters is still lacking. It is therefore important to know on which basis the forensic mental health expert determines the use of risk assessment tools. It is likely that in cases with a multiple indictment (i.e. firesetting and other types of offences) the risk assessment tool that has been developed for those other offences will be used. Risk assessment instruments specifically tailored to firesetting do not yet exist in the Netherlands.

53 Timmerman & Emmelkamp, 2005.

54 Jansen, 1997.

55 Koenraadt et al., 2010.

56 Leuw, 1999.

57 Bregman & Wartna, 2011.

58 Bakker, 2009; Harte & Breukink, 2010.

3.6 Conclusions on current knowledge and shortcomings in Dutch literature

Dutch studies showed that firesetters frequently undergo pre-trial forensic mental health assessment and that mental health problems are often present in firesetters; especially substance-use disorders, personality disorders, psychotic disorders and mood disorders. However, the issue of co-morbidity of diagnoses was not addressed making it impossible to identify the exact number of individuals with mental health problems. What is more, none of the studies differentiated between pure and non-pure firesetters, whilst evidence suggests that pure firesetters form a distinct category with about one third of all firesetters.⁵⁹ Firesetters are an important population in forensic mental health care, however little evidence exists on how these firesetters can be treated effectively in for instance tbs hospitals.

From the above it follows that firesetting is an offence with potentially devastating consequences that often casts doubts on the mental condition of the offender. These doubts are often justified, because firesetters frequently suffer from mental problems influencing their offence. However, knowledge on treatment of these offenders is lacking, as are specified treatment modules and programmes.

4 Research questions and aims

Because firesetting can have serious consequences, the identification of firesetters is important in order to prevent further damage. In addition to identifying firesetters, treatment plays an important role to reduce recidivism. From the foregoing it is clear that there is a lack of knowledge on firesetting and firesetters in the Netherlands and on the treatment of these offenders in general. This study aims to contribute to the identification, individualization and adequate treatment of firesetters by gaining insight into the Dutch population of firesetters. Furthermore, these insights can be used in a newly developed treatment model of firesetting behaviour. Against this background, the central research question is the following:

- *How can Dutch firesetters be identified and individualized, and how can treatment be tailored to them?*

This main research question is subdivided into several research questions: questions on characteristics and subtypes of firesetters (individualization), questions concerning the identification of firesetters, and questions on the

59 Barnett, Richter & Renneberg, 1999.

treatment of these specific individuals. However, first a historical and a theoretical background will be provided.

This book starts with providing a **historical** account on the development of pyromania and the debate on firesetting as mad or bad from the early 1800s until 1950. Historical background knowledge is paramount for a thorough understanding of current legal and forensic mental health issues concerning firesetting and firesetters. Many of the current practices date back to the early 1800s, which can be seen as the starting point of modern thinking about firesetting as a disorder or a criminal act. Using a large amount of extensive, predominantly primary historical literature on medicine and law, jurisprudence and legislation from different Western countries, the following research questions are answered:

- *How have the views on firesetting as a culpable crime or an excusable expression of pathology changed over time?*
- *What specific influences on beliefs about firesetting from medico-legal developments can be detected?*

Building on this historical background and intertwining historical accounts with the present, the following section aims to investigate whether in the subsequent period 1950-2010 changes occurred in pre-trial forensic mental health assessments of firesetters in the Netherlands. An important part of the empirical data used in this book concerns pre-trial forensic mental health assessments from that period stressing the need of insight into changes over time. Using a small number of cases, a quantitative pilot is presented to answer the following question:

- *Can any changes be observed in the influence of mental disorder and dangerousness in pre-trial forensic mental health assessments of firesetters, as manifested in the conclusion on criminal accountability and the pre-trial forensic mental health recommendations in forensic mental health reports, in the period 1950-2010?*

The first part of this book ends with a **theoretical** account on the act of firesetting. This part aims to explain this behaviour using diverse multidisciplinary theoretical perspectives on different levels of analysis (i.e. macro, meso and micro) and will result in an explanatory model of firesetting, by answering the following question:

- *How can the act of firesetting be explained using various theoretical perspectives?*

In the second part of this study research **literature** on different characteristics and categorizations of firesetters and effective treatment is reviewed, as reflected in the following research questions:

- *How are firesetters and the act of firesetting characterized and categorized in empirical literature?*
- *What types of treatment can contribute to reducing recidivism in firesetters?*

With this extensive literature review, the second part of this book provides background to the firesetting phenomenon in general and the empirical research described in the third part in particular.

The third part of this book takes an **empirical** perspective and aims to identify and individualize different populations and subpopulations of firesetters and individual firesetters in order to facilitate identification of firesetters and in order to direct treatment. On different levels of analysis (i.e. macro, meso and micro) different populations (macro level), subpopulations (meso level) and individual firesetters (micro level) are studied to answer the following research questions:

- *What are the characteristics of the various populations of Dutch firesetters?*
- *To what extent are differences in characteristics related to the population studied?*
- *Which subgroups of firesetters enter the criminal justice and forensic mental health system in the Netherlands?*
- *How can relevant offender and offence characteristics contribute to identifying subtypes of firesetters?*
- *How can treatment be tailored to the specific treatment needs of subtypes of firesetters?*

Answering these questions will result in a division of firesetters into specific groups that can direct identification by the police and may form the basis of a treatment model specifically tailored to individual firesetters.

5 Research strategy and design

This research aims at generating insight into firesetting and firesetters in the Netherlands. An interdisciplinary or multidimensional approach is pursued in order to answer the research question at hand,⁶⁰ which incorporates the fields of forensic psychiatry and psychology, criminology and criminal law.

60 This approach stems from a tradition of intensive cooperation between criminal science, criminology, penology, sociology, and forensic psychiatry and psychology that is called the

Applying this interdisciplinary approach, the methodology of this study is as follows: In the first phase, historical, empirical and theoretical literature is collected and reviewed. The second phase consists of data collection regarding various populations of firesetters. This entails analysing case files of firesetters who were observed and assessed in the Pieter Baan Centre in the context of a pre-trial forensic mental health assessment. Also, the police files of convicted firesetters are studied. Various characteristics of these firesetters and their fires are then analysed. In addition to these data, relevant FRIS records (Forensic Registration and Information System: a system that electronically registers forensic mental health reports) containing demographic and psychiatric data on reported suspects are collected and interviews with key experts in the field are conducted. After collection of the data, the various relevant offender and offence characteristics are qualitatively and quantitatively studied using content analytical methods, and quantitatively processed using the statistical program SPSS. The third phase deals with the categorization and classification of firesetters. In addition to population data, literature on categorization and profiling of firesetters will be studied in this phase. The data gathered in the first phase provide the basis on which the firesetters can be divided into categories and patterns of firesetting can be identified. The final phase is more practical, using the findings regarding different groups of firesetters to contribute to identification and individualization of firesetters and to create a model of treatment specifically tailored to the various firesetters.

6 Scientific relevance

Although firesetting is a major societal problem both emotionally and financially, research on the phenomenon of firesetting and the person of the firesetter in the Netherlands is rare. Most available data come from studies conducted in the United States, England en Australia. Strong cultural and criminological differences exist regarding unacceptable behaviour. This means that given the large international differences in criminal justice systems and (forensic) mental health systems, but also socio-economic, climatic, ecological, population density and architectural differences, the findings from international studies cannot simply be transposed or applied to the Dutch situation.

The study at hand is unique because currently in the Netherlands no detailed (forensic) behavioural research specifically aimed at firesetting and firesetters exists. Furthermore, the research combines populations on various research levels. On a macro level, different populations of firesetters are quantitatively analysed and compared. Subsequently, subgroups within populations are studied

Utrecht School, a term first introduced by the Strasbourg professor J. Léauté in 1959, see also Nagel, 1963; for a contemporary discussion on the legacy of the Utrecht School see De Jong, 2015.

to gain knowledge on firesetters at a meso level. Finally, the individual firesetter is studied and cases are discussed to contribute to knowledge on firesetters on a micro level. This knowledge of different types of Dutch firesetters and the characteristics of their fires, contributes to (a) the development of an explanatory theoretical model of firesetting, (b) identification and individualization of firesetters, and (c) tailored treatment of firesetters in forensic mental health settings. In doing so, this study is relevant for various scientific fields, in particular forensic psychiatry, forensic psychology, criminal law, criminology and criminalistics.

6.1 Explanatory theoretical framework

Most existing theoretical models of firesetting and firesetters divide firesetting and/or firesetters into different categories, predominantly based on motive, but also based on characteristics of the act and/or the perpetrator. More recently multifactorial models have looked at how different characteristics are interrelated. Best known is the action-system model of firesetting by Canter and Fritzon which establishes a relationship between the behaviour of firesetters and the characteristics of their crimes.⁶¹ The advantage of the model of Canter and Fritzon is that it offers the possibility to derive offender characteristics from the action patterns in firesetting.⁶²

In addition to theoretical models that mainly focus on classifying firesetters into different (sub)groups, other models try to explain firesetting in light of a wider theoretical framework like the functional analysis theory,⁶³ and the multi-trajectory theory of adult firesetting (M-TTAF).⁶⁴ Furthermore, certain psychopathological theories can be used to explain this behaviour. This study aims to contribute to the body of knowledge on firesetting and its findings will be applied in a newly developed, explanatory model of firesetting, which in turn can contribute to the detection, diagnosis and treatment of firesetters.

6.2 Identification and individualization

In international literature, some attention has been devoted to the profiling of firesetting and firesetters.⁶⁵ However, no recent research on potential subtypes of Dutch firesetters exists. This proposed research can fill this gap by examining whether the foreign literature can be applied to the Dutch situation and by making a new distinction into different categories based on a Dutch population of firesetters. Knowing how this offender population is divided

61 Canter & Fritzon, 1998.

62 Santtila, Häkkänen & Fritzon, 2003.

63 Jackson, Glass & Hope, 1987.

64 Gannon et al., 2012.

65 See for instance Dennett, 1980; Douglas, Burgess, Burgess & Ressler, 1992.

combined with insight into different characteristics per subtype contributes to the individualization of firesetters and can aid identification by the police.

6.3 Treatment of firesetters

Finally, gaining insight into different subtypes of firesetters and their characteristics contributes to treatment effectiveness of these offenders. Currently there are no standardized programmes for the treatment of firesetters in the Netherlands. In the United States, United Kingdom and Australia evidence based treatment programmes are also lacking,⁶⁶ although promising efforts are currently being made.⁶⁷

Following the principles of ‘What Works’, Hollin describes characteristics of treatment programmes specifically aimed at offenders.⁶⁸ There seems to be reasonable consensus on the elements of effective treatment. In order to reduce recidivism a treatment programme must first take account of the offender assessment. A form of risk assessment must be carried out. If an offender shows a moderate to high risk of recidivism, an intensive form of treatment is preferred. It is also important that the assessment identifies the individual’s needs that must be addressed in a programme. These individual needs influence the specific design and content of the treatment programme. After assessment issues have been resolved, the actual treatment can be designed. In general, successful treatment programmes are structured and focused and multimodal in nature. Not only the behaviour must be addressed, treatment should also be designed to counter forms of antisocial thinking. In order to engage offenders, the programme must be carried out in a fashion that is consistent with the individual ability and learning style. So, in order to be effective, the treatment programme must be responsive to the need of the firesetters. What this need entails can be based on in-depth knowledge of the population at which the treatment programme is targeted.

7 Societal relevance

This study contributes to Dutch society as a whole in the important field of prevention and, although it might seem obvious, this important contribution deserves an explicit place in this introduction. The contribution to prevention takes at least two forms. Firstly, by improving the chance of identifying and capturing offenders, they are (for the time being) incapable of causing more fires and further damage is prevented. Secondly, and more importantly, by

66 Gannon, 2010.

67 Fritzon, Doley, Davey & McEwan, 2013b; Gannon & Lockerbie, 2011; Gannon, 2012; Gannon et al., 2015; Grant, Donahue & Odlaug, 2011.

68 Hollin, 1999; see further Chapter 7 Section 4.

providing tailored and targeted treatment the risk of recidivism diminishes, preventing firesetting in the future. What is more, results of this study contribute to the knowledge on short-term and long-term risks firesetters may pose to society. This knowledge can contribute to the (perceived) safety of society by decreasing the amount of inherent uncertainty that exists when dealing with offenders in a judicial and forensic mental health setting.

Apart from the field of prevention that is of relevance for society as a whole, this study also contributes to the (legal) status of individual arson offenders in the Netherlands. Instead of receiving general treatment that is not proven to be effective, treatment specifically tailored to these offenders can contribute to treatment effectiveness and honours the right of offenders to receive treatment that takes into account their specific needs.

8 Outline

This book consists of three parts and a total of twelve chapters. Part I consists of three chapters and offers historical and theoretical background to the firesetting phenomenon. The historical context regarding pyromania and firesetting is presented in Chapter 3 and 4, with Chapter 3 looking at the development of pyromania from the early 1800s until 1950 and Chapter 4 describing changes in the influence of mental disorder and dangerousness on pre-trial forensic mental health assessments of firesetters in the period 1950-2010. Part I concludes with Chapter 5, in which theoretical literature on firesetting and firesetters is reviewed and an explanatory model is developed on the firesetting phenomenon.

Part II contains two literature reviews. Chapter 6 reviews literature on characteristics and categorizations of firesetters and Chapter 7 provides a review of treatment literature.

Part III takes an empirical perspective and describes firesetters on different levels of analysis. Chapter 8 describes the three different populations of firesetters used in this study and compares them on a macro level. In Chapter 9 the populations based on police file data and Pieter Baan Centre reports are subdivided into different subgroups of firesetters (meso level of analysis) to provide insight into the different types of firesetters that enter the Dutch criminal justice and forensic mental health systems. Using the subgroups based on police file data, Chapter 10 establishes a link between crime scene characteristics and different types of firesetters to enable identification (micro-level approach). Chapter 11 discusses the different subtypes of firesetters in terms of their treatment needs and introduces a differentiated treatment model for subgroups of firesetters, linking individual characteristics and needs of specific types of firesetters to specific treatment elements (meso-level approach).

This book ends with Chapter 12, which provides a summary and discussion integrating the results of the historical study, theoretical analysis, literature

review and empirical research. This chapter answers the central research question and presents implications of the study for (clinical) practice, concluding with possibilities for future research.

Chapter 2

Methods of data collection and analysis

1 Data sources

The empirical part of this book is based on different populations of firesetters that were available for analysis in the Netherlands (see Table 2.1).¹ The PBC data and PF data form the basis of the empirical part of this study and FRIS data are used for reasons of comparison and to give a more complete general picture of firesetters and firesetting in the Netherlands. Interview data are used to substantiate findings from literature.

Table 2.1. Overview of empirical research questions and data sources used to answer them.

Research question(s)	Study populations	Chapter
Can any changes be observed in the influence of mental disorder and dangerousness in pre-trial forensic mental health assessments of firesetters, as manifested in the conclusion on criminal accountability and the pre-trial forensic mental health recommendations in forensic mental health reports, in the period 1950-2010?	PBC data pilot (n = 72)	4
What are the characteristics of the various populations of Dutch firesetters? To what extent are differences in characteristics related to the population studied?	PBC data (N = 607) PF data (N = 100) FRIS data (N = 1,561)	8
Which subgroups of firesetters enter the criminal justice and forensic mental health system in the Netherlands?	PBC data (n = 389) PF data (N = 100) Expert interviews (N = 11)	9
How can relevant offender and offence characteristics contribute to identifying subtypes of firesetters?	PF data (N = 100) PF data (n = 5)	10

¹ Methods of literature review are discussed in the corresponding chapters.

1.1 Firesetters evaluated in inpatient pre-trial forensic mental health assessment (PBC data)

The main population used in this study consists of firesetters who were admitted to the main forensic psychiatric observation hospital in the Netherlands, the Pieter Baan Centre (PBC), in the period 1950-2012. In this residential setting, firesetters are observed and their mental health is assessed for a period of seven weeks, after which a multidisciplinary report is produced.² All reports of firesetters who were admitted for pre-trial assessment in the Pieter Baan Centre from its starting days in 1949 until 2012 were retrieved. In order to avoid duplications, of the 633 identified reports, reports that were produced for the same offence (n = 10) and previous reports of firesetters with multiple assessments concerning firesetting (n = 16) were excluded, resulting in a total of 607 unique reports of firesetters. The subjects all had a pre-trial status, meaning that they had not been found guilty of firesetting at the time of the evaluation.³ However, for simplicity, everyone included in this sample will be referred to as a firesetter.

Although available information differed between reports, the forensic mental health reports in general were very complete, containing the following sections: (a) social background information; (b) a report of the behaviour on the ward and during group activities (e.g. sports, work); (c) a brief medical examination; (d) an elaborate report written by a psychologist, including psychological assessment; (e) an extensive report made by a psychiatrist; (f) a conclusion combining information from different disciplines to answer the question whether there was a disorder present at the time of the offence that influenced the offence diminishing the level of criminal accountability; and (g) an advice concerning the risk of recidivism and the measure which should be imposed accordingly.⁴ Often the reports also included some police data, giving more insight into criminal background and offence motivation. Because of this extensive amount of information and to enable quantitative analyses, the identified forensic mental health reports were coded using a checklist.⁵ All variables on this list were coded retrospectively based on the firesetters' assessment reports. If information on a particular item on the checklist was not mentioned or unclear in the report, this item was scored as 'missing' regardless of the possibility that it might have been unmentioned because it was not present, and missing data were excluded from further analysis in SPSS. If a report made clear that items were not present, e.g. a person did not have a DSM diagnosis, this was scored as such and included in further statistical analysis. Students were trained to assist in coding and a high degree of reliability was found between their ratings. The single measure

2 See also Chapter 4 Section 3 for a historical background.

3 Of the 128 cases in which a verdict was known, 95 percent of suspects was found guilty.

4 Koenraadt, Mooij & Van Mulbregt, 2007.

5 See Appendix 2.1.

ICC was .925 with a 95% confidence interval from .898 to .948 ($F(66,924) = 185.224, p < .001$). In addition, interrater reliability between students and the author was substantial with Kappa scores ranging from .56 to .90 and a mean Kappa of .65.⁶ Nevertheless, all the items that were subject to discussion were extensively checked by the author to ensure consistency.

1.2 Convicted firesetters (PF data)

The second population comprises firesetters who were convicted of arson. The police files (PF) of these firesetters were used to gather data. Data were gathered at two district courts in the Netherlands: Zwolle-Lelystad ($n = 50$) and Utrecht ($n = 50$). These two courts were selected based on location and access to data. Only police files of firesetters who were convicted in the first instance for violating Article 157 of the Dutch Criminal Code were selected.⁷ To obtain a random sample of convicted firesetters a selection was made by date starting with the most recent available cases from September 2012 going back to May 2008.

The availability and amount of information differed substantially between police files, but all files contained information on (a) the individual's background; (b) the firesetting(s) for which a person was convicted; (c) criminal background; and (d) judicial information. In some cases a pre-trial forensic mental health assessment had been conducted and included in the police file. It must be noted in this respect that absence of such assessment is by no means a guarantee that no mental health problems exist; this decision is taken by the prosecution or the examining judge and can be arbitrary. Most police files included rich details on crime scene and offence characteristics. To include this valuable information and to give insight into crime-scene characteristics of specific subtypes of firesetters cases were coded using an extended version of the checklist. This list was extended to include more items on the offence(s) and therefore more firesetting-specific items were added.⁸ The coding was similar to that of the PBC population, with all variables being coded retrospectively based on the police reports by the author and missing variables being excluded from further analysis.

In addition, a further selection was made of possible detectable offender characteristics like age and gender, based on witness statements, and detectable offence characteristics like the use of fire accelerants, based on crime-scene forensics data. These characteristics were compared between the five subgroups of firesetters identified based on PF data,⁹ to see which detectable offender and offence characteristics can be used to identify a specific subtype of firesetters.¹⁰

6 Landis & Koch, 1977.

7 See Chapter 1 Section 1.1.

8 See Appendix 2.2.

9 See Chapter 9.

10 See Chapter 10.

1.3 *Firesetters in the forensic registration and information system (FRIS data)*

A third source of information was derived from the Forensic Registration and Information System (FRIS). This national registration system was developed by the Netherlands Institute for Forensic Psychiatry and Psychology (NIFP), a national service department of the Ministry of Justice, and contains demographic and psychiatric data on all suspects that are evaluated in forensic mental health assessments in the Netherlands.¹¹ Psychiatrists and psychologists fill in a standard form with basic background information and their main conclusions and recommendations to the judiciary. Data were retrieved from the FRIS database for the period 2006-2012 using Article 157 of the Dutch Criminal Code as filtering variable, resulting in 1,884 entries of mental health evaluations of firesetters. If there were multiple reports per person (e.g. both a psychiatrist and a psychologist evaluated the same suspect) the entry with the most information or the most recent one was selected resulting in a total of 1,561 registrations of firesetters. The FRIS data are extensive in number, yet limited in content with only a few personal, background, diagnostic and judicial items.

1.4 *Interview data*

In order to gain more insight into judicial and clinical practice and validate the existence of five hypothesized subtypes of firesetters based on police file data, semi-structured in-depth interviews were conducted with key figures working in the field of forensic mental health and the criminal justice system. A total of eleven experts were interviewed: three judges, two prosecutors, two police fire investigators, one police criminal investigator, one fire dog handler specialized in fire accelerants, and two forensic psychologists/psychotherapists. To avoid bias, the interviewees were first asked how they would describe firesetters without asking about some sort of classification. Subsequently, they were asked to categorize the group of firesetters. Finally, five hypothesized subtypes were presented for verification.¹²

11 So logically, overlap with the other study populations exists. But not all evaluations were registered in FRIS. Of the 76 PBC cases evaluated since 2006, only 39 were registered, and of the 55 PF cases in which a forensic mental health evaluation was conducted, only 29 were recorded in FRIS, which may be explained by inconsistent registering. The precise overlap with police file data is unknown; see also Chapter 8 Section 2.

12 See Appendix 2.3 for all questions asked and Chapter 9 for the five subgroups.

2 Samples, measures and data analysis¹³

2.1 PBC data

Data were analysed using a checklist including demographic, psychopathological, social, and event-related items as well as the conclusions concerning mental disorders at the time of the offence and the risk of recidivism.¹⁴ The checklist used included clinical items of the HKT-30,¹⁵ a Dutch risk assessment tool with excellent interrater reliability.¹⁶ The HKT-30 was developed to measure the risk of reoffending, based on several national and international instruments, and consists of 30 items (11 historical, 13 clinical and dynamical, and 6 future items) scored on a five-point scale. In addition, previous research in the Netherlands on homicide also analysed pre-trial forensic mental health reports; and general items concerning social background, personal characteristics, conclusion and advice on the checklist were based on these previous studies.¹⁷ Apart from these general items, firesetting-specific items were included based on experience and literature.¹⁸

The total sample included 607 firesetters (see Table 2.2). The alleged acts of firesetting underlying their assessment almost all resulted in property damage (98%) or personal harm (73%), offences were predominantly committed out of anger or revenge (43%), alone (84%), and unplanned (64%). This sample was used to answer the following research questions:

Can any changes be observed in the influence of mental disorder and dangerousness in pre-trial forensic mental health assessments of firesetters? (Chapter 4)

To gain insight into the importance of mental disorder and dangerousness over time, 72 male firesetters were selected from the larger sample of firesetters with twelve firesetters from every decade.¹⁹ Several items of the checklist were

13 Because of the retrospective nature, missing data were inevitable. To prevent a decrease in power, subjects with missing data were not deleted and sample sizes on different items may therefore vary.

14 All data were statistically analysed using IBM SPSS statistics version 23.0.

15 Ministerie van Justitie, 2003.

16 Hildebrand, Hesper, Spreen & Nijman, 2005; Singh, Serper, Reinharth & Fazel, 2011.

17 Liem & Koenraadt, 2008a; Liem & Koenraadt, 2008b; Liem, Hengeveld & Koenraadt, 2009; Liem, de Vet & Koenraadt, 2010.

18 For instance the work of Canter and Fritzon (1998) inspired an item regarding the nature of the offence (instrumental or expressive, and person or object-oriented). The work on pure vs. non-pure firesetters (Barnett et al., 1999; Lindberg, Holi, Tani & Virkkunen, 2005) led to items on specific recidivism and criminal history. Appendix 2.1 includes a copy of the checklist.

19 The selection of these cases was based on the smallest number of available reports per decade. For the 1960s only twelve reports were available, all concerning men, with a mean age of 31. To create groups that are equal in size preventing a skewed distribution of subjects per decade, per remaining decade twelve reports of males with approximately the same age as the twelve male subjects in the 1960s were randomly selected. This resulted in a

compared across different decades using Pearson's chi-square tests, and given the small population also Fisher's exact tests as measures of association for categorical variables.²⁰ To identify the nature of the dependence in larger than two-by-two contingency tables the adjusted standardized residuals that take into account the overall sample size were computed.²¹ Under the null hypothesis of independence, each adjusted residual has a standard normal distribution, so residuals with a value that are about two or higher (± 1.96) indicate that the variables are dependent and locate the particular cells that contribute most to this dependence.²² Because data were not normally distributed, Mann-Whitney U tests were run to test for differences on continuous variables.

What are the characteristics of the various populations of Dutch firesetters? And to what extent are differences in characteristics related to the population studied? (Chapter 8)

The firesetters in the PBC population are described and characteristics are compared with the other two populations to answer this research question. Comparisons on categorical variables have been made using chi-square and Fisher's exact tests, whilst Kruskal-Wallis and Mann-Whitney U tests have been run to test for differences in continuous variables.

Which subgroups of firesetters enter the criminal justice and forensic mental health system in the Netherlands? (Chapter 9)

PBC data are used to validate the existence of five subtypes that correspond with the M-TTAF trajectories.²³ A two-step cluster analysis has been performed to test the fit of the firesetters into the five subtypes proposed in this model. Cluster analysis is a general term for several statistical procedures that can be used to create different groups or clusters. These groups are empirically created in such a way that the similarity of cases within each cluster is maximized while the similarity between the groups is minimized.²⁴ A two-step clustering procedure overcomes the problem of commensurability, enabling both continuous and categorical variables on different scales and is preferable in large datasets. Furthermore, it offers the advantage of automatically determining the optimal number of clusters, using the auto-cluster option.²⁵ Cluster analysis has proven

total sample of 72 pre-trial forensic mental health reports of male firesetters who cooperated with the evaluation and had a mean age of 31. The reports were divided into two groups; the first group concerned the older reports dating from 1950 to 1979, whilst the second group comprised reports from 1980 to 2010.

20 The Fisher's exact test is useful in small populations and is normally used in a two-by-two cross table, but is also applicable in larger contingency tables; see Field, 2009.

21 Agresti, 2007.

22 Idem.

23 Gannon, Ó Ciardha, Doley & Alleyne, 2012; see Chapter 5 Section 4.3.2 for an in-depth discussion of this model.

24 Norusis, 2011.

25 Bacher, Wenzig & Vogler, 2004.

useful in uncovering subtypes of violent offences,²⁶ including firesetting.²⁷ Cluster variables were chosen theoretically, based on elements of the first tier of the M-TTAF,²⁸ and existing literature on firesetter characteristics.²⁹ Due to missing data on clustering variables, the final study sample included 389 rather than 607 firesetters.³⁰

The specific search regarding a psychotic subtype was also based on PBC data.³¹ In this instance only firesetters assessed in the period 2000-2010 were selected.³² In total, 124 individuals were included. Individuals were identified as psychotic if the crime had a direct link with and was committed under the influence of a psychosis, and/or a psychotic diagnosis on Axis I of the Diagnostic and Statistical Manual of Mental Disorders³³ was found during the assessment.³⁴ A direct link with psychosis was determined based on the characteristics of the case, in particular the motive that was described in the reports. In total, 29 firesetters (about one out of four) qualified as psychotic,³⁵

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- 26 Liem & Reichelmann, 2014; Stefurak & Calhoun, 2007.
- 27 Del Bove & Mackay, 2011; Harris & Rice, 1996. In a two-step procedure atypical values are solved using the noise-handling algorithm; in this sample there was a value of 10 for the fraction of noise.
- 28 Gannon et al., 2012; see Chapter 5 Section 4.3.2.
- 29 The first variable corresponds to the *developmental context* of the M-TTAF, also relating to caregiver environment, the latter being operationalised as ‘being victim of childhood abuse’ (0 = *never*, 1 = *witness and/or victim at least once*). The element of *psychological vulnerability* was operationalised with four variables from the HKT-30, recoded from a 5- to a 3-point scale (0 = *no/minor risk/problems*, 1 = *moderate risk/problems*, 2 = *high risk/problems*). *Offence-supportive cognition* was represented by the cluster variable ‘empathy’, one cognitive component believed to underlie this vulnerability (Gannon et al., 2012). The cluster variables ‘impulsivity’ and ‘coping skills’ correspond to *self/emotional-regulation issues* and ‘social skills’ to *communication problems*. According to the M-TTAF, psychological vulnerabilities can turn into critical risk factors through interaction with proximal triggers. One moderator of this interaction is *mental health*. Psychosis was included because of the established link between firesetting and psychotic disorders (Anwar, Långström, Grann & Fazel, 2011, Burton et al., 2012, Enayati, Grann, Lubbe & Fazel, 2008) and operationalised by coding for *time of offence*: 0 = *no psychosis*, 1 = *past psychosis only*, 2 = *psychosis present*.
- 30 See Chapter 9 Section 3.
- 31 See Chapter 9 Section 4.
- 32 Of the 144 identified reports, some reports were excluded due to the individual’s refusal to cooperate (n = 18), a lack of data (n = 1) or because the report consisted of only supplementary material (n = 1).
- 33 4th ed., text rev.; DSM-IV-TR; American Psychiatric Association, 2000.
- 34 The forensic reports included in this study made use of the DSM version IV-TR, and therefore a psychotic diagnosis based on this (old) version of the DSM was chosen as an identifying agent.
- 35 Of these firesetters, 17 were diagnosed with schizophrenia (56.7 percent; paranoid (n = 10), disorganized (n = 3), negative (n = 1) and undifferentiated (n = 3)), two firesetters had a schizoaffective disorder, two suffered from PTSD with psychotic symptoms, another two had a delusional disorder, in five cases other psychotic disorders were present, and another diagnosis was postponed but a psychotic disorder was suspected.

a proportion similar to findings reported elsewhere.³⁶ The other 95 firesetters formed the non-psychotic group.³⁷

Differences between clusters and psychotic and non-psychotic firesetters were studied using chi-square and Fisher's exact tests, Kruskal-Wallis and Mann-Whitney U tests not assuming normal distribution. In addition to these binary comparisons, logistic regression analyses were performed to determine the strength of several characteristics in predicting the probability of firesetters belonging to the group of psychotic firesetters.³⁸ To test for multicollinearity between the variables included in the regression, the standard errors for the b coefficients were examined. Analyses with a standard error larger than 2.0 were not interpreted.

Table 2.2. Characteristics of firesetters based on PBC data (N = 607), PF data (N = 100) and FRIS data (N = 1,561).

Characteristics	PBC data	PF data	FRIS data
	M(SD)	M(SD)	M(SD)
Age	29.5 (10.21)	23.5 (11.44)	36.8 (13.48)
	%	%	%
Gender			
Male	92	88	84
Female	8	12	16
Dutch nationality	89	81	90
Marital status (single)	77	90	87
No or low education	57	46	39
Unemployed	67	69	74
Intelligence			
Below average	40	54	52
Average	41	38	38
Above average	19	8	11

2.2 Police File data

To analyse police files, the checklist used to code PBC data was expanded, adding judicial and firesetting-specific items. These offence-specific items were deducted from an earlier study on firesetting using the same data source (e.g. police files).³⁹ Because of the more elaborate crime-scene data, all information available was coded per firesetting ranging up to seven firesettings in one conviction.⁴⁰

36 Lindberg et al., 2005.

37 Findings differ from Dalhuisen, Koenraadt & Liem (2015), because in retrospect the one person with an unknown diagnosis did not appear to be a psychotic firesetter.

38 See Chapter 9 Section 4.

39 Schoenmakers, Hoekendijk & Van der Kruk, 2010.

40 See Appendix 2.2 for the additional checklist used to code PF data.

This sample included 100 firesetters (see Table 2.2). The fires set by this group of subjects often resulted in property damage (93%), but less often in personal harm (53%). Offences were predominantly committed out of vandalism or wanton behaviour (35%), impulsively (70%) and with one or more accomplices (52%). Fires were often set during winter (36%), to residences or public buildings (45%) that were targeted at random (58%). This sample was used to answer the following research questions:

What are the characteristics of the various populations of Dutch firesetters? And to what extent are differences in characteristics related to the population studied? (Chapter 8)

To answer this research question, the firesetters in the PF population are described and characteristics are compared with one or both of the other two populations using chi-square and Fisher's exact tests, Kruskal-Wallis and Mann-Whitney U tests.

Which subgroups of firesetters enter the criminal justice and forensic mental health system in the Netherlands? (Chapter 9)

Police file data and interview data have been used to subdivide firesetters and describe characteristics of the subgroups. First different subgroups mentioned by the interviewees were scored to see which groups were most frequently mentioned. In addition, an explorative two-step cluster analysis was applied to see how the PF data would cluster based on age, gender, motive and nature of the offence.⁴¹ The final division was made based on theory and practice. Differences between the subgroups were analysed using chi-square, Fisher's exact and Mann-Whitney U tests.

How can relevant offender and offence characteristics contribute to identifying subtypes of firesetters? (Chapter 10)

To answer this research question, a selection was made of characteristics that were found to distinguish different subgroups of firesetters to only include relevant (i.e. either visible or detectable) characteristics.

2.3 Forensic Registration and Information System data

The FRIS population comprised 1,561 firesetters whose mental health was evaluated, mostly pre-trial but on some occasions an evaluation was conducted to advise on further treatment or release. Most evaluations were conducted on an outpatient basis, but a small number of inpatient evaluations was also included in this population.⁴² Table 2.2 depicts some characteristics of this

41 Canter & Fritzon, 1998.

42 A total of 39 firesetters in the FRIS population were also included in the PBC population; see also Chapter 8 Section 2.

sample. Regarding their mental health, most had a current DSM classification (91%) and had had contact with mental health institutions in the past (65%). In addition, most firesetters had previously come into contact with the law (69%). Their criminal accountability was usually slightly diminished (33%) or diminished (36%), and usually a (custodial) sentence was advised (47%) and some form of treatment recommended (86%).

The evaluators filled in a specific FRIS form with six categories, starting with personal information like nationality and cultural background and some background information, specifically treatment and judicial background. In the diagnostics category the classifications on the first two axes of the DSM are coded, then a conclusion on criminal accountability is given and the form ends with the legal advice and recommended treatment. The following research question was answered using inter alia this sample:

What are the characteristics of the various populations of Dutch firesetters? And to what extent are differences in characteristics related to the population studied? (Chapter 8)

The firesetters in the FRIS population are described and characteristics are compared with the other two populations to answer this research question using chi-square and Fisher's exact tests for categorical and Kruskal-Wallis tests for continuous variables not assuming normal distribution.

3 Ethical considerations

All data were retrieved and treated in accordance with national ethical norms,⁴³ the Netherlands Code of Conduct for Academic Practice,⁴⁴ and internal codes of conduct of Utrecht University.⁴⁵ All data were treated in accordance with regulations concerning confidentiality, and in order to guarantee the privacy of suspects all data were anonymized and all possible recognizable characteristics omitted. Because of the retrospective nature of this study, informed consent was not applicable.

43 The Dutch Data Protection Act; The Dutch Judicial Data and Criminal Records Act.

44 Association of Universities in the Netherlands, 2014.

45 Conduct code; Code of Conduct for Scrupulous Academic Practice and Integrity at Utrecht University.

Part I
Historical and theoretical background

Chapter 3

The historical development of firesetting from a medico-legal perspective

1800-1950

1 Introduction

Throughout history the act of intentional firesetting has almost universally been seen as a serious crime, and as a consequence offenders could be severely punished by law in various countries.¹ Although it was often recognized that the completely insane could not be punished, it was not uncommon for the death penalty to be imposed even in cases where the firesetter could not be considered completely sane.² However, the rise of modern psychiatry around the turn of the nineteenth century increased the attention for the pathology possibly driving the firesetter. Pyromania was introduced as a separate disorder and focus shifted from the punishability of the act of firesetting to the pathology of the firesetter. However, over time the existence of an insane form of firesetting that could exculpate the firesetter was questioned. This led to a shift in focus. Over the years the act of firesetting raised the still relevant question whether a person is guilty and can thus be sentenced or whether a person lacks criminal responsibility due to a mental disorder and should thus be treated. This characterises the ongoing ‘turf war’ between legal and behavioural experts on punishability versus pathology.³ This chapter provides an overview of the development and historical position of firesetting and firesetters in criminal proceedings in Western Europe and the Netherlands, from the nineteenth century to the second half of the twentieth century. In doing so, this chapter aims to answer the following question:

How have the views on firesetting as a culpable crime or an excusable expression of pathology changed over time and what specific influences on beliefs about firesetting from medico-legal developments can be detected?

1 Immink, 1861, p. 1.

2 Platner, 1801; see also Section 13.5 for a case description.

3 Van Ruller, 1991.

2 Structure

In order to answer this question, primary and secondary historical sources on firesetting have been studied. This chapter is divided into two separate sections: the first section describes the first half of the nineteenth century, after which attention shifts to the period 1850 to 1950 in the second part. The two sections are separated by a short excursus giving sociological and anthropological background information on firesetting in the various time periods.

First the period 1800-1850 is discussed, starting with a description of the legal background of firesetting as a criminal offence in the Netherlands. More in general the notion of criminal responsibility in Dutch criminal proceedings in the first half of the nineteenth century is discussed. Subsequently the rise of modern psychiatry in Western Europe and the Netherlands and its general implications for criminal proceedings are discussed. After this background description, firesetting in the first half of the nineteenth century in the Netherlands and Western Europe is examined from a medico-legal perspective based on the notion of pyromania and its implications on criminal responsibility. Dutch case law relating to this period is provided to illustrate the position of firesetting and firesetters in criminal proceedings.

After a short excursus giving background to the developments, the focus shifts to the period 1850-1950. Again, first the legal situation in that period is discussed. Subsequently, attention is given to the development of psychiatry in general and of forensic psychiatry in particular in this time period. Subsequently, developments concerning firesetting in the Netherlands and Western Europe in the second half of the nineteenth century are viewed from a medico-legal perspective, followed by a description of the first half of the twentieth century. Dutch case law relating to these time periods is provided to illustrate the position of firesetting and firesetters in criminal proceedings. This chapter ends with a conclusion in which the research question is answered.

3 Firesetting as a criminal offence

3.1 *The first Dutch Criminal Code (1809-1810)*

During the nineteenth century, arson was viewed as a serious offence which could have devastating effects and should be punished accordingly. In the Netherlands the act of arson was punishable under the first Criminal Code of 1809. In that Criminal Code a separate chapter was dedicated to the act and threat of arson.⁴ Based on Article 171 of that law, persons convicted of arson

4 Crimineel Wetboek voor het Koninkrijk Holland, Veertiende titel: van het stichten en bedreigen van brand (art. 171-185) [Criminal Code of the Kingdom of Holland, Fourteenth title: on setting and threatening with fire (art. 171-185)]. See Appendix 3.1.

could be sentenced to death by hanging. To be more specific, in order to convict a person under this provision of the first Criminal Code, five conditions had to be met. First, the intent of the perpetrator had to fall within the aims mentioned in the article. However, these aims were quite broadly formulated and included the intent to harm, other criminal insights (i.e. motives) or just malice and mischief. Second, the arson had to be premeditated. The third condition dealt with the act of arson: the fire had to be set, created or caused by the perpetrator. Fourth, the object of the fire had to fall within the exhaustive list laid down in the article, which included houses, barns, vessels and vegetation. Finally, the object which was burned could not be possessed by the perpetrator himself, but had to be owned by another person or the government. However, if a person set fire to their own property with the intent to cause similar harm to the properties of others, to endanger other persons, to destroy livestock or other goods belonging to others, to thwart creditors, to cover up the state of their affairs, to generate sympathy, to collect insurance benefits, to avert suspicions of arson or raise suspicion on others, to benefit from the turmoil, or out of other malevolent ideas and objectives, he or she could also be sentenced to death by hanging (Article 174). The exhaustive list of objects for which the arsonists could be sentenced to death did not include separate, movable property like tools, furniture and the like. For those objects Article 178 was created. If a person set fire to movable objects belonging to other persons to cause damage to the owners or out of mischief, depending on the malice of their intent, he or she could be sentenced to death by hanging, flagellation and stigmatization by burning or by flagellation, prolonged imprisonment and banishment. The death penalty could also be imposed on persons in captivity that repeatedly used arson as a way to escape (Article 172), on perpetrators who used gunpowder to cause an explosion destroying objects as mentioned in Article 171 (Article 173) and on persons who co-operated substantially with the arsonist (Article 177). However, if the general threat and disadvantage caused by the arson were very small, the perpetrators could only receive scaffold punishment, prolonged imprisonment and banishment from the Kingdom (Article 175).

3.2 The French Code Pénal (1810-1886)

After the annexation of the Netherlands by the French Empire in 1810, the Dutch Criminal Code was replaced by the then-recently established French Code Pénal.⁵ Under Article 434 of this French Criminal Code the act of deliberate arson was a capital crime as well. Article 434 threatened with the death penalty all those who deliberately set fire to buildings, vessels, barges, warehouses, shipyards, forests, coppice or harvest or combustible materials for that purpose there placed. The second part of this provision gave rise to a

5 See Appendix 3.2.

discussion on whether or not only attempted arson was included.⁶ The Dutch Supreme Court decided that this was not the case.⁷ The article required that fire was set to ‘combustible materials placed in such a manner to communicate the fire’.⁸ This meant that it was not required for the perpetrator to place the combustible materials himself, it was sufficient that fire was set to combustibles that were placed in a way to spread the fire. Although arsonists could also be sentenced with the death penalty under the first Dutch Criminal Code, this was left to the discretion of the court. Under the Code Pénal, however, imposition of the death penalty was no longer a choice but required by law.⁹

In the early nineteenth century, in the Netherlands the Code Pénal was considered to be too harsh, which is reflected in the many pardons for often young arsonists whose death sentences were commuted to imprisonment.¹⁰ Criticism focused on the death penalty for crimes against property and all deliberate cases of arson.¹¹ It was proposed to abolish the death penalty for cases of arson where the danger to person’s lives could not be predicted. In 1854 the law was changed accordingly, so that no death penalty could be imposed in cases of arson where it could not be foreseen that lives would be endangered by the act.¹² This foreseeability of danger was decided based on the circumstances of the case.¹³ Although this led to the possibility of less severe punishment, firesetters could still be sentenced to death when their act resulted in danger to human lives. The death sentence was considered to be fair given the severity of the offence.¹⁴ The last death sentence for arson was carried out on 22 June 1855, when a 55-year-old man convicted of arson was hung. He had set fire to a house at two o’clock in the morning where at that time seventeen persons, including ten children, were sleeping. One child woke up and warned the others and all just barely escaped the inferno. The offender himself suffered burns to his feet. The court imposed the death penalty because ‘it was foreseeable that human life could be jeopardized by the fire’.¹⁵ He claimed to have acted based on a financial motive; because he was promised money by his niece if he set fire to the building, but this could not be proven. During the act of arson the offender was under the influence of alcohol.¹⁶

6 Immink, 1861, pp. 6-10.

7 HR 9 juni 1846 (D.J. Kiepke) [Supreme Court, 9 June 1846 (D.J. Kiepke)].

8 Des matières combustibles placées de manière à communiquer le feu.

9 Van Ruller, 1987, p. 25.

10 Idem, pp. 98-102.

11 Immink, 1861, pp. 14-15.

12 Wet van 29 juni 1854, *Stb.* 1854, 102 [Act of 29 June 1854, *Bulletin* 1854, 102].

13 *Handelingen II* 1854/55, 31 mei 1854 [*Proceedings II* 1854/55, 31 May 1854], p. 1022.

14 *Kamerstukken II* 1853/54, XLVII, nr. 3 [*Parliamentary Papers II* 1853/54, XLVII, No. 3], p. 435.

15 Provincial Court of Justice Arnhem 1 February 1855; Utrecht provincial and city newspaper, 3 February 1855.

16 Provincial Court of Justice Arnhem 1 February 1855; (*Voltrekking van de straffe des doods aan H. Beekman te Apeldoorn op vrijdag 22 juni 1855* [*Execution of the death penalty of H. Beekman in Apeldoorn on Friday, 22 June 1855*].

Shifting beliefs on punishment and retaliation led to changing views and finally to the abolishment of the death penalty in the Netherlands.¹⁷ In 1870 the death penalty was legally abolished and replaced by a lifelong workhouse sentence.¹⁸

4 The notion of criminal responsibility

4.1 The first Dutch Criminal Code (1809-1810)

The first Criminal Code recognized that criminal responsibility could be lacking under certain circumstances. Children under the age of twelve could not be held responsible, for children aged thirteen or fourteen a separate system of punishment was available and children aged fifteen to seventeen could be punished but less severely than adults. In addition to young age, mental disorder also influenced criminal responsibility. Article 22 provided exculpation for persons deprived of their mental faculties. Based on that provision completely insane persons (*geheel zinneloos*) could not be held responsible for their act. Furthermore it was acknowledged that less severe forms of mental incapacity were possible. It was left to the courts to assess to what extent alternating madness, bodily ailments which significantly influence the mental faculties, and very great ignorance and simplicity required a less severe punishment or total acquittal.

4.2 The French Code Pénal (1810-1886)

The subsequent French Code Pénal also recognized that under certain circumstances an offender could not be held accountable for his actions. Article 64 of the Code Pénal stated: ‘there is neither crime nor offence, if the accused was insane at the time of the action, or when he was forced by a power which he could not resist’.¹⁹ This article states that the punishability of the act ceases to apply when someone was in a state of insanity or under irresistible pressure. During the development of the current Criminal Code this provision was elaborately discussed. Two main defects were described.²⁰ First, the use of the term insanity (*démence*) was deemed too limited. Inadequate development of the mental faculties for example, was not included. The second objection was the fact that Article 64 of the Code Pénal did not take into account the relationship between a person’s abnormal mental state and the act committed.

17 Van Nooten, 1863.

18 Wet van 17 september 1870, *Stb.* 1870, 162 [Act of 17 September 1870, *Bulletin* 1870, 162].

19 Il n’y a ni crime ni délit, si le prévenu était en état de démence au moment de l’action, ou lorsqu’il a été contraint par une force à la quelle il n’a pu résister.

20 Smidt, 1881, p. 365.

So the criticism on the one hand focused on the question which cases of mental abnormality should be subject to this provision, and on the other hand what relationship should exist between the pathology and the crime. In early Dutch legal handbooks, the notion of lack of responsibility was used. It was believed that only persons who are self-aware and have a free will are able to resist criminal impulses or instigations. The law only applies to such individuals and only to those freely acting criminals the crime can be attributed and a penalty can be imposed. In contrast, irrational individuals, persons that are not self-aware nor have a free will cannot resist the impulse to commit a crime. Offences committed by those persons therefore cannot be attributed to them and no penalty can be imposed.²¹ Degrees of accountability were also deemed possible, creating the possibility of partially diminished criminal responsibility and corresponding lower sentencing.²² The court physician was considered responsible for the determination of a partial or total lack of freedom to act.²³

5 The rise of modern psychiatry

5.1 Before psychiatry: incarceration

The beginning of psychiatry as a specialized medical discipline can be located at the turn of the nineteenth century. Before this time, the mentally ill were treated, or more often just handled, by general physicians. Although some of those general practitioners devoted more attention to mental health issues than others, it came nowhere near being a specialized field. Insanity was not only the task and responsibility of physicians. The clergy provided care in certain monasteries and religious residences. More generally, mental illness was seen as a problem of society. Primarily, relatives of a person who appeared to be mentally ill had the responsibility to look after them.²⁴ Before the nineteenth century, mental health care was a family matter. Some accounts describe the treatment of insane persons by relatives as strikingly cruel, with physical abuse, confinement in inhuman places like animal cages and using chains.²⁵ However, it can be questioned whether this cruel treatment was widespread. In some instances, the mentally ill were placed with another family which took in and cared for one or more people with mental illnesses. If family members were unable to care for their mentally ill relative it was the duty of the community to provide care, a duty embedded within a culture of charity.²⁶ This care often

21 Moll, 1825, p. 274.

22 Idem, pp. 274-275.

23 Idem, p. 275.

24 Porter, 1997, p. 493.

25 Porter, 2002, p. 90; Shorter, 1997, pp. 2-3.

26 Porter, 1997, p. 493.

took the form of confining the mentally disturbed to prevent them from causing harm to their family, society as a whole or to themselves. It must be noted in this respect that this likely concerned the more severe cases that could not be dealt with by family. According to Foucault, this incarceration, or ‘Le grand renfermement’ (great confinement) as he calls it, can be seen throughout Western Europe with its main development in the second half of the seventeenth century.²⁷ However, Foucault generalized this incarceration trend, misleadingly labelling it the *great* confinement whilst according to modern standards it only concerned limited numbers of mentally disturbed persons. Incarceration was predominantly seen in France, with state-organized institutionalization emerging much later in other European countries.²⁸

An important milestone of the isolation trend in France is the merging of existing institutions into general hospitals like Bicêtre and Salpêtrière (Hôpitaux généraux) in Paris in 1656. They were intended as housing for the poor, whether sick or healthy. They were not a hospital, rather a semi-legal structure with the power to decide, judge and execute without any interference of the courts. The insane could be subjected to inhumane penalties, such as the use of neck rings and flogging, without any right to appeal or other forms of external control. Furthermore, the hygienic conditions were baffling at times.²⁹ In London, Bethlem Hospital was known for instances of cruelty against mentally ill persons. It was founded in the thirteenth century as the priory of Mary of Bethlehem and had been used for the confinement of the acutely insane since the end of the fourteenth century.³⁰ Over time the name changed to Bethlem or Bedlam (madhouse).³¹

Nowadays, the isolatory treatment of the insane in this and other institutions is hard to understand. However, three main factors should be taken into account: the almost total ignorance of the nature of mental disorders, the deep-rooted fear of the insane, and finally the then-prevailing general conviction that mental diseases were incurable.³² The confinement and at times appalling treatment of the mentally ill in madhouses, workhouses and prisons lasted until the beginning of the nineteenth century. The end of this common trend of incarceration coincides with the rise of modern psychiatry. Unfortunately, the inhumane treatment by relatives would persist well into the nineteenth century.³³

27 Foucault, 1972, pp. 56-91.

28 Porter, 2002, pp. 93-95.

29 Foucault, 1972, pp. 59-60; Shorter, 1997, p. 6.

30 Walker & McCabe, 1973, p. 2.

31 Shorter, 1997, p. 5.

32 Alexander & Selesnick, 1969, p. 155.

33 Shorter, 1997, p. 3.

5.2 Psychiatry's first steps: breaking the chains and Moral Treatment

At the end of the eighteenth century and the beginning of the nineteenth century physicians in several Western European countries attempted to improve the serious predicament of the insane, and optimism about treatment possibilities prevailed.³⁴ The insight that confinement of the mentally ill could serve purposes other than mere isolation from society, can be seen as the main incentive of changing views that led to the development of modern psychiatry.³⁵ The treatment of mentally disordered patients was seen as an important new field of expertise and in 1808 the German professor Johann Reil (1759-1813) first introduced the term psychiatry (*Psychiaterie*). He deemed the creation of a medical discipline a necessity and emphasized the intertwinement of the body and the psyche. The causes of illnesses must not be seen as purely physical, chemical or mental, because these various domains interact. Medicine must therefore also take mental problems into account.³⁶

Although Reil introduced the term, Philippe Pinel (1745-1826) is most often seen as the founding father of modern psychiatry. He was often praised for his liberation of patients and seen as the person who broke their shackles in two Parisian mental hospitals.³⁷ Although he did abolish chaining in Salpêtrière in 1795, the preceding initiative to free the patients in Bicêtre came from the director at that time, Jean-Baptiste Pussin. And also others, like Vincenzo Chiarugi in Florence, liberated their patients.³⁸ Pinel conducted empirical research, diagnosing patients through thorough observation, thus bringing scientific research within the walls of the institution. But the most important contribution Pinel made to the field of psychiatry was his handbook published in 1801 called *Traité médico-philosophique sur l'aliénation mentale* (Medico-philosophical treatise on mental alienation) which articulated widely held beliefs on treatment and treatability of the mentally ill at that time. In his handbook Pinel stated that there was justifiable hope that individuals who seem lost for society forever, would be able to return into society. He distinguished a certain group of mentally disordered persons who showed signs of progress or had periods in which they were lucid and claimed that they should be placed in a separate ward and receive psychological treatment (*traitement morale*) to develop and strengthen their mental faculties.³⁹ The confinement in mental institutions could serve therapeutic aims, according to Pinel. His *Traité* was translated into other languages, spreading his optimistic views on the changing potential of the asylum. The so-called Moral Treatment emerged. Pinel did not

34 See for example Reil, 1803, pp. 53-54.

35 Shorter, 1997, p. 8.

36 Reil, 1808.

37 Mooij, 1991, p. 8; Porter, 1997, p. 495.

38 Porter, 2002, p. 130; Shorter, 1997, p. 11.

39 Pinel, 1801, pp. 193-194.

give a very detailed description on how exactly this moral treatment of mentally disordered persons should take place in order to be effective. From several case examples he described however, it is clear that Pinel used theatricality as a treatment instrument, staging scenes and spectacles to deceive patients for their own benefit.⁴⁰ What is more, those case examples also reveal four principles underlying the Moral Treatment, with gentleness being the first.⁴¹ Pinel rejected inhuman treatment based on the idea that madmen were behaving like animals because they were treated as such. He believed that patients always had some humanity in them that could be treated.⁴² He was very kind towards patients, introduced work and other regular activities to fill the emptiness of their existence and soothed them with warm baths.⁴³ In those distinct cases where gentleness was not sufficient, Pinel acknowledged the necessity of the use of restraint to gain authority over patients.⁴⁴ In addition to providing a humane environment or in some cases using repression, the third principle of Moral Treatment concerned changing defective, faulty thinking, which was believed to underlie insanity.⁴⁵ The last principle was the therapeutic management of passions using theatricality to change them or counterbalance them by more powerful affections instead of destroying human passions.⁴⁶

The principle of Moral Treatment was elaborated on by Jean-Etienne-Dominique Esquirol (1772-1840), one of Pinel's students. He visited almost every asylum in France and was appalled by the conditions in which he found the insane.⁴⁷ In his *Des maladies mentales* (Mental Maladies: Treatise on insanity 1838) he advocated the asylum as a therapeutic instrument. 'A madhouse is an instrument of healing; in the hands of a skilful physician it is the most powerful therapeutic agent against mental illness'.⁴⁸ Isolation of the insane from their natural environment played an important role in his view on moral treatment.⁴⁹ This radical change in surroundings was intended to shake up the fixed pathological, faulty ideas of mentally ill persons and to divert their attention from unhealthy passions. This would make room for healthy ideas which the person could acquire in the asylum.⁵⁰ In alienation from their natural habitat, mentally ill persons would profit from the recommended therapeutic

40 Goldstein, 1987, pp. 84-85.

41 Idem, p. 85.

42 Porter, 1997, pp. 494, 496.

43 Shorter, 1997, p. 12.

44 Goldstein, 1987, p. 86.

45 Idem, p. 87; Porter, 1997, p. 496.

46 Goldstein, 1987, p. 88; Pinel, 1801, pp. 237-238.

47 Conolly, 1856, pp. 19-20.

48 'Une maison d'aliénés est un instrument de guérison; entre les mains d'un médecin habile, c'est l'agent thérapeutique le plus puissant contre les maladies mentales'. Esquirol, 1838b, p.133.

49 Esquirol, 1838b, pp. 312-334.

50 Porter, 1997, p. 502.

environment.⁵¹ Esquirol had a profound influence on psychiatry. For instance he taught psychiatry to medical students which provided him with a platform for his ideas. Another example of his influence is the French law established in 1838 demanding that each department created a public asylum for the less fortunate insane, which was based on the recommendations in his *Mental Maladies*.⁵² The views of Pinel and Esquirol on the therapeutic potential of asylums led to reforms and changing beliefs throughout Western Europe in the nineteenth century.

In England a similar development took place with the founding of the York Retreat in 1796. This famous charitable madhouse was founded by William Tuke (1732-1822) and his son Henry Tuke (1755-1814), members of the local Quaker community. The York Retreat was renowned for its gentleness and friendly care. It was believed that patients confined at home naturally feel resentment, because family members treat them in a different manner. Sometimes patients are unaware of their condition and do not understand why they are treated so differently, making it appear cruel to them. According to Samuel Tuke (1784-1857), the son of Henry Tuke, ‘the estrangement of his affections may frequently be the natural consequence ... In such cases, the judicious kindness of others appears generally to excite the gratitude and affection of the patient’.⁵³ Although he was a layperson, some contemporary authors consider his writings the most famous document in the history of psychiatry.⁵⁴ John Conolly (1794-1866) was a British psychiatrist who was a clear advocate of Moral Treatment. In his *Treatment of the insane without mechanical restraints* he described the horrors of the old way to treat the insane. Following this, he gave an in-depth description and several examples of the new or non-restraint system, as he called it.⁵⁵

In the Netherlands, professor and physician Jacobus Ludovicus Conradus Schroeder van der Kolk (1797-1862) played a central role in reforming the treatment of the insane (*krankzinnigen*).⁵⁶ He became the resident physician of an Asylum in Amsterdam (Buitengasthuis) and began treating the insane using methods that were in line with Moral Treatment, abolishing physical punishment and restraint.⁵⁷ Instead, Schroeder van der Kolk treated patients medically to improve their physical condition, and focused on improving their mental health by gentle methods like therapeutic conversations.⁵⁸ Inspired by the work of Schroeder van der Kolk the so-called First Insanity Act was adopted in the Netherlands in 1841 (*eerste krankzinnigenwet* 1841) labelling existing institutions either as medical asylums or repositories for the chronic, incurable

51 Shorter, 1997, p.13.

52 Esquirol, 1838a: 1838b.

53 Tuke, 1813, pp.135-136.

54 Shorter, 1997, p. 21.

55 Conolly, 1856.

56 Vijselaar & Bolt, 2012, pp. 12, 52.

57 Idem, p. 112.

58 Schroeder van der Kolk, 1826.

insane that would eventually disappear. Persons could be admitted to asylums with a court order after a statement by a medical specialist. To be officially recognized as a medical asylum, institutions had to meet several requirements and were reformed accordingly. Bernhard Hendrik Everts (1810-1883) was the first medical superintendent of the Meerenberg institution, the first newly designed medical asylum in the Netherlands which opened in 1849.⁵⁹ During study travels to other institutions abroad he was impressed by the policies of non-restraint and humane treatment. Meerenberg was the first modern mental health care institution in the Netherlands and was a role model both at home and abroad.⁶⁰ From the early beginning, restraint was not used in the institution. If all other methods failed, disruptive patients could be isolated to calm down. Also other elements of Moral Treatment were used, the treatment became more humane and patients were given daily activities.⁶¹ Daniel Hack Tuke (1827-1895), the son of Samuel Tuke, visited Meerenberg in 1853 and wrote about the building and the living conditions. 'The effect produced by the building itself is as little prison-like as possible, and the size of the panes the largest I have ever seen.(...) The bedrooms were extremely clean, the rooms extraordinarily very lofty indeed, and those of the better classes elegantly furnished.' With respect to the policy of non-restraint he wrote: 'Dr E. is very anxious entirely to abolish what is understood as "Restraint", and thinks he will succeed in doing so'.⁶²

With the Moral Treatment, attention grew for more humane treatment of mentally ill. However, treatment in the asylums was generally more focused on changing the environment and atmosphere than aimed at improving insanity by individually focused therapy. The large influx of patients in psychiatric hospitals during the nineteenth century which led to overcrowding contributed to this.

6 The general role of psychiatry in criminal proceedings

6.1 Forensic medicine, focus on the body

At first, forensic legal medicine focused primarily on the assessment of various physical injuries. Medical doctors only assessed wounds on living persons, later on they also studied corpses by visually inspecting them without dissection of the body. The Netherlands were the first country on which it was reported that forensic medical investigation was used.⁶³ This focus on physiology and bodily

59 Vijselaar, 1997.

60 Vijselaar & Bolt, 2012, pp. 291-298.

61 Vijselaar, 1997.

62 Letter of 24 August 1853 by D.H. Tuke about his visit to Meerenberg Asylum to his father S. Tuke.

63 Placzek, 1905, p. 757.

injuries continued to dominate forensic medicine well into the nineteenth century.

At the beginning of the nineteenth century, the practice of forensic medicine in the Netherlands was poor.⁶⁴ This led to several judicial developments. In 1815, a Royal Decree was issued, demanding that forensic medicine had to be taught at each Dutch university.⁶⁵ Three years later, forensic medical examination could only be executed by sworn district physicians.⁶⁶ However, the government failed to install those physicians, making it impossible to implement the decree. Anthonij Moll (1786-1843), the first professor of forensic medicine, criticized the deplorable state of forensic psychiatry in the Netherlands compared to other Western European countries. This criticism resulted in a three-volume textbook of forensic medicine for physicians and legal experts.⁶⁷ In his introduction he even speaks of inexcusable ignorance (*onverschoonbare achterlijkheid*).⁶⁸ In 1865 the Dutch government, in the person of the liberal Johan Rudolph Thorbecke (1798-1872), drew up four important medical laws. In these four laws, the discipline of forensic medicine was only explicitly mentioned in the second law, regarding the obtaining of a medical degree. There it was required that the medical exam should also include forensic medicine.⁶⁹ This marginal attention for the forensic field is remarkable given the deplorable state of forensic medicine in the Netherlands in the first half of the nineteenth century and the growing awareness of this. Thorbecke was of the opinion that this discipline should not fall under state supervision, because the purpose of this law was primarily hygienic supervision and improvement of the health care system.⁷⁰ He believed that forensic medicine was a separate field and could not be dealt with in general health care acts, but required its own specific legislation.⁷¹ In the course of the 19th century the focus on forensic medicine grew, although forensic psychiatry as a separate specialization initially received less attention.

6.2 Starting point of forensic psychiatry, growing attention for the mind

In the first half of the nineteenth century, most Dutch textbooks (mostly translations of or based on German books) on legal medicine still mainly focused on physical ailments rather than mental illnesses, only briefly mentioning the

64 Kerkhoff, 2004, p. 5.

65 Besluit, waarbij de organisatie van het hooger-onderwijs in de Noordelijke Provinciën wordt vastgesteld [Decree in which the organization of higher education in the Northern Provinces is determined], 2 August 1815.

66 Besluit, houdende verordeningen, betrekkelijk het doen van geregtelijke schouwingen [Decree containing regulations concerning judicial inspections], 15 July 1818.

67 Moll, 1825-1826.

68 Moll, 1825, p. XXII.

69 Wet van 1 juni 1865, *Stb.* 1865, 59 [Act of 1 June 1865, *Bulletin* 1865, 59], Art. 5 sub d.

70 Kerkhoff, 2004, p. 6.

71 *Idem*, p. 19.

condition of the mind of a person.⁷² Moll's textbook of forensic medicine was a positive exception. In the first volume of his three-volume work, he devoted an elaborate chapter on diseases and disorders of the soul (*zielsziekten en zielsaandoeningen*).⁷³ In the course of time, awareness of mental illnesses did grow in the Netherlands, inter alia due to the work of Pinel and Esquirol on instinctive monomania.⁷⁴ This led to the realization that a person could commit a crime, but at the same time be under the influence of irresistible impulses and therefore be exculpated for his or her actions. An important contribution to this growing awareness came from Etienne-Jean Georget (1795-1828), one of Esquirol's students. In 1825 he published a text in which he discussed what he believed to be miscarriages of justice in some notorious criminal cases.⁷⁵ According to Georget, courts had convicted mentally ill murderers out of ignorance and a fear of exculpating simulants, ignoring the fact that there could be cases of homicidal monomania (*monomanie-homicide*).⁷⁶ His work resulted in a public controversy and a growing number of defence pleas regarding homicidal monomania.⁷⁷ In France, his writings almost immediately produced effect with the exculpation of a servant girl Henriette Cornier who had murdered the child of her employer based on homicidal monomania.⁷⁸ In the Netherlands, lawyers also tried to have their clients exonerated based on homicidal monomania. For example in 1842 in the case of a 48-year old woman who was accused of attempted homicide of her former employer who was soon to be her husband and also of theft.⁷⁹ Despite the lawyer's appeal to homicidal monomania, she was sentenced to death, pardoned only because the murder had failed.⁸⁰

The realization that the insane should not be punished for criminal acts can be seen as the starting point of forensic psychiatry.⁸¹ In the early nineteenth century, more and more courts appealed to medical examiners to distinguish sane from insane perpetrators. On the other hand, in those early days of forensic psychiatry, it was also recognized that there was a down side to this strengthening belief in insanity. The inevitable dangers of a doctrine that assumed some form of innate urge or predisposition for every crime, invalidating the power of the law and using legal medicine to cover up crime turning asylums into safe havens, was recognized.⁸² Although forensic experts gained ground, in the Netherlands total acquittals because of insanity (article

72 For example Van der Meersch Bosch, 1814, p. XI.

73 Moll, 1825, pp. 270-467.

74 See Section 7.1.

75 Georget, 1825, p. 1.

76 Idem, p. 72.

77 Van Ruller, 1991, p. 24.

78 Gazette des tribunaux, 23 June 1826 (case of Henriette Cornier); Goldstein, 1987, pp. 165-166.

79 Müller, 1843.

80 Provincial Court of Justice North Holland, 11 November 1842 (case of Helena Schauwecker).

81 Mooij, 1991, p. 8; Porter, 1997, p. 501.

82 Thyssen, 1826, p. 358.

64 Code Pénal) were not frequent in the early nineteenth century.⁸³ However, in the mid-nineteenth century some young female firesetters were acquitted or discharged from prosecution based on their mental condition (pyromania), which was laid down in a general textbook on criminal law.⁸⁴

7 A medico-legal background on firesetting in the first half of the nineteenth century

7.1 *Pyromania, an irresistible impulse*

At the beginning of the nineteenth century Pinel introduced a new form of insanity. During his study of the insane in the Parisian asylum Bicêtre, he came across persons with a kind of mania in which the emotional faculties of a person were affected only while the intellectual faculties remained intact. He observed that those persons were dominated by a kind of instinctive fury, as he called it.⁸⁵ He called this form of mental illness mania without delirium (*manie sans délire*).⁸⁶ His disciple Esquirol elaborated on this notion, and around 1810 used the term monomania (*monomanie*) to describe the concept of partial insanity (*délire partiel*).⁸⁷ He distinguished between several types of monomania, in which respectively the intellect, the emotions or the will are disturbed (see Table 3.1).⁸⁸ First he recognized cases in which a person acts rationally and logically and draws reasonable conclusions but those rational thoughts and conclusions are based on a faulty belief, delusions or hallucinations. He referred to this condition as intellectual monomania (*monomanie intellectuelle*). The term affective monomania (*monomanie affective*) refers to a form of insanity in which the intellectual faculties are sound, but the mental abilities are affected. With rational explanations, persons justify their disturbed emotional state and bizarre behaviour. Other authors refer to this as reasoned monomania (*monomanie raisonnante*). Finally, in instinctive monomania (*monomanie instinctive*) the will of a person is damaged. Actions are not controlled by the will and are involuntary, irresistible and instinctive. This is the equivalent of Pinel's mania without delirium.

83 Van Ruller, 1991, p. 26.

84 Van Deirse, 1860, p. 122.

85 'Qui étoient dominés par un sorte d'instinct de fureur', Pinel, 1801, p. 150.

86 Pinel, 1801, p. 149.

87 Goldstein, 1987, p. 153.

88 Esquirol, 1838a, p. 332.

Table 3.1. Several types of monomania described by Esquirol

Type of monomania	What is distorted	Described by others
Intellectual monomania	Intellect	
Affective monomania	Emotions	Reasoned monomania
Instinctive monomania	Will	Mania without delirium

In his description of concrete forms of monomania Esquirol devoted a paragraph to incendiary monomania (*monomanie incendiaire*). Because of a lack of experience with this form of monomania, he borrowed the information from the work of Charles Chrétien Henry Marc (1771-1840)⁸⁹ on incendiary monomania.⁹⁰ Marc was the first to use the term pyromania to describe a propensity to set fire, which he believed was the result of a fire perversion. In his opinion this morbid preoccupation with fire could become very intense.⁹¹ Marc made a distinction between reasoned pyromania (*pyromanie raissonnante*) and instinctive pyromania (*pyromanie instinctive*), where the conceptualization is similar to the affective monomania and instinctive monomania that Esquirol described.⁹² Reasoned pyromania stems from an erroneous belief, whilst in instinctive pyromania a person is involuntarily driven by an automatic impulse. In his opinion, reasoned pyromania is easier to find than instinctive pyromania, because instinctive monomania is almost always connected with an abnormal physical state so little apparent that it is often impossible to grasp.⁹³ Reasoned pyromania is more deeply rooted in a person than instinctive pyromania, because setting a fire does not put an end to the faulty reasoning and (temporary) healing is never the result of actual firesetting, as is the case in instinctive pyromania.⁹⁴

In England, James Cowles Prichard (1746-1848), a famous ‘mad-doctor’, believed that lunatics could have a mental disorder with a ‘destructive propensity’ to set fire. He saw this disordered firesetting as a form of ‘moral insanity’ caused by an irresistible impulse ‘to commit injury or do mischief of all kinds’.⁹⁵ In subsequent work, relying heavily on Marc, Prichard described this propensity to set fire as an instinctive madness which he also called pyromania.⁹⁶ He believed that pyromania was not a frequent phenomenon in England, sharing the opinion of many English scholars of that time.⁹⁷

89 He was the physician that declared Henriette Cornier a victim of homicidal monomania (see Section 6.2).

90 Marc, 1833, pp. 367-484.

91 Idem, pp. 391-392.

92 Idem, pp. 378, 393, 410.

93 Idem, p. 393.

94 Idem, p. 398.

95 Prichard, 1835, p. 404.

96 Prichard, 1842, p. 142.

97 Idem, p. 148; see also Andrews, 2010a, p. 247.

Because of his pioneering work Marc is often viewed as the ‘father of pyromania’.⁹⁸ However, many years earlier in Germany insane incendiaryism was recognized and described.⁹⁹ At the end of the eighteenth century Ernst Platner (1744-1818) was the first to publish an article on firesetting.¹⁰⁰ In this and following writings in the early years of the nineteenth century, he gave case descriptions of persons suffering from, as he called it, a desire for fire (*Feuerlust*). He regarded it as a type of ‘*amentia occulta*’, a condition in which the intelligence is unaffected but the conduct and feelings are disordered, similar to the concept of monomania. Although in the following years his alleged cases of pyromania were disputed, his work encompassed all the relevant intertwined elements of which pyromania was believed to consist: the desire for fire as a form of instinctive monomania, the disturbed pubertal development, and the lack of motive for the act of firesetting.¹⁰¹

7.2 ‘Fired up’ teens, or firesetting caused by irregular development

The belief that the impulse to set fire was caused by disturbed somatic and psycho-sexual development, and that arson was therefore primarily an offence committed by adolescents, flourished among most early commentators.¹⁰² An interesting explanation for pathological firesetting in developing pubescent youth from both sexes was provided by Friedrich Benjamin Osiander (1759-1822), a German gynaecologist and obstetrician. He believed their lust for fire to be the result of an extraordinary desire for light caused by changes in blood flow due to puberty. According to him, the arterial blood is drawn to other (reproductive) organs, while the venous blood accumulates in the brain. This darker, more carbonaceous blood desensitizes the optical nerve, making the stimulus of strong light pleasurable for the person.¹⁰³ Although Osiander at first described this disturbed blood flow and resulting desire for light as a danger for both sexes, in later work he put emphasis on the female sex, especially referring to the darkening of the blood which was believed to precede menstruation.¹⁰⁴ The puberty theory with an emphasis on young women was influential in the first half of the nineteenth century.

In the Netherlands Henricus Franciscus Thyssen (1787-1830), a physician in Amsterdam, also described what he called a desire for firesetting (*brandstichting-zucht*). He believed that there was a connection between the desire for firesetting and impaired sexual development as well, especially among young

98 Lewis & Yarnell, 1951, p. 9.

99 Andrews, 2010a, p. 245.

100 Platner, 1797 cit. by Jessen, 1860, p. 9.

101 Jessen, 1860, p. 17.

102 Andrews, 2010a, p. 245.

103 Osiander, 1813, p. 108.

104 Osiander, 1818, pp. 195-197.

girls in whom the menstruation was overdue or irregular.¹⁰⁵ Thyssen described several cases in which young girls committed arson, while they had not started having their period yet or suffered from irregularity. An explanation for this he sought in the work of Osiander.

Another influential author on firesetting which devoted attention to young persons and in particular young female firesetters is Adolph Christian Heinrich Henke (1775-1843), a student of Osiander. He was a German physiologist and pathologist, and is often viewed as the founder of legal medicine in Germany. In a medical legal handbook he wrote a chapter about the tendency to set fire as a result of irregular development whilst reaching adulthood.¹⁰⁶ Henke described twenty cases of firesetting by young adolescents. Six cases he borrowed from different volumes of Platner's *Quaestiones medicinae forensis* (Questions of Forensic Medicine).¹⁰⁷ Fourteen case descriptions stemmed from volumes of the annals of legislation and jurisprudence published by Ernst Ferdinand Klein (1744-1810), a German jurist.¹⁰⁸ Using those twenty cases Henke elaborated on the connection between firesetting and puberty, noting the frequency in which children in their early teens set fires. He stated: 'The in young people frequently manifested desire for fire and the inclination to set fire, is often the result of an irregular physical condition, particularly an irregular organic development during the approach of or at the time of occurrence of puberty'.¹⁰⁹

Henke acknowledged the importance of a good evaluation of the mental state of a firesetter in court and the value of a proper diagnosis of irregular development causing firesetting. Therefore he gave the following rules as a guideline for court physicians in the assessment of such cases:¹¹⁰ the firesetter is around 12-20 years of age; the firesetter shows symptoms of irregular development; there might be coinciding sexual developments; physiological symptoms are often present; and criminal responsibility can be lacking even if there are no signs of mental impairment and the juvenile appears to be sane.

First of all, the age at which the pathological desire for fire and inclination to set fire manifests itself is generally between twelve and twenty. Obviously, in order to be caused by an irregular development, the age of the firesetter must correspond with the phase of puberty. However, Henke did notice that sometimes puberty symptoms start earlier even at the age of ten, especially in girls. On the other hand, the inner development in some cases can last until the age of twenty-four, even if the external development appears to be finished. Second, symptoms of irregular development must be examined, like rapid growth in length at an early age or unusually delayed growth, glandular swellings, rashes

105 Thyssen, 1826, p. 360.

106 Henke, 1817.

107 Platner, 1797-1811.

108 Klein, 1788-1809.

109 Henke, 1817, p. 116.

110 Idem, pp. 122-128.

and unusual fatigue. Third, the examiner must pay attention to developments in the sexual organs which might have coincided with the firesetting, especially the menarche or irregularity of menstruation in girls. Henke believed that these developmental processes indicate cerebral impairment at the time of the offence. Fourthly, Henke described physiological symptoms which he believed occurred frequently in disordered young firesetters as indicators of irregular pubertal development. These consist of symptoms of impaired blood circulation, like intense flashes, irregular pulse, a strong rush of blood to the head, and dizziness. Also symptoms of disturbed nerve activity, manifested by involuntary muscle movements, spasms and convulsions, were believed to be frequent. These symptoms often co-occurred with signs of impaired mental function, like sudden fluctuations in the state of mind with melancholy, crying without any cause and sleep disturbances. Henke concluded his instructions for court physicians with the fifth notion, drawing attention to cases in which persons do not show apparent signs of mental impairment before the firesetting, appear to behave in a planned and organized manner, are capable of answering all questions during interrogation properly and remember their act and may well admit even the intention to take revenge as a motive. He warned court physicians that even those circumstances are not sufficient evidence to prove that those persons possessed freedom of self-determination and are criminally responsible for their act of firesetting. Henke stated that a desire for fire (*Feuerlust*) can act as a single irresistible impulse dominating the person and arising instantly and unexpectedly without warning, from physical developmental irregularities often during menstrual periods, directing the person into firesetting.

Other German scholars who agreed with Henke and Osiander that pyromania was a disorder frequently seen in combination with irregular pubertal development, especially in girls, were amongst others Georg Heinrich Masius (1771-1823), August Albrecht Meckel (1790-1829) and Samuel Gottlieb von Vogel (1750-1837).¹¹¹ Moreover, Meckel was the first who described pathological firesetting as a separate disorder called instinctive firesetting (*Brandstiftungstrieb*), in his *Beiträge zur gerichtlichen Psychologie* (Contributions to legal psychology).¹¹²

7.3 Firesetting, an unexpected lightning strike?

In the early years firesetting was believed to imply insanity when there was an irresistible impulse to set fire without any motive.¹¹³ Under those circumstances it was believed that the firesetting behaviour was caused by pyromania. This belief of an irresistible desire or urge to set fire, without the act of arson being explained by understandable motives, was based on the notion that pyromania was seen as a distinct monomania. Pyromania was thus considered an irrational

¹¹¹ Donkersloot, 1855b, pp. 1-2.

¹¹² Meckel, 1820.

¹¹³ Lewis & Yarnell, 1951, pp. 9-10.

act and therefore perceived as motiveless.¹¹⁴ Masius for instance believed that to determine whether an insane urge or desire to set fire existed, it was sufficient for two conditions to be met. First, there had to be symptoms of irregular development.¹¹⁵ Second, absolutely no motive like anger, wrath, vengeance, hatred or mood was to be discovered.¹¹⁶ He acknowledged the fact that those motives, like wrath, hate and revenge, anger and the childish wish to pull a prank, could be present in cases of firesetting. However, according to Masius, those motives distinguished more criminal firesetting from pathological firesetting due to an irresistible impulse.¹¹⁷ Henke's fifth notion about 'Feuerlust', described above (paragraph 7.2), shows that even in cases where a person admitted to have acted out of revenge, this confession of a sane motive could be disregarded. Henke believed the firesetting in those cases could still be the result of irregular pathological development leading to exculpation from criminal responsibility.¹¹⁸ This shows that the idea of absence of motive was strongly rooted in the early theories about pyromania. Even if a sane, understandable motive like revenge was mentioned, this could and would easily be discarded.

7.4 Pubertal problems questioned

German physician Von Vogel raised questions about the authenticity and distinctiveness of the diagnosis of pyromania, because he saw many cases of firesetting in which he did not find pyromania. He believed that pyromania was only present if the irresistible impulse to set fire coincided with a want of criminal motive, making the lack of motive a distinctive feature of pyromania.¹¹⁹ With his observation that firesetting is not in every case the result of a state of insanity, Vogel opened up the discussion about the existence and appearance of pyromania. In Germany the psychiatrist Carl Friedrich Fleming (1799-1880)¹²⁰ was the first to oppose the existing beliefs about pyromania. In his famous writing on the existence of an insane desire for fire which he called firesetting drive (*Brandstiftungstrieb*), he first discussed the assumed frequent occurrence of firesetting in young, pubertal youth, especially girls, on which the whole puberty theory of pathological firesetting was founded.¹²¹ Even if firesetting is frequent among youngsters, Fleming wondered whether this should be explained by assuming a pathological disorder of the mind associated with sexual development, as was done by Henke and Masius and followed by others.

114 Barnett, 2005, p. 11.

115 See Section 7.2.

116 Masius, 1821, p. 81; differently stated in Barnett, 2005, p. 15.

117 Described by Fleming, 1830, p. 260.

118 Henke, 1817, pp. 127-128.

119 Von Vogel, 1825, pp. 161-162.

120 In other (secondary) sources often spelled as Flemming.

121 Fleming, 1830, p. 261.

He described five other possible explanations for firesetting in youth:¹²² First, frequent characteristics in persons around the age of puberty are recklessness, thoughtlessness and the inability to fully understand the consequences of their behaviour. Playing with fire can be seen in this context. Second, youths also tend to act rowdily and with intent, which can result in secretly causing harm to others to harvest malicious pleasure. Furthermore, they are sensitive and vulnerable to real or supposed insult, but weak and helpless in openly opposing their adversaries. This can result in feelings of weakness, which in turn can lead to a desire for revenge. Fire is then the agent of choice to inflict harm in a secretive, indirect manner. Third, more advanced youths have the tendency to defy others who believe themselves superior and can therefore set fire as a means to make themselves heard. For example, a young man set fire after he heard the comment on a previous fire that probably hardly anyone would come to commit the same act. Fourth, arson is a crime which can be committed in secrecy. A person who wants to address his or her problems can very easily affect a large number of persons who did not take part in what caused their suffering and generate great effect, without directly confronting and holding accountable the person who, for example, insulted them. Finally, the fifth alternative explanation for firesetting in youths provided for by Fleming is the cowardice and weak malice of undeveloped youth and particularly young girls. By setting fire the youngster can secretly seek justice or indemnification by taking revenge, whilst this does not require special powers. In contrast, the more mature criminal is self-aware and confident of his power and uses violence and weapons in direct confrontation. Therefore arson, as well as theft, is a youth crime, whilst murder most often is committed by mature men.

In his concluding remarks, Fleming stated that an insane desire for fire caused by an irregular sexual development is unlikely. He explained the frequent firesetting in youths by psychological peculiarities of that developmental stage in general and in particular by the characteristics associated with firesetting. He did recognize the possibility that impaired sexual development may give rise to psychological disorders, which in turn can cause firesetting tendencies. However, he believed there is no automatic link between gender development and firesetting. In the rare cases in which sexual development is linked to the setting of fire, this is only possible if there are bodily disturbances and irregularities, a complete lack of motive, and signs of insanity.¹²³

Other important criticism of the belief that there existed an insane form of firesetting caused by developmental age was provided for by Friedrich Julius Siebenhaar (1802-1862), a physician in Dresden. Like Fleming, he recognized the fact that experience showed firesetting was overrepresented in young persons, especially in girls, although empirical data were lacking.¹²⁴

122 Fleming, 1830, pp. 262-264.

123 *Idem*, pp. 282-283.

124 Siebenhaar, 1844, pp. 267-268.

His explanation for this fact is partly based on the work of Franz Arnold Heinrich Brefeld (1796-1866) on crimes often committed by youth.¹²⁵ Brefeld described puberty as the developmental phase in which, apart from positive accomplishments, also bad qualities and passions can develop. The youngster is more in touch with the outside world and conflicts may arise. However, courage and strength are still in development, and this is reflected in the type of offences committed by youth. For firesetting strength and courage are not required, the fire can be set secretly. Brefeld believed a causal relationship existed between young age and firesetting; however this is not the result of a mental disorder due to developmental disturbances, but the lack of maturity.¹²⁶ Siebenhaar expanded this explanation to include instances in which fires are set for reasons other than weakness and ignorance only. He referred to firesetting as a result of lack of self-esteem, manifesting itself through sensitivity to insults, pride and a desire for freedom, the wish to imitate behaviour of others – which can explain the quick spread of firesetting in a certain area – and homesickness which arises around this age because many young individuals leave their parental home to become servants and maids and use firesetting as a means to return to the parental home.¹²⁷ According to Siebenhaar, the fact that children with a disturbed sexual development set fires must be seen as an accidental manifestation of this illness, and not as caused by it.¹²⁸

7.5 Firesetting with a reason

Although Fleming criticized the puberty theory of pyromania, he still believed that in those rare cases of insanity-driven firesetting by youth, a lack of motive was required. However, this belief in the absence of an understandable, sane motive was also under discussion in the first half of the nineteenth century. Johann Ludwig Casper (1796-1864), a German legal physician, disputed this in his treatise with the revealing title *Das Gespenst der sogenannten Brandstiftungstriebes* (The ghost of the so-called desire for firesetting).¹²⁹ He pointed out the importance of viewing motive from the perspective of the offender, and not of the general public. The fact that a serious act is motivated by an apparently insignificant reason does not imply that the perpetrator must therefore be insane.¹³⁰ Furthermore, he believed that firesetting is mostly motivated by homesickness and the desire to end employment as a maid or servant. In many other cases of alleged pyromania, the act of firesetting was motivated by revenge for apparently insignificant affronts which were,

125 Brefeld, 1842.

126 Idem, pp. 90-92.

127 Siebenhaar, 1844, pp. 273-274.

128 Idem, p. 283.

129 Casper, 1846, pp. 251-389.

130 Idem, p. 289.

however, very significant to the offender. More difficult are the cases in which no other motive than simply the will to see a large fire or similar expressions were found. Those cases were often labelled motiveless, whilst Casper referred to the underlying motive of the human desire to assert oneself, the will to make one's own personality known. Also in cases where the offender stated that he had acted because he could not rest before he had set a fire or because he felt a sudden urge to do so, Casper referred to the probability of an underlying motive. In those cases Casper believed this urge or need to set fire should not be seen as the expression of a mental illness, but as the voice of an evil inclination.¹³¹ So according to Casper, firesettings are normally psychologically motivated (mainly by homesickness and revenge). In cases where no normal motive is found, the possibility exists and must be acknowledged that it lies hidden. If a diagnosis of pyromania is given too quickly, this hidden motive can go unnoticed. According to Brefeld, this is especially a risk in the case of young firesetters, because this group of offenders acts out of vastly different motives than adults. From an adult perspective, the reasons underlying their act are so heterogeneous and unusual, that adults may not even recognize them.¹³² However, that does not mean that these motives are non-existing.

7.6 Pyromania, a resistible impulse?

Where pyromania originated from the concept of monomania and was based on the assumption that it was a form of irresistible impulse originating from a partly affected mind, I would like to conclude the criticism of pyromania with the doubts about this concept which arose in the first half of the nineteenth century. An important adversary who specifically addressed this issue was Hermann Eberhard Friedrich Richter (1808-1876), a German physician and botanist. He re-analysed the cases of pyromania described by Platner, Henke and others and showed that in almost all cases no pyromania existed.¹³³ Only one case remained in which, according to Richter, an actual form of pathological firesetting was present. This was the case of Magdalena Klein, a sixteen-year-old servant girl who seemed obsessed by fire, playing with it and spending much time at the fireplace, who set multiple fires at the place she worked. She suffered from irregular menstruation, and declared that after her period stopped completely, here fire madness started. After treatment her menstruation restarted and her obsession with fire ceased. She declared to have acted out of an irresistible compulsion and was acquitted because it was assumed that her free will had been restricted by a physical illness.¹³⁴ The majority of perpetrators in firesetting cases analysed by Richter showed some

131 'Die Stimme der Böse Neigung', Casper, 1846, pp. 291-298.

132 Brefeld, 1842, p. 94.

133 Richter, 1844, p. 106.

134 Settegast & Ulrich, 1825.

awareness of the act, structured planning, consultation, memories of what had happened, actively trying to avoid being caught and denial, this contradicting the childish, pathological subconscious instinctive drive which was believed to underlie pyromania.¹³⁵ Casper also denied the existence of an automatic and instinctive urge to set fire in cases where no apparent motive could be found. He pointed out that those fires were motivated by self-assertiveness instead of an instinctive, blind, involuntary urge.¹³⁶ Siebenhaar's answer to the controversial question he had raised on the existence of an insane urge for firesetting in developmental youth was negative. He concluded by stating that such an instinctive and irresistible craving to set fire could not be proven by experience nor theory.¹³⁷ This statement by Siebenhaar gains strength, when keeping in mind that he was previously a believer of the existence of an insane desire for firesetting in youth.¹³⁸

7.7 Pyromania as a cause of criminal irresponsibility

Based on the work on monomania by German scholars like Platner and Henke, around the beginning of the nineteenth century some German provinces ruled that monomania was a legal proof of insanity. In France a similar regulation regarding monomania was implemented in the Code Pénal in 1838, inspired by the work of Pinel and Esquirol, and Georget.¹³⁹ Pyromania, as a kind of monomania, was thus recognized as a possible cause of criminal irresponsibility. In addition, the widespread belief about the existence of an irresistible impulse to set fire especially in developmental youth resulted in an ordinance from the German Minister of Justice in September 1824 to all Prussian courts, requesting that in every case of arson committed by young persons, a medical report be made.¹⁴⁰ With this decree, the puberty theory of Henke and others gained legislative value.

The first Dutch Criminal Code recognized that criminal responsibility could be lacking under certain circumstances. When a person was completely deprived of his mental faculties, he could not be held criminally responsible. In the subsequent French Code Pénal this exculpation by means of insanity was also recognized for persons in a state of insanity or forced to act by an irresistible pressure. However, at the beginning of the nineteenth century Dutch textbooks focused on physical rather than mental disorders and paid little attention to the condition of the mind of a person.¹⁴¹ In addition to his criticism of the deplorable state of forensic psychiatry in the Netherlands, professor of forensic medicine

135 Richter, 1844, p. 105.

136 Casper, 1846, pp. 296-297.

137 Siebenhaar, 1844, p. 282.

138 Donkersloot, 1855c, p. 1.

139 Goldstein, 1987, pp. 164-165; Lewis & Yarnell, 1951, p. 9.

140 Donkersloot, 1855c, p. 1.

141 For example Van der Meersch Bosch, 1814, p. XI.

Moll described several mental causes of firesetting in the first volume of his work, indicating that firesetting at that time was perceived as a possible reason to declare legal insanity. Moll described firesetting caused by a distinct form of ‘melancholia’, a form of mental alienation (*verstandsverbijstering*). This form of ‘melancholia’ is characterized by insanity that initially is completely hidden and outer symptoms cannot be found, but is nevertheless present. In some cases, it can be concealed until a person suddenly acts up and commits arson. According to Moll, this notion is similar to the ‘*amentia occulta*’ described by Platner in which the mental alienation lies hidden and the regular external characteristics of madness are missing.¹⁴² Another mental cause of firesetting described by Moll is stupidity or ‘*imbecillitas*’ (*onnozelheid*). According to Moll, the simpleton is, among other things, thoughtless, careless, without imagination, timid, fearful, cowardly, full of self-love and complacent. As examples of this mental disorder, two cases of arson were given.¹⁴³

The puberty theory of firesetting also thrived in the Netherlands. Moll referred to the morbid conditions of the mind which could arise from irregular bodily development, in both sexes, around the onset of puberty. This often led to a judicial medical examination, in particular with regard to the peculiar irresistible urge to set fire, which he believed to be frequent in persons of that age.¹⁴⁴ Around that time, Thyssen explained firesetting in young girls by their irregular development, using the work of Osiander.¹⁴⁵

In the first half of the nineteenth century, unexplainable firesetting was therefore seen as a reason for criminal irresponsibility in Western Europe and the Netherlands. Moreover, this led to many judgments of insanity, especially among young offenders. However, towards the end of the first half of the nineteenth century this almost automatic exculpation based on insanity was criticized. One form of criticism focused on the instrumental use of the insanity defence to avoid the often harsh penalties. Antagonists of the puberty theory of firesetting explained the frequent diagnoses of pyromania by the often severe criminal penalties which could be imposed upon firesetters, and not by the actual presence of a disorder. Siebenhaar for instance stated that out of compassion young persons, who in Germany could be fully punished from the age of fourteen, were declared irresponsible to save them from the executioner or lifelong imprisonment.¹⁴⁶ In the first Dutch Criminal Code and the following Code Pénal, the act of deliberate arson was also punishable with the death penalty. Casper questioned this humanity of physicians by emphasizing the sanity of arson offenders. Instead of lack of motive he introduced the motive of self-assertiveness, because he viewed motivation from an offender perspective.

142 Moll, 1825, pp. 331-332.

143 Idem, pp. 375-380.

144 Idem, pp. 403-404.

145 Thyssen, 1826, p. 360.

146 Siebenhaar, 1844, pp. 268-269; see also Casper, 1846, p. 253.

The fact that a serious act is motivated by an apparently insignificant reason does not imply that the perpetrator must therefore be insane.¹⁴⁷ In the Netherlands, Thyssen also pointed out the risk that the law can be invalidated, if for every offence an innate urge is assumed trying to exculpate the perpetrator.¹⁴⁸ However, his cautious remarks did not stop him considering some forms of arson a reason for legal insanity.

7.8 Pyromania and the Dutch courts

In the Netherlands, pyromania was seen as a possible reason for exculpation of criminal responsibility, especially amongst young female offenders. In this section, two judgments from Dutch courts regarding young female arsonists are discussed in order to illustrate the general view on firesetting and pyromania in the Dutch courts. The first case is from 1840 and is the infamous case of Marretje Moonen.¹⁴⁹

Case 1: Marretje Moonen

Marretje Moonen was a twenty-year-old maid employed by a farmer and his wife. In the evening of 23 July 1839, Marretje was fired after a disagreement with the woman she worked for. After spending the night, she left the homestead first thing in the morning. However, she returned the 24th in the afternoon to gather her belongings. Afterwards she went to the kitchen and took a piece of burning peat and placed this in the haystack which stood in the barnyard. She confessed and was arrested and accused of arson, for which the Attorney General demanded the death penalty. She stated that when she returned, suddenly and unexpectedly the thought to set fire occurred to her. She claimed that she did not know why she committed the offence and lacked any motive, like revenge. She also reported the greatest remorse about her act. This was contradicted by witnesses who stated that Marretje had previously threatened that she would take revenge if she were fired. This allegation was strongly denied by her. Marretje was examined by two physicians, including Schroeder van der Kolk, who noticed that the act she committed was not completely involuntary and free, nor the result of revenge and evil intentions, but showed all the signs of an unnatural and involuntary tendency to set fire, which was accepted as a special kind of madness. The physicians found a 'sickly constitution and irregularities in the natural bodily functions, causing a more or less persistent flow of blood to the brain, as a result of which she has become very limited and impeded in the free use of her mental faculties and therefore has unthinkingly yielded to a pathological urge to commit arson'. Based on this conclusion, the Provincial Court of Utrecht judged that she had committed the act in a state of insanity, and

147 Casper, 1846, p. 289.

148 Thyssen, 1826, p. 358.

149 Provincial Court of Justice Utrecht 29 July 1840; Donkersloot, 1855f, p. 1; Koenraad, 2007, p. 38; Van Goltstein, 1840; Vijselaar & Bolt, 2012, p. 402.

pursuant to Article 64 of the Code Pénal she was discharged from any further prosecution.

That Marretje was exculpated, even though many circumstances like her previous vindictive behaviour and mental capacities pleaded against insanity,¹⁵⁰ gives a good impression of the then-dominant view of insane female arsonists driven to commit their act by an irresistible, pathological urge. Furthermore, this case illustrates the then-dominant belief on monomania in the Netherlands.¹⁵¹

Another case, in which a young female committed arson and was eventually exculpated, is the case of Antje van Harten.¹⁵²

Case 2: Antje van Harten

Antje van Harten was a nineteen-year-old girl who was working as a maid. She tried to leave her employment, supposedly because of sexual advances by her master. She made several unsuccessful attempts to leave. The first, on 11 October 1842, was foiled by the police who brought her back two days later after she tried to get work at a brothel, whether this was as a cleaning lady or a prostitute remains unclear. That same night she left once more and eventually ended up at the police station yet again and was brought back a week later. Five days later, 23 October 1842, she drowned the two-year-old son of her employer, willingly throwing him head down in a muddy ditch. With this act, she intended to deliver such a fright to his wife that she would die, so Antje could marry her boss. Later on she withdrew this explanation of her motive. That did not happen and she left for the third time. Antje found other employment, but after four days she set fire to the hayloft of her new employer on 7 November 1842. She was arrested and interrogated by the police, whereupon she confessed the firesetting and the other crimes she had committed. Antje was tried for murder, robbery at the home of her master against a fellow servant and arson, committed in an occupied building. The trial took three days and twenty-four witnesses were heard, including her boss who admitted that he had kissed and held her inappropriately. The prosecution demanded the death penalty by strangulation on a pole, because Antje had committed the act out of a passionate desire and could therefore not be deemed insane. A professor and a physician who were commissioned by the court to examine her, did not find an illness of the mind or the body and stated that she had acted voluntarily and with a healthy mind. However, her defence lawyer argued, in a three-hour speech, that she could not be held responsible because she was driven by passion. He referred to authors

150 Donkersloot, 1855f, p. 2.

151 Vijselaar & Bolt, 2012, p. 402.

152 Provincial Court of Justice South Holland, 24 February 1844; Elaborately discussed by Poelstra, 1996, pp. 16-30; *Arnhemse Courant* 3 February 1844; *Nieuwe Amsterdamsche Courant, Algemeen Handelsblad* 3 February 1844 n° 3815; *Groninger Courant*, 6 February 1844 (vol. 103); *Bredasche Courant* 6 February 1844; *Dagblad van 's-Gravenhage*, 19 February 1844 n° 22; *Nieuwe Rotterdamsche Courant*, 19 February 1844 n° 22; *Nieuwe Amsterdamsche Courant, Algemeen Handelsblad* 29 April 1844 n° 3887.

like Moll, Thyssen and Esquirol and pointed out similarities with Antje's case. He claimed that her actions were caused by insane passion, which he believed to be a mental illness and appealed to Art. 64 of the Code Pénal. Although the prosecutor and forensic examiners deemed Antje to be fully responsible, the Provincial Court of South-Holland discharged her from any further prosecution for the acts of arson and theft, because she was in a state of madness whilst committing those crimes. For the murder she was acquitted because of lack of evidence. However, she remained in custody at the request of the Attorney General and was eventually placed in a madhouse for initially one year.¹⁵³

Again, this case shows the significance that was attached to the possible insanity of young females who committed arson. This belief was deeply rooted: even if forensic medical examiners could not find evidence of insanity, the Court could still find otherwise. How the severity of the punishment which could be imposed might have influenced this, remains unsaid.

Excursus

This chapter focuses on historical changes from a medico-legal perspective. However, this perspective does not take into account other more sociological and anthropological elements that are also of importance. Therefore, in this short excursus, some attention is given to environmental, cultural and social circumstances surrounding firesetting and firesetters.

First of all, the place where a fire is set is of importance. In the nineteenth century, the industrial revolution led to increasing urbanization in the Netherlands and Western Europe, a development that continued in the twentieth century and is still seen today. However, in the nineteenth century society was (still) predominantly rural. Whether arson is committed in a city or in a village is of importance for several reasons. The architecture is different with cities having more stone structures with tiled roofs, whilst farmhouses in the village often had thatched caps and wooden barns and were placed near other flammable structures like haystacks. On the other hand, the density of buildings is much higher in the city. A fire in a village could have devastating effects and ruin a structure completely; however, spreading of the fire to other buildings would be less of a danger. A study by Schulte of 114 arson cases brought before the Munich court of assizes between 1879 and 1900 shows arson is predominantly a rural crime. Some cases described in this chapter also fit this picture, like the case of Marretje Moonen, a farm servant. Apart from architectural differences, the place where the fire is set usually determines the cultural background of both the arsonist and the victim(s).

153 This placement could be extended if requested by the Court or if deemed necessary to protect society, Wet van 29 mei 1841 houdende bepalingen omtrent de gestichten voor krankzinnigen, en de wijze hunner opneming in en ontslag uit dezelve, *Stb.* 1841, 20 [Act of 29 May 1841 laying down detailed rules concerning the asylums for the insane, and the manner of inclusion and discharge of the insane in these asylums, *Bulletin* 1841, 20].

That culture is of importance for understanding firesetting from a medico-legal perspective is also demonstrated by Schulte. She describes the village culture elaborately in relation to firesetting. Setting fire to a farm affects the centre of rural life; it usually ruins the farmer and affects his whole household (family, farmhands, and maids). Most firesetters were farmhands and day labourers who depended on the farmers for their livelihood and after feeling unjustly treated (e.g. fired, falsely accused) they set fire out of revenge. This motive was acknowledged within the village culture. However, outsiders did not always see it that way, as was demonstrated by a psychiatric observation for the court of a farmhand that had set fire to his neighbour's house because she had accused him and his grandfather of theft. This accusation could have serious consequences for his livelihood and also threatened the family honour. As an act of retaliation the fire damaged her livelihood and made a statement against her false accusation. However, the psychiatrist came from a different culture, and looked at danger from a more individual viewpoint instead of looking at the specific cultural and social environment.

This case demonstrates that it must be kept in mind that the views on firesetting that are discussed in this chapter were developed in a certain time period by scholars and legal writers who were members of the upper class, highly educated and who mostly lived in urban environments. However, firesetters were typically lower class, badly educated, and often living in the country. Therefore, knowledge and insight into cultural and sociological background is important for a true understanding of firesetting and firesetters, a notion that equally applies to other phenomena.

8 Firesetting as a criminal offence: the new Dutch Criminal Code (1886)

In the implementation of a new Dutch Criminal Code in 1886, the death penalty for arson was officially removed from the text of the article. The offence of arson was placed in a chapter concerning crimes which endanger the general safety of persons or property.¹⁵⁴ Characteristic of the offences under this chapter is that it is impossible for the offender to exactly estimate the extent of the consequences of his actions in advance.¹⁵⁵ In case of intentional firesetting the intent of the firesetter does not have to be aimed at the consequences of the fire, only on setting the fire itself.¹⁵⁶ However, danger to persons or property must have been foreseeable (*gevaar was te duchten*). This means that, although not exactly known to the firesetter, objectively the risk at the time of the arson must have been predictable based on general experience. A distinction is made

154 Wetboek van Strafrecht Titel VII 'Misdriven waardoor de algemene veiligheid van personen of goederen wordt in gevaar gebracht' [Dutch Criminal Code Title VII 'Crimes that endanger the general safety of persons or property']; see Appendix 3.3.

155 Smidt, 1881, p. 115.

156 Idem, pp. 115, 117.

in consequences of the fire with danger of and actual damage to property or persons, leading to different punishments. Under this law, intentional arson which threatens property could be punished with a maximum of 12 years of imprisonment. Intentional arson which poses a threat to others could be sentenced with a maximum of 15 years of imprisonment, and a lifelong prison sentence or a maximum of 30 years could be imposed if another person actually died. The Dutch Criminal Code of 1886 was the first version of the current Criminal Code. Several amendments have been made since, but with regard to arson not much has changed. Under the present Dutch Criminal Code the maximum sentences are still the same.

9 The notion of criminal responsibility under the new Dutch Criminal Code (1886)

In the new Dutch Criminal Code Article 37 sub 1 provides an exception to the general notion of criminal responsibility. Based on this article an offender is only punishable if the offence can be attributed (*toegerekend*) to him. Lack of development or pathological impairment of mental faculties can be an obstacle to this allocation of responsibility. Attribution of criminal responsibility in this context is literally interpreted as ‘coming at the expense of the offender’. For absence of criminal responsibility by reason of insanity it is necessary that one has no notion that the conduct is unlawful and lacks insight in the possible consequences of the behaviour.¹⁵⁷ Unlike in the first Dutch Criminal Code, no diminished degrees of responsibility were recognized by the legislator. The cases in which a person is deemed not accountable were not clearly stated. No specific disorders or situations which should lead to a declared lack of responsibility are mentioned in the article. However, the legislator explicitly did not choose the word ‘insanity’, because causes of impaired development other than defective brain formation were considered possible. The phrase intellectual faculties (*verstandelijke vermogens*) was changed to mental faculties (*geestvermogens*) in 1925, bringing any pathological disorder or lack of development of any mental function within the scope of the article and not only abnormalities in the intellect.¹⁵⁸ The specific question in which cases there is a lack of development or pathological impairment of the mental faculties is left to the discretion of the court. Yet it is clear that it entails not only intellectual failures, but every pathological impairment or defective development of psychological function. This article is still part of the Criminal Code of the Netherlands. However, after a legislative amendment it is now numbered article 39.¹⁵⁹

157 Smidt, 1891, p. 366.

158 Wet van 28 mei 1925, *Stb.* 1925, 221 [Act of 28 May 1925, *Bulletin* 1925, 221].

159 Wet van 19 november 1986, *Stb.* 1986, 587 [Act of 19 November 1986, *Bulletin* 1986, 587].

10 The rise of modern psychiatry

10.1 *Development of biological psychiatry and its implications for treatment optimism*

Ever since the very first steps of psychiatry, multiple conceptions of mental illness existed alongside each other. One view, nowadays known as the bio-psychosocial model, emphasizes the psychological mechanisms due to social problems and personal and environmental stress as causing mental problems. Esquirol – an influential pupil of Pinel – for example can be seen more as a bio-psychosocial adherent, an aetiological model more dominant within Moral Treatment. He followed a multi-causal theory of mental illness and emphasized human passions. ‘The causes of mental alienation are as numerous, as its forms are varied. They are general or special, physical or moral, primitive or secondary, predisposing or exciting’.¹⁶⁰ He did recognize that causes of mental illness could be physical, but likewise believed in mental origins, as he wrote: ‘The causes of mania (...) are physical or moral’.¹⁶¹ On a more symptomatic level he did however believe that insanity was a cerebral affection.¹⁶² So according to Esquirol the causes could be non-physiological, but the consequence (insanity) is a physiological one. Another more extreme psycho-social devotee is Johann Christian August Heinroth (1773-1843), a German physician. He believed that body and soul interacted in several ways, with the soul dominating the body. In his view, mental illnesses, as well as many bodily diseases, are caused by the soul.¹⁶³

Another perception which arose after 1840 was biological psychiatry. Biological psychiatry believed that the origin of mental disorders must be sought in the brain and emphasized the neurosciences. The emergence of the natural sciences in the second half of the nineteenth century affected the developing field of psychiatry and favoured the biological movement.¹⁶⁴ Increasing biological and scientific influences on psychiatry and the notion that the more holistic approach as followed by Heinroth lacked scientific evidence, led to an even stronger focus on physical causes of mental illness and biological psychiatry was born. So, different views on aetiology existed, with emotions but also biology believed to cause mental illnesses. In general after 1850, most physicians believed to some extent in physiological causes of mental illnesses, leading to treatment being imbedded in a medical model, prescribed by physicians.¹⁶⁵

160 Esquirol, 1845, p. 30.

161 ‘Les causes de la manie, (...) sont physiques ou morales’, Esquirol, 1838b, p. 5.

162 Esquirol, 1845, p. 21.

163 Heinroth, 1818.

164 Mooij, 1991, p. 9.

165 Porter, 1997, p. 498.

Wilhelm Griesinger (1817-1868), a German neurologist and psychiatrist, is often described as the founder of biological psychiatry. In his handbook of 1861 he points out that insanity is only a symptom of an underlying physical problem. The locality of this problem, he situated in the brain. 'Physiological and pathological facts show us that this organ can only be the brain; we therefore primarily, and in every case of mental disease, recognize a morbid action of that organ'. 'Pathology proves as clearly as physiology, that the brain alone can be the seat of normal and abnormal mental action (...)'.¹⁶⁶ He saw insanity as an essential symptom of cerebral disease, which could be the result of internal causes or external lesions to the brain. The fact that in some exceptional cases serious cerebral disorganization and loss of brain matter is apparent, without any disturbance of the mind is dismissed by Griesinger stating that this findings, 'do not invalidate the results of our everyday experience'.¹⁶⁷

In Austria Theodor Hermann Meynert (1833-1892), a neuropathologist who became professor of psychiatry, devoted himself to scientific research of the forebrain. As a true biological psychiatrist, he viewed mental illness as resulting from cerebral deviations. He defined psychiatry as treating diseases of the forebrain instead of the traditional definition of treatment of the soul, because treatment of the soul could not be accomplished nor scientifically substantiated.¹⁶⁸ Meynert was a pioneer in the field of the microscopic study of brain anatomy. The focus on the brain as the seat of insanity and Meynert's influence on the anatomy resulted in a microscope-focused psychiatry dominating the last period of the nineteenth century.¹⁶⁹

This emphasis on biology and the search for biological explanations of physiological and neurological mechanisms of mental illnesses had resulted in increased attention for the aetiology of mental illness. However, the knowledge on actual treatment of the mentally ill lagged behind. Attention for the insane individual was lacking, partly because of pessimistic beliefs that most mentally disordered people could not be cured. Asylums were filled with long-stay cases and the optimism of the Moral Treatment movement was waning.¹⁷⁰ Beliefs regarding heredity and the degenerationist model of insanity contributed to this pessimistic view on treatment possibilities. Benedict Augustin Morel (1809-1873), a French psychiatrist, introduced the degenerationist model in his influential book, the *Traité des dégénérescence physique, intellectuelles et morales de l'espèce humaine* (Treatise on physical, intellectual and moral degeneration of the human species).¹⁷¹ In this book, Morel claimed that man has fallen prey to an on-going process of degeneration. He believed that the

166 Griesinger, 1867, pp. 1, 3.

167 Idem, p. 3.

168 Meynert, 1884, p. III.

169 Shorter, 1997, p. 79.

170 Porter, 1997, p. 510.

171 Morel, 1857.

residents of asylums all were more or less affected by a degenerative state, which could be deduced from the long duration of their illnesses influenced by a hereditary predisposition.¹⁷² Morel defined degeneration and degenerated persons as ‘a pathological deviation of the normal type of humanity’.¹⁷³ The process of degeneration consisted of the passing on of increasingly pathological traits to subsequent generations.¹⁷⁴ From a degenerationist point of view it was therefore believed that psychopathic traits were inherited and would get worse over generations.¹⁷⁵ At the end of the nineteenth century the treatment optimism which had flourished at the start of that century had almost completely been replaced by a deep-rooted pessimism.¹⁷⁶

10.2 Growing individuality and psychoanalysis, beginning of a new age

In the late nineteenth century new forms of psychiatry emerged. An important contribution to a new perspective on mental illness and psychiatry was made by Emil Kraepelin (1856-1926). He was a German psychiatrist who was interested in the course of mental disorders over time looking at psychological processes and opposed psychiatry that only paid attention to anatomy.¹⁷⁷ Instead of looking at the brain, he was more interested in describing illnesses from a longitudinal perspective. Unlike biological psychiatry which only seemed to be focused on symptoms, Kraepelin began to cluster symptoms into syndromes. He started to keep index cards of patients and was particularly interested in patterns of onset, course and outcome of various forms of mental illness.¹⁷⁸ Even today he is well known for his nosology of mental illnesses he outlined in ever growing textbooks.¹⁷⁹ Although Kraepelin paid attention to the individual course of the mental illness and did not incorporate aetiology in his nosology of mental illnesses, he still believed in biological underpinnings of mental disease and had low expectations about treatment efficacy.¹⁸⁰

Apart from Kraepelin’s integrative perspective with attention for the course of mental illness, a different more individualistic psychiatry arose, partly as a reaction against the deterministic and pessimistic beliefs held by the biological psychiatrists. The extensive research on brain anatomy and pathology had yielded almost no practical tools for the clinical practice of treating the insane.¹⁸¹ To change this, alternative treatment methods were sought. At the

172 Morel, 1857, p. VI.

173 ‘Une déviation malade d’un type normal de l’humanité’, Morel, 1857, pp. 5, 47.

174 Morel, 1857, pp. 5-6.

175 Rafter, 2008, p. 99.

176 Porter, 2002, p. 186.

177 Shorter, 1997, p. 101.

178 Millon, 2009, p. 22.

179 Kraepelin, 1921.

180 Porter, 1997, p. 513; Porter, 2002, p. 186.

181 Shorter, 1997, p. 103.

end of the nineteenth century hypnotism as a treatment option for insanity arose, inter alia by the work of Jean-Martin Charcot (1825-1893) in France. As chief physician of the asylum Salpêtrière and a leading neurologist he dealt primarily with a heterogeneous group of patients that did not fit existing pathologies. He classified them as hysterical or neurotic and used hypnotism as a diagnostic instrument with hysterical people being receptive to hypnosis.¹⁸² Charcot believed that in some cases, hysteria could be the ‘consequence of [psychological] traumatism’.¹⁸³ With the early work of Charcot and others on hysteria and hypnotism, new dimensions of the psyche were revealed, and a more dynamic psychiatry emerged.

The main contribution to dynamic psychiatry was provided for by psychoanalytic theory. In 1893, the basis for psychoanalysis was laid by Joseph Breuer (1842-1935) and his colleague at that time Sigmund Freud (1856-1939). In their *Preliminary communication* on hysteria, they described the causes of hysteria and possible treatment measures. They believed hysteria was caused by a provoking, disturbing event which the person subsequently repressed and therefore remained unresolved. Hypnotism was deemed necessary to jog these suppressed memories.¹⁸⁴ Breuer and Freud took Charcot’s belief on traumatic hysteria a step further; according to them not just in some cases hysteria is caused by a traumatic event, but almost every case of neurosis is preceded by some kind of trauma. Their studies revealed ‘for many, if not for most, hysterical symptoms, precipitating causes which can only be described as psychical traumas’.¹⁸⁵ At the end of the nineteenth century Freud believed that those traumas in female patients were sexual, making his ideas on ‘seduction theory’ public in a lecture on the aetiology of hysteria in 1896.¹⁸⁶ One year later he discarded this theory in a letter to his friend Wilhelm Fliess, declaring that those sexual experiences and seduction theories told by female patients were mostly based on erotic fantasies. Freud could not believe that every father was perverse and stated that ‘such widespread perversions against children are not very probable’.¹⁸⁷ This notion led to the development of his well-known Oedipus complex, which he disclosed a month later in a subsequent letter.¹⁸⁸ According to this concept, a child experiences erotic desires for the parent of the opposite sex and views the other parent as a competitor. This eventually leads to feelings of guilt and as a reaction, identification with the same-sex parent. Carl Gustav Jung (1875-1961) was another important figure in the psychoanalytic movement. He was a student of Freud, but disagreed with him on the influence of sexual desires on the subconscious. In 1913, this led to a break at a conference in Munich. Freud

182 Alexander & Selesnick, 1969, p. 225.

183 Charcot & Marie, 1892, pp. 639-640.

184 Breuer & Freud, 1895, p. 1.

185 Idem, p. 6.

186 Porter, 1997, p. 515.

187 Letter from Freud to Fliess, 21 September 1897, Masson, 1985, pp. 264-266.

188 Letter from Freud to Fliess, 15 October 1897, Masson, 1985, pp. 270-273.

held on to his beliefs of suppressed sexuality, whilst Jung viewed the libido as a psychological drive, with a highly religious content. Sexuality in his opinion was a symbol of the psychic totality of humans. Jung called his theory and method to put people back on the path of this totality analytical psychology.¹⁸⁹ The psychoanalytic movement resulted in more individualized psychiatry, but also contributed to the development of other movements within psychiatry, like humanistic and anthropological psychiatry.¹⁹⁰

In the Netherlands beliefs about congenital criminality and criminal anthropology were adopted by the Dutch psychiatrist and professor of psychiatry Gerbrandus Jelgersma (1859-1942). In 1892 he published an article called *De geboren misdadiger* (The born criminal) in which he emphasized the innate nature of crime.¹⁹¹ He was interested in brain anatomy and believed that criminals had abnormalities in their brain structure. He believed that those abnormalities could not be seen with the naked eye, but could be made visible by means of microscopy. He also believed external abnormalities were present and attributed this to signs of degeneration. In addition to his interest in criminal anthropology, Jelgersma became a follower of Freud and his psychoanalysis, which he incorporated in his teaching as well as in several publications.¹⁹² In the interwar period, Dutch psychiatry could be characterized by its plurality in the sense that various perspectives on aetiology and treatment of mental illness coexisted. Biological, social, and psychological models were used alongside each other and psychiatry was influenced by other sciences like neurology, psychology and sociology.¹⁹³ In this open climate psychiatry was influenced by other perspectives like psychoanalysis and phenomenology. The political situation in Germany during the thirties and the Second World War temporarily stagnated the development of psychoanalysis, which was gradually resumed after World War II. Psychoanalysis was influential well into the twentieth century. Pieter Cornelis Kuiper (1919-2002), an influential psychiatrist, made psychoanalysis renowned in the Netherlands with, among other things, his book on neuroses.¹⁹⁴

An important development in the Netherlands which deserves attention is the separation of the disciplines psychiatry and neurology at the end of the first half of the twentieth century.¹⁹⁵ Jelgersma for instance refused to teach neurology to medical students already in 1919, because he wanted to focus more on psychiatry.¹⁹⁶ This development led to a distinction in patients with

189 Jung, 1912.

190 Mooij, 1991, p. 13.

191 Jelgersma, 1892.

192 Jelgersma, 1914.

193 Vijselaar & Abma, 2010.

194 Kuiper, 1966.

195 De Waardt, 2001.

196 Jelgersma, 1919.

physiological diseases (neurology) and those who suffered from psychological illnesses (psychiatry).

11 The general role of psychiatry in criminal proceedings

11.1 Biology and a New Direction

The emergence of the natural sciences in the second half of the nineteenth century influenced psychiatry as a whole and therefore also affected forensic psychiatry. In the field of forensic psychiatry attention arose for biological and hereditary traits explaining the degenerative or ‘psychopathic’ behaviour, which at the end of the nineteenth century had become more and more synonymous with the disordered, often inconceivable criminal behaviour shown by examined individuals. An important contribution to this concept of psychopathy was provided by Julius Ludwig August Koch (1841-1908), a German psychiatrist. In 1888 he introduced the concept of ‘psychopathic inferiority’ (*psychopathische Minderwertigkeit*) in a short textbook of psychiatry. He elaborated upon this concept in a three-volume textbook entitled *Die psychopathische Minderwertigkeiten* (Psychopathic Inferiorities).¹⁹⁷ Koch included all mental irregularities, either hereditary or acquired, that did not represent mental illnesses, yet influenced the normal mental capacity within the notion of psychopathic inferiority, and described some conditions in the same way as we think about psychopathy today.¹⁹⁸ By the notion of psychopathy the possibility to be both mentally disordered and commit crimes became even more ingrained in legal thinking, confirming the growing importance of forensic psychiatry.¹⁹⁹

By the end of the nineteenth century, views and beliefs about insane criminals changed, inspired by what was called the ‘Nieuwe Richting’ (New Direction) in Dutch criminal law.²⁰⁰ In the classical orientation, responsibility and free will of the offender were central. Punishment served the goal of retribution and had to be proportionate to the offence and administered in a humane fashion. The new orientation had a more deterministic belief regarding offending and focused on effectively fighting crime and protecting society from dangerous offenders. It drew behavioural and social aspects into legal theory, giving attention to the offender instead of the offence. An important contribution to beliefs on determinism was made by Cesare Lombroso (1835-1909), an Italian criminologist. He believed that criminality was a deviation which was hereditary. Based on research among thousands of prisoners, Lombroso believed criminals had certain physical characteristics or abnormalities like

197 Koch, 1891-1893.

198 Saß & Felthous, 2007, p. 18.

199 Mooij, 1991, p. 10.

200 De Ridder, 1991, p. 36.

deep-set eyes, wide jaws and protruding eyebrows which he believed were evolutionary retrograde traits. An influential Dutch criminal anthropologist who was influenced by the work of Lombroso was Arnold Aletrino (1858-1916). He published several writings on criminal anthropology with a focus on biological and genetic traits in explaining criminal behaviour.²⁰¹ Beliefs about degeneration and psychopaths also influenced forensic psychiatry. Forensic psychiatrists were deemed necessary to select and possibly treat those dangerous individuals to minimize the risk to society.²⁰² This New Direction in the Netherlands had a legislative influence. Since the turn of the twentieth century, the government had worked on the 'Psychopathenwetten' (Psychopath Acts).²⁰³ These acts, which were implemented in 1928, made it possible to impose a correctional treatment measure in addition to a prison sentence, in cases of diminished responsibility. With these acts, the possibility to be partially responsible gained in importance, recognizing that offenders can be criminal yet mentally disordered at the same time, also in a diminished way.²⁰⁴ Until the Second World War, forensic psychiatry benefited from this focus on the offender and this individualizing approach.

12 A medico-legal background on firesetting in the second half of the nineteenth century

12.1 *Growing doubts, pyromania as a distinct disorder*

Although doubts with regard to firesetting driven by insanity and pyromania arose almost immediately after the work of Platner and other German scholars and the introduction of pyromania by Marc, in the first half of the nineteenth century the overall trend on the European Continent was still in favour of the existence of a disordered form of firesetting, called pyromania. The early criticism that arose mainly focused on assumed characteristics of pyromania, like puberty theory and want of motive, rather than on the existence of such a distinct disorder as a whole. In the second half of the nineteenth century, however, the existence of pyromania as a distinct disorder which could exculpate the firesetter was more widely questioned.²⁰⁵ One group of commentators still regarded pyromania as a separate mental disorder, though did not believe that all acts of pathological firesetting could be qualified as caused by pyromania.²⁰⁶ Another group of writers dismissed the diagnosis of pyromania completely,

201 Aletrino, 1892, Aletrino, 1893.

202 Mooij, 1991, pp. 10-11.

203 Psychopathenwetten, 25 mei 1925, *Stb.* 1926, 221 en 222 [Psychopath acts of 25 May 1925, *Bulletin* 1926, 221 and 222].

204 Mooij, 1991, p. 12.

205 Andrews, 2010b, p. 387.

206 See Section 12.2.

and believed that firesetting was caused by a more general derangement or that it consisted of a deliberate illegal (and therefore punishable) act.²⁰⁷ Antagonists and agonists of pyromania as a distinct disorder could not definitely win their plea and a third train of thought emerged, being more cautious in settling the question of the existence of pyromania as a distinct disorder. Based on the limited and in some cases even contradictory information about this subject, they refrained from making conclusive statements about whether or not pyromania was a distinct mental disorder.²⁰⁸ Although the controversial problems were never settled, interest gradually shifted from the desire to classify firesetting out of insanity into pyromania or more general mental illnesses, to the question of the psychopathology behind the act of pathological firesetting.²⁰⁹

12.2 Pyromania as a reasoned act

An important contribution to the acceptance of pyromania as a separate mental disorder and a summary of the state of affairs at that time is given by Peter Willers Jessen (1793-1875), a German psychiatrist. With his book *Die Brandstiftungen in Affekten und Geistesstörungen* (Incendiarism in mental affections and diseases) published in 1860 Jessen closed the discussion on pyromania for the time being.²¹⁰ He tried to end the terminological mess which was created by various classifications for insanity-driven firesetting caused by a lack of specific terms, to clear the way for scientific research.²¹¹ He made a distinction in two types of firesetting; firesetting stemming from an emotional condition on the one hand and mentally disordered firesetting on the other hand.²¹²

Jessen believed that firesetting committed by healthy individuals could be divided into firesetting out of normal, goal-oriented motives without strong emotions, like insurance fraud and covering up other crimes, and firesetting committed under the influence of emotions which limit or halt reason. According to Jessen, the motives for emotional firesetting (*Brandstiftung in Affekten*) were vengeance along with jealousy, fear, discontent, homesickness and wantonness. Knowledge of these emotional motives is important, to distinguish between what he considered to be healthy firesetting and mentally disordered firesetting.²¹³ The following case description given by him is exemplary.²¹⁴

207 See Section 12.3.

208 Geller, Erlen & Pinkus, 1986, p. 202.

209 Lewis & Yarnell, 1951, p. 14.

210 Barnett, 2005, p. 24.

211 'Es ist daher gewiss an der Zeit, diesen ganzen terminologischen Wust, der ohnehin bereits sehr in Misscredit gerathen ist, ganz fortzuschaffen und dadurch den Weg der wissenschaftlichen Forschung zu klären', Jessen, 1860 pp. 5-6.

212 Jessen, 1860.

213 Idem, p. 59.

214 Idem, pp. 60-61.

Case 3: described by Jessen

A fourteen-year-old boy from a very poor family was sent out begging. One night he went begging at a farm, but was chased away with a whip by two brothers who also unleashed the dog that bit the boy. The boy was very resentful and wanted revenge by setting fire. Nonetheless, his conscience withheld him from doing so. However, when he sees the brothers walking down the street twenty years later, he carries out his initial plan. He finally takes his revenge on the men who did not want to help him but instead hurt him, setting fire to the barn.

With this case Jessen indicated that even in instances where the act of firesetting seemingly came out of the blue, in some cases a sane motive could be deduced. He explicitly pointed out the danger of erroneous automatic deduction of a disorder like (instinctive) monomania, if the particular person did not confess his actual vengeful reasons for the act.²¹⁵

The second type is mentally disordered firesetting (*Brandstiftung in Geisteskrankheiten*). As stated by Jessen mentally disordered firesetting could also be committed out of normal or abnormal motives. The presence of a normal motive could therefore not be seen as proof against the existence of a mental disorder.²¹⁶ Jessen rejected the notion of instinctive monomania, because it was based solely on the absence of a normal motive and the lack of an unmistakable insanity, and no real positive indicators could be found.²¹⁷ Instead he used Fleming's classification of mental retardation and mental confusion (*Geistesschwäche und Geistesverwirrung*) to describe and classify types of mentally disordered firesetters. He did however accept the notion of reasoned monomania (*monomanie raisonnante*), as an essentially motivated act. 'The existence of this form of disease is without doubt, (...) therefore one could not deny the existence of pyromania'.²¹⁸ Other writers also recognized the fact that in most instances the act of firesetting appears to be reasoned, instead of instinctive.²¹⁹ However, writers like Baker did not regard this reasoning form of insanity as a distinctive diagnosis, as will be described in the following paragraph.

12.3 Dismissal of pyromania as a distinct diagnostic category

Griesinger was stronger in his criticism on previous writings and beliefs on pyromania. As one of the leading figures of psychiatry's biological movement in the second half of the nineteenth century, he described pyromania as a

215 Jessen, 1860, p. 62.

216 Idem, pp. 134-135.

217 Idem, pp. 2-3.

218 'Die Existenz dieser Krankheitsform ist zweifellos; (...) so könnte man die Existenz der Pyromanie nicht läugnen', Jessen, 1860, p. 2.

219 Baker, 1889, p. 47.

purely artificial classification.²²⁰ He believed that pathological firesetting is often committed by patients suffering from melancholia (*schwermüthigem Zustande*) with mental anxiety and general disturbances. The individual seeks relief by committing an outward, negative and destructive act to express their depressed state and thereby acquire some peace. Griesinger explained the fact that firesetting is chosen as a way to express emotions, by the mere circumstance that for those individuals who most often set fire, this method of acting out is most readily available and easy to execute. Young people, most often young servant girls, have free access to fire in their daily duties.²²¹ Griesinger discarded the diagnosis of pyromania²²² and instead pleaded for a careful psychological investigation in every case of firesetting behaviour to explore where this impulse originated.²²³ With his firm statements, Griesinger influenced many European specialists and made them cautious in using the term pyromania.²²⁴

In England, it mostly remained silent regarding the subject of pyromania after the work of Prichard in 1835 and 1842,²²⁵ and general textbooks on mental disease did not mention this condition.²²⁶ There is no single reason why British specialists at that time rejected pyromania, but the following factors could have played a role: the criticism of Griesinger and others on the existence of pyromania; symptom-led diagnostic nosologies became less and less accepted; case studies and experience with insane firesetters showed it to be more of an act committed by delusive, melancholic and mentally defected persons rather than impulse-defected ones; professional criticism on the overly lenient use of impulse-based defences to exculpate offenders; and the complicated, artificial diagnosis questioned the utility of pyromania in court.²²⁷ However, not all British writers dismissed pyromania, John Hutton Balfour Browne (1845-1921), a barrister, devoted attention to it in his textbook on medical jurisprudence of insanity.²²⁸ He believed pyromania to be a form of partial moral insanity.²²⁹ He described it as a ‘temporary excitement’, an irresistible propensity to set fire or look at burning, which he believed to be more present in girls than in boys around the period of puberty.²³⁰ Browne did mention however that not all cases of firesetting by those suffering from mental weakness should be regarded as pyromania, and he cautiously stressed the rareness of such a diagnosis.²³¹ In a

220 ‘Eine äusserliche Art der Zusammenstellung’, Griesinger, 1861, p. 272.

221 Griesinger, 1861, p. 273.

222 ‘Also keine Pyromanie!’, Griesinger, 1861, p. 273.

223 Griesinger, 1861, p. 273.

224 Andrews, 2010b, p. 388.

225 See Section 7.1.

226 Barnett, 2005, p. 27.

227 Andrews, 2010, p. 388.

228 Browne, 1871, pp. 148-153.

229 Idem, p. 122.

230 Idem, pp. 149-150.

231 Idem, pp. 149, 153.

Dutch textbook on forensic medicine for physicians and legal specialists, the existence of pyromania was again questioned. In that book it was stated that firesetting can be a symptom of a more general mental illness, but that a morbid tendency to set fire could easily be simulated. Pyromania was seen as one of the most often wrongly assumed monomanias, undermining this diagnosis.²³²

An important contribution to British reasoning on pyromania was given by John Baker (1861-1939), superintendent of the Broadmoor asylum. In his work on firesetting, or incendiarism as he called it, he rejected the term pyromania and claimed it to be ‘misleading’.²³³ He studied the cases of 103 persons (95 males and eight females) who set fire and were admitted to the asylum in the course of 22 years (1864-1886), showing that incendiarism most frequently occurred among ‘congenital imbeciles’ and ‘melancholiacs’ and thus not under the influence of pyromania.²³⁴ Baker agreed with the common ideas in England and Germany around that time, that pyromania, or the morbid impulse to burn, is the result of other forms of insanity, rather than a distinct diagnosis. In D.H. Tuke’s famous *A dictionary of psychological medicine*, Baker explicitly stated: ‘As a rule English observers appear to agree with the views held by many of the German writers - viz., that it is not a disease *per se*, but the result of some of the well-known forms of insanity, and this view we are inclined to support’.²³⁵ This means that at the end of the nineteenth century, many prominent writers in Western Europe dismissed the diagnosis of pyromania and perceived firesetting behaviour as a symptom of other mental disorders.

12.4 Organic pathology and degeneration

The increasing influence of biological psychiatry in the second half of the nineteenth century resulted in a growing interest in the biology underlying all kinds of mental diseases and insane behaviour. This evolution is reflected in the development of biological explanations for the act of pathological firesetting. An important explanation was sought in the disorder of epilepsy. In the study of Baker, four of the 95 men admitted to Broadmoor for setting fire had epilepsy, and he believed there was an association between incendiarism and epilepsy.²³⁶ Epilepsy was believed to cause periods of insanity, which could lead to firesetting as was described by the German psychiatrist Richard Freiherr von Krafft-Ebing (1840-1902).²³⁷ Case descriptions were given to underpin this association, e.g. the case of a man who set fire to a barn in an epileptic semiconscious state, having no recollection whatsoever of what happened

232 Koster, 1877, p. 109.

233 Baker, 1889, p. 47.

234 Idem, p. 48.

235 Baker, 1892, p. 1057.

236 Baker, 1889, pp. 48-49.

237 Von Krafft-Ebing, 1875, pp. 191, 206-207.

during his epileptic seizure.²³⁸ Apart from epilepsy, another physical ailment was believed to be associated with firesetting behaviour, namely general paresis.²³⁹ In Baker's study, six of the 95 male patients who set fire suffered from this neuropsychiatric disorder affecting the brain and central nervous system.²⁴⁰

In the mid-nineteenth century the degeneration doctrine emerged. This doctrine was introduced in 1857 by Morel in his *Traité des dégénérescence physiques, intellectuelles et morales* (Treatise of physical, intellectual and moral degeneration).²⁴¹ The degeneration process consisted of the passing on of increasingly pathological traits to subsequent generations.²⁴² This degeneration doctrine influenced the beliefs on insane acts in general and therefore also the beliefs on insane firesetting. One type of mental degeneration associated with firesetting was the 'impulsive madness' (*impulsiven Irreseins*). According to Von Krafft-Ebing, this state of mental degeneration is characterised by the mechanical, automatic acting of a person, without being fully aware of it. The act could come as a surprise, even to the actor and is impulsive, instinctive and somewhat compulsory.²⁴³ As an example, Von Krafft-Ebing described a case of firesetting committed by a 22-year-old man in which he concluded that it was an impulsive act, often seen in degenerates.²⁴⁴

Case 4: described by Von Krafft-Ebing

In an impulsive state, a 22-year-old man set fire to the carriage house of the castle where he lived. He wanted to end his life by throwing himself into the flames. At that time he was incapable of feeling any emotion, but was still able to reflect on the situation ('Von dem Momente an war ich ganz ausser Gefühl, besass jedoch die Besinnung'). The grandfather of this man was insane and his mother had a brain disease. What is more, the man often thought about death, experienced fainting and unprovoked mood swings, was noticeably absentminded, his facial nerves were unequal and he had a quiet and closed nature.

Known for his highly influential nosology of mental illnesses Kraepelin also paid attention to 'impulsive madness' which he classified as a psychopathic condition or degenerative insanity.²⁴⁵ According to Kraepelin, the category of impulsive madness consisted of all the forms of degeneration insanity

238 Von Krafft-Ebing, 1875, p. 215.

239 This disorder is also known as paralytic dementia. It was later discovered that this disorder was caused by a syphilis infection.

240 Baker, 1889, pp. 48, 50.

241 Morel, 1857, p. VI.

242 Idem, pp. 5-6.

243 Von Krafft-Ebing, 1875, p. 170.

244 Idem, pp. 172-174.

245 Kraepelin, 1899, pp. 557-562.

in which morbid inclinations and impulses developed. These may either permanently dominate the will of a person or emerge under certain conditions. The person has no clear motive, simply because he feels the irresistible drive to take action. It therefore happens that his actions often seem unplanned and without a purpose, being caused by a suddenly arising and immediately executed often very unclear drive.²⁴⁶ Kraepelin described particular cases where the pathological drives only emerged in a specific direction. He saw the tendency to set fires as the most common. According to him, this tendency was observed especially in young persons of the female sex before and during puberty. Sometimes this morbid pleasure in blazing fire and the irrepressible desire to see such a fire could be traced back to childhood.²⁴⁷ The parallel with instinctive monomania is clear. Kraepelin stated that the notion of impulsive insanity played an important role as the basis of the monomania doctrine in an earlier developmental stage of psychiatry.²⁴⁸ Kraepelin thus shared the beliefs of Von Krafft-Ebing that the act of firesetting was associated with impulsive madness and could be caused by degeneration.

12.5 Pyromania as a cause of criminal irresponsibility

The growing criticism on the existence of a distinct disorder causing firesetting behaviour in the second half of the nineteenth century was reflected in legislative and judicial changes. The German ordinance of September 1824, requiring that the Prussian courts issued a medical report in each case of arson committed by youngsters was questioned by the scientific deputation of medicine, of which Casper was a member. The decree was originally ordained at the instigation of that same committee. However, changing views on the existence of pyromania as a distinct disorder urged them to withdraw their earlier statements. They announced that the existence of an irresistible urge to set fire with physical causes must be rejected as untenable.²⁴⁹ With this announcement, they explicitly changed their standpoint on pyromania. The Minister of Justice agreed with this announcement and responded with the withdrawal of the decree, stating that no longer in *every* case of arson committed by persons aged twelve to twenty a medical exam was required. This was again left to the discretion of the court.²⁵⁰

Before 1850, most English work ignored pathological firesetting completely or did not give it any significant coverage. In the second half of the nineteenth century, this did not change much and the psychiatric literature covered singular

246 Kraepelin, 1899, p. 557.

247 Idem, p. 557.

248 Idem, p. 561.

249 Announcement of the scientific deputation of medicine, Berlin: 8 October 1851; see also Donkersloot, 1855d, pp. 1-2.

250 General Regulation on the method of examination of juvenile arsonists, Berlin: 30 November 1851; see also Donkersloot, 1855d, p. 2.

case studies only.²⁵¹ Moreover, most British experts denied the existence of pyromania as a separate disorder. This was reflected in their views on firesetting and criminal responsibility. As Baker put it: ‘There are no sufficient grounds for supposing that pyromania is a disease *per se* (...) It is requisite that some other evidence of insanity be forthcoming, in order that the incendiary may be held irresponsible for his misdeeds’.²⁵²

In the Netherlands, the waning beliefs in the diagnosis of pyromania also influenced the views on criminal responsibility of firesetters. In 1855, Dutch physician and author on forensic medicine Nicolaas Bernhard Donkersloot (1813-1890) devoted a series of articles on pyromania in the *Geneeskundige Courant* (Journal of Medicine), of which he was the editor in chief. In twenty parts, Donkersloot extensively discussed the existence of pyromania and its relevance to criminal responsibility. In Donkersloot’s opinion, monomanias did not exist as a cause of criminal inculpability, which should have legal consequences. From a practical point of view, Donkersloot believed that punishing a person who committed a crime completely under the influence of an irresistible idea is less reprehensible than exposing society to the dangers such a person could inflict, if left unpunished. He stated: ‘One can keep a dog, a horse, and many other animals, by punishment and chastisement, from evil practices; one can accustom a fool and a madman, by discipline and punishment, to order and decency; and even though the punishment that is imposed on the monomaniac might not cure him of his specific urge to commit some criminal act, undergoing the punishment will at least: 1. prevent that the convict has the opportunity to indulge in his extraordinary impulse for a certain amount of time, 2. give society the satisfaction that its laws cannot be violated without retribution, and finally, 3. gives the perpetrator the opportunity to find peace of mind in the silence of solitude and bring his blind urges to tranquillity, which in the free world found so many reasons for turmoil’.²⁵³ Donkersloot concluded by stating that pyromania, after all a form of monomania, did not exist, and that cases of firesetting out of insanity stemmed from either deliberate acts and passions or were part of one of the types, under which insanity occurs in general.²⁵⁴

251 Andrews, 2010a, p. 247.

252 Baker, 1892, p. 1060.

253 ‘Men kan een hond, een paard, en menig ander dier, door straf en tuchtiging van kwade streken terug brengen; men kan een idioot en een krankzinnige, door tucht en bestraffing, aan orde en betamelijkheid gewinnen; en al moge de straf, die men den monomaan oplegt, hem al niet genezen van zijnen bepaalden trek tot het plegen van eenig feit, dan zal het ondergaan van die straf toch dit uitwerken, dat zij: 1. Den veroordeelde eenigen tijd buiten de gelegenheid stelt, toe te geven aan zijne buitengewone aandrift, 2. De maatschappij de genoegdoening geeft, dat hare wetten niet onvergouden overtreden worden, en eindelijk 3. Dat de speelbal zijner blinde drift, in de stilte der afzondering, kalmte kan vinden in het gemoed, hetwelk in de vrije wereld zoo vele elementen tot beroering vond’, Donkersloot, 1855h, p. 2.

254 Donkersloot, 1855e, p. 2.

12.6 *Pyromania and the Dutch courts*

In the second half of the nineteenth century the views on pyromania as a cause of criminal irresponsibility changed remarkably. With the devaluation of the diagnosis of pyromania the almost automatically assumed criminal irresponsibility in cases of arson, especially among young girls, disappeared. Although the possibility of other disorders was recognized, this shift in perception did have consequences for those who committed arson. The trend in this period favoured punishment over treatment, even if a person could not be held fully accountable for the act. This was the case in the criminal proceedings of Lambertus Coppelaars.²⁵⁵

Case 5: Lambertus Coppelaars

Lambertus Coppelaars was a 29-year-old man who committed several acts of arson in the winter of 1852 and 1853. The first fire he set to a shed on 5 January 1852 well over seven o'clock in the evening, which spread to a nearby house, destroying it completely. He started the second fire on 18 January that same year at around seven o'clock in the evening. This time, Lambertus set fire to a haystack. This fire was discovered in time, and could be extinguished before the nearby house fell victim to the flames. With the third act of arson, Lambertus set fire to a house. Again this fire started at around seven in the evening. The major of the town suspected Lambertus because he gave contradictory statements. To substantiate this suspicion, he hired Lambertus to secretly investigate what people thought about the fire and whether there were suspicions against possible perpetrators. He would have to report daily to the major. After a while, Lambertus stopped reporting his findings. The policeman subsequently confronted him with his suspicions against him, whereupon he confessed in tears that he had started the fires. The first fire he started out of revenge, because he did not get the wage he was entitled to. The second fire, again, was started out of revenge. This time because the owner, who was responsible for the care for the poor, did not give him what he wanted. The last fire he set out of poverty, to create an opportunity to steal something or earn something by rebuilding the destroyed property.

Although these motives seem plausible, the court felt that the acts of arson were committed without a specific or plausible purpose. The court believed that the reasons given by him, did not justify such a reaction. The fact that the fires all took place around the same time of the year and the peculiar appearance of the perpetrator increased the suspicion of insanity. Therefore, a medical examination was carried out. The physicians found no distinct mental disorder, but noticed little mental strength and limited willpower. According to them, although Lambertus had acted in a more or less vengeful manner, the reasons of his vengeance were so minor that only in persons with such a limited mental

255 Donkersloot, 1855g, p. 2; Provincial Court of Justice North Brabant, 27 April 1854; Supreme Court, 18 July 1854.

development and complete lack of morals as Lambertus, this could give rise to such acts. They took into account the fact that he had been neglected since early childhood and did not develop any sense of morals, and found him to lack full criminal responsibility. The Provincial Court of North Brabant nonetheless convicted Lambertus Coppelaars for repeated arson and sentenced him to death. Lambertus appealed to the Supreme Court, but this appeal was dismissed because no memorandum of cassation had been filed. The King pardoned him, converting his death sentence into a workhouse sentence for 20 years.

This case was described by Donkersloot as an example of a case in which an urge to set fire was suspected and medical experts believed that diminished responsibility was present, but the firesetter was still sentenced to death.²⁵⁶ This clearly indicates the shift in paradigm with respect to the legal assessment of firesetters. Punishment gained importance over treatment.

More in general, the historical developments regarding forensic psychiatry influenced medical examiners. At the end of the nineteenth century Dutch physicians examining alleged criminals as commissioned by the court were heavily influenced by biological pathology and the degeneration doctrine, particularly by the writings of Von Krafft-Ebing and Kraepelin. If a person deviated to some extent from the normal standards, he or she was considered to be a 'degenerative' and explanations for mental disorders were sought in pathological abnormalities in the brain and nervous system. For example, in a judicial report from 1896 physicians described the 'pathological cranium' of a subject who underwent a pre-trial forensic assessment, reflecting the then-influential beliefs on degeneration and criminal anthropology.²⁵⁷

13 A medico-legal background on firesetting in the first half of the twentieth century

13.1 Pyromania: shifting attention

At the turn of the twentieth century, consensus emerged about pyromania as a symptom of more general insanity, rather than a distinct diagnosis. However, during the first quarter of the twentieth century a minor revival of the theory of pyromania as a distinct disorder could be seen, especially in the US.²⁵⁸ This was in part influenced by the translation of Kraepelin's work on impulsive madness. In Europe this re-emergence of pyromania was not seen, as pyromania as a distinct diagnosis was still contested and seldom used.²⁵⁹

256 Donkersloot, 1855a, p. 1.

257 Pouw, 1985, p. 12.

258 Geller et al., 1986, p. 209.

259 Andrews, 2010b, p. 393.

Although the question of whether or not pyromania was a distinct disorder dominated the second half of the nineteenth century, around that time the focus already began to shift from the possible distinctiveness of pyromania to the psychopathology underlying the act of insanity-driven firesetting.²⁶⁰ This trend continued well into the twentieth century. However, the amount of scientific attention and publications dedicated to the subject of firesetting caused by insanity was significantly less in the first half of the twentieth century than in the nineteenth century.²⁶¹ Before 1890 there were over 130 contributions on pyromania in the 'Index Catalogue of the Library of the Surgeon General's Office', dissertations not included, whilst in the twentieth century negligible attention was given to pyromania.²⁶²

Apart from the research regarding the underlying pathology, possible motives for firesetting were studied. Here we can speak of a marked change with respect to the first half of the nineteenth century, where many scholars considered pathological firesetting a motiveless act. Since the beginning this had been questioned by several writers and in the second half of the nineteenth century the work of Jessen all the more confirmed the belief that pyromania was a reasoned act.²⁶³ In the twentieth century, this generally accepted belief led to a growing interest in those motives. Various motives were believed to underlie firesetting behaviour, ranging from revenge to homesickness. Around this time, attention was also given to subconscious motives that might be present.

Another important field of interest with regard to insanity-driven firesetting in the first half of the twentieth century was the research regarding various causes of firesetting behaviour. A distinctive early-twentieth century explanation for pathological firesetting was based on abnormal sexuality. Other influential explanatory theories on firesetting were based on single causes, like homesickness or a sole pathology.

13.2 Searching for underlying pathology and overt motives

The position of psychiatry regarding pyromania in the early twentieth century was generally clear. Overall, pyromania was seen as a possible symptom of varied mental conditions.²⁶⁴ However, the question remained under which psychological conditions this symptom would occur. This led to a growing interest in underlying pathology and motives. At the end of the nineteenth century, Baker had already looked into the pathology underlying firesetting behaviour as he studied the diagnoses of 103 firesetters admitted to Broadmoor asylum. With his study he demonstrated that firesetting out of insanity most

260 Lewis & Yarnell, 1951, p. 14.

261 Barnett, 2005, p. 33.

262 Lewis & Yarnell, 1951, p. 8.

263 Jessen, 1860.

264 Mönkemöller, 1912; Schmid, 1914, p. 81.

frequently occurred among ‘congenital imbeciles’ and ‘melancholiacs’.²⁶⁵ However, he mainly used these diagnoses to confirm that pyromania did not exist as a distinct condition. Subsequent scholars devoted more attention to those underlying pathological conditions, like the German psychiatrist Otto Mönkemöller (1867-1930). As a man of his time, he criticized earlier beliefs on pyromania stating: ‘The history of pyromania remains forever a cautionary story for the uncritical generalization of such vague, theoretically unsophisticated and scientifically improvable concepts’.²⁶⁶ He wondered whether there really existed an appreciable percentage of firesetters that limited their criminal activity to arson, that did not fall within the usual types of mental illness and in which the historically based and up to then still relevant desire for fire (*Feuergier*) was present in some form.²⁶⁷ Mönkemöller stated that in order to gain knowledge on the psychology underlying firesetting, it is necessary to study a large sample of firesetters without any omissions and certainly including those firesetters that are seen as mentally ‘normal’.²⁶⁸ In his study, he examined cases of firesetting and tabulated the diagnoses and main motives in 240 case reports, of which he saw 46 himself and extracted the other 194 case reports from cases described in the literature, starting as early as the writings of Platner in 1797 regarding ‘amentia occulta’ and ending in 1911 with one of his own cases.²⁶⁹ First he noted that the urge to set fire (*Feuerlust* or *Feuergier*) was found in only 13 of the 240 cases and that in 91 cases only a single act of firesetting had been committed, questioning the belief that firesetting always stems from an inner impulse which has to be followed.²⁷⁰ In most of the cases a plausible motive had been given, and although these motives were often very meagre and depended heavily on the pathological state, they produced effect without the existence of an inner drive.²⁷¹ According to Mönkemöller revenge played a crucial role in 91 and was the main motive in 68 of the 240 cases; in another 71 cases no motive could be found (see Table 3.2 for an overview of all motives found).²⁷²

265 Baker, 1889.

266 ‘Die Geschichte der Pyromanie bleibt für alle Zeiten ein warnendes Beispiel für die Tätigkeit der kritiklosen Verallgemeinerung derartiger unbestimmter, theoretisch ausgeklügelter und wissenschaftlich nicht beweisbarer Begriffe’, Mönkemöller, 1912, p. 194.

267 Mönkemöller, 1912, p. 205.

268 Idem, p. 205.

269 Idem, pp. 286-302.

270 Idem, p. 284.

271 Idem, p. 285.

272 Idem, pp. 286-302.

Table 3.2. Main motives for firesetting found by Mönkemöller.

Main motive	N
Revenge	68
Psychotic state (including dreamlike states and urges)	42
Mischief	13
Fear	13
Suicide	9
Dissatisfaction	6
The wish to change accommodation	6
Criminal	6
Homesickness	4
Desire to find warmth	1
Firesetting out of love	1
No motive	71
Total	240

According to Mönkemöller, 222 of the 240 cases could be labelled as pathological. The most frequent diagnoses he found were imbecility and idiocy (32%); ‘dementia praecox’, ‘dementia paranoides’ and ‘paranoia chronica’ together accounted for 33 instances of firesetting (15%); epilepsy was found in 12 percent of the cases; chronic alcoholism in 9 percent and ‘hysteria’ and ‘melancholia’ both accounted for 8 percent of all cases. Other diagnoses Mönkemöller found were general ethical degeneracy, and ‘dementia senilis’ (both 3%), developmental delay and state of anxiety (both 2%), degenerative psychosis, traumatic psychosis, psychosis due to pregnancy, neurasthenia, mania, menstrual psychosis, chorea and multiple sclerosis (each 1%).²⁷³ So Mönkemöller did not find one particular mental illness which can be considered typical for firesetting. With regard to motives, he found several plausible motives. But these findings did not prevent him from considering all firesetters abnormal.²⁷⁴

Another German scholar who studied pathology and motives in firesetters was Heinrich Max Anton Johann Bernhard Többen (1880-1951), a physician who specialized in forensic medicine and was director of the Institute of Forensic Medicine and Criminology in Münster. For his research Többen used a sample different from Mönkemöller’s, as he studied 100 cases of firesetters based on 57 of his own reports and 43 fire insurance records. He found the following motives: Revenge and hatred in 38 percent of the cases; greed and distress in 22 percent of the cases; eleven percent of the fires were set with a psychotic motive; homesickness and the desire to escape a difficult and undesired situation like military service or imprisonment were each present in seven percent of the cases; in six percent the fire was set in conjunction with chronic alcoholism; in

273 Mönkemöller, 1912, p. 285.

274 Idem, pp. 309-310; see also Lewis & Yarnell, 1951, p. 20.

five percent out of enjoyment of fire or mischief; and in four percent of the cases the fire was set to conceal another crime. The most frequent diagnosis Többen found was psychopathic inferiority (*psychopathische Minderwertigkeit*).²⁷⁵ So offenders who were previously regarded as motiveless and pyromaniacs, were grouped under the concept of psychopathy instead of pyromania.²⁷⁶ Moreover, all acted with a certain motive.

13.3 Pyromania and covert motives

The overall belief that pyromania was a symptom of mental disorder led to research regarding the underlying pathology. However, the work of scholars like Mönkemöller and Többen not only specified underlying psychopathology but also motives for firesetting. This interest in motives revealed a problem which generated much attention. The question why firesetting was chosen as a way of acting out and discharging the psyche was not yet answered.²⁷⁷ Moreover, a discrepancy between the mostly insignificant motive and the immense consequences of the act of firesetting was noted, in normal as well as abnormal firesetters.²⁷⁸ Often the motives which were given by perpetrators were considered to be disproportionate to their act and the realization arose that there might be other, more hidden motives to account for that discrepancy.²⁷⁹ This resulted in continued research into the possible underlying motives of the act of firesetting, with special attention for subconscious reasons. In this regard the work of the Swiss physician Hans Schmid is important. He analysed cases of firesetting in the canton of Waadt in Switzerland, based on all firesetters in the cantonal penitentiaries, all court cases of arsonists in the previous 42 years and, where possible, the once convicted arsonists which had already been released from prison.²⁸⁰ This resulted in 216 arson cases, of which 159 were sufficient enough in detail to be used. Combined with cases derived from literature, his study covered 263 cases which he analysed to study, among other things, motive.

Schmid made a distinction between conscious and subconscious motives. Criminal motives like insurance fraud and firesetting to cover up other criminal activities were excluded, as well as firesetting to force a transfer to a more lenient prison regime or to commit suicide.²⁸¹ The first conscious motive Schmid discusses in detail was 'revenge'. Although this was seen as the main motive by many psychiatrists and legal specialists, Schmid only found revenge in twelve percent of the cases. And often this act of revenge had no relation to

275 Többen, 1917, as quoted in Barnett, 2005, p. 31.

276 Barnett, 2005, p. 31.

277 Schmid, 1914, pp. 81-82.

278 Mönkemöller, 1912, pp. 206, 215.

279 Stekel, 1922, p. 347.

280 Schmid, 1914, pp. 80-81.

281 Idem, p. 92.

the infliction suffered. The same striking disproportion between the indicated motive and the magnitude of the offence was seen in fires set out of ‘mischief’. Other conscious motives that Schmid found were ‘anger’, ‘self-assertion’, and ‘homesickness’.²⁸² However, in 56 percent of the cases he studied no plausible motive for the firesetting could be found. What is more, often in the cases where a motive was provided, no logical connection between the given motive and the committed act was present. According to Schmid, firesetters gave those implausible motives, which he called secondary motives or sham justifications, because of their need to explain unexplainable actions to themselves and others.²⁸³ Schmid believed that in particular those who set fire out of homesickness, but also other firesetters, seemed to act out of a compulsion which was unknown to them. Based on these observations Schmid came to the following conclusion: ‘Not conscious motives drive the firesetter to crime, but subconscious to himself inexplicable forces’.²⁸⁴ This conclusion led him to search his sample for subconscious, hidden motives. The ‘lust for fire’ (*Feuegier*) was present in 22 cases studied in literature and in five of the cases Schmid studied personally.²⁸⁵ Another important covert reason to set fire which was studied by Schmid was ‘sexual drive’ (*Geschlechtstrieb*). He believed this to be present based on the fact that firesetting was mostly committed in puberty, the fact that firesetting and sexual delinquency co-occurred during epileptic states of absence and the striking similarity in the passionate nature of threatening letters written by sexual delinquents and firesetters. In some cases the object which was set on fire had a direct link to their loved one or the firesetter acted out of (rejected) sexual love.²⁸⁶ Schmid not only gave insight into subconscious motives, he also gave several psychoanalytic explanations that may underlie firesetting behaviour. These are discussed in more detail in the next paragraph.

Another author who dedicated attention to underlying motives explaining firesetting behaviour is Wilhelm Stekel (1868-1940), an Austrian physician and psychologist with a psychoanalytic background. In his famous book *Impulshandlungen* (published in English entitled Peculiarities of Behavior) he devoted a lengthy chapter to pyromania and in a subsequent chapter gave an elaborate case description of a firesetter.²⁸⁷ In accordance with Schmid, Stekel also pointed out that firesetters often do not know why they set fire and are susceptible to suggested motives by legal practitioners or medical examiners.²⁸⁸ Stekel strongly believed in the existence of subconscious motives in cases of firesetting. In his opinion, pyromania still existed and was present in cases where

282 Schmid, 1914, pp. 92-96.

283 Idem, pp. 94, 95.

284 ‘Nicht bewußte Motive treiben den Brandstifter zum Verbrechen, sondern unbewußte, ihm selbst unerklärliche Kräfte’, Schmid, 1914, pp. 102-103.

285 Schmid, 1914, p. 103.

286 Idem, pp. 104-106.

287 Stekel, 1922, pp. 347-430.

288 Idem, p. 347.

no conscious motive could be found and the act of firesetting was committed for the joy of fire or some inexplicable impulse. In his view, the pyromaniac was not a criminal, but a sufferer from mental illness.²⁸⁹ The absence of a conscious motive meant that other, covert motives had to be present. According to Stekel, unreciprocated love (*verschmähter Liebe*) was the most important subconscious motive for setting fire.²⁹⁰ He explained the firesetting by young servants based on this motive. Young servants who are sent away by their family to earn money, experience changing emotions towards their family, where feelings of love are transformed into hatred. Stekel believed that this hatred was then transferred to the employer, resulting in the burning of their property.²⁹¹ In addition, remarkably often corporal punishment by loved ones prior to the firesetting was found.²⁹² As an example, Stekel described a case he drew from Richter's book on young firesetters.²⁹³ In this case, a young servant girl repeatedly tried to leave her employment and every time returned to her mother but was sent back again and again. At the end she was even physically punished because of her disobedience, which led to feelings of revenge which then were transferred to the employer. According to Stekel, the underlying motive in such cases is revenge directed at the individual's own family (*Rache an der eigenen Familie*).²⁹⁴ With this notion of family revenge, Stekel added another possible subconscious motive to the ones earlier described by Schmid. With the search for overt motives by scholars like Mönkemöller and Többen and the subsequent belief that firesetting stems from more subconscious, covert motives, the ideas about motive in firesetting evolved from no motive at all during the nineteenth century, via covert motives explaining firesetting behaviour to hidden, subconscious motives. So, a development can be seen from the idea of motiveless firesetting to the acceptance of a motive, stemming from the subconscious.

13.4 Burning with desire

With the belief that firesetting was a motivated act, either consciously (overt) or subconsciously (covert), the search for the causes of those motives and the firesetting behaviour itself also received attention. An important cause of firesetting was believed to be paraphilic sexual behaviour. In his book on impulse behaviours, Stekel rejuvenated the debate on pyromania and highlighted 'the sexual root of pyromania'.²⁹⁵ Prior to this, he already emphasized the sexual influence he believed to be present in kleptomania and

289 Stekel, 1922, p. 347.

290 Idem, p. 357.

291 Idem, p. 357.

292 Idem, p. 358.

293 Richter, 1844, pp. 91-92.

294 Stekel, 1922, p. 358.

295 Idem, p. 348.

drew a parallel with other impulsive behaviour like firesetting.²⁹⁶ In line with Freudian psychoanalysis, Stekel considered kleptomania as a symbolic act to express a repressed sexual desire, and believed that this causal explanation also applied to firesetting behaviour.²⁹⁷ Schmid also supported the association between sexuality and firesetting, stating that sexual drives (*Sexuelle Regungen*) were an important subconscious reason to set fire in many cases.²⁹⁸ After establishing a relationship between sexuality and firesetting, Schmid pointed out that he deduced this association from the case material he studied, instead of making an assumption and subsequently looking for evidence to substantiate this.²⁹⁹ Although Mönkemöller also briefly described an association between sexuality and firesetting, he believed this to be particularly strong in mentally retarded firesetters and for the others believed that this relationship could not be established with certainty.³⁰⁰ However, unlike the association of sexuality and retarded firesetters described by Mönkemöller, the cases Schmid found were no imbeciles.³⁰¹ So, mental deficiency could not explain this association and instead, Schmid sought an explanation for this in psychoanalytic theory.

Schmid started with a description of Stekel's beliefs on kleptomania and firesetting.³⁰² However, Schmid believed this direct, causal relationship to be too simplistic.³⁰³ According to him, this theory was only applicable in cases where sexual gratification was prevented by an external hindrance. If a person repressed a sexual drive through internal psychological processes, the fact that this unwanted sexuality was replaced by an evenly, or even more unaccepted behaviour like firesetting, did not seem plausible to Schmid. 'Is the urge to set fire not a lot more incompatible with one's personality, as opposed to the desire to have sexual intercourse', he wondered.³⁰⁴ What is more, he referred to two cases in which the perpetrator had had sexual intercourse prior to the fire, so he believed repressed sexual desires were unlikely.³⁰⁵ As an expansion to the simple analytical formula of the Vienna school, he laid down the following hypothesis which he based on the energetic libido theory of Jung: 'Firesetting can be interpreted as a regressive symbolic action, that solves the ever-present libido stasis, by an archaic, therefore worthless sublimation attempt'.³⁰⁶ He

296 Stekel, 1908.

297 Idem; as quoted and elaborated by Schmid, 1914, p. 108.

298 Schmid, 1914, p. 107.

299 Idem, p. 108 footnote.

300 Mönkemöller, 1912, pp. 226-227.

301 Schmid, 1914, p. 107.

302 See Stekel, 1908.

303 Schmid, 1914, p.108.

304 'Steht der Drang, ein Haus anzuzünden, nicht in viel schärferem, unverträglicherem Gegensatz zur Persönlichkeit als der Drang zum Beischlaf', Schmid, 1914, p. 110.

305 Schmid, 1914, pp. 109-110.

306 'Die Brandstiftung ist aufzufassen als eine regressive Symbolhandlung, die durch einen archaischen, darum wertlosen Sublimierungsversuch die stets vorhandene Libido-stauung lost', Schmid, 1914, p. 136.

found a striking commonality amongst the firesetters whose psychological state he had studied prior to the firesetting. All cases showed that before the act, there had been a psychologically significant change in their lives to which the firesetters had not yet adapted, e.g. youngsters who had been sent away from home to work or those who had been fired from their employment. Rejection by loved ones was also a very common preceding factor. The psychological state was characterized by feelings of dissatisfaction, anxiety, and tension. According to Schmid, the firesetting could be seen as a way to resolve this unbearable situation.³⁰⁷ Fire is chosen because of the special meaning it holds to our subconscious. Ancient cultures already believed that fire not only had a magical but also a sexual meaning, and our subconscious might still see fire as a symbol of sexual gratification.³⁰⁸

Interesting in this regard is Stekel's response to Schmid's criticism that his work was too simplistic and wrongly assumed causality. He pointed out that it is most often not normal sexuality, but paraphilic desires, or emotions that are not clear to the firesetter, which are associated with firesetting behaviour.³⁰⁹ Stekel did not describe nor use the theory by Jung, because he did not find it necessary. According to him the libido stasis by Jung is no different from unsatisfied sexual desire.³¹⁰ The denial by Schmid of repressed sexual desires causing firesetting was refuted by Stekel, pointing out that in those two cases where sexual intercourse had taken place prior to the firesetting, this did not mean that the sexual intercourse had been satisfactory. Moreover, he stated that it does not take much psychological ingenuity to recognize that both cases represented sexual intercourse without proper satisfaction.³¹¹ In addition, Stekel believed that the existence of repressed sexual desires could also be deduced from dreams about firesetting often experienced prior to the actual fire and masturbation as a way to relieve unaccepted, paraphilic sexual desires.³¹² Schmid also described firesetters who had experienced dreams about fire before the act of firesetting.³¹³

Like Stekel, Freud, who used psychoanalytic theory to explain firesetting behaviour, believed that firesetting originated from subconscious sexual drives. First of all, he considered the domestication of fire as one of the first cultural acts of men, together with the building of houses and the use of tools. Freud described the acquisition of power of fire in particular as an extraordinary unprecedented human accomplishment.³¹⁴ Based on psychoanalytical material, he made some presumptions about the origins of this human achievement. He

307 Schmid, 1914, p. 114.

308 Idem, pp. 130-131.

309 Stekel, 1922, p. 368.

310 Idem, p. 369.

311 Idem, pp. 370-372.

312 Idem, pp. 353, 375.

313 Schmid, 1914, p. 86.

314 Freud, 1930, p. 47.

believed that primitive man originally had the childish desire to extinguish a fire that he encountered by urinating on it. Freud believed that fire and flames represented a sexual desire. ‘The original phallic conception of tongues of fire which extend upwards is undoubtedly based on existing tales and legends’, he stated.³¹⁵ Furthermore, he believed that extinguishing a fire by urinating on it also represented a sexual act with another man, ‘an enjoyment of masculine potency in homosexual competition’,³¹⁶ as he called it. Whoever was the first to deny himself the fulfilment of this desire was the first to carry the fire away and use it for his own sake. Mastering the fire of his own sexual desires, he had tamed the natural force of fire. So the mastering of power over fire could be seen as a reward for the renunciation of this infantile, sexually driven instinct.³¹⁷

This notion that the first prerequisite for the domestication of fire was to abstain from the homosexual pleasure to extinguish it by means of urinating was criticized. Albrecht Schaeffer (1885-1950), a German writer, did not believe that early fire was extinguished by urinating on it. In his opinion, early fire which was caused for instance by a strike of lightning, must have been something sacred, or in any case something very valuable.³¹⁸ The cultural significance of fire was not disputed, although it was noted that in early Mongolian culture, urinating on ashes was punishable by death.³¹⁹ However, others referred to the association between fire and urination.³²⁰

Freud saw this criticism and other writings as an inducement to further elaborate on this subject. In his article *Zur Gewinnung des Feuers* (The acquisition and control of fire), he describes the Greek legend of Prometheus to substantiate his earlier assumptions.³²¹ First he referred to the way that fire was transported. Prometheus steals fire from the gods and transports it down to earth in a hollow elder stem. Freud believed this stalk of elder to be a symbol of the penis and through the process of reversal, stated that not fire is held within the male urethra but a means by which the fire can be extinguished, namely urination. Secondly, Freud indicated that Prometheus’ act was an offence and the gods were the offended. According to him, human desire is deceived or victimized when one refrains from urinating on fire. Lastly, Prometheus is punished for his act but by contrast, a person who is able to control his urges and bring fire to a community is doing a good deed. However, punishment occurs because others still driven by desires feel resentment against a person

315 ‘An der ursprünglichen phallischen Auffassung der züngelnden, sich in die Höhe reckenden Flamme kann nach vorhandenen Sagen kein Zweifel sein’, Freud, 1930, pp. 47-48 footnote.

316 ‘Ein Genuß der männlichen Potenz im homosexuellen Wettkampf’, Freud, 1930, pp. 47-48 footnote.

317 Freud, 1930, pp. 47-48 footnote.

318 Schaeffer, 1930, p. 204.

319 Erlenmeyer, 1932, pp. 6-7.

320 Storfer, 1930.

321 Freud, 1932, p. 8.

who is able to overcome his urges.³²² So from a psychoanalytical point of view, the act of firesetting was seen as acting out of an innate urge which represented a homosexual desire.

13.5 Single causes of firesetting

In the first half of the twentieth century, pathological firesetting was no longer explained using various diagnoses and motives as was done in the nineteenth century. Literature now focused on single causes of firesetting describing homogenized diagnostic groups of offenders like schizophrenics and alcoholics, or firesettings stemming from one motive like homesickness or suicide.³²³

Already in 1914, Schmid described the influence of alcohol on firesetting behaviour. With case studies he showed that the impulse to set fire often occurred after alcohol intoxication.³²⁴ He tried to explain it psychoanalytically, by referring to alcohol as a relaxer of the libido (*Libidoentspanner*). With the use of alcohol, the floodgates that are normally anxiously contained to restrain the urges originating from the libido burst open and the person acts out his libido desires. According to Schmid, alcohol is not the primary cause of firesetting, but can act as a trigger increasing the probability that the behaviour occurs.³²⁵ Also in other earlier works the influence of alcohol on firesetting was recognized.³²⁶ This interest in alcohol with respect to setting fire grew and in 1934, Többen expanded his already extensive writing on firesetting published in 1917, with an article on the relationship between alcohol and criminal firesetting.³²⁷ He described several cases of firesetting under the influence of alcohol and made a distinction in different forms of association. First he described case studies in which alcohol served as ‘agent provocateur’ or the trigger to the act. These first types of cases he called ‘*Mutantrinken*’ (Dutch courage or liquid courage), in which alcohol gives the firesetter the courage to act. A second type of cases are those in which drunkenness or occasional drinking results in firesetting. Thirdly, Többen described cases of pathological intoxication, in which this condition is to blame for the act of arson. Fourth, chronic alcoholism with its own psychiatric characteristics can also act as an incitement for firesetting. Finally, Többen referred to the relationship between alcohol and firesetting in feeble-minded persons describing corresponding case law.³²⁸ Többen ends with some general conclusions about the association between firesetting and alcohol and some treatment options specifically targeting this phenomenon. When a person is under the influence of alcohol, this can result in changing moods

322 Freud, 1932, pp. 8-10.

323 Barnett, 2005, p. 33.

324 Schmid, 1914, p. 118.

325 Idem, pp. 118-119.

326 For example Gruhle & Wetzel, 1914.

327 Többen, 1934, p. 235.

328 Idem, pp. 237-259.

and lesser inhibitions. Where morality and ethics act as an inhibitor while one is sober, these inhibiting factors disappear when a person is intoxicated.³²⁹ In more psychopathic personalities with an innate desire for fire, alcohol may trigger this desire which lies hidden in the subconscious.³³⁰ Here, parallels with Schmid can be seen.

Another influential single-factor theory in the first half of the twentieth century was the belief of homesickness as an important cause of firesetting behaviour.³³¹ The belief that homesickness or nostalgia was associated with firesetting was not new. Already in the nineteenth century, homesickness was believed to underlie the occurrence of firesetting in puberty. Siebenhaar for instance referred to the many young individuals who leave their parental home to work as servants or maids and who might use firesetting as a means to return to their families.³³² Casper, who advocated looking at motive from an offender perspective, also believed that homesickness and the desire to end employment as a maid or servant was an important motive for the act of firesetting.³³³ Some years later, Jessen also described homesickness as one of the motives for emotional firesetting.³³⁴ But in the twentieth century, theory regarding homesickness became more generally accepted. In his well-received dissertation, Karl Jaspers (1883-1969), a psychiatrist and philosopher, studied the association between homesickness and certain types of crime, namely murder and arson.³³⁵ He described twenty-one cases primarily derived from nineteenth-century literature and clinical expertise, in which he thoroughly analysed and explained the meaning of nostalgia.³³⁶ According to Jaspers, one particular case was, despite its brief representation, quite typical.³³⁷

Case 6: Johanne Friederike Roßwein

Johanne Friederike Roßwein set fire on two occasions. At the time of the first fire she was fourteen years old, the second fire she started six months later when she was fifteen years old. She was a country girl who had had a strict upbringing, in which corporal punishment was no rarity. At the age of fourteen she was sent away to serve. Despite her crying and begging, her parents violently forced her to go. From the first day of employment, she cried and finally pretended to be ill and subsequently was sent back home. She did not receive a pleasant welcome and was sent away into new service immediately. On the first day of her new employment, she started a fire. She was not discovered but succeeded in her goal

329 Többen, 1934, p. 260.

330 Idem, p. 261.

331 Kraepelin, 1921, p. 367.

332 Siebenhaar, 1844, pp. 273-274.

333 Casper, 1846, p. 291.

334 Jessen, 1860, pp. 114-119.

335 Jaspers, 1909.

336 See also Koenraad, 2011.

337 Jaspers, 1909, p. 94. This is a case from 1801 described by Platner in his *Quaestiones medicinae forensis* (Questions of Forensic Medicine).

to be sent home. However, yet again her father found a new service position and sent her away, because he wanted his daughter to provide for herself, get accustomed to working, and learn obedience. This time she gradually seemed to become accustomed to it and worked for six months. However, she was fired from this employment and sent to another service. A few days later, she set fire for the second time. She confessed the second fire in the first interrogation and also voluntarily confessed the first firesetting, of which she had not been suspected. She experienced unbearable homesickness which was the only reason for her two firesettings. The girl could not return home in any other way but through firesetting. No evidence of hatred and revenge could be found. For the first fire the young girl was declared innocent. However, for the second fire she was sentenced to death.

The work of Jaspers influenced the belief on homesickness in relation with criminality, especially firesetting by young girls who were sent away to serve.

13.6 *Pyromania as a cause of criminal irresponsibility*

In contrast with the nineteenth century, in the twentieth century in professional literature far less attention was devoted to the subject of pyromania.³³⁸ This might be explained by the growing belief that pyromania was not a mental disorder in itself. Furthermore, the belief that firesetters were driven by an irresistible impulse and could therefore be exculpated declined. Although in the US pyromania experienced a revival around 1900, in Britain pyromania and impulsive firesetting were hardly ever diagnosed. It was long held that an irresistible impulse to set fire could only mitigate criminal responsibility in cases of mentally disordered firesetters.³³⁹ However, a study of 44 cases of persons sent to prison convicted of arson showed a high percentage of mental abnormality. Nevertheless, in the majority of firesetting cases some planning was present.³⁴⁰ So it can be stated that: ‘The condition, is not recognised in English courts’.³⁴¹

In the Netherlands, the New Direction (*Nieuwe Richting*) in criminal law and criminology which originated in the late nineteenth century had an important influence on views and beliefs about psychopathology and crime in the first half of the twentieth century.³⁴² Forensic psychiatry flourished based on this new focus on the protection of society from dangerous offenders, as psychiatrists were thought to be able to assess and offer treatment to insane criminals. These ideas were laid down in legal and psychiatric handbooks. Many handbooks also addressed the crime of arson. It was believed that

338 Lewis & Yarnell, 1951, p. 8.

339 Andrews, 2010b, pp. 393-394.

340 Young, 1925, pp. 1334-1336.

341 Idem, p. 1335.

342 De Ridder, 1991, p. 36.

firesetting could originate from a mental disorder, thus exculpating the firesetter to some extent. However, unlike in earlier days, pyromania was no longer seen as an illness in itself. Henri van der Hoeven (1879-1956), a pioneer in Dutch forensic psychiatry, explicitly stated in his legal handbook that contemporary beliefs forbid acknowledging this phenomenon as a disease entity.³⁴³ Instead, he described the act of firesetting as an impulsive behaviour that emerged suddenly and unexplainably, without prior inner conflict.³⁴⁴ According to Van der Hoeven, impulsive behaviours like pyromania, but also kleptomania or nymphomania, have different origins. The impulse to set fire may originate from an obsession or from an excessive emotion like fear, anger or fright. Furthermore, it can be the result of a sexual desire which is acted out or may stem from delusions and hallucinations. So instead of labelling pyromania as a disease, Van der Hoeven stated: 'It is no disease but a symptom of it'.³⁴⁵ So in cases of firesetting, the perpetrators were no longer automatically seen as insane because of setting fire. However, unlike the emphasis on punishment in the second half of the nineteenth century, in the twentieth century the general view supported treatment and it was recognized that criminal behaviour may stem from underlying pathology. In later work, Van der Hoeven pointed out that firesetting is often seen in the early stages of schizophrenia. According to him, patients suffering from this disorder are frequently unjustly struck by the punishing hand of justice, often for firesetting.³⁴⁶ From this statement it can be deduced that in theory, treatment had again gained the upper hand over punishment in the first half of the twentieth century and firesetting resulting from pathology could diminish to some extent the criminal responsibility of the perpetrator. However, in practice, long prison sentences for cases of firesetting without acknowledging underlying pathology were not uncommon.

13.7 Pyromania and the Dutch courts

Although the New Direction and its advocates like Van der Hoeven emphasized the assessment and proper treatment of insane criminals, the underlying rationale was the protection of society from dangerous culprits. In practice, this protection could also be achieved by merely detaining firesetters for a certain period of time so they were physically prevented from relapsing without giving attention to possible underlying pathology. As discussed earlier, Van der Hoeven stated that mentally disordered criminals did not always receive the forensic attention they needed.³⁴⁷ This is demonstrated by the following case:³⁴⁸

343 Van der Hoeven, 1913, p. 92.

344 Idem, p. 91.

345 'Het is geen ziekte, maar verschijnsel er van', Van der Hoeven, 1913, p. 92.

346 Van der Hoeven, 1928, p. 65.

347 Idem, p. 65.

348 District Court Amsterdam, 23 March 1905.

Case 7: Johannes van den Hengel

On the night of 10 January to 11 January 1905, Johannes van den Hengel, a 24-year-old labourer twice set fire to a house. He did not own the property but had lived there since November 1904 with his wife and children. The first fire he set in the attic, while his family had already gone to bed. Johannes claimed that at around half past one in the morning his wife discovered the fire and he started to extinguish it. When he could not succeed, he asked the help of neighbours. After the fire was extinguished he sent his family to his father and returned to the house to gather some belongings. At that time he started the second fire, this time in the living room, destroying the curtains and furniture. Suspiciously, he had just concluded an insurance policy on his belongings. The next day after an unsuccessful search for the address of the fire insurance agent, the accused was arrested at the home of his in-laws. After his arrest he was interrogated. During several interrogations, he kept denying and raised the possibility that one of his neighbours might have done it. However, he made contradictory statements. Furthermore, witnesses described Johannes' behaviour before and after the fires as odd and agitated. A witness, who went to see him the night before the fire, saw Johannes lying on the floor with his hand on his head due to a severe headache. At that time he did not respond to the visitor who therefore returned home again. Also, several witnesses described that during the fire he did not help to extinguish the fire. They say he just stood there. Furthermore, he was fully dressed and did not look like he had hastily put on his clothes. In his childhood, when Johannes had not yet reached the age of sixteen, he was also suspected of multiple firesettings. His defence counsel stated that these fires could not be imputed to him. The doctrine of pyromania had admittedly been abandoned, but not the fact that digressions in puberty can occur ('Wel is de leer der pyromanie prijsgegeven, maar niet dat in de puberteitsjaren afdwalingen kunnen voorkomen'). However, this defence did not make a difference for Johannes. In addition to the two counts of arson, he was also convicted for theft and in an extensively motivated verdict he was sentenced to a five years' imprisonment. This prison term was in accordance with the sentence demanded by the prosecution office.

Although a financial motive to obtain insurance money appeared to be present, several aspects of this case seem odd and might give the impression something more was going on. For instance, Johannes exhibited odd behaviour before, during and after the fires. Also, the previous suspicions of firesetting when Johannes was younger might raise the question whether some underlying pathology was present. Therefore, it is remarkable that no forensic pre-trial mental health assessment was conducted. This is consistent with the dismissal of pyromania as a distinct disorder, which is reflected in the comments of the defence lawyer. But it also reflects diminished attention for mental disorders underlying crime in general and arson in particular.

In a different, more recent case, the awareness of proper assessment and treatment of the insane stemming from the New Direction in Dutch criminal

law is seen. This case was described in a Dutch monthly magazine for trial and rehabilitation, and is specifically mentioned as a horrid example to emphasize the importance of pre-trial psychiatric assessment with the revealing title: utter insane almost punished with eight years.³⁴⁹

Case 8: 31-year-old man

A man aged 31, married and without previous contact with criminal law committed arson for financial gain after consultations with another person. Almost immediately he was caught and was seen by all possible authorities (police, Mayor, examining judge, prosecutor, and court). However, none of these institutions noted anything that could suggest his culpability was diminished. On the contrary, he was described as a vicious person with possible previous arsons and the prosecution demanded eight years' imprisonment. Only because his defence lawyer requested psychiatric assessment in his plea, he was assessed and found completely insane. The psychiatrist found grave imbecility and advised admission to a madhouse, with the court ruling accordingly.

14 Conclusion

From a medico-legal perspective, this chapter gives an overview of the development of the views and practice regarding insanity-driven firesetting and pyromania in the nineteenth century and the first half of the twentieth century in Western Europe and the Netherlands. The aim was to answer the question how ideas on firesetting as a culpable crime or an excusable expression of pathology have changed over time and what specific medico-legal influences on beliefs about firesetting can be detected. In the first half of the nineteenth century, psychiatry emerged and optimism about treatability of psychiatric patients flourished. Around the turn of the nineteenth century, the diagnosis of pyromania was introduced and in the first half of the nineteenth century this disorder received a lot of attention. Various scholars, like Marc, Esquirol and Henke, dedicated work to this condition, which was described as an irresistible impulse or urge to set fire without any motive. Even if sane motives were mentioned, these were disregarded. Pyromania was believed to be linked to irregular sexual development in puberty, especially among girls. These assumptions were disputed by other scholars like Fleming and Siebenhaar who called into question the irregular sexual development and explained firesetting in youths by psychological circumstances during the phase of puberty. Casper disputed the motivelessness of the act and described underlying motives. Despite the discussion on the assumptions of pyromania as irresistible, motiveless and linked to irregular pubertal development, overall there was consensus about pyromania as a distinct disorder. This belief of pyromania as a distinct disorder was reflected

349 Over psychiatrisch-psychologisch onderzoek, 1930, pp. 117-119.

in legal practice. In cases of arson, criminal irresponsibility due to insanity was often believed to be present. Therefore, firesetters – especially if they were young – were often psychiatrically assessed and criminal accountability was often found to be absent or diminished. Thus, in the first half of the nineteenth century, the balance was in favour of exculpation instead of punishment. In the following period however, the balance tilted to the other side.

In the second half of the nineteenth century, the discussion about the existence of pyromania as a distinct disorder continued. One group of commentators, like Jessen, still viewed pyromania as a distinct disorder but also recognized the possibility of firesetting not stemming from pyromania or mental disorders. Stronger in the rejection of the diagnosis of pyromania were Griesinger and Baker, who believed pyromania was a symptom of other forms of insanity rather than a separate disorder. This discussion could not be settled and attention gradually shifted from the desire to classify insane firesetting into pyromania or a symptom of a more general form of mental illness, to the psychopathology underlying pathological firesetting. Around this time biological psychiatry flourished and biological explanations for pathological firesetting were adopted. The belief that the mental problems of firesetters had a physical cause and were hereditary contributed to general treatment pessimism. In combination with the doubts about pyromania as a distinct disorder this resulted in an emphasis on the criminal response to firesetting. In legal practice, perpetrators of arson less frequently underwent pre-trial assessment than in the first half of the nineteenth century, even in cases where indications of mental disorders were present.

In the first half of the twentieth century, pyromania was completely disregarded as a distinct diagnosis. Instead, pathological firesetting was believed to be a symptom of other mental disorders. Possible explanations for this behaviour were studied and motives for insane firesetting received attention. Psychoanalytic theory and a growing individualism influenced this shift in focus. Mönkemöller and Többen studied pathology and motives in firesetters. The motives found were often disproportionate to the act, leading to a search for more subconscious motives by scholars like Schmid and Stekel with revenge being an important motive believed to underlie firesetting. The focus on motive instigated a search for the causes of those motives and therefore the firesetting. Paraphilic sexual behaviour received much attention as a possible cause of firesetting. The role of alcohol, homesickness and suicide were also studied, and more in general a growing awareness of social context influencing firesetting behaviour could be discerned. In the Netherlands forensic psychiatry flourished and under the influence of the New Direction in criminal law, emphasis was again placed on the underlying pathology of offenders in arson cases. However, the almost automatic insanity of firesetters in the first half of the nineteenth century no longer appeared, and legal practice did not always correspond with the ideas of the New Direction, although awareness of possible mental disorders in cases of arson was present.

Some general developments concerning pyromania, firesetting and criminal responsibility can be described. First, the belief regarding pyromania changed over time. Pyromania was initially seen as a distinct disorder that could exculpate the firesetter. However, this belief gradually changed and eventually pyromania was no longer seen as a distinct diagnosis, but firesetting came to be seen as criminal behaviour or stemming from other pathology. Second, beliefs regarding motive for setting fire changed remarkably over time. Initially, pyromania was believed to be a motiveless act. Over time the notion of motives underlying this behaviour was accepted, with an initial focus on explicit motives like homesickness and revenge and finally attention for subconscious motives for setting fires. Third, the focus on development of the element of sexuality in the first half of the nineteenth century deserves attention. It is remarkable that pyromania was attributed to irregular pubertal development. The social context of young girls who left their home to serve and set fire out of revenge or homesickness can be seen as an important contributor to this belief that firesetting stems from irregular pubertal development, especially among girls. In later years the sexual root of pyromania was still believed to be present especially among psychoanalytic believers.

In conclusion, a pendulum movement is visible with respect to the culpability and punishability versus excusability due to pathology in cases of insane firesetting. Where in the first half of the nineteenth century the pathology of firesetters was emphasized, focus shifted to the punishability of firesetters in the second half of that century. In the first half of the twentieth century the pendulum seemed to stabilize, and although again attention was paid to the treatment of insane firesetters, the dominant rationale behind this was the protection of society. Accordingly, culpability and pathology go hand in hand.

Chapter 4 will discuss the firesetting phenomenon from a more contemporary perspective, looking at the influence of mental disorders and dangerousness with respect to criminal responsibility and forensic mental health recommendation, and the related changes from 1950 to 2010.

The observation of mental disorder and dangerousness in firesetters

A Dutch contemporary appraisal

1 Introduction

Historically, firesetters were seen as pyromaniacs and their behaviour was considered disturbed and disordered.¹ Today, the media still suggest that in cases of (serial) firesetting, offenders must be suffering from pyromania, a pathological form of firesetting grouped under the disruptive, impulse-control, and conduct disorders in the DSM.² Yet, in fact pyromania is rarely diagnosed, due to stringent inclusion and exclusion criteria.³ Nevertheless, firesetting often remains an incomprehensible crime and other mental health problems are common amongst firesetters,⁴ especially schizophrenia and other psychotic disorders⁵ and personality disorders, with antisocial and borderline personality disorders being most frequent.⁶

During criminal proceedings, the mental condition of firesetters may give rise to further examination of their mental faculties,⁷ and pre-trial forensic mental health reports are common in cases of firesetting. Around 7.5 to 13 percent of all pre-trial forensic mental health evaluations of adult suspects in the Netherlands concern arson cases,⁸ which is similar to other European countries, like Sweden.⁹ Although legal frameworks and methods differ,¹⁰ in the Netherlands, as well as in other countries in the Western world,¹¹ pre-trial forensic mental health assessments are conducted to examine whether a psychological or psychiatric disorder was present at the time of the offence. In the Netherlands, the presence of a mental disorder is a necessary, but not

1 Doley, 2003b; Plinsinga et al., 1997.

2 5th ed.; DSM-5; American Psychiatric Association, 2013.

3 Koenraadt et al., 2015; Plinsinga et al., 1997.

4 Tyler & Gannon, 2012.

5 Anwar et al., 2011; Burton et al., 2012; Enayati et al., 2008; Repo, Virkkunen, Rawlings & Linnoila, 1997a; Ritchie & Huff, 1999.

6 Barnett & Spitzer, 1994; Dolan, Millington & Park, 2002; Lindberg et al., 2005; Ritchie & Huff, 1999; see also Chapter 6.

7 Prins, Tennent & Trick, 1985; Van Kordelaar, 2002.

8 Canton, 2004; Van Kordelaar, 2008.

9 8.5 percent; Fazel & Grann, 2002.

10 Dressing & Salize, 2006.

11 Bal & Koenraadt, 2000.

sufficient condition to diminish criminal accountability. The mental disorder must have affected the free will of a person in order for criminal liability to be considered diminished or absent.¹² The concept of free will in this respect is used as a legal term, meaning that a person at the time of the offence was able to freely decide whether or not to commit the crime.¹³ In legal practice, Article 39 of the Dutch Criminal Code was interpreted in such a way that partial allocation of criminal responsibility became possible,¹⁴ resulting in a graded system of criminal accountability measured on a 5-point scale ranging from fully accountable to unaccountable.¹⁵ Taking into account criminal accountability, the risk of re-offending is also assessed, and a forensic mental health recommendation is made to inform the court on the indications and contraindications for hospitalization and other measures which can be imposed.¹⁶ A high risk of recidivism, or dangerousness, is necessary, but not sufficient, for a mandatory hospital measure (*terbeschikkingstelling*¹⁷ or *tbs*) to be recommended and imposed.¹⁸ Although the pre-trial forensic mental health assessments have changed over time in style, form and size, the question whether criminal liability was diminished at the time of the offence has remained the same. In addition, the assessment of risk has also changed over time. In the early years this was solely based on clinical judgment.¹⁹ Later, risk assessment tools started to be used to evaluate the risk of reoffending and are still used to this day.²⁰ So although the *methods* to assess recidivism risks have changed, the *question* never changed and the *assumption* is that the *answer* to the question of the likeliness of reoffending was also largely obtained in a similar fashion.

In this chapter, clinical reports from the Pieter Baan Centre are studied to examine the extent to which mental disorders in firesetters affect the conclusion on accountability and the pre-trial forensic mental health recommendation that is made to the court. Furthermore, perceived dangerousness, in the sense of perceived recidivism risk, related to accountability and forensic mental health recommendations is examined. Both mental disorder and dangerousness are not exclusive factors, in the sense that other factors also contribute to the conclusions presented in the pre-trial forensic mental health reports. And it must be noted in this respect that the focus on mental disorder and its impact

12 Kelk & De Jong, 2013; Mooij, 2004.

13 The question whether or not free will even exists falls outside the scope of this text. For a more elaborate discussion on how mental disorders may affect free will; see Meynen, 2013.

14 De Jong, 2012.

15 Dalhuisen, 2013; see also Chapter 1 Section 3.1.

16 Bal & Koenraadt, 2000; Sierink & Van Mulbregt, 2007.

17 Some offenders are (partially) insane. Because of their psychiatric disorder, they constitute a danger to society. To protect society from these people, compulsory treatment can be imposed. This is called *terbeschikkingstelling* (*tbs*). A *tbs* measure lasts until a court determines that there no longer is any danger of relapse. See also Van Marle, 2002.

18 See also Van Mulbregt, 2011.

19 Koenraadt, 2007.

20 Sierink & Van Mulbregt, 2007.

on the offence hampering criminal accountability have not remained static over time and could have influenced the outcome of risk assessment. Therefore, it is hypothesized that changes in the significance of mental disorder and dangerousness may occur over time. By analysing pre-trial forensic mental health reports of alleged firesetters from 1950 to 2010, this chapter aims to investigate whether changes actually occurred and examines the nature of these changes. In short, this chapter starts where the previous chapter ended and elaborates on the influence of mental disorders and the risk of re-offending with respect to the criminal responsibility of the firesetter and the imposition of hospitalization and other measures, and possible shifts herein over the years. This results in the following question:

Can any changes be observed in the influence of mental disorder and dangerousness in pre-trial forensic mental health assessments of firesetters, as manifested in the conclusion on criminal accountability and the pre-trial forensic mental health recommendations in forensic mental health reports, in the period 1950-2010?

2 Structure

This question is answered by analysing assessment reports of firesetters²¹ from the Pieter Baan Centre from this period. First, to give more insight and background regarding historical developments, pre-trial forensic mental health assessment in the Pieter Baan Centre is discussed briefly. Subsequently, more general information on the importance of mental disorder and dangerousness in pre-trial forensic psychiatric and/or psychological assessments is discussed, resulting in hypothesized changes in their influence over time in Section 4. To give an outline of the background characteristics of firesetters and their offences over the years, Section 5 describes characteristics of the research population and their stability over time. Subsequently, the criminal-law response to firesetting in the Netherlands is discussed, based on literature and the analysed reports from the Pieter Baan Centre. The following section deals with the relationship between mental disorder and firesetting. The importance of mental disorder in relation to the degree of accountability and the forensic mental health advice given over the years is examined. Focus will then shift to the dangerousness of the offence in relation to the recommendation made in the pre-trial forensic mental health report, in order to investigate whether more weight is given to

21 In these reports, arson is the index crime. However, no conviction has followed (yet). Therefore, the assessed persons are only suspected of arson and not (yet) convicted. Reports of firesetters who refused to cooperate and could therefore not be assessed properly are *not* included, whereas reports of suspects who denied any involvement but could still be assessed *are* included. However, for readability's sake, they are designated as firesetters.

dangerousness in later years in Section 8. The research question is answered in the conclusion.

3 Pro Justitia reports in the Pieter Baan Centre

In the Netherlands, a distinction is made between pre-trial forensic mental health assessment in outpatient and inpatient settings.²² The Pieter Baan Centre is specifically designated as observational hospital for inpatient pre-trial forensic mental health assessments. In this residential setting a suspect is observed over a period of six or – since 1994 – seven weeks,²³ after which a multidisciplinary report is produced including information on the suspect's social background, a report of his behaviour on the ward, a brief medical examination, a psychological assessment and a psychiatric assessment.²⁴ Based on these observations a recommendation is presented to the court with regard to the suspect and his or her criminal accountability, perceived risk of recidivism, and possible measures that could be imposed. The observational hospital has a national function; virtually all inpatient forensic mental health evaluations for adults are conducted here.²⁵ Since the founding of the hospital, around 11,000 suspects giving the impression of being mentally disturbed, were forensically assessed here.²⁶ Most persons underwent pre-trial assessment, but in about five percent of the cases the assessment concerned offenders that were evaluated regarding a *tbs* measure.²⁷

In 1949 the Psychiatric Observation Hospital was founded in Utrecht, with the aim to conduct behavioural observations and reports on (presumably) mentally disordered suspects to advise the court regarding the criminal accountability of the suspect. Initially, observations were only made in cases where a *tbs* measure was considered, but the objective has been broadened to making recommendations in general.²⁸ In the early 1980s, the hospital was renamed Pieter Baan Centre, honouring the co-founder and first medical director Pieter Baan (1912-1975). Although most pre-trial forensic mental health assessments take place in an outpatient setting, admission to the Pieter Baan Centre is indicated based on seriousness of the offence and the presumption of a mental disorder which might result in a *tbs* measure or other treatment measure.

22 For figures on outpatient pre-trial forensic mental health assessments, see Van Kordelaar, 2008.

23 In 2015, the length of observation was brought back to six weeks again; Van Mulbregt, 2015.

24 Koenraadt et al., 2007.

25 Inpatient forensic mental health assessments for youths take place in a specific juvenile penitentiary with an observation ward.

26 Hoeffelman, 1962; Koenraadt et al., 2007.

27 Percentage based on data from Bureau Wetenschap en Onderwijs; NIFP, 2016.

28 Pompe & Kempe, 1962.

Firesetters form a solid and important category of suspects admitted, with about a dozen suspects of firesetting examined in the Pieter Baan Centre each year.²⁹

4 Mental disorder and dangerousness

Mental disorder is a necessary but not sufficient condition to conclude that accountability is diminished.³⁰ Furthermore, dangerousness is necessary but not sufficient for the recommendation and imposition of a measure like tbs.³¹ Criminal law in the post-war period was characterized by humanism and paternalism. Offenders were considered as fellowmen that should be treated with humanity and respect. The opening of the psychiatric observation clinic (the current Pieter Baan Centre), can be seen as a product of this zeitgeist.³² The belief in treatability of offenders was high and treatment was seen as in their best interest. What is more, the strong faith and respect for authorities including psychiatrists almost automatically strengthened their opinions and views. In line with these historical developments with an authoritative clinician focussing on the disordered firesetter, in the early years of the Pieter Baan Centre assessments revolved around the defendant and his or her personal needs. From a paternalistic, protective perspective, the reports were written with the best interest of the offender at heart (i.e. to receive the treatment they need) and the need for objective substantiation of conclusions did not receive much emphasis. So in former days, it was not unthinkable that the offence influenced the diagnosis given or that a diagnosis was influenced by the subjective need for treatment.

However, various social democratisation movements in the late 1960s until the early 1970s contributed to a reorientation in Dutch criminal law.³³ Since the beginning of the 1970s, a process of growing juridification started, focusing more and more on legal guarantees and protection of the individual against a paternalistic government. This development reflected a growing legalization within (forensic) psychiatry, in which rights and associated legal safeguards for patients and litigants have acquired a central place.³⁴ In the field of forensic mental health, objectification became more important, resulting in conclusions that were less narrative and more strongly substantiated by arguments and based on classifications that were more uniform. So, the focus on rights and legal status of patients and offenders grew and is still present.³⁵

29 Hoeffelman, 1962; Koenraadt et al., 2007; Noach, 1962.

30 Kelk & De Jong, 2013.

31 See also Van Mulbregt, 2011.

32 Kelk & De Jong, 2013.

33 For example the occupation of the Maagdenhuis in Amsterdam in May 1969 by students who demanded participation in university governance; Kelk & De Jong, 2013.

34 See also Kelk, 1983.

35 See Groenhuijsen, 2008.

Nonetheless, since the 1990s, a growing need of risk management emerged in society,³⁶ a development that was already seen in other Western industrialized countries.³⁷ From a risk management perspective, taking care of the individual by treatment is now less central, and more and more emphasis is placed on keeping society safe. The growing focus on offence scenarios and the wider use of risk assessment tools is related to this.³⁸ A post-war shift from treatment to punishment is also seen in other countries in the Western world, for instance in Sweden in dealing with juvenile offenders.³⁹ In line with this societal shift, the rights of society as a whole have increasingly gained importance over the rights of patients and offenders.⁴⁰ However, the objectification serves as a safeguard against arbitrary decisions because the risks that are detected must be properly supported.

Based on the above, it is hypothesized that mental disorder is of greater importance in the conclusions in older reports based on a more paternalistic standpoint – on what is in the best interest of the offender – whilst dangerousness, in the sense of recidivism risk, has gained importance in reports from more recent years reflecting a growing tendency for risk management based on what is in the best interest of society as a whole. So it is expected that mental disorder plays a more important role in older reports that favour treatment and dangerousness is of more importance in later reports. However, it should be noted that the practice in the Pieter Baan Centre concerning risk assessment remained the same, in the sense that in case of full or slightly diminished criminal accountability no risk assessment is provided due to the limited effect that the disorder had on the offence in those instances.

5 Differences in offender and offence characteristics

This section describes offender and offence characteristics of a sample of 72 firesetters and their differences.⁴¹ The 72 reports were divided into two groups; the first group concerned the older reports dating from 1950 to 1979, whilst the

36 Borgers, 2007; Buruma, 2011.

37 Garland, 2001.

38 Bakker, 2009.

39 Sarnecki & Estrada, 2006. However, how this punishment was designed also changed with the development of community service as a means of punishment.

40 The amendments to the Psychiatric Hospitals Act (Wet Bopz) in 2008 with a considerable broadening of coercive capabilities are a good example; see also Legemaate, 2008. Another good example is the research project 'Criminal Procedure 2001' of the Research and Documentation Centre (WODC) of the Ministry of Security and Justice, in which the interests of witnesses and victims are recognized and the rights of defendants undermined. However, this research was criticized in the academic world; see for example Brants, Mevis, Prakken & Reijntjes, 2003.

41 It should be noted that none of these cases involve a suspect who refused to cooperate; see also Chapter 2 Section 2.1.

second group comprised reports from 1980 to 2010. This distinction in these two groups has theoretical underpinnings: a clear historical shift in the views on risk and the treatment of forensic psychiatric patients that could be discerned in the late 1970s and early 1980s.⁴² In the 1970s, the so-called anti-psychiatry movement was influential in the Netherlands, which emphasized empowerment of patients and was optimistic about recovery. In the 1980s a more deterministic, neuroscientific perspective emerged with a focus on specific problems instead of the whole person and a reduction of psychiatric institutions.⁴³ Table 4.1 presents the results of the comparison with respect to offender characteristics as well as the overall characteristics. In Table 4.2 offence-related characteristics and their differences are presented. Overall, firesetters can be characterized as Dutch, single men with an average intelligence, who received no or only primary education, are unemployed, often have problems with alcohol, do not suffer from psychotic disorders or personality disorders – although traits of personality disorders are frequent – and have a diagnosis on Axis I and/or II of the DSM at the time of the offence. They were primarily driven by anger or revenge (see Table 4.1).⁴⁴ As depicted in Table 4.2, the firesetters acted impulsively and alone, and were intoxicated, at the time of the offence. About half of them directed their fires at persons, or objects with a personal meaning, often belonging to known victims.

42 Kelk, 2007.

43 Abma & Weijers, 2005.

44 Because motive is highly pluralistic, it is dichotomized into firesetting out of revenge or anger and firesetting out of other motives.

Table 4.1. Offender characteristics and differences between the two groups.

	Total (<i>N</i> = 72)	1950-1979 (<i>n</i> = 36)	1980-2010 (<i>n</i> = 36)	
Offender characteristics	M(SD)	M(SD)	M(SD)	<i>U</i>
Age (years)	30.6 (12.9)	31.4 (13.5)	29.7 (12.3)	494.500
	%	%	%	χ^2
Dutch nationality	94	97	92	F.E.
Marital status (single)	69	63	75	1.22
Intelligence				8.81*
Retarded	24	37 ^b	9 ^a	
Below average	21	20	21	
Average	40	34	46	
Above average	16	9	24	
No or low education	63	87	39	15.52**
Unemployed	52	33	71	10.32*
Prolonged/severe problems with alcohol	49	50	48	.02
Prolonged/severe problems with soft drugs	13	-	27	F.E.*
Prolonged/severe problems with hard drugs	8	-	17	F.E.*
Psychotic disorder at the time of the offence				F.E.*
No psychotic disorder	74	89 ^b	61 ^a	
Psychotic disorder in the past	4	8	-	
Psychotic disorder in the present	22	4 ^a	39 ^b	
Personality disorder in the past				F.E.
No disorder	38	46	29	
Traits	52	46	58	
One or more personality disorders	10	8	13	
Current DSM classification				F.E.
No classification	9	-	18	
Axis I classification	24	26	21	
Axis II classification	29	37	21	
Axis I and Axis II classification	38	37	39	
Out of revenge or anger	42	59 ^b	27 ^a	7.31*

Notes: Some variables had missing values resulting in a smaller sample size;

* $p < .05$; ** $p < .001$ (two-sided); F.E. = Fisher's exact;

^a The value of the adjusted standardized residual was less than -1.96;

^b The value of the adjusted standardized residual was greater than 1.96.

5.1 Offender-related differences

Differences were found between the two groups on intelligence, with significantly more mental retardation in the first group. Education levels were higher

in the second period, as was the unemployment rate. Firesetters from the last three decades more often had prolonged and severe lifetime abuse problems with both soft drugs and hard drugs.⁴⁵ Another difference with respect to offender characteristics concerned the presence of a psychotic disorder at the time of the offence. Where psychotic disorders at the time of the offence were almost absent in firesetters in the first period, in the second period more than one third of firesetters suffered from a psychotic disorder. Finally, in the first period, anger and revenge were more often reported as motive for the firesetting.

5.2 Offence-related differences

After comparison, some differences between firesetters in the two groups were found. Cases from the two groups differed with respect to the damage the fire caused to persons. Fires in the first period less often caused damage to persons, whilst in the later period fires resulted in more (threat of) bodily harm. With respect to the impulsiveness of the act, a trend was found suggesting that in the last three decades fires were more often planned.⁴⁶

45 Hard drugs are narcotics that are considered relatively strong and likely to cause addiction, like heroin or methamphetamine, in contrast to soft drugs like cannabis.

46 $\chi^2(1, N = 58) = 3.66, p = .56$.

Table 4.2. Offence characteristics and differences between the two groups.

	Total (<i>N</i> = 72)	1950-1979 (<i>n</i> = 36)	1980-2010 (<i>n</i> = 36)	
Offence characteristics	M(SD)	M(SD)	M(SD)	<i>U</i>
Distance travelled to the crime scene (in kilometres)	11.0 (41.4)	4.4 (13.5)	16.1 (53.7)	360.500
	%	%	%	χ^2
Suicide ideation	10	3	16	F.E.
Nature of the offence				F.E.
Expressive-person	23	19	26	
Instrumental-person	23	29	16	
Instrumental-object	11	3	19	
Expressive-object	44	48	39	
Fire set impulsively	59	71	47	3.66 ^y
Acting alone	86	89	83	F.E.
Targeted at a person	46	47	46	.01
Dangerousness (personal harm)				F.E.*
No harm to persons	45	58 ^b	33 ^a	
Threat of bodily harm	46	30 ^a	61 ^b	
Non-fatal injury	1	-	3	
Fatal injury	7	12	3	
Fire set to the firesetter's own property	21	19	22	.13
Known victim	44	50	39	.85
Intoxicated	59	61	57	.11

Notes: Some variables had missing values resulting in a smaller sample size;

^y*p* < .10; **p* < .05 (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

6 The criminal-law response to firesetting in the Netherlands

Arson⁴⁷ can be regarded as an offence with an above average chance of tbs imposition.⁴⁸ In the period 1997-2009, tbs was imposed in 5.5 percent of arson cases. This percentage is similar to the percentage of tbs impositions in homicide cases (5.7%). For other offences, this percentage is much lower. For example, tbs was imposed in less than 2 percent of sexual crimes against children.⁴⁹ What is more, firesetters seem to form a larger part of the tbs population than this imposition rate suggests. A study conducted in 2007 in FPC Oldenkotte, a Dutch tbs clinic, shows that over 10 percent of the surveyed male patients was

47 Intentional firesetting, Article 157 of the Dutch Criminal Code.

48 Van Dijk & Brouwers, 2011.

49 These figures are based on anonymized data from the Judicial Documentation System in 1997-2009. These data contain information about offenders, charged crimes and judgments (Van Dijk & Brouwers, 2011).

given a tbs measure for arson, while for women this was the case in nearly one in three patients.⁵⁰

6.1 Conclusions on criminal accountability, risk of recidivism and recommendation

The pre-trial forensic mental health reports end with conclusions on the degree of criminal accountability, the perceived risk of recidivism and a recommendation to the court concerning the imposition of treatment measures like tbs. Table 4.3 provides an overview of the conclusions and recommendations presented in the cases included in this study and their differences. The most frequent conclusions with respect to criminal accountability are diminished and greatly diminished accountability (67%). Furthermore, the risk of recidivism is thought to be high in half of the cases (50%). In most reports, the behavioural expert recommends imposing a tbs measure, either conditional (e.g. if certain conditions are met, the tbs measure will not come to be applied) or with compulsory treatment (54%).

Table 4.3. Criminal accountability, risk of recidivism and forensic mental health recommendations and differences in the two groups.

	Total (<i>N</i> = 72)	1950-1979 <i>n</i> = 36	1980-2010 <i>n</i> = 36
Accountability*			
Fully accountable	5	2	3
Slightly diminished in accountability	7	1 ^a	6 ^b
Diminished in accountability	25	13	12
Severely diminished in accountability	22	16 ^b	6 ^a
Fully unaccountable	11	3	8
Recidivism risk			
Low	12	7	5
Moderate	16	8	8
High	30	12	18
Cannot be estimated	2	1	1
Forensic mental health recommendation**			
Special parole condition	12	2 ^a	10 ^b
Conditional tbs	16	15 ^b	1 ^a
Tbs with compulsory treatment	22	12	10
Placement in a psychiatric hospital	7	1 ^a	6 ^b
Other advice/combination	14	6	8

Notes: Some variables had missing values resulting in a smaller sample size;

* $p < .05$; ** $p < .001$ (two-sided);

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

6.2 Differences in criminal accountability, risk of recidivism and recommendation

The explorative analyses produced results indicating that the conclusion on criminal accountability differed between the two groups.⁵¹ In the first three decades severely diminished accountability was more prevalent, and slightly diminished accountability less frequently. So, criminal accountability was deemed reduced to a greater extent in firesetters assessed in the first period. The forensic mental health recommendation presented to the court also differed between the two groups.⁵² In the earlier reports a conditional tbs measure was recommended in over 40 percent of the cases, while this recommendation was made in only one report from the second period. Furthermore, a special parole condition was more often advised in later years, as was true for placement in psychiatric hospitals. Recidivism risk did not differ between the two periods. However, inherent to the exploratory nature of this chapter, numbers are small limiting these findings substantially. What is more, the indications for clinical observation changed over time with more severe cases being evaluated on an outpatient basis in the last two decades. In addition, the tbs population also changed substantially over time, in particular regarding the index offences and the main mental disorders of the patients.⁵³ These limitations must be kept in mind and will be discussed more elaborately in Chapter 12.

7 The influence of mental disorder in cases of firesetting

To see whether a mental disorder in firesetters observed in earlier decades had a stronger influence on the conclusion regarding accountability and on the related forensic mental health recommendation than in more recent decades, statistical tests were performed to see whether differences in association exist between the conclusion on accountability and the recommendation presented to the court and the DSM classification in those different time periods.⁵⁴ Before comparing the two different groups, these tests were also executed on the whole research population to see if the expected association between accountability and recommendation was actually found. The reader must keep in mind that the following results are only exploratory and are based on small numbers that in some cases are even smaller due to missing variables.⁵⁵ Although the

51 $p < .005$, Fisher's Exact.

52 $\chi^2(4, N = 71) = 21.61, p < .001$.

53 Barneveld, 1991.

54 Many forensic reports included in this study made use of old versions of the DSM or did not use the DSM as a classification manual yet, but to ensure consistency have been coded using the DSM version IV-TR. Therefore a DSM classification in this chapter refers to a classification based on this version of the DSM.

55 These small numbers limit statistical power; see also Chapter 12 Section 2.

presentation in tables may create the impression of strong statistical power, these findings are merely used as indications for hypothesized differences and should not receive more weight than that.

7.1 Conclusion on accountability with respect to DSM classification

As expected, a significant association between DSM classification and the conclusion on accountability was found.⁵⁶ Consistently with the fact that criminal accountability can be hampered by mental disorder, if no DSM classification was present firesetters were mainly deemed sane ($n = 2/5$). A classification on Axis I resulted primarily in a conclusion of unaccountability ($n = 6/13$) and if only an Axis II classification was present accountability was generally severely diminished ($n = 11/15$). Firesetters with a DSM classification on both axes were mostly considered diminished in criminal accountability ($n = 11/20$).

In the first group, a DSM classification was also significantly associated with the conclusion on criminal accountability,⁵⁷ with more conclusions of insanity than expected if only an Axis I classification was given, and more often severely diminished accountability and less often diminished accountability if only an Axis II classification was present. In cases with a classification on both axes diminished accountability was more often concluded and greatly diminished accountability less often concluded. However, for the last period no significant association could be found between a particular DSM classification and the conclusion concerning the sanity of the firesetter (see Table 4.4).

56 $p < .005$, Fisher's Exact.

57 $p < .01$, Fisher's Exact.

Table 4.4. Conclusion on accountability with respect to DSM classification in the different groups (n = 26 and n = 22).

	Axis I classification	Axis II classification	Axis I & II classification
1950-1979			
Accountability*			
Slightly diminished in accountability	-	-	1
Diminished in accountability	2	1 ^a	6 ^b
Severely diminished in accountability	3	9 ^b	2 ^a
Fully unaccountable	2 ^b	-	-
1980-2010			
Accountability			
Fully accountable	-	-	1
Slightly diminished in accountability	1	1	-
Diminished in accountability	1	2	5
Severely diminished in accountability	-	2	3
Fully unaccountable	4	-	2

Notes: Some variables had missing values resulting in a smaller sample size;

* $p < .01$ (two-sided);

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

7.2 Forensic mental health recommendation with respect to DSM classification

The DSM classification and the forensic mental health recommendation that was made were also associated for the total population.⁵⁸ With Axis I classifications, placement in a psychiatric hospital was most often recommended ($n = 4/13$). If no DSM classification was given, reports ended with no advice or an advice different from the most frequent recommendations (hospital placement, (conditional) tbs measure or specific parole condition) ($n = 4/5$). Although an association was found between the advice given and a DSM classification for the six decades together, this relation disappeared when the total population was divided into two groups.

8 The influence of dangerousness in cases of firesetting

The growing need for risk management emerging in the 1990s is the basis for the hypothesis that the protection of society has since become more important than keeping the individual safe. To test this hypothesis, it was examined whether dangerousness, as manifested in the risk of recidivism, was associated with the conclusion regarding criminal accountability. In addition, the relationship

58 $p < .05$, Fisher's Exact.

between recidivism risk and the forensic mental health recommendations was investigated. Again, these tests were performed on the whole population and then on the first and the last three decades, to see whether changes occurred over time.⁵⁹ Again, the results below must be viewed as purely illustrative.

8.1 Conclusion on accountability with respect to recidivism risk

Neither for the six decades together, nor for the first and last three decades, could a statistically significant relationship between the degree of criminal accountability and the risk of recidivism be found. This is in line with standard practice in the Pieter Baan Centre, where the risk of recidivism is viewed separately from criminal accountability.

8.2 The forensic mental health recommendation with respect to recidivism risk

When taken together, no significant relationship between recidivism risk and the forensic mental health recommendation was found, although the results showed a trend toward significance with, unsurprisingly, less compulsory tbs measure recommendations ($n = 1/12$) in case of a low recidivism risk, whilst a high recidivism risk was associated with more tbs measures being advised ($n = 17/30$).⁶⁰

To prevent cells with low values, the item on forensic mental health recommendation was dichotomised: Was some form of (conditional) intramural treatment recommended or only a parole condition/no treatment? In the period 1950-1979, no statistically significant relationship was found between recidivism risk and the recommendation. In the last three decades, however, a significant association was found.⁶¹ If firesetters had a low recidivism risk, a special parole condition was usually recommended. In reports on firesetters with a high risk of recidivism some form of (conditional) intramural treatment was recommended (mostly a tbs measure) (see Table 4.5).

59 The numbers in these analyses were small limiting statistical power; see also Chapter 12 Section 2.

60 $p = .096$, Fisher's Exact.

61 $p < .05$, Fisher's Exact.

Table 4.5. Conclusion on forensic mental health recommendation with respect to risk of recidivism in the different groups (n = 25 and n = 30).

	Low recidivism risk	Moderate recidivism risk	High recidivism risk
1950-1979			
Forensic mental health recommendation	1	1	-
Special parole condition/no advice (Conditional) intramural treatment	4	7	12
1980-2010			
Forensic mental health recommendation*			
Special parole condition (Conditional) intramural treatment	4 ^b	3	3 ^a
	1 ^a	4	15 ^b

Notes: Some variables had missing values resulting in a smaller sample size;

* $p < .05$ (two-sided);

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

9 Discussion

This chapter examined whether shifts have occurred in the course of time with respect to the weight of mental disorder and dangerousness in cases of firesetting. From a broader perspective, this chapter aimed to assess whether societal changes concerning forensic mental health and criminal law were reflected in the influence of mental disorder and dangerousness in pre-trial forensic mental health assessments of male firesetters in two groups. To test whether the meaning of mental disorder had decreased and the role of dangerousness had increased over time, pre-trial forensic mental health reports were used as an appraisal tool. In doing so, this chapter not only provides insight in contemporary developments, but also contributes to a better understanding of time-related differences in pre-trial forensic mental health assessments. Because of the explorative nature and small sample of this study, caution is advised when interpreting this result.⁶²

9.1 Offender and offence characteristics over time

In answering the research question, first a more general overview was provided of characteristics of both offender and offence. In addition, differences between the two groups were studied to see whether the characteristics of these offenders and their offences are consistent over time. Many offender characteristics found

⁶² For more elaborate methodological considerations see Chapter 12 Section 2.

in our study correspond to the picture painted in foreign literature.⁶³ Firesetters were mainly single, unemployed men with general recidivism suffering from mental illnesses and exhibiting substance abuse.⁶⁴ However, the average age in our sample was higher, which can be explained by two reports from the 1960s of firesetters over sixty, on the basis of which matching took place. In addition, the study population had a higher level of general intelligence than would have been expected based on previous literature regarding firesetting and firesetters in the US, UK and other European countries like Sweden.⁶⁵ In the Netherlands, compulsory and, if necessary, specialized education is provided and largely financed by the government, ensuring at least a minimum of education until a certain age (since 1985 this minimum age is 16), which may positively contribute to overall intelligence scores in the Netherlands.⁶⁶ Offender characteristics were fairly consistent over time. However, differences were found in intelligence level, unemployment rate, drug use, and psychotic problems. In the last three decades, the average intelligence was higher, which may be due to compulsory education until a higher age than before. The high demand for low-skilled jobs in the post-war period may explain the lower unemployment rates in the first three decades. The emergence of drug problems is logically related to access to various narcotics, which were more available in the second period. It may well be that the increase in psychotic problems is associated with increased drug abuse.⁶⁷

In line with previous findings, fires were mostly started impulsively, out of revenge or anger,⁶⁸ and under the influence of alcohol.⁶⁹ Some offence characteristics had changed over time. In later decades more diverse motives were reported apart from revenge and anger. This may indicate that the view of firesetting as a vindictive offence per se had changed, making way for the acknowledgement of other motives like setting fire as a cry for help. The finding that more fires resulted in personal harm in the second period may be explained by an increase in population and dense housing, increasing the likelihood that a fire affects locations where people are present. Technical and chemical developments may also be of influence, with new, inflammatory materials and harmful chemicals released during fire. Fires appeared to be planned more

63 See Chapter 6 Section 2.

64 Barnett & Spitzer, 1994; Burton et al., 2012; Davis & Lauber, 1999; Dickens & Sugarman, 2012a; Hoertel, Le Strat, Schuster & Limosin, 2011; O'Sullivan & Kelleher, 1987; Puri, Baxter & Cordess, 1995; Ritchie & Huff, 1999; Rix, 1994.

65 Anwar et al., 2011; Dickens & Sugarman, 2012b; Gannon & Pina, 2010; White, 1996.

66 Brinch & Galloway, 2012; Ritchie, Bates, Der, Starr & Deary, 2013.

67 Arseneault, Cannon, Witton & Murray, 2004; Kuepper et al., 2011; Large, Sharma, Compton, Slade & Nielssen, 2011; Moore et al., 2007; Tosato et al., 2013.

68 Barnoux & Gannon, 2014; Dalhuisen & Koenraadt, 2012; Dickens et al., 2007; O'Sullivan & Kelleher, 1987; Ritchie & Huff, 1999.

69 Jayaraman & Frazer, 2006; Lindberg et al., 2005; Ritchie & Huff, 1999; Rix, 1994; Santtila, Fritzon & Tamelander, 2004; Schoenmakers et al., 2010.

often in the last three decades. This trend might be due to changes in crime rate, level of education and instrumental firesettings.

9.2 The influence of mental disorder

Being diagnosed with a mental disorder is a necessary but not a sufficient condition to conclude that criminal accountability is diminished. This mental disorder must have been present at the time of the offence and influenced the ability of the offender to make choices, in other words must have hampered the free will of the person.⁷⁰ Overall and in the first three decades, the given DSM classification was significantly associated with the conclusion regarding accountability. However, in the last period, no significant relationship between DSM classification and accountability was found. Although accountability is determined exclusively by the presence of a disorder and the way in which this disorder affects criminal behaviour, there appears to be a shift in the sense that the severity of the disorder has lost some of its influence on the accountability advice, in favour of the way in which a disorder affects the offence. Perhaps in the last three decades, as a result of objectification, more attention was paid to the scenario of the offence and non-pathological explanatory models for setting fire.

For the six decades together, mental disorder was associated with the pre-trial forensic mental health recommendations presented in forensic mental health reports. The fact that this association disappeared when the sample was subdivided into two groups might be explained by the reduction in sample size and the associated loss of statistical power. Overall, being diagnosed with a mental disorder appears to influence the pre-trial forensic mental health recommendation. This is consistent with practice: if a mental health diagnosis is absent, no recommendation of treatment can be made, and what treatment should be advised depends on what mental health difficulties are present.

9.3 The influence of dangerousness

Although the role of a mental disorder and the conclusion about criminal accountability are both of importance in assessing the risk of recidivism,⁷¹ no relationship was established between dangerousness and degree of criminal accountability. This underlines the notion that a person's criminal accountability for the offence is not causally linked to the likelihood of that person reoffending.

However, with respect to dangerousness and pre-trial forensic mental health recommendation a trend suggesting association was found for the whole time

70 Sierink & Van Mulbregt, 2007. Denying responsibility for the offence, however, can be a complicating factor in establishing a relationship between mental disorder and criminal accountability.

71 Van Mulbregt, 2011.

period and in the last three decades a significant relationship was found.⁷² The lack of statistical association in the first three decades may imply that dangerousness was of more importance for the forensic mental health recommendations in the later period. It should, however, be noted that according to Article 37a Paragraph 1 of the Dutch Criminal Code risk of recidivism is a prerequisite for imposition of a tbs measure, both conditional and with compulsory treatment. The (lack of) statistical correlation does not alter this legal requirement.

10 Conclusion

Both mental disorder and dangerousness are of importance in the pre-trial forensic mental health assessment. However, their influence has fluctuated over time. To answer the central question, it appears that in the course of time the influence of mental disorder has reduced and dangerousness has come to play a greater role in the behavioural advice to the judiciary. Perhaps that the belief of treatment being valuable and helpful to the offender in combination with less emphasis on substantiating claims about diagnoses and their effect on sanity in earlier reports led to the focus on treating the disordered offender regardless of the risk that they actually posed for society. In addition, the growing need to substantiate conclusions in later years may have diminished the role of mental disorder due to the stricter requirements that have to be met before a relationship between mental disorder and the offence could be established. In later reports, due to this objectification of findings in combination with a general tendency to prevent the dangerous offender from re-offending, recidivism risk was associated with the recommendations to the court with intramural treatment advised for high-risk offenders. However, a proper use of risk assessment instruments should further substantiate clinical assessment and is in itself not detrimental to individualization and the pathological context.

Looking at these explorative findings, a shift may be observed in the views on mental disorder and dangerousness: from considerations ‘for their own good’ with care and attention for the individual and his needs independently from dangerousness, to considerations of ‘objectification’ in which thorough substantiation of claims in order to protect society from those at risk of reoffending and to protect offenders from arbitrariness prevails.

Implications

Societal tendencies influence the field of forensic mental health, not only in cases of firesetting. This field is part of society as a whole, and conclusions

72 Methods of risk assessment have changed over time, placing more emphasis on structured risk assessment. It might be argued that this change in method contributed to a difference in outcome. However, the method used ought not to influence the underlying phenomenon of risk.

are partly a product of the zeitgeist. This influence is inevitable, but awareness of this phenomenon can contribute to moving the focus back to objectivity. Newer assessment methods, like structured risk assessment instruments, have been designed and may help improve this objectivity. However, being aware of societal influence and striving for objectivity still remains the individual responsibility of the forensic mental health professional. Ultimately he or she contributes significantly to the decisions of the court that can be of major influence on the life of the person assessed.

Chapter 5

Explaining firesetting

A multidisciplinary approach

1 Introduction

Firesetting is a complicated behaviour that raises several questions. One question that is discussed in this chapter concerns the perpetrators of this offence. What is it that drives a person to commit firesetting, and furthermore: why do some people become firesetters and others do not? And why are some firesetters pure firesetters, in the sense that they do not commit other crimes, while other firesetters exhibit a range of criminal behaviours? Through the years attempts have been made to answer these and other questions. Various explanations from diverse theoretical perspectives have been described, all attempting to increase the knowledge on firesetting and firesetters. Incorporating these previous attempts, this chapter takes a multi-faceted theoretical approach in explaining firesetting behaviour. From a multidisciplinary viewpoint, existing theories and models that can be used to explain this phenomenon are discussed. The aim of this chapter is to answer the following research question:

How can the act of firesetting be explained using various theoretical perspectives?

Answering this question will result in an integrative explanatory model of firesetting, taking into account explanations from various theoretical perspectives.

2 Structure

In this chapter, the act of firesetting is explained using existing theoretical frameworks and models. In this respect it is important to define the concept of theories and models. A theory is a belief, an organized and well-thought-out idea or principle. Models are based on underlying theories and are more practical in their manifestation.

Answering the research question reveals a funnel-shaped structure: wide at the start and narrowing down towards the specific individual. This chapter first tries to explain firesetting on a macro and meso level, using plausible explanations from the field of criminology covering the population of firesetters.

Subsequently, on a micro level, single-factor and multiple-factor psychological explanations for firesetting are described to explain why individual firesetters act as they do. Finally, still on a micro level, firesetting is explained from a more specific psychopathological perspective, in order to offer insight into mental disorders which might contribute to firesetting as well as the role of pathological motives. It must be kept in mind that the explanations provided in this chapter are complementary and not exhaustive. The following will show that there are several types of firesetters, who have various reasons to set fire.

3 A criminological approach: routine-activities theory

3.1 Criminological theory

Starting on a macro level, I would like to look at explanations for firesetting from the field of criminology. Criminology is the study of crime, trying to explain its nature, causes and means of prevention on both an individual and a societal level. However, despite its significant societal impact, no specific criminological theories have been developed for firesetting. An explanation for this might be the fact that there is uncertainty regarding the precise nature of the offence. Nevertheless, more general criminological theories can be applied to the phenomenon of firesetting. One of the mainstream criminological theories that has been applied to firesetting behaviour is the routine-activities theory (RAT) by Cohen and Felson.¹ Despite criticism of RAT, especially regarding the individual motivation of offenders (see below), this theory is discussed more elaborately here because it is one of the few criminological theories related to which firesetting-specific research exists.

3.2 General information on routine-activities theory (RAT)

Although not the first to focus on routine daily activities in criminology,² a routine-activity approach with respect to crime-rate trends was first used by Cohen and Felson in an article published in 1979.³ Instead of focusing on offender characteristics, they emphasized the circumstances in which criminal acts were carried out. They focused on direct-contact predatory criminal acts, which they defined as those violations in which someone intentionally takes or damages the property of another or harms a person, and in which there is direct physical contact between at least one offender and at least one

1 Cohen & Felson, 1979.

2 With respect to victimization, routine activities are believed to be associated with the risk of victimization; as described in Hindelang, Gottfredson & Garofalo, 1978.

3 Cohen & Felson, 1979.

targeted person or object.⁴ Since 1960, crime rates in America had increased dramatically, although social and economic conditions had improved. To explain this paradoxical crime-rate trend, Cohen and Felson referred to changes in the routine activities of everyday life.⁵ Routine activities were defined as ‘any recurrent and prevalent activities which provide for basic population and individual needs, whatever their biological or cultural origins’.⁶ This definition includes e.g. work, school and social interaction. This means that ‘routine’ in this respect does not imply recidivism. According to Cohen and Felson structural changes in routine-activity patterns may influence crime rates, because they affect the convergence in space and time of three minimum elements of direct-contact predatory violations:

- 1) motivated offenders,
- 2) suitable targets, and
- 3) the absence of capable guardians.

The offender must have a criminal propensity and the ability to carry out that propensity. Furthermore, a person or an object must be present providing the offender with a suitable target. Finally, capable guardians must be absent for the violation to take place.⁷ These guardians are usually ordinary citizens and not police officers, who are very unlikely to be present at the time of the offence.⁸ In short Cohen and Felson believed that changes in routine activities, like the increase in the number of women working and the growing number of single-household families, resulted in increased target suitability and decreased guardianship, thus resulting in more violations.⁹ Based on crime rates in relation to several population characteristics, this belief was substantiated.¹⁰

Cohen and Felson’s model is developed on a macro-level scale: it is aimed at explaining crime-rate changes in a certain population at large. However, a routine-activity approach can also be applied to more specific populations (meso level). This was demonstrated by Sheley, who applied a similar model to the purchase of stolen merchandise by students and found interactivity among elements of the criminal act.¹¹

4 Cohen & Felson, 1979.

5 Idem.

6 Idem, p. 593.

7 Idem.

8 Felson, 2002.

9 Cohen & Felson, 1979.

10 In later work, Felson (1987) broadened the scope of RAT to include crimes other than direct-contact predatory crimes only, declaring this theory applicable to all types of lawbreaking. Borrowing from Hirschi’s control theory, he proposed a fourth element that applies to predatory violations and plays a role in other types of crime, namely 4) the absence of an intimate handler like a parent to exert informal social control (Felson, 1986; 1987). However, this fourth element did not seem to hold in subsequent literature on RAT.

11 Sheley, 1983.

RAT has been criticised, especially regarding the simple representation of crime, consisting of only three major factors. Social aspects, biological indicators and other factors concerning human behaviour are not included in this model.¹² Jeffery stated that this theory is only a description of criminal events, and does not provide an explanation.¹³ Furthermore, a study examining the ability of a routine-activities approach to explain property victimization at an individual level did not find strong empirical support for it.¹⁴ Regarding the element of motivated offender, RAT does not pay attention to hidden desires, emotions and personal motives that underlie criminal behaviour. Despite this criticism, RAT offers a comprehensible framework for understanding why certain types of crime occur more often in certain areas.

To conclude, RAT stipulates that a minimum of three elements of a criminal act (motivated offender, suitable target, and absence of capable guardians) must converge in time and space in order for a violation to occur.¹⁵ More recently, Felson described these three elements as ‘almost-always’ elements of criminal acts in general. What is more, he came up with three ‘often-important’ elements that supplement these ‘almost-always’ elements. These are (a) the presence of props to help commit the crime including weapons or tools, (b) the presence of camouflage that helps the offender avoid unwanted notice, and (c) the presence of an audience that the offender wants to impress or intimidate. How these elements interact in time and space will influence the criminal outcome.¹⁶

3.3 *Applicability of RAT to firesetting*

RAT originally applied to direct-contact predatory criminal acts only.¹⁷ Arson can be considered as such an offence. The firesetter intentionally harms or damages a person or property of another, in which some form of direct physical contact with the target is necessary, because the firesetter must, at some point, be present to ignite the fire.

On a crime-rate level, the percentage of unemployment, poverty, being of a specific ethnic i.e. African descent, and youthfulness are believed to influence criminal motivation in the U.S. population.¹⁸ Most of these characteristics are applicable to firesetters. Firesetters are generally described as young, single and unemployed males.¹⁹ Because of unemployment issues, firesetters often

12 Jeffery, 1993.

13 Idem.

14 Massey, Krohn & Bonati, 1989.

15 Felson, 1986.

16 Felson, 2002.

17 Cohen & Felson, 1979.

18 Stahura & Hollinger, 1988.

19 Barker, 1994; Dalhuisen & Koenraadt, 2012; Davis & Lauber, 1999; Dickens & Sugarman, 2012b; Räsänen, Hakko & Väisänen, 1995b; Rice & Harris, 1991; Ritchie & Huff, 1999; Rix, 1994; White, 1996; see also Chapter 6 Section 2.3.

have a low socio-economic status. However, research shows that firesetters are primarily white and not of African descent.²⁰

If, according to RAT, a person is motivated to set a fire,²¹ there must be a suitable target available and capable guardians must be absent. With respect to the suitable targets, research shows that fires are usually targeted at objects instead of directly aimed at persons.²² However, these objects can have personal significance, for instance when the fire is set to the car of an adulterous ex-lover. When fires set to objects with a personal meaning are also defined as person-targeted, about one third of fires are targeted at a person.²³ The objects which appear to be the most likely targets of firesetters are homes, vehicles, and less frequently public buildings.²⁴ Firesetters often set fire to their own home or to the home of a friend or relative, making it an easily accessible target. Furthermore, vehicles are generally also easy to get to, since cars are often parked outside. Setting fire to the firesetter's own home is consistent with RAT. In addition to the firesetter's own residence, research shows that firesetters often set fire to other places where they perform several routine activities, like their hometown, the workplace, residences of relatives and other places close to their home.²⁵ However, houses are normally occupied, people crowd the streets and public buildings are, as the term indicates, public. So with the possibility of people being present, the absence of capable guardians is not guaranteed. However, supposedly to counteract this, firesetters most often commit their crimes at night when most people are asleep and the risk of guardians being present is lowest.²⁶

With respect to the three 'often-important' elements, props are frequently present and firesetters make use of the properties of a crime scene. Although firesetters in most cases bring matches or lighters, they often use them to set fire to flammable materials they find at the scene, like wood, paper or pieces of cloth.²⁷ Furthermore, it can be argued that firesetters preferably act in the dark hours of night to use the darkness as a means of camouflage. In the dark they can move around unnoticed. This is consistent with the hidden nature of the offence. However, firesettings committed by those under the influence of a psychosis or with other mental disturbances often take place in broad daylight,²⁸ indicating that in those instances a person is unable to make the rational choices that RAT implicitly assumes. The last 'often-important' element plays a role only in some types of firesetting. Although most fires are started by a single

20 Hollin et al., 2013; Veen, Stevens, Doreleijers & Vollebergh, 2011.

21 RAT describes criminal motivation on population level. In Section 4 more attention will be paid to individual motivation.

22 Ritchie & Huff, 1999.

23 Dalhuisen & Koenraad, 2014.

24 Idem; Ritchie & Huff, 1999; Rix, 1994; see also Chapter 6 Section 2.2.

25 Yesavage, Benezech, Ceccaldi, Bourgeois & Addad, 1983.

26 Schoenmakers, Van Wijk & Van Ham, 2012; Yesavage et al., 1983.

27 Ritchie & Huff, 1999; Santtila et al., 2004; see also Chapter 6 Section 2.2.

28 Yesavage et al., 1983.

perpetrator,²⁹ vandalism fires, politically-driven and riot fires are committed in groups in which peer pressure comes into play.³⁰

Stahura and Hollinger evaluated RAT using 1980 arson-rate data for 676 American suburbs. They operationalized the 'motivated offender' element by looking at percentages of poor, black, unemployed and youth. The 'suitable targets' or opportunities for crime were operationalized as percentages of multiple-housing structures, old housing and number of commercial/industrial structures. 'Guardianship' was measured by percentages of female labour-force participation and – unlike Cohen and Felson – police expenditure per capita and police employment. Results showed that when all three preconditions for crime were present in a suburb at a particular time, firesetting rates were likely to be higher.³¹

3.4 Discussion

Firesetting is a highly specific offence, which does not fit well into existing subdivisions of crime. On an offence level, similarities are seen with both violent and property offences, depending on the type of firesetting committed. However, on an offender level, firesetters appear to be more similar to property offenders than to violent criminals. In criminological textbooks, firesetting is often grouped under the heading of property offences. Because no specific criminological theories explaining firesetting exist, a more general theory is used to explain this behaviour. Routine Activity Theory has been studied specifically in firesetters, both on a macro (all firesetters) and a meso level (subgroups of the population). In general it can be stated that a firesetter has a criminal inclination to set fire, finds a suitable target within his range of routine activities and commits his act secretly to avoid the presence of capable guardians. Specific studies like the one from Stahura and Hollinger confirm this pattern,³² and this criminological theory forms the basis of the integrative theoretical model used to explain firesetting behaviour which will be constructed in this chapter.

However, explaining firesetting solely based on this theory is significantly limited, for RAT leaves one question greatly unanswered, both in general and with respect to firesetting. This theory focuses primarily on the risk of victimization on a macro level, and does not address the question who is at risk of becoming an offender or why a certain individual is inclined to set fire.³³ What is more, although many studies have been conducted applying RAT on various sociological levels, at varying locations, with different crimes and

29 Molnar, Keitner & Harwood, 1984; Santtila et al., 2004.

30 Moll, 1974.

31 Stahura & Hollinger, 1988.

32 Idem.

33 Osgood, Wilson, O'Malley, Bachman & Johnston, 1996.

for trends over time, the variables creating a 'motivated offender' have only received minimal attention.³⁴ Mostly, this motivated offender is treated as a given, leaving unanswered what distinguishes the firesetter from other persons who might be present at the scene and thus experience the same suitable target and absence of capable guardians. In later work, Felson changed the term 'motivated offender' to 'likely offender', which reflects the rational-choice concept embedded in RAT to fill the void regarding criminal motivation.³⁵ In order to look at individual motivation, in the next section, psychological theories are described which might explain why a certain individual develops an inclination to set fire. It will become clear that individual motivation is often non-rational in nature, e.g. when people set fire out of a sudden rage without rationally thinking about the consequences or possibilities of getting caught.

4 A psychological approach

4.1 Introduction

In order to further develop the integrative theoretical model to explain firesetting behaviour, also taking individual motivation into account, this section discusses psychological explanatory models. Several single-factor models are often brought up when firesetting behaviour is explained theoretically. Gannon and Pina for instance discuss explanations from a psychoanalytical, social-learning and biological perspective.³⁶ Other writers also stress the importance of psychoanalysis, social learning and biology in explaining firesetting.³⁷ This section will only discuss those single- and multi-factor explanations which are relevant for the new theoretical model developed here.³⁸

34 Sasse, 2005.

35 Brunet, 2002; Felson, 1998.

36 Gannon & Pina, 2010.

37 Barnett & Spitzer, 1994; Glancy, Spiers, Pitt & Dvoskin, 2003.

38 Influenced by psychoanalytic ideas, observational data and case studies, in early years firesetting was viewed as a sexual offence (Gold, 1962; Lewis & Yarnell, 1951; Lewis, 1966; Mavromatis & Lion, 1977). However, within the psychoanalytic community no consensus existed with respect to this sexual root of firesetting (Barnett & Spitzer, 1994). Other psychoanalytical explanations for firesetting behaviour focused on fixation at the oral phase of development (Kaufman, Heims & Reiser, 1961), and subconscious aggression caused by the child accidentally witnessing parental intercourse (Arlow, 1978; Grinstein, 1952). A sexual explanation for firesetting was invalidated in other research and is currently generally rejected (Barnett & Spitzer, 1994; Hurley & Monahan, 1969; Quinsey, Chaplin & Upfold, 1989).

4.2 *Single-factor explanations: social learning, biology and addiction*

From a social-learning perspective, firesetting is explained as originating from modelling, imitation and reinforcement.³⁹ In particular, firesetting is linked to modelling of aggression and inadequate social skills.⁴⁰ As Vreeland and Levin importantly point out, vicarious, observational learning of firesetting behaviour through modelling is supported by evidence suggesting that firesetters grow up in environments where fire is more prevalent (e.g. rural settings) and fathers of firesetters have occupations involving fire exposure (e.g. working for the fire department).⁴¹ Gannon and Pina describe additional evidence for this modelling process, suggesting that firesetters come from families with a history of firesetting and are raised in environments where fire is used as a means of punishment.⁴² From a social-learning viewpoint, firesetters act for two reasons.⁴³ First, it has an immediate reward for the firesetter. Fire holds sensory stimulating properties, and furthermore results in commotion through the fire fighting and a crowd of spectators, and if the person has participated in alarming or putting out the fire he or she receives praise and recognition from the community. Second, a person may set fire because they have learned to avoid direct interaction with other people because of prior aversive experiences in social contact. So, in case of an interpersonal problem, indirect aggressive behaviour such as firesetting is favoured over socially acceptable direct ways to respond, like talking about it and working through a conflict together.

On a biological level, several factors are associated with the act of firesetting.⁴⁴ Regarding brain chemistry, evidence suggests a relationship with neurotransmitter anomalies, and in particular low serotonin activity.⁴⁵ With respect to metabolism processes, studies measuring the blood glucose nadir show a relationship between (recidivistic) firesetting and hypoglycaemic tendency (low glucose levels) suggesting a role of glucose in the aetiology and preservation of firesetting.⁴⁶ On the level of brain anatomy there is some case evidence linking firesetting and pyromania to (left) frontal lobe dysfunction,⁴⁷ and left internal capsule damage due to lacunar stroke.⁴⁸

As described in Chapter 3, early writers on pyromania already noted the link between firesetting and alcohol, with firesetters often being intoxicated

39 Bandura, 1977.

40 Glancy et al., 2003.

41 Vreeland & Levin, 1980.

42 Gannon & Pina, 2010.

43 Vreeland & Levin, 1980.

44 See also Koenraadt et al., 2015.

45 Virkkunen, Nuutila, Goodwin & Linnoila, 1987; Virkkunen, De Jong, Bartko, Goodwin & Linnoila, 1989.

46 Virkkunen, 1984; Virkkunen et al., 1987; Virkkunen et al., 1989.

47 Calev, 1995; Grant, 2006; Kanehisa et al., 2012.

48 Bosshart & Capek, 2011.

at the time of the offence and having other alcohol-related problems.⁴⁹ This association is also found in recent literature, for both men and women.⁵⁰ Based on these and other findings, firesetting might simply be caused by alcohol abuse, but it is also possible that alcohol abuse and firesetting share common underlying factors. In this respect, I would like to devote attention to one possible underlying factor, namely addiction susceptibility. Studies on impulse-control disorders show similarities with addictive disorders. Holden therefore describes disorders in impulse control (including pyromania) as behavioural addictions. In pathological gambling for example, tolerance, craving and highs are seen.⁵¹ Similarities between pyromania and addictive disorders also exist, such as the experience of craving and tolerance that builds up reducing the pauses between acts of firesetting.⁵² Grant and Potenza even argue that behavioural addictions and other addictions share the same core elements: (a) repeatedly or obsessively being concerned with the behaviour despite adverse consequences; (b) reduced control over the problematic behaviour; (c) a state of craving prior to the exercise of the behaviour; and (d) a hedonic state during its execution.⁵³ In addition to similarities on a phenomenological level, there are also multiple neurobiological and genetic parallels.⁵⁴ The neurotransmitter dopamine seems to play a role in the impulsivity of disorders like pyromania and addictive disorders. A parallel can be drawn with other disorders in impulse control like pathological gambling. There is strong evidence for a neurobiological link between pathological gambling and substance-use disorders (biochemically, from neuro-imaging studies, genetic studies and treatment).⁵⁵ Furthermore, a case report of treatment with an opiate antagonist showed results in reducing the urge to set fire.⁵⁶ Based on the foregoing, firesetting behaviour, in particular repetitive firesetting, shows strong resemblances with addictive disorders, especially alcohol-use disorders. From an addiction-model perspective, firesetting can be explained as a behavioural addiction.

4.3 Multi-factor explanations

Firesetting, like all behaviour, cannot be explained by a single factor. Multiple factors regarding both the individual and their (social) environment must be taken into account in order to explain this behaviour more comprehensively. Multi-factorial psychological models can provide insight into the development,

49 See for instance Schmid, 1914.

50 Boden, Fergusson & Horwood, 2012; Hoertel et al., 2011; Vaughn et al., 2010.

51 Holden, 2001.

52 Grant, Brewer & Potenza, 2006.

53 Grant & Potenza, 2005.

54 Brewer & Potenza, 2008.

55 Grant & Potenza, 2005; Grant, Kim & Hartman, 2008.

56 Grant, 2006.

and in some cases maintenance, of an inclination to set fire in an individual.⁵⁷ So, from a psychological viewpoint, these models can provide an answer to the question how a person becomes a so-called ‘motivated offender’ and why that person persists in being one.

4.3.1 *Functional analysis model*

One multi-factorial psychological model that increases the understanding of the development and maintenance of an inclination to set fire is the functional analysis model of Jackson, Glass, and Hope.⁵⁸ For the basic characteristics of functional analysis theory, Jackson and colleagues refer to the work of Slade,⁵⁹ and Owens and Ashcroft.⁶⁰ In essence, functional analysis deals with the specific factors that contribute to and maintain problematic behaviour for a specific individual.⁶¹ It is believed that all behaviour must serve a purpose to an individual on some level; otherwise it would not be exhibited. The behaviour is seen as adaptive to the environment and therefore meaningful relationships between the environment and the behaviour are of interest.⁶² The behaviour is perceived as a function of preceding events, also called antecedent events, and consequences which serve as reinforcers and maintainers.⁶³ Reinforcers are consequences that strengthen the behaviour. They are called positive when they result in a certain consequence that is favourable to a person, whilst negative reinforcers involve the removal of an aversive situation and therefore also increase or maintain the behaviour. Within the functional analytic paradigm, Jackson and colleagues describe several antecedent events and consequences which they believe to interact in several complex ways to account for recidivistic firesetting.⁶⁴ For their theory, they rely on clinical experience with firesetters, previous research on characteristics of firesetters and principles of learning theory.⁶⁵ Firesetting is believed to be preceded by the following antecedent events:

- 1) psychosocial disadvantage: firesetters often have an adverse social background as well as personal inadequacies, which mutually affect one another;
- 2) dissatisfaction with life and the self: research shows a high incidence of depression and self-esteem issues are present; furthermore, Jackson and colleagues describe their clinical experience with firesetters indulging in fantasies in which they are more heroic and important;

57 Doley, 2009.

58 Jackson et al., 1987. A somewhat similar multi-factorial model with regard to firesetting is the dynamic-behavioural model for the qualitative analysis of fire-deviant behaviour introduced by Fineman in 1980 and elaborated on by him in 1995 (Fineman, 1980; Fineman, 1995).

59 Slade, 1982.

60 Owens & Ashcroft, 1982.

61 Orlemans, Eelen & Hermans, 2007.

62 Sturmey, Ward-Horner, Marroquin & Doran, 2006.

63 Jackson et al., 1987.

64 Idem, 1987.

65 See also Gannon & Pina, 2010.

- 3) ineffective social interaction: firesetters in general experience social isolation and social rejection, and show poor social skills;
- 4) specific psychosocial stimuli: this antecedent deals with specific factors which direct firesetters to using fire, like previous experiences with fire and the inhibition of alternative behaviour; and
- 5) triggering stimuli: the inclination to set fire must be triggered, internally by an emotionally significant event which causes conflict between a desire to change and the inability to do so, and externally by the opportunity which arises.

After the firesetting behaviour takes place, numerous consequences can arise which play a significant role in the persistence of firesetting. First, Jackson and colleagues hypothesize that fire play results in (a) increased social effectiveness; by playing with fire, the child gets attention and recognition of distant and rejecting peers and parents, intensifying the parent-child relationship (positive reinforcement). Furthermore, the child may be labelled as emotionally disturbed, which might serve as protection from stressful situations like bullying or family difficulties, resulting in (b) a changed environment (negative reinforcement). Furthermore, fire is intrinsically arousing for children (positive reinforcement). This arousal is (c) increased and maintained in adults because of the dramatic effects a firesetter generates by setting a fire and because once one is forced to avoid fire and firesetting materials, satiation of the arousing properties of fire is impossible.

However, apart from reinforcers, punishers that might exaggerate the antecedent problems are also important. After the child is caught setting fire, caregivers often react punitively and (d) the use of fire is likely to be restricted (negative punishment). As a result, opportunities to learn how to deal with fire and fire materials in an appropriate way are diminished greatly. It is possible that the firesetter is (e) placed in a special institution, like a special school, prison or hospital (positive punishment). These factors might lead to (f) increased interpersonal problems, like feelings of rejection, low self-esteem and (perceived) absence of self-efficacy (positive punishment). Figure 5.1 shows the antecedents and behavioural consequences with their complex interactions

Many hypothesized interrelationships between antecedents, behaviour and consequences are supported empirically.⁶⁶ With respect to the psychosocial disadvantages, studies show that firesetters come from dysfunctional families often characterized by absent and/or abusing parents.⁶⁷ Furthermore, they have problems with interpersonal skills, are shy and unassertive.⁶⁸ Low self-esteem is often present, in which firesetting can be used as a means of exerting

66 Gannon & Pina, 2010; Gannon et al., 2012.

67 O'Sullivan & Kelleher, 1987; Rix, 1994; Stewart, 1993.

68 Harris & Rice, 1996; Rice & Chaplin, 1979.

control over one's environment.⁶⁹ Nevertheless, the theory as a whole has not been the subject of thorough investigation, and is therefore not yet proven to be evidence-based.⁷⁰ However, the functional analysis model of recidivistic firesetting provides a multi-faceted framework for a deeper understanding of firesetters and has proven its value in clinical practice.⁷¹

4.3.2 *The multi-trajectory theory of adult firesetting*

A more recent multi-factorial psychological model explaining the act of firesetting is the multi-trajectory theory of adult firesetting (M-TTAF) introduced by Gannon and colleagues.⁷² The M-TTAF consists of two levels: the first tier concerns the overall theoretical framework; the second tier describes prototypical trajectories leading to firesetting. The first tier is not very different from the model of Jackson and colleagues.⁷³ Factors and mechanisms on various levels and their interactions are described to explain firesetting behaviour (see Figure 5.2). The first element is the distal **developmental context**. In this context a disadvantageous *caregiver environment* is a key aspect. This environment influences *learning*, like fire experiences but also attitudes and values and coping strategies. Furthermore, *cultural forces*, like attitudes towards fire, also influence social learning. The *biology and temperament* of a specific person is also of importance: cognitive impairments for instance can play a role in firesetting behaviour. The second element consists of **psychological vulnerabilities**. Based on research literature, existing theoretical explanations and clinical experience, four main psychological vulnerabilities are included that are likely to be associated with firesetting: (1) inappropriate fire interest/scripts, based on the positive reinforcing elements fire can have for a person and inappropriate fire learning resulting in distorted scripts regarding fire (e.g. fire coping scripts and aggression-fire fusion scripts); (2) offence-supportive attitudes, like believing that fire is harmless or seeing oneself as authorized to set a fire; (3) self-emotional regulation issues, like impulsivity and poor coping skills; and (4) communication problems, demonstrated by insufficient social skills, isolation and unassertiveness.

69 Vreeland & Levin, 1980.

70 Gannon & Pina, 2010.

71 Swaffer, Haggett & Oxley, 2001; Taylor, Thorne, Robertson & Avery, 2002.

72 Gannon et al., 2012.

73 Jackson et al., 1987.

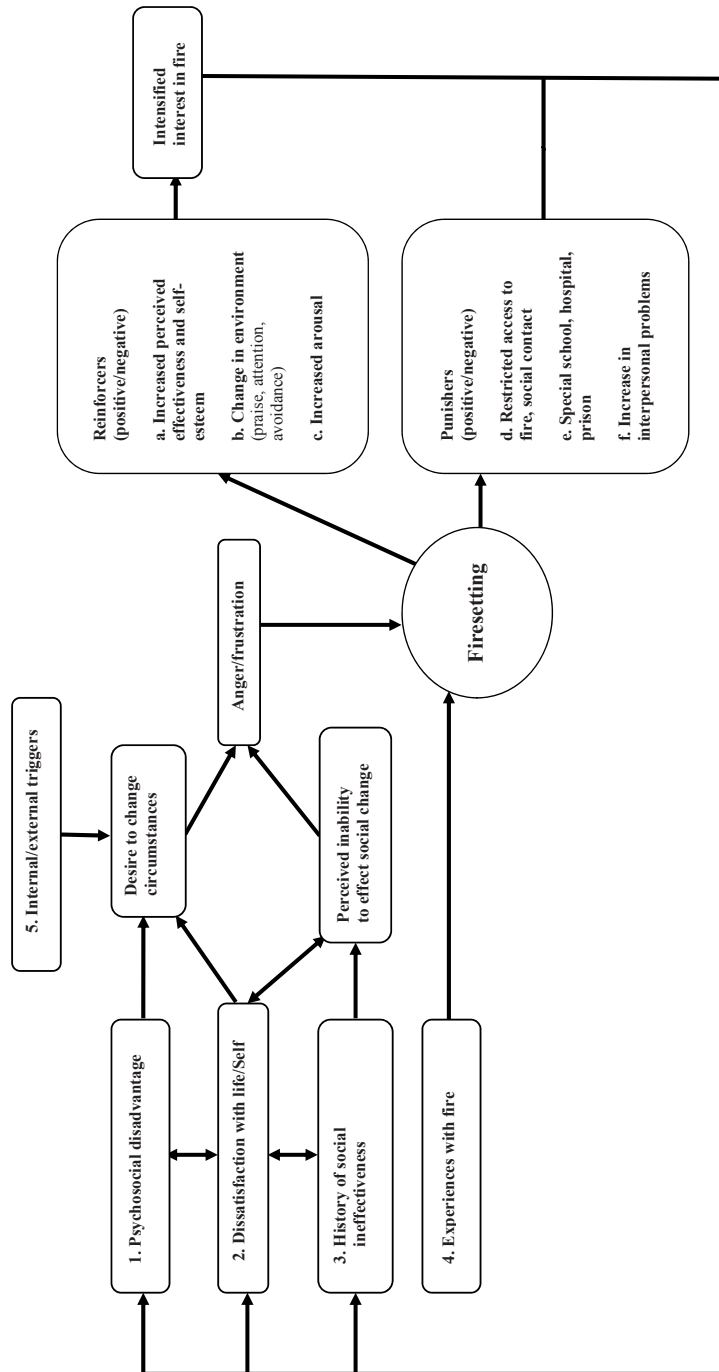


Fig. 5.1 The diagrammatic formulation of recidivistic firesetting by Jackson and colleagues (1987).

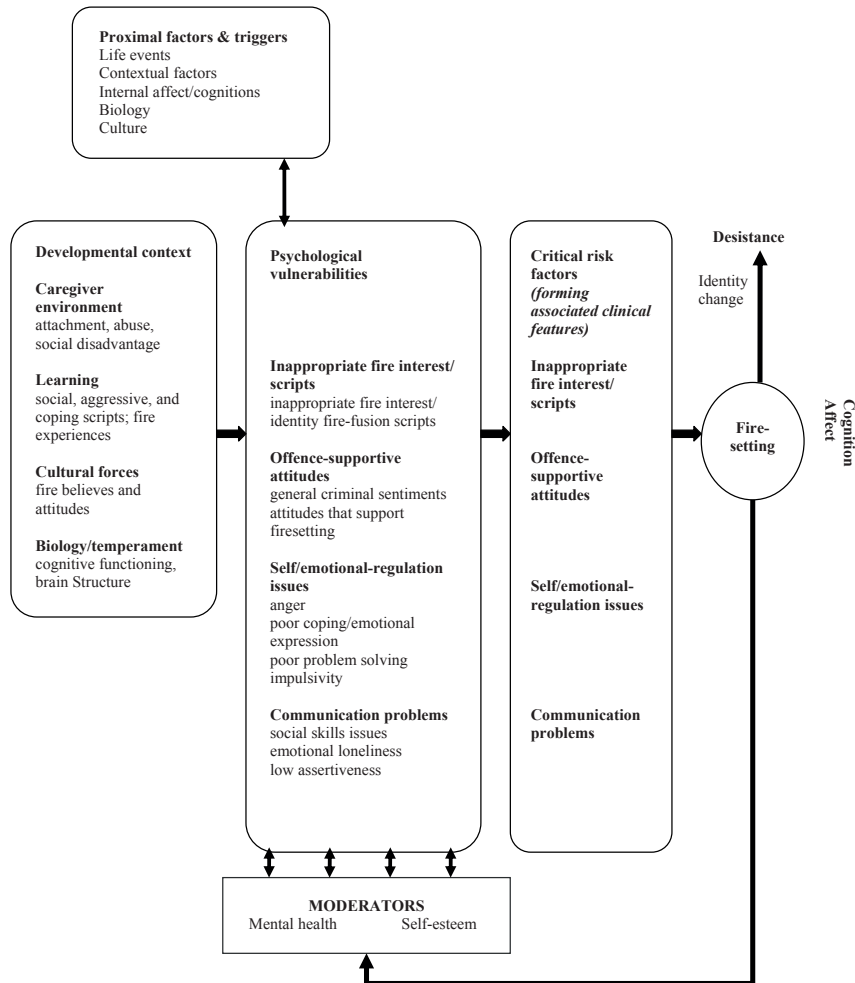


Fig. 5.2 A summary of the first tier of the M-TTAF by Gannon and colleagues (2012).

How these psychological vulnerabilities result in so-called **critical risk factors** (the third element), facilitating firesetting, is explained by both *proximal factors and triggers* and *moderators*. Proximal factors and triggers can interact with the vulnerabilities and consist of life events, contextual factors, emotions or cognitions, but also biology and culture. This interaction is *moderated* by the mental health and self-esteem of a person. Gannon and colleagues conceptualize mental health and self-esteem as key moderators that dictate the

severity in which a proximal trigger reflects, and interacts with psychological vulnerabilities to create the critical risk factors.⁷⁴

The M-TTAF also devotes attention to factors acting as *reinforcers* of the behaviour, hypothesizing that reinforcement is of critical importance in the maintenance of firesetting behaviour. Fire can result in positive consequences like sensory stimulation, acceptance by peers, and financial gain which all result in positive affect. But the negative consequences like rejection from society (punishment) can also result in upholding the behaviour, by worsening psychological vulnerabilities. Apart from factors maintaining the behaviour, Gannon and colleagues also incorporated elements with regard to desistance in their model. They hypothesize that increased feelings of personal control, hope, and strong social ties will positively influence desistance.⁷⁵

The second tier of the M-TTAF describes five prototypical trajectories associated with firesetting, based on literature and experience.⁷⁶ The aim of this second tier is to provide clinicians with helpful prototypes, increasing the utility of the theory for clinical practice. The following trajectories are described:

- 1) Antisocial cognition: for these firesetters antisocial cognitions, scripts, and values are the most important critical risk factor. These cognitions and scripts are criminal in general and not specifically focused on fire. Therefore, fire interest and inappropriate fire scripts are unlikely, but they show other critical risk factors like poor self-control. These firesetters are usually young when they start their criminal career and are often diagnosed with conduct disorder or antisocial personality disorder. Fire is usually set for instrumental reasons, like financial gain.
- 2) Grievance: firesetters following this pathway are hypothesized to have problems with self-regulation, aggression, anger, and hostility. Communication problems are common as well as the linking of scripts involving aggression and fire. Fire is seen as an instrument and used as such, often out of revenge or retaliation temporarily improving self-esteem and self-efficacy.
- 3) Fire interest: firesetters that follow this trajectory hypothetically are fascinated by fire. Fire may be used as a means of coping with adverse situations and emotions and firesetting is supported by cognitions and attitudes. Furthermore, impulsivity is believed to be present.
- 4) Emotionally expressive/need for recognition: for firesetters that follow this trajectory communication problems are the primary critical risk factor. In the emotionally expressive subtype, firesetters in addition have emotional regulation issues (poor problem-solving skills, impulsivity). If the context becomes overwhelming, these persons feel unheard and hopeless, expressing their need by using fire as a message or as a cry for help. Firesetters who act out of the need for recognition are hypothesized to also use fire as a

74 Gannon et al., 2012.

75 Idem.

76 See also Ó Ciardha & Gannon, 2012.

communication tool, but acknowledgement is sought more secretly with fires that are planned so one can remain undetected. Sometimes the firesetter gains positive attention by playing the part of hero (for example by saving people).

- 5) Multi-faceted: The last trajectory concerns firesetters whose key criminal risk factors are offence-supportive attitudes (similar to the antisocial cognition trajectory) combined with fire interest. What is more, self-emotional regulation skills are believed to be poor and communication problems exist. It is hypothesized that firesetters following this trajectory experienced adverse conditions growing up. Because of the hypothesized antisocial sentiments and a long history of crime, firesetting is believed to be instrumental and repetitive, without regard for the consequences for others.

Although the first tier of the M-TTAF is quite similar to the multifactor model by Jackson and colleagues, there are some differences. According to Gannon and colleagues, their model tries to explain a broader variety of firesetting behaviours, like firesetting and self-harm; it also includes factors regarding desistance; it makes a distinction between distal and proximal variables;⁷⁷ and it provides prototypical firesetting trajectories (the second tier). What is more, their model is specifically aimed at adult firesetting instead of firesetting by children or adolescents.⁷⁸ Because the M-TTAF is so recent, the five trajectories especially are provisional and empirical support for both theory and trajectories is desired and prospective.⁷⁹

4.4 Discussion

Psychological explanations for why an individual sets fire show that firesetting is a learned behaviour with several biological findings associated with it. Moreover, because of clear parallels with addictive disorders it can be described as a behavioural addiction. However, there is no single explanation that can completely account for the complexity of firesetting behaviour, which is counteracted by multi-factorial models like the functional analysis model by Jackson and colleagues and the M-TTAF by Gannon and colleagues.⁸⁰ In short, these models look at a variety of factors that may explain why individuals set fire. Jackson and colleagues perceive firesetting as a behaviour that serves a purpose, and take rewarding and punishing properties of antecedents and consequences

77 Distal factors involve early developmental experiences and genetic traits (e.g. parental attachment, childhood abuse), whilst proximal factors are more direct and can act as triggers (e.g. psychological states and situations).

78 Gannon et al., 2012.

79 See further Chapter 9 Section 3.

80 Gannon et al., 2012; Jackson et al., 1987.

of that behaviour into account. In addition, Gannon and colleagues focus on a combination of developmental factors, biological factors and temperament, cultural factors, social-learning factors, and contextual factors underlying fire-setting.

The psychological models discussed here give more insight in the multi-faceted nature of firesetting behaviour in general and the many factors influencing individual motivation in particular. On a psychological level, the integrative explanatory model regarding firesetting will take a functional analytic perspective acknowledging the function firesetting can have for a person and adopt the various factors described in the functional analysis model and the model by Gannon and colleagues.

5 A psychopathological approach: disordered offenders

5.1 Introduction

Although the aforementioned psychological models encompass multiple elements associated with mental problems, these models are not tailored to disordered offenders in particular. Yet, firesetters often have a psychiatric history or current psychiatric diagnoses.⁸¹ This mental disorder may affect the firesetter at the time of the offence, perhaps even induce the act of firesetting. Therefore it is essential to also look at the subpopulation of disordered offenders to gain a deeper understanding of why some individuals set fire.

5.2 Mental disorders associated with firesetting

A mental disorder directly associated with firesetting is pyromania. If a person is diagnosed with pyromania, this means that he has a fascination with fire and shows signs of arousal before the act, while actually setting the fire brings gratification and is repeated. Firesetting is the main characteristic of this disorder; hence the diagnostic criteria form the explanatory framework.⁸² Although not directly including firesetting symptoms in its diagnostic criteria, schizophrenia has strong ties with firesetting.⁸³ This relationship may be explained by the direct influence a psychotic state can have, inciting a person to set fire.⁸⁴

Another group of mental disorders more frequently associated with firesetting are the personality disorders, and especially antisocial personality disorder.⁸⁵ In line with the multi-factorial theories described in Section 4.3,

81 Puri et al., 1995; Ritchie & Huff, 1999; Rix, 1994.

82 See further Chapter 6 Section 2.3.

83 Anwar et al., 2011; Ritchie & Huff, 1999.

84 See also Section 5.3.

85 Barnett & Spitzer, 1994; Hoertel et al., 2011; Ritchie & Huff, 1999; Rix, 1994.

personality disorders may contribute to firesetting in several ways. Personality traits such as poor self-regulation, low self-esteem, and antisocial sentiments can predispose a person to firesetting.

Another disorder that deserves attention in this respect is alcohol abuse. Since the first accounts of pyromania it has been recognized that alcohol plays an important role in the act of firesetting.⁸⁶ Firesetters frequently show problems with the use of alcohol,⁸⁷ and intoxication at the time of the offence is common, with percentages ranging from 35 percent to even 100 percent.⁸⁸ The association between alcohol and firesetting can be indirect, i.e. alcohol dependence being a reflection of problems with the self and the environment in general. Alcohol can also directly influence firesetting as a trigger: while intoxicated, firesetters might feel more confident and might lose control over their actions. The fear of being caught and the rational thought process no longer overrule the person, and long-held ideas about fire and firesetting might surface.

Pathological problems can influence communicative firesetting, which refers to the use of firesetting as a communicative tool to express the desire for change (e.g. a change in residence) in those persons who are unable to express their needs and wishes in a normal way because of a lack of social skills.⁸⁹ For instance, a person with a mental disorder, low assertiveness and a lack of adequate social abilities does not like the hospital they are placed in. Instead of expressing this to the staff, this person sets fire to their room to get attention for their problems and to force a transfer to another ward. Although it is not a separate disorder, communicative firesetting can explain certain 'cry for help' fires in which communication problems directly lead to the offence.

5.3 *Pathologically motivated firesetting*

From the aforementioned, it is clear that in firesetters mental disorders can be present and of influence at the time of the offence. In this section the most direct form of influence a mental disorder can have on firesetting will be discussed. In some cases fires are set as a direct result of a mental disorder, because the inclination to set fire is caused by the mental disorder. These pathologically motivated firesettings are caused by several mental illnesses; in particular disorders in thought or perception and affective disorders can directly influence motives for firesetting.

Psychosis-induced firesetting is the most notable pathologically motivated type of firesetting. Psychotic disorders have a link with firesetting. Several

86 See Chapter 3.

87 Hoertel et al., 2011; Labree, Nijman, van Marle & Rassin, 2010; Lindberg et al., 2005; O'Sullivan & Kelleher, 1987; Puri et al., 1995; Räsänen et al., 1995b; Repo et al., 1997a; Ritchie & Huff, 1999.

88 Jayaraman & Frazer, 2006; Lindberg et al., 2005; Ritchie & Huff, 1999; Rix, 1994.

89 Geller, 1992; Geller, 2008.

reviews conducted in the early 1990s even explain firesetting as a direct result of a disorder of thought or perception, or affective disturbances.⁹⁰ Schizophrenia and other psychotic disorders can cause hallucinations and delusions that can directly incite a person to set fire. For example, a person can continuously be harassed by persuasive voices telling him or her to set fire to a particular object (command hallucinations). To silence these often unpleasant and irritating voices, the command can be followed. Another possible way in which psychosis induces firesetting is by certain delusions or faulty beliefs. One man for instance believed that aliens lived in the walls of his apartment. Startled by that delusion, he tried to smoke them out, setting fire to his apartment in the process.

Affective disorders can also directly influence the act of firesetting. Most often this influence is seen in cases where fire is used as a means of suicide. For instance, a person sets fire to their own home, perhaps by turning on the stove, wanting to end their life in the blaze. This pathological motive of suicide appears to be more common amongst women. Parasuicide is significantly more often seen in women than in men, as is shown by a study on 167 adult firesetters in the UK.⁹¹ Apart from depression resulting in suicide or parasuicide, a person might set fire whilst in a manic state, losing rational thought and control over his or her actions or having unrealistic beliefs about fire. According to Geller, the progressively decreasing rates of firesetting in the US might be explained by better treatments for psychosis, depression and mania, which have been introduced in the past 20 years.⁹²

5.4 Discussion

In short, firesetters may suffer from mental disorders, either currently or in their past. Disorders particularly associated with firesetting are schizophrenia and other psychotic disorders, personality disorders, alcohol-use disorders and affective disorders. These disorders can explain firesetting directly and indirectly. Sometimes disorders directly influence the inclination to set fire, for example in case of psychosis-induced firesetting. However, disorders can also influence a person more indirectly. A person suffering from a mental illness experiences difficulties on various levels, like communication deficits, low self-esteem and poor self-efficacy. These difficulties can result in firesetting through several chains of interactions in line with the multi-factorial theories of firesetting and can result in a 'motivated offender' that sets fire when he or she sees an opportunity.

Generalising findings on mental disorders in firesetters is difficult due to varying study populations and a focus on disordered populations only,

90 Barker, 1994; Barnett & Spitzer, 1994; Geller, 1992; Prins, 1994.

91 Dickens et al., 2007.

92 Geller, 2008.

distinguishing them from more ‘criminal’ firesetters with saner motives. However, criminal firesetters and disordered firesetters do not seem to differ very strongly with respect to mental illness,⁹³ which appears common in all firesetters.⁹⁴ Mental illness and related symptoms must therefore be taken into account when explaining firesetting behaviour. For this reason, the integrative explanatory model will also incorporate the firesetter’s mental state and mental disorders at the time of the offence.

6 Conclusion: an integrative explanatory model of firesetting

The aim of this chapter was to answer the question of how firesetting can be explained based on theories from various disciplines. Figure 5.3 summarizes findings in an integrative explanatory model of firesetting taking into account explanations from various theoretical perspectives.⁹⁵ From a criminological perspective, the routine-activities theory states that firesetting can occur when three conditions are met: there must be a motivated firesetter, a suitable target must be present, and capable guardians that can prevent the firesetting from occurring must be absent. This broad theory is applicable to firesetting, both on a macro level and a meso level. However, what this criminological theory does not answer is the subsequent question of how one becomes a motivated offender and often persists in being one. It also fails to provide insight into the non-rational behaviour that some firesetters exhibit, e.g. setting fire in broad daylight. This question of motivation is answered using single-factor and multi-factorial psychological models that are more clearly tailored to the individual, micro level. Because the behaviour is very complex, explanations focusing on one factor provide only partial insight into the question why someone becomes a firesetter. In order to counteract this, explanatory models that take into account multiple factors that interact were discussed. The functional analysis model by Jackson, Glass, and Hope explains firesetting as a behaviour that serves a purpose for the firesetter and is sustained because the positive consequences outweigh the negative effects.⁹⁶ More recently, Gannon and colleagues introduced a model with two tiers explaining firesetting with factors that interact.⁹⁷ Mental health is an important moderator but more erratic forms of firesetting behaviour are not fully explained in this model.

93 When financially motivated firesetters were excluded from a sample of imprisoned firesetters, and the remaining criminal firesetters were compared with firesetters residing in a mental hospital, the criminal firesetters had many characteristics in common with the disordered firesetters and in general these two groups suffered from quite a few psychological disturbances (O’Sullivan & Kelleher, 1987).

94 Barnett & Spitzer, 1994.

95 A further application and integration of this model will be discussed in Chapter 12.

96 Jackson et al., 1987.

97 Gannon et al., 2012.

Taking a pathological perspective, the role of mental disorders in firesetting is discussed more elaborately. Several mental illnesses are associated with firesetting and can account for it, either directly by creating an inclination to set fire or indirectly by means of secondary symptoms negatively influencing the psychological abilities of a firesetter. Firesetting is a multifaceted behaviour that stems from a combination of various interacting factors. The developed model therefore does not display linear relationships, but must rather be placed in an individual's context.

To conclude, from the explanatory models discussed it follows that firesetting is a complex behaviour that cannot be explained using single-factor theories only. Various explanations from different disciplines show that characteristics of a person and their environment, both in the past and in the present, must be taken into account. Furthermore, there is no such thing as 'the' firesetter. Several pathways lead to firesetting, distinguishing more general antisocial behaviour from pure firesetting behaviour and differentiating the group of firesetters into subtypes. It is therefore impossible to give just one clear answer to the question why a person sets fire. One answer may be that a person finds an opportunity for setting fire because he feels unguarded and sees an object he wants to set fire to. This 'wanting' is another important element: motivation is personal but can be explained by the characteristics of a person that interact with, amongst other things, our contemporary culture of rationality and order, making life difficult, for instance social disadvantage or a psychiatric disorder. Fire can then be used as a means to experience 'fun, meaning and resistance',⁹⁸ or as a means of passive-aggressive expression of emotion. Instead of solving problems with other people in a socially acceptable manner, due to a history of failure in interpersonal contact, fire may be used to exert control over the environment and to improve self-confidence. In some instances firesetters behave erratically, e.g. setting fire to their own home in broad daylight. These forms of firesetting can be explained from a pathological perspective and based on the direct influence of mental disorders on either the motive to set fire or on the behaviour directly.

It must be kept in mind that firesetting is a heterogeneous phenomenon and that insight into the individual offender is paramount for a good understanding of the reasons why a particular offender sets fire in a particular situation.

In the following chapters, the focus will gradually be narrowed down to give more specific insight into this heterogeneous offence and the various individual firesetters. Chapter 6 discusses the characterization and categorization of firesetters in general, and Chapter 7 discusses general treatment options, followed by Part III that takes an empirical perspective, discussing populations (Chapter 8), subgroups (Chapter 9) and eventually individual firesetters (Chapter 10) and their specific treatment (Chapter 11).

98 Presdee, 2005, p. 82.

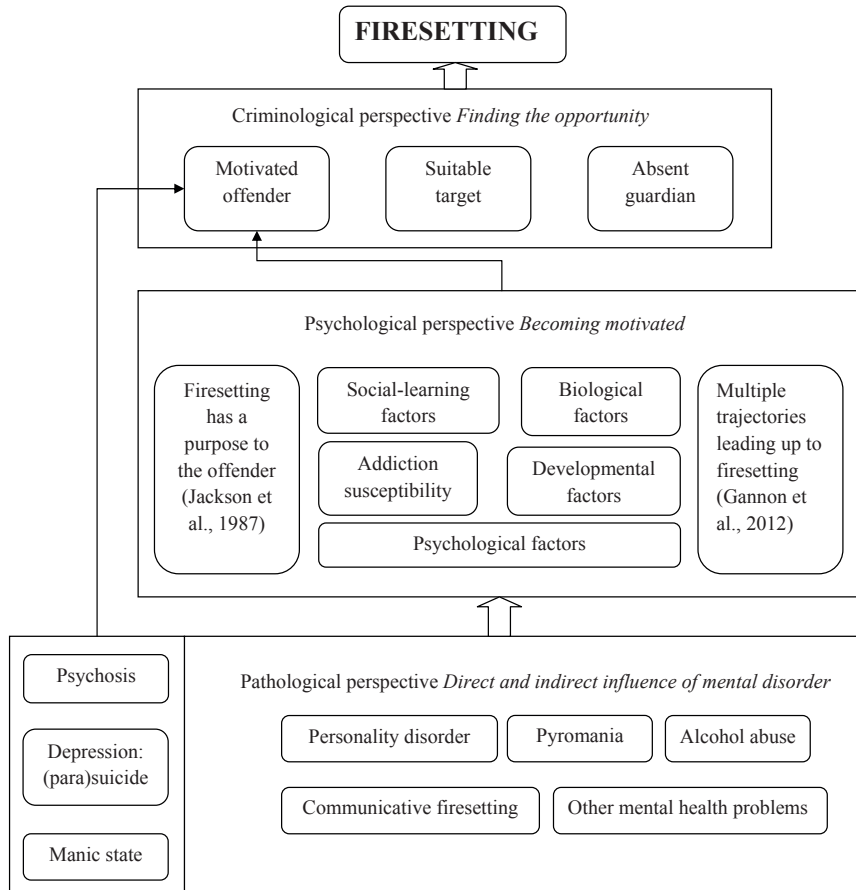


Fig. 5.3. Developed integrative explanatory model of firesetting based on various theoretical perspectives.

Part II
Literature review

Characterization and categorization of firesetters

1 Introduction

Through the years, the intensity and amount of research regarding firesetting and firesetters has varied widely. Part of these studies dealt with characterizing this particular type of offence and offender, whilst other studies focused on subdividing the population of firesetters. This chapter provides a literature review of offender and event-related characteristics found in various studies. In addition, various ways of categorizing firesetting and firesetters are discussed. Without striving to be exhaustive, the aim of this chapter is to present an overview of noteworthy previous work on the characterization and categorization of firesetting and firesetters. This aim is translated into the following research question:

How are firesetters and the act of firesetting characterized and categorized in empirical literature?

The central research question in this chapter consists of two sub-questions concerning (a) characteristics and (b) categorizations of firesetting and firesetters. To answer this twofold question, this chapter is divided into two sections. In the first part, characteristics of both the firesetter and event-related characteristics that emerge from various studies on the subject are discussed. The second part describes literature on various categorizations that are used to subdivide the population of firesetters.

Where the historical discussion in Chapter 3 concerning firesetting as a culpable crime or an excusable expression of pathology ends with the first half of the twentieth century (1950), this chapter will take the influential work of Lewis and Yarnell (1951) as a starting point.¹ Their extensive study is the first to examine firesetting and firesetters on empirical grounds and with a large research population. In an ongoing process, literature was found using PsycINFO, PubMed and ScienceDirect with search terms related to (sub) groups, (sub)types, characteristics and categorizations of fire and firesetters,

1 Lewis & Yarnell, 1951.

focussing exclusively on studies in English or Dutch. Using the snowball method, relevant (often older) literature on characteristics and categorizations was identified. This literature review forms the starting point for the empirical study that will be described in Part III, in which characteristics of populations of firesetters and subgroups of firesetters within a newly developed empirically based categorization are discussed.

2 Characteristics²

2.1 Introduction

In this section, common characteristics of both the offence³ and the offender⁴ emerging from research are described to give a general description of firesetting and firesetters. However, it should be kept in mind that firesetters form a heterogeneous group of offenders and there is no such thing as *the* firesetter, just as the fires that are set differ substantially. In addition, research on firesetting and firesetters is very fragmented with various disciplines studying the phenomenon based on dissimilar populations: some studies include forensic mental health populations, other studies are based on prison files, still others focus on police data. In addition, because of the limited research available, place and time also varies greatly between the studies discussed.

2.2 Characteristics related to the offence

Fires are typically set with matches or lighters brought to the crime scene.⁵ Fire accelerants are also often used,⁶ especially in group firesettings.⁷

Most fires are set by a single offender.⁸ Nevertheless, fires out of vandalism, political fires and riot fires often take place in groups,⁹ and financially motivated fires are also typically committed with one or more partners.¹⁰ International differences exist, with Australian firesetters less often acting alone compared to British firesetters.¹¹

2 See also Dalhuisen & Koenraadt, 2014 for a more elaborate discussion of characteristics of fires and firesetters.

3 Section 2.2.

4 Section 2.3.

5 Ritchie & Huff, 1999; Santtila et al., 2004; Wachi et al., 2007.

6 Ritchie & Huff, 1999.

7 Molnar et al., 1984.

8 Santtila et al., 2004; Vreeland & Levin, 1980.

9 Moll, 1974.

10 Molnar et al., 1984.

11 Fritzson, Doley & Hollows, 2013c.

Firesetters usually do not travel far to the location of the fire and particularly set fires in their own living environment: Most travel on foot or by bicycle.¹² Furthermore, instrumentally driven firesetters travel longer distances than those with a strong emotional component underlying their behaviour,¹³ as do firesetter acting in groups compared to solo firesetters.¹⁴

Fires are typically set in the evening and during the night.¹⁵ One study showed most fires were set during daytime or evening, but did not clarify how these fires were distributed in time exactly with possibly most fires occurring in the evening.¹⁶ An exception are fires set by mentally disordered firesetters that are often started during daytime.¹⁷

Fires often target residential properties, commercial properties, vehicles and vegetation.¹⁸ A distinction can be made regarding the target of the fire, with person-targeted fires also including personal objects that symbolize the person that is targeted and object-targeted fires solely aimed at innate objects, without personal meaning. Women more commonly target occupied domestic properties, and less likely workplaces, vehicles or rubbish,¹⁹ whilst firesetters with a low IQ more often set fire to rubbish instead of occupied buildings.²⁰ Cross-national differences exist, with British firesetters more often targeting residential properties, whilst Australian firesetters more often set fire to vehicles.²¹

Intoxication at the time of the offence is common, with alcohol being the most likely agent.²² Men are more often intoxicated than women.²³

What is more, in about half of the cases fires are planned, with a wide variety in the specific amount of planning.²⁴ Intentional behaviours such as multiple-point firesetting and the use of accelerants indicate highly dangerous firesetting behaviour.²⁵

12 Kocsis & Irwin, 1997; Santtila et al., 2004; Schoenmakers et al., 2012; Tamura & Suzuki, 2008; Wachi et al., 2007.

13 Fritzon, 2001.

14 Molnar et al., 1984.

15 Santtila et al., 2004; Schoenmakers et al., 2012; Yesavage et al., 1983.

16 Häkkänen, Puolakka & Santtila, 2004.

17 Yesavage et al., 1983.

18 Ritchie & Huff, 1999; Rix, 1994.

19 Dickens et al., 2007.

20 Dickens et al., 2008.

21 Fritzon et al., 2013c.

22 Jayaraman & Frazer, 2006; Lindberg et al., 2005; Ritchie & Huff, 1999; Santtila et al., 2004; Schoenmakers et al., 2012.

23 Dickens et al., 2007; Rix, 1994.

24 Ritchie & Huff, 1999.

25 Dickens et al., 2009.

2.3 Characteristics of the offender

Most firesetters are male,²⁶ with percentages ranging from 80 to 91 percent.²⁷ This gender imbalance is not static with the share of women slowly but steadily increasing over time.²⁸ This increase can partly be explained by the overall increase in crime amongst women.²⁹ Nevertheless, firesetters are still predominantly men and men are generally over-represented in the studies carried out.

Firesetters are generally younger than other offenders.³⁰ Studies report average ages of firesetters between 21 and 32 years old, with women being older than men.³¹ In this respect, it should be noted that many studies focus predominantly on adult offenders, and are therefore not representative of the entire population of firesetters. In general it can be considered that firesetters are younger than other delinquents.

Apart from being young and male, firesetters are generally white, single and unemployed,³² although women more often are married.³³ Other characteristics common in firesetters are below-average intelligence,³⁴ alcohol-use problems,³⁵ a problematic family background, often characterized by absent and/or abusive parents,³⁶ and behavioural problems in their childhood.³⁷

Revenge combined with anger are the most common motives in both men and women,³⁸ accounting for at least 40 percent of all firesettings.³⁹ Other common motives are: vandalism, financial gain, to cover up another crime, induced by psychosis, a cry for help, thrill seeking and suicide ideation.⁴⁰ A

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- 26 Barker, 1994; Davis & Lauber, 1999; Dickens & Sugarman, 2012a; Ducat, McEwan & Ogloff, 2013a; Fritzon et al., 2013c; Gannon & Pina, 2010; Räsänen et al., 1995b; Rice & Harris, 1991; Ritchie & Huff, 1999; Rix, 1994; White, 1996.
 - 27 Anwar et al., 2011; Ducat et al., 2013a; Ducat, Ogloff & McEwan, 2013b; Fritzon et al., 2013c; Ritchie & Huff, 1999; Soothill, Ackerley & Francis, 2004; Stewart, 1993.
 - 28 Dickens & Sugarman, 2012a; Räsänen, Hakko & Väisänen, 1995b; Soothill et al., 2004.
 - 29 Slotboom, Hoeve, Ezinga & Van der Helm, 2013.
 - 30 Dickens & Sugarman, 2012a; Ducat et al., 2013b; Gannon, 2010; Vaughn et al., 2010.
 - 31 Anwar et al., 2011; Dickens et al., 2007; Fritzon et al., 2013c; Hoertel et al., 2011; Rix, 1994; Schoenmakers et al., 2010.
 - 32 Dickens & Sugarman, 2012a; Räsänen et al., 1995a; Soothill et al., 2004.
 - 33 Idem.
 - 34 Idem.
 - 35 Labree et al., 2010; O'Sullivan & Kelleher, 1987; Puri et al., 1995; Räsänen et al., 1995b; Repo, Virkkunen, Rawlings & Linnoila, 1997b.
 - 36 Jayaraman & Frazer, 2006; O'Sullivan & Kelleher, 1987; Puri et al., 1995; Regehr & Glancy, 1991; Rix, 1994; Stewart, 1993.
 - 37 Dickens et al., 2007; O'Sullivan & Kelleher, 1987; Ritchie & Huff, 1999.
 - 38 Dickens et al., 2007; Prins et al., 1985; Wachi et al., 2007.
 - 39 Dickens et al., 2007; O'Sullivan & Kelleher, 1987; Ritchie & Huff, 1999.
 - 40 Barnett & Spitzer, 1994; Faulk, 1988; Geller, 2008; Inciardi, 1970; Prins et al., 1985; Rix, 1994.

sexual motive was hardly ever found.⁴¹ Motives were often used as a basis to categorize firesetters into typologies.⁴²

Firesetting is a criminal and not a disordered behaviour. However, it can have pathological underpinnings and mental health problems are frequently seen in firesetters.⁴³ Firesetters often have a history of contact with mental health services,⁴⁴ and a very high prevalence of at least one lifetime psychiatric diagnosis, either on Axis I or Axis II of the DSM.⁴⁵ Common psychiatric diagnoses include (antisocial) personality disorder, alcohol-use disorders, affective disorders (in particular depressive disorders) and schizophrenia or other psychotic disorders.⁴⁶ Women have more psychiatric problems, especially depressive disorders but also self-harm and suicide ideation.⁴⁷ One diagnosis directly associated with firesetting is pyromania. The diagnostic criteria in the DSM⁴⁸ consist of inclusion and exclusion criteria:

- Deliberate and purposeful fire setting on more than one occasion.
- Tension or affective arousal before the act.
- Fascination with, interest in, curiosity about, or attraction to fire and its situational contexts (e.g., paraphernalia, uses, consequences).
- Pleasure, gratification, or relief when setting fires, or when witnessing or participating in their aftermath.
- The fire setting is not done for monetary gain, as an expression of socio-political ideology, to conceal criminal activity, to express anger or vengeance, to improve one's living circumstances, in response to a delusion or a hallucination, or as a result of impaired judgment (e.g., in Dementia, Mental Retardation, Substance Intoxication).
- The fire setting is not better accounted for by Conduct Disorder, a Manic Episode, or Antisocial Personality Disorder.

Given the strict inclusion, but especially the strict exclusion criteria, a diagnosis of pyromania is rare. In a sample of repeated firesetters, only 3.3 percent had symptoms that met the full criteria for pyromania.⁴⁹ Although the media might suggest otherwise, intentional fires are usually not started by sufferers from pyromania.⁵⁰

41 Horley & Bowlby, 2011; O'Sullivan & Kelleher, 1987.

42 Gannon & Pina, 2010. This topic will be discussed more extensively in Section 3.2.

43 Puri et al., 1995; Ritchie & Huff, 1999; Rix, 1994.

44 Ducat et al., 2013a; Gannon et al., 2013; Labree et al., 2010.

45 Blanco et al., 2010; Ducat et al., 2013b.

46 Barnett & Spitzer, 1994; Blanco et al., 2010; Burton et al., 2012; Ducat et al., 2013b; Enayati et al., 2008; Hoertel et al., 2011; Lindberg et al., 2005; Puri et al., 1995; Ritchie & Huff, 1999; Rix, 1994; Vaughn et al., 2010.

47 Coid, Wilkins & Coid, 1999; Dickens et al., 2007; Hoertel et al., 2011; Rix, 1994.

48 5th ed.; DSM-5; American Psychiatric Association, 2013.

49 American Psychiatric Association, 2013.

50 Koenraadt et al., 2015; Plinsinga et al., 1997.

One common characteristic of firesetters concerns their difficulty in interpersonal contact.⁵¹ Due to their poor communication skills, social interaction can cause problems and firesetters are often described as shy and unassertive.⁵²

Recidivism rates vary greatly between studies, from 4 to even 60 percent dependent on populations studied.⁵³ So-called pure firesetters (i.e. persons who have only committed arson(s) without other offences) are more likely to reoffend, especially in those instances where their criminal responsibility is diminished to some extent.⁵⁴ This might be explained by the fact that pure firesetters are more often diagnosed with psychotic disorders and mental retardation.⁵⁵

2.4 Summary

This section reviewed characteristics of both fires and firesetters based on various studies of populations of firesetters. Although the picture of firesetting and firesetters emerging is not directly translatable to the Dutch situation and the specific population of firesetters included in this study,⁵⁶ the characteristics discussed here give direction to the empirical part of this study. Several research findings discussed indicate that while firesetters do have common characteristics, subgroups are present that differ with respect to several features. Fires set out of vandalism and financial gain, for example, are mostly committed with more than one offender. And regarding the distance travelled to the crime scene, emotionally motivated firesetters travel shorter distances compared to instrumentally driven offenders. Furthermore, there appears to be a difference regarding time of the offence, with mentally disordered firesetters remarkably often committing the offence during the day, while other firesetters almost always act in the evening or at night. Whether these differences and other characteristics can be confirmed in the present study will be discussed in Part III.

3 Categorizations

3.1 Introduction

The previous section showed that the act of firesetting can take different forms and firesetters do not form a homogeneous group. In this section, attempts

51 Dickens & Sugarman, 2012a; Fritzon et al., 2013c; Gannon & Pina, 2010; Jackson, 1994.

52 Harris & Rice, 1996; Rice & Chaplin, 1979.

53 Brett, 2004.

54 Barnett et al., 1999.

55 Lindberg et al., 2005.

56 See Chapter 2 Section 1.

at classifying this heterogeneous group of firesetters are discussed. This differentiation between groups of firesetters is seen as the first stage in developing both a good theory and a coherent strategy for dealing with this behaviour.⁵⁷ Categorizing firesetters has been tried in several ways. The first classifications focussed predominantly on motive as distinctive factor. Subsequent efforts categorized firesetters based on characteristics of either the offence or offender. Both the categorizations based on motive and those based on specific features of the offence/offender focus on just one distinctive factor. However, more recent classifications combine multiple factors to present a more overall picture of types of firesetters.

3.2 Motive as distinctive factor

The first attempts at classifying firesetters were primarily based on motive. Table 6.1 presents an overview of studies categorizing firesetters based on motive for the offence.

Table 6.1. Studies categorizing firesetters using motive.

Study	Method	Sample	N	Gender	Age	Data period
Lewis & Yarnell (1951)	Empirical	By the insurer; reported firesetters in the US	1,145	♂	≥ 16	1919-1950
Inciardi (1970)	Empirical	Convicted firesetters in the US	138	♂ (133) ♀ (5)	Adult	1961-1966
Moll (1974)	Literature	-	-	-	-	-
Dennett (1980)	Professional experience	-	-	-	-	-
Prins et al. (1985)	Empirical	Convicted firesetters in the UK	113	♂	Adult	9 months prior to publication
Icove & Estep (1987)	Empirical	Persons arrested for incendiary crimes in the US	1,016	♂ ♀	All	1980-1984
Rix (1994)	Empirical	Convicted arsonists having undergone pre-trial forensic evaluation in the UK	153	♂ (129) ♀ (24)	Adult	1983-1993
White (1996)	Literature	-	-	-	-	-

Lewis and Yarnell were the first to categorize a large population of firesetters into subgroups using an empirical approach.⁵⁸ Their analysis revealed (a) firesetters acting based on a specific motive, either revenge or jealousy, and (b) firesetters without a clear, comprehensible motive who in addition showed

⁵⁷ Blackburn, 1993; Canter & Almond, 2002.

⁵⁸ Lewis & Yarnell, 1951.

an abnormal interest in fires (labelled the pyromaniacs).⁵⁹ In this group of pyromaniacs more pathological reasons for firesetting could be discerned, like a fetish for fire, the appreciation or heroism of extinguishing a fire, and the thrill accompanying it. Finally, (c) a distinct category of psychotic firesetters was described, with deranged motives, suicidal motives, or bizarre behaviour during or after the fire. Although this categorization into subtypes makes no clear distinction between motives (e.g. revenge, jealousy and sexual desire) and offender groups/characteristics (e.g. psychotic offenders and fire-fighters), Lewis and Yarnell do take motive as a distinctive factor into account in their categorization. However, subsequent categorizations focus more exclusively on motive as a distinguishing factor.

A good example is the work of Inciardi who used motive as a distinctive factor and arrived at six categories: (a) revenge firesetters, (b) excitement firesetters, (c) insurance-claim firesetters, (d) firesetters who use firesetting to cover up another crime, (e) institutionalized firesetters, and (f) vandalism firesetters.⁶⁰ More than half of the firesetters acted out of revenge, targeting known victims after having fallen out with them or out of hatred or jealousy. Inciardi regarded this group as the most dangerous, since they were usually intoxicated during the offence and only had revenge on their minds, without heeding the danger that this presented for others. For excitement firesetters, with almost one in five the second-largest group, fire resulted in some kind of pleasure.⁶¹

Moll focussed on fires started with malicious intent and came to eight distinct types of firesetting, listed in order of the estimated damage caused: (a) fraud fires, (b) political fires, (c) 'pyro' fires, (d) crime cover-up fires, (e) spite fires, (f) vanity fires, (g) 'psycho' fires, and (h) vandalism fires.⁶² 'Pyro' fires are those acts that bring emotional relief or sexual gratification to the perpetrator, spite fires were set out of resentment, jealousy or anger, vanity firesetters wanted to be heroes and by 'psycho' fires Moll meant fires set by people suffering from psychiatric problems, without a rational motive, but also without a diagnosis of pyromania.

Based on his experience as a fire investigator, Dennett described six categories: firesetting (a) to gain financially, (b) to conceal another crime, (c) to destroy or protest, (d) to become a hero, (e) to fulfil a need (mental disorder),⁶³ and (f) out of boredom.⁶⁴ These categories show an overlap with those established by Inciardi,⁶⁵ although instead of revenge a category of heroism firesetters was mentioned which might stem from his vocational experience.⁶⁶

59 Firesetters who acted for financial gain were not included.

60 Inciardi, 1970.

61 Idem.

62 Moll, 1974.

63 Children playing with fire were included into this fifth category.

64 Dennett, 1980.

65 Inciardi, 1970.

66 Gannon & Pina, 2010.

A detailed subdivision of firesetters was made by Prins, Tennent, and Trick who distinguished non-pathological motives (i.e. financial gain and politically driven fires) and pathological motives for firesetting.⁶⁷ Fires started for pathological reasons were then further broken down into the following subtypes of offenders: (a) the dull and subnormal firesetter, (b) the psychotic firesetter, (c) the revenge motive in firesetting (most dominant), (d) the heroic and vain firesetters, (e) fire raising as a disguised cry for help, and (f) firesetting by children. Thus, although Prins and colleagues initially base their categorization on motive, they then describe offender subtypes that are common with firesetting out of pathological motives.⁶⁸

The use of motive as an instrument to categorize firesetters was also employed by the Federal Bureau of Investigation (FBI). Icove and Estepp created the following motive-based offender profiles: (a) vandalism, (b) excitement, (c) revenge, (d) crime concealment and (e) profit.⁶⁹ These findings show similarities with Inciardi and Prins and colleagues.⁷⁰ However, revenge was less often observed, whilst vandalism was remarkably more common with almost half of the cases fitting this category. This can be explained by differences in their sample, which also included juvenile suspects and fire-related offences other than arson including false alarms and violations of fireworks laws.

Based on personally conducted pre-trial forensic mental health assessments Rix discerned fifteen motives.⁷¹ Revenge, mostly directed at the belongings of someone with whom the firesetter had negative relations, was the most common motive, both in men and women. Firesetting out of excitement, including two cases of sexual arousal, was more common in men. Vandalism was the main motive for firesetting in young boys and was not seen in women. In contrast, firesettings as a cry for help and to achieve rehousing were predominantly seen in women. This categorization showed a combination of motive-based categories found by Inciardi and Prins and colleagues.⁷² However, Rix made a distinction between male and female firesetters that was not made in other categorizations.

In an article on the profiling of firesetters, White described eight types of firesetters based primarily on their motive for the act: (a) the pyromaniac driven by irrational reasons and acting to satisfy an irresistible impulse; (b) revenge or 'spite' firesetters who passive-aggressively act out their anger by starting a fire; (c) arson-for-profit firesetters; (d) hero or 'vanity' firesetters predominantly

67 Prins et al., 1985.

68 Idem.

69 Icove & Estepp, 1987.

70 Inciardi, 1970; Prins et al., 1985.

71 Occurrence from high to low: Revenge, excitement, vandalism, cry for help/attention, rehousing, attempted suicide, carelessness, psychotic, financial, cover up, other manipulative (i.e. fire served some other purpose), heroism, proxy (setting fire for someone else), antidepressant, and political (Rix, 1994).

72 Inciardi, 1970; Prins et al., 1985.

driven by ego and seeking public recognition; (e) thrill seekers or vandals; (f) juvenile firesetters who are children with unfavourable backgrounds and social problems; (g) firesetters that want to conceal other crimes; and (h) terrorist or social protest firesetters who publicly demand recognition often targeting symbolic economic or political goals.⁷³

A major limitation in these typologies based on motive is the large number of subgroups, ranging from six⁷⁴ to as many as fifteen categories,⁷⁵ making it difficult to work with. Moreover, being a child or mentally handicapped does not constitute a motive.⁷⁶ Furthermore, it typically is very hard to find a clear-cut, single motive.⁷⁷ Firesetting is a complex behaviour influenced by many interrelating biological, psychological and social factors, and multiple motives are often found.⁷⁸ In addition, the 'actual' motive is hard to identify, as motives are typically assessed retrospectively,⁷⁹ and firesetters do not always provide insight into their inner drives.⁸⁰ Despite these pitfalls, since the 1990s motivation has continued to be used as a basis for the classification of firesetting in literature.⁸¹ However, the focus in categorizing firesetters gradually shifted from motive-based only to other distinctive factors as described in the following section.

3.3 Characteristics of the offender or offence as distinctive factor

Because categorizing firesetters based on motive had several pitfalls, attention gradually shifted to characteristics of the offender or offence as distinctive factor. However, this shift in focus occurred gradually and for a large part still heavily leaned on motive-based categorizations as is shown by the work of Faulk, Douglas and colleagues, and Geller discussed below (see Table 6.2).⁸²

Table 6.2. Studies categorizing firesetters using motive and other characteristics.

Study	Categorizing factor(s)	Method
Faulk (1988)	Function of the behaviour and motive	Literature
Douglas et al. (1992)	Level of organization and motive	Professional experience and literature
Geller (2008)	Psychobiological disorders and motive	Personal experience and literature

73 White, 1996.

74 Dennett, 1980; Inciardi, 1970.

75 Rix, 1994.

76 Soothill, 1990.

77 Geller, 2008; Horley & Bowlby, 2011.

78 Koson & Dvoskin, 1982; Smith & Short, 1995.

79 Häkkänen et al., 2004.

80 Doley, 2003a.

81 Geller, 2008; Palermo, Kocsis, Hazelwood & Napier, 2005; Smith & Short, 1995.

82 Douglas et al., 1992; Faulk, 1988; Geller, 2008.

Faulk elaborated on the classification by Lewis and Yarnell.⁸³ Before categorizing based on motive, he distinguished firesetters based on the function of the fire recognizing (a) firesetters that set fire as a means to an end, and (b) those for whom the fire was an interest in itself. In the group in which the fire was an instrument to obtain another goal, he described the following motives: insurance fraud, the desire to earn money (e.g. fire fighters), to cover up other crimes, political reasons, excitement/group pressure, revenge/self-protection/anger, a cry for help, the desire to feel powerful, and the desire to be seen as a hero. Firesetters for whom the fire was a goal in itself acted out of an irresistible impulse, sexual excitement, or to reduce feelings of tension or depression.

Douglass and colleagues also described two groups of firesetters, based on the level of organization.⁸⁴ According to them, (a) organized firesetters use complicated ignition devices to set fire and leave behind less physical evidence; (b) disorganized firesetters, on the other hand, are less careful, leave more evidence at the crime scene and use more common methods to set fire (matches, lighters etc.). This differentiation between organized and disorganized firesetters was also used in later research.⁸⁵ Following their distinction based on the amount of organization displayed by the firesetter, Douglass and colleagues also made a categorization based on motive: vandalism-motivated firesetters, excitement-motivated firesetters, revenge-motivated firesetters, crime-concealment-motivated firesetters, profit-motivated firesetters, extremist-motivated firesetters, and serial firesetters.⁸⁶

More recently, Geller made a distinction between types of firesettings based on disorders and motive: (a) firesetting unassociated with psychobiological disorders, in which he described several motives,⁸⁷ (b) firesetting associated with mental disorders,⁸⁸ (c) firesetting associated with medical or neurological disorders,⁸⁹ and (d) self-incineration.⁹⁰

The categorizations of Faulk, Douglas and colleagues, and Geller show the ongoing importance of motive in subdividing firesetters. However, they also show that other characteristics are increasingly being used as distinctive factors.⁹¹ The categorizations below are more exclusively based on characteristics of the offender or the offence (see Table 6.3).

83 Faulk, 1988.

84 Douglas et al., 1992.

85 Kocsis & Irwin, 1997.

86 Douglas et al., 1992.

87 With the following motives: firesetting for profit, assault/murder, crime concealment, revenge, vanity or recognition, vagrant, vandalism, and political.

88 With the following disorders: disorders of thought or perception, disorders of mood, disorders of judgment, disorders of impulse control, and communicative firesetting.

89 With the following disorders: chromosomal disorders, central nervous system disorders, infectious diseases, and endocrine and metabolic disorders.

90 Geller, 2008.

91 Douglas et al., 1992; Faulk, 1988; Geller, 2008.

Table 6.3. Studies categorizing firesetters using characteristics of the offender or the offence.

Study	Method	Sample	N	Gender	Age	Data period
Kocsis & Irwin (1997)	Empirical	Criminal files of serial firesetters	22 (492 offences)	♂	≥ 18	1970-1996
Puri et al. (1995)	Professional experience	Firesetters referred to forensic psychiatry in the UK	36	-	-	1987-1991
Barnett et al. (1999)	Empirical	Convicted firesetters in former West-Germany	470	♂ ♀	-	1983-1985
Lindberg et al. (2005)	Empirical	Recidivist firesetters, having undergone pre-trial forensic evaluation in Finland	90	♂	≥ 16	1973-1993
Canter & Almond (2002)	Literature	-	-	-	-	1999
Dickens et al. (2009)	Empirical	Firesetters having undergone pre-trial forensic psychiatric evaluation in the UK	167	♂ (129) ♀ (38)	≥ 18	24 years prior to study

Kocsis and Irwin used the *Environmental range* model,⁹² which was originally developed for serial rapists, to distinguish firesetters.⁹³ In this model, two distinct travelling patterns exist, the *commuter* who travels to another location to commit an offence and the *marauder* who commits crimes in close proximity to their own home. Kocsis and Irwin found that serial firesetters fit into the marauder pattern, because they did not travel far and set fire in their own living environment;⁹⁴ a finding substantiated in further research.⁹⁵

Puri, Baxter and Cordess proposed a multi-factorial classification system taking into account the context surrounding the firesetting behaviour, by looking at the aetiology.⁹⁶ According to them predisposing and precipitating factors, on a psychiatric, psychological as well as a psychosocial level, must be taken into account in order to understand and treat the behaviour. Predisposing factors are stable characteristics, while precipitating factors are more dynamic and have a more direct effect prior to the offence. For example on a psychiatric level, a diagnosis of schizophrenia can be a predisposing factor, and problem drinking a precipitating one. This classification avoids the disadvantages of a categorization based solely on motive by focussing on factors that generate motive instead.

A distinction between pure and non-pure firesetters is made by Barnett, Richter and Renneberg who found that partly criminally accountable firesetters who exclusively committed firesetting had the highest number of fire-setting

92 Canter & Larkin, 1993.

93 Kocsis & Irwin, 1997.

94 Idem.

95 Schoenmakers et al., 2012; Tamura & Suzuki, 2008.

96 Puri et al., 1995.

incidents, whilst in the non-pure group partly accountable firesetters had the highest number of additional offences.⁹⁷ This distinction based on exclusive or non-exclusive firesetters is also made by Lindberg and colleagues who found that pure firesetters more often displayed psychotic disorders and mental retardation, whilst non-pure firesetters were predominantly diagnosed with a personality disorder.⁹⁸

In a report on firesetting in the UK, Canter and Almond looked more broadly at the offence, making a distinction in four different types of firesetting: (a) youth disorder, including children playing with fire and juveniles exhibiting rowdy behaviour, often in groups under peer pressure; (b) malicious firesetting, in which fire is used as a weapon, often out of revenge; (c) emotional expression, in which firesetting is a means of communicating a particular desire or need and offenders often suffer from psychological problems; and (d) criminal firesetting, to conceal other crimes or gain financially.⁹⁹

While Barnett and colleagues and Lindberg and colleagues specifically focussed on recidivist firesetters, recidivism is another offender characteristic used to distinguish firesetters.¹⁰⁰ A distinction can be made between one-time and recidivist firesetters, with recidivists being younger, more often single, had suffered more childhood disturbance, and often had personality disorders.¹⁰¹

From the foregoing it follows that classifications can be based on characteristics of the offence and the offender, including pure and non-pure firesetters, one-time and recidivist firesetters and types of fires and associated offenders (profiling). How these various characteristics are interrelated is discussed below.

3.4 Multiple distinctive factors

Categorizations based on motive and on offence/offender characteristics focussed on just one factor. Eventually, to produce a more overall picture, empirically-driven multi-factorial approaches were used in which the interdependence of certain characteristics is taken into account (see Table 6.4).

97 Barnett et al., 1999.

98 Lindberg et al., 2005.

99 Canter & Almond, 2002.

100 Barnett et al., 1999; Lindberg et al., 2005.

101 Dickens et al., 2009.

Table 6.4. Studies categorizing firesetters using multiple factors.

Study	Method	Sample	N	Gender	Age	Data period
Harris & Rice (1996)	Empirical (cluster analysis)	Firesetters admitted to the maximum security division of a large psychiatric institution in Canada	243	♂	Adult	1973-1983
Del Bove & Mackay (2011)	Empirical (cluster analysis)	Juvenile firesetters who were referred to a special arson prevention programme for children in Canada	240	♂ ♀	4-17	-
Canter & Fritzon (1998)	Empirical	Convicted firesetters in England	175	♂ ♀	-	-
Kocsis & Cooksey (2002)	Empirical	Convicted serial firesetters in Australia	148	♂ ♀	-	1980-1998

One way of multi-factorial categorization is by means of cluster analysis based on both offender and offence characteristics. This strategy was first employed by Harris and Rice, who found the following clusters: (a) psychotics, who were under the influence of a psychosis and were commonly diagnosed with schizophrenia; (b) unassertives, who acted out of anger or revenge and whose histories prior to the fire included little aggression, little criminal activity, good family background and better employment histories; (c) multi-firesetters, who had the worst childhood histories and many fires in their past; and (d) criminals, who were the most aggressive, most likely to have personality disorders, had extensive criminal records and bad childhood experiences mainly because of non-accepting, abusive parents.¹⁰² A more recent cluster analysis was conducted by Del Bove and Mackay who found three clusters: (a) conventional-limited firesetters with the least severe firesetting characteristics and the fewest environmental and individual risk factors; (b) home-instability-moderate firesetters who grew up in instable homes, had more risk factors and most often came into contact with child welfare; and (c) multi-risk-persistent firesetters comprised of the most serious group with respect to firesetting characteristics as well as individual risk factors.¹⁰³

Another multi-factorial approach was followed by Canter and Fritzon, who differentiated firesetters based on the target (i.e. persons or objects) and the motivation for the fire (i.e. instrumental or expressive).¹⁰⁴ This matrix, based on the action-system model in which the source of the action and the effect or desired target are important aspects,¹⁰⁵ encompasses four distinct patterns: (a) instrumental firesetting directed at objects, primarily committed by young

102 Harris & Rice, 1996.

103 Del Bove & Mackay, 2011.

104 Canter & Fritzon, 1998; see Table 6.5.

105 Shye, 1985.

offenders; (b) instrumental firesetting targeting persons, often a reaction to a failed relationship; (c) expressive firesetting targeted at objects, primarily committed by recidivistic firesetters; and (d) expressive firesetting directed at persons, mostly committed by offenders with a psychiatric history (see Table 6.5). These four distinct patterns represent four basic modes of functioning:¹⁰⁶ The adaptive mode (instrumental/object) in which a person deals with external events by adjusting the external environment and fires are set opportunistically to destroy the target; the expressive mode (expressive/object), in which a person reacts to an internal psychological situation by adapting the external environment, and sets fire to a symbolic or emotional significant target; the integrative mode (expressive/person), where one responds to an internal psychological situation by making alterations to one's own system, for instance firesetting as a cry for help endangering the lives of themselves and others; and the conservative mode of functioning (instrumental/person), in which the person responds to an external frustration to restore their own state of well-being, for example firesetting out of personal revenge. This action-system model of firesetting has been replicated in various populations, including prisoners who set fire(s), (female) serial firesetters, and juvenile firesetters.¹⁰⁷

Table 6.5. Categorization by Canter and Fritzon (1998) based on the action-system model.¹⁰⁸

	Instrumental motive	Expressive motive
Person-oriented	<i>Instrumental person</i>	<i>Expressive person</i>
Object-oriented	<i>Instrumental object</i>	<i>Expressive object</i>

Kocsis and Cooksey developed an empirical model for serial firesetting crime-scene behaviours associated with offender characteristics.¹⁰⁹ Apart from common crime-scene variables such as planning the offence and leaving evidence at the crime scene, their results showed four additional discrete behaviour patterns representing different styles in serial firesetting:

(a) The thrill pattern includes firesetters acting sophisticatedly and premeditatedly, mostly during weekends in spring or summer, and who travel over one mile to the crime scene. Fires are set at highly visible locations with a risk of apprehension, and if apprehended they tend to confess having set other fires. Associated offender characteristics are physical unattractiveness due to some defect like poor dental work or scarring, alcohol and/or drug use prior to the act, a higher age, social contacts and employment.

¹⁰⁶ Almond, Duggan, Shine & Canter, 2005; Shye, 1985.

¹⁰⁷ Almond et al., 2005; Häkkinen et al., 2004; Santtila, Häkkinen, Alison & Whyte, 2003; Wachi et al., 2007.

¹⁰⁸ Shye, 1985.

¹⁰⁹ Kocsis & Cooksey, 2002.

(b) The anger pattern comprises firesetters who use fire to express anger or inflict personal suffering or injury, targeting vehicles and residential properties using fire accelerants. Firesetters are likely of foreign origin, often having an accent. Possession and use of vehicles is common and offenders would not linger at the crime scene, because the fire has no deeper psychological meaning to them. Similarities with the instrumental/person firesetter found by Canter and Fritzon are noted.¹¹⁰

(c) The wanton pattern would manifest itself by generalized animosity towards a broadly defined group of targets like educational institutions, or commercial and corporate buildings. Offenders often have a criminal record and commit the offence at weekends. The wanton pattern shows similarities with the instrumental/object category of Canter and Fritzon.¹¹¹

(d) In the sexual pattern, the setting of fires is associated with sexual excitement and/or sexual gratification. Public objects that are easily accessible and close to home, like trash bins, are common targets and fires are small and simple and especially set during the week in autumn and winter. Evidence of sexual activity in the proximity of the crime scene can be seen and firesetters often remain at the scene of the crime to observe the fire and fire-related activities. This pattern partly overlaps with the expressive/object category, although significant inconsistencies exist.¹¹²

3.5 Summary

Tables 6.1-6.4 provide an overview of the studies described in this section with categorizations based on various factors. These tables show that these categorizations differ with respect to the factor on which the distinction is based (e.g. motive or characteristics of the offender), the research method used and the population studied. This makes it difficult to draw unequivocal conclusions about possible subtypes of firesetters. Nonetheless, to give a summary report, Table 6.6 presents subgroups of firesetters that were commonly found in studies using different methods. This summary report shows that firesetting out of revenge and anger, firesetting out of vandalism, financial firesetting, firesetting induced by psychosis or other mental disorders, and firesetting for crime concealment were the most common.

110 Canter & Fritzon, 1998.

111 Idem.

112 Idem.

Table 6.6. Overview of subgroups that overlap between studies.

	Number of studies discussing this subgroup
Firesetting out of resentment, revenge and anger	11
Vandalism (firesetting out of thrill seeking, sensationalism or boredom)	10
Financial firesetting: firesetters acting for financial gain	9
Psychotic and otherwise disordered firesetters	9
Firesetting to cover up other crimes	9
Political, protest and extremist firesetting	7
Vanity firesetters (seeking recognition)	7
Children and juveniles setting fire	5
Firesetting as a cry for help (attempted suicide)	4
Pyromania or pyromania-like firesetting: firesetting out of irresistible impulse	4
Firesetting out of excitement	4
Multiple firesetting	4
Criminal firesetting	4
To express or reduce feelings of depression and tension	3
Firesetting out of jealousy and spite	3
Sexual firesetting	3

4 Conclusion

This chapter aimed to answer the question of how firesetters and the act of firesetting are characterized and categorized in the literature. From the characteristics discussed, it follows that firesetters and their offences have several commonalities. Firesetters are often described as young, white, single and unemployed males. However, firesetting is not a homogeneous phenomenon. Through the years, various categorizations have been used focussing successively on motive, offence/offender characteristics, and multiple distinctive factors. Despite vast differences between studies, common subgroups are firesetting out of revenge, firesetting for financial gain, firesetting committed by psychotic or otherwise disordered firesetters and firesetting to cover up other crimes. The findings discussed in this chapter give empirical literature background to our empirical findings and make it possible to embed the findings regarding characteristics and categorizations discussed in Part III in a larger framework.

Chapter 7

Treatment of firesetters

1 Introduction

The previous chapters have shown that firesetters often experience difficulties regarding their mental health. This means that firesetters are – or at least should be – an important target group in forensic mental health care. Compared to non-firesetters in forensic settings they have a longer psychiatric history and more often current psychiatric diagnoses – especially affective disorders, substance abuse and personality disorders.¹ This makes it even more remarkable that in the field of forensic mental health, knowledge on effective treatment options for firesetters is scarce.² Currently no standardized treatment programmes specifically aimed at reducing recidivism in firesetters exist in the Netherlands and firesetters often receive treatment that is similar to that of aggressive or sexual offenders. With some positive exceptions,³ studies that do describe treatment see firesetters as a homogeneous group. Chapter 6 shows that this homogeneity does not hold, as will also clearly follow from Part III. Thus, firesetters are a heterogeneous group, making systematic and comprehensive assessment imperative for treatment interventions to be effective.⁴ The described lack of knowledge results in firesetters often not receiving the tailored treatment that is necessary to reduce recidivism.⁵ To give insight into the current state of the art concerning effective treatment for firesetters, this chapter describes current knowledge on treatment of (adult) firesetters answering the following question:

What types of treatment can contribute to reducing recidivism in firesetters?

This chapter starts with a brief section describing the methodology of the literature search that is conducted to give more insight into the (lack of) available literature. Following this methodological background, the findings of the literature review are described and analysed resulting in a description

1 Ducat et al., 2013b.

2 Horley & Bowlby, 2011; Schwarzman, 2010.

3 See for instance Gannon et al., 2012.

4 Schwarzman, 2010.

5 Gannon et al., 2013; Hollin et al., 2013; Swaffer et al., 2001; Taylor et al., 2002.

of promising treatment elements in Sections 3 and 4. This chapter ends with a conclusion in which the research question is answered and suggestions for future research are given. The conclusions of this chapter form the starting point of Chapter 11, which will describe effective treatment specifically tailored to subtypes of firesetters.

2 Literature search

To structure and demarcate the search, the PICOS method was used (Participants, Interventions, Comparators, Outcomes and Study design).⁶ Only studies with adult firesetters as *participants* and with a clear description of used or reviewed *interventions* were included. The use of controls (*comparators*), reporting of outcome measures (*outcomes*) and a strong, preferably experimental *study design* were considered a plus. However, since this is a relatively new area of research with a specific population, extensive experimental studies using randomized controls were not to be expected. Rather, expected findings would comprise small (single case) studies on the effectiveness of interventions (*best evidence*) or theoretical descriptions of currently used but not (yet) empirically tested interventions (*best practice*).

To find relevant treatment literature, first a digital search in the databases PsycINFO, PubMed and ScienceDirect was conducted, looking at published work from 2010 onwards with the following search terms in the query: ‘firesetting/firesetter/firesetters’, ‘arson/arsonist/arsonists’, ‘pyromania/pyromaniac/pyromaniacs’ and ‘treatment/treating’. To get more relevant results, the search fields were limited to the title/abstract and/or key words (see Table 7.1). Second, the so-called snowball method was used looking at the references of selected studies to find other relevant literature (e.g. before 2010). This older literature was included based on relevancy (mentioned by several studies and/or evidence-based in nature).

6 Liberati et al., 2009.

Table 7.1. Number of hits with a digital search for treatment literature.

Database	Search term	Result	Limitation	Result
PsycINFO	Fireset* and treat*	180	Abstract	24
	Arson* and treat*	240		32
	Pyromania* and treat*	103		19
	Fireset* or arson* or pyromania* and treat*	333		61
PubMed	Fireset* and treat*	20	Title/abstract	10
	Arson* and treat*	25		19
	Pyromania* and treat*	3		3
	Fireset* or arson* or pyromania* and treat*	35		26
ScienceDirect	Fireset* and treat*	84	Abstract/title/key words	11
	Arson* and treat*	1275		19
	Pyromania* and treat*	116		6
	Fireset* or arson* or pyromania* and treat*	1414		23

3 Findings

Initially, the digital search resulted in 110 studies with substantial overlap ($n = 30$). From the 80 unique findings, titles and abstracts were screened resulting in the dismissal of 19 studies that did not concern treatment of firesetters in forensic mental health settings, 18 studies did not deal with adult firesetters and one study was only available in Turkish. The remaining 42 articles were analysed further, with the exception of six whose full texts were not available. In addition, five articles did not describe treatment but treatment needs and risk factors,⁷ and another 17 articles only briefly mentioned treatment. The remaining 14 articles were supplemented with 13 studies that were found using the snowball method, bringing the final result of the literature review to 27 articles.

Most literature found is theoretical in nature with ten general/review articles or chapters in handbooks. Some literature concerned *best practices*, with two surveys and three descriptions of treatment programmes. *Best evidence* for effective treatment was provided in five case reports and four non-randomized controlled clinical trials. Finally, three studies explicitly concerned assessment of firesetters.⁸

⁷ See Chapter 11.

⁸ Table 7.a in Appendix 7 gives a summary of all studies included in this literature review.

4 What Works

4.1 General treatment principles

A treatment model widely regarded as the dominant model for guiding treatment of offenders is the Risk-Need-Responsivity model.⁹ According to this model, effective treatment should incorporate the following principles: First, treatment intensity must correspond with the offenders risk level (Risk principle). Second, treatment should be targeted at the specific criminogenic needs of the offender (Need principle). And third, treatment should be responsive and tailored to the specific individual (Responsivity principle). Because of its general applicability, this model is used as a theoretical basis for the description of effective treatment for firesetters. The Good Lives Model takes a more restorative approach and states that treatment should focus on positive human needs instead of criminogenic needs.¹⁰ Although focus points between these models differ, the general consensus is that effective treatment should be tailored to the offender and to his needs. This emphasizes the need for specific knowledge of firesetters and effective treatment for this group of offenders.

4.2 Assessment

Regarding assessment prior to treatment two issues are important: first the assessment of risk, and second the assessment of criminogenic but also positive human needs.¹¹ Assessment is typically performed before treatment but the following assessment instruments are also used to monitor treatment and evaluate treatment effectiveness. In the anglosaxon literature, three specific risk-assessment instruments for firesetting are described, of which only two have been published.¹² The Pathological Fire-Setters Interview is a structured interview augmented with information from patient records that uses a functional analytic framework to gather information on (a) personal background and previous offending details, (b) personal-setting conditions, (c) situational setting conditions, (d) antecedents to, (e) motives for, and (f) consequences (thoughts, feelings, and actual) of firesetting.¹³ Although sometimes used in case studies, the reliability and validity of this assessment instrument have not been evaluated.¹⁴ What is more, its status as *risk* assessment instrument rather than a more general assessment tool to guide treatment can be debated. The Northgate Firesetter Risk Assessment developed specifically with adults

9 Andrews, Bonta & Hoge, 1990; Andrews, Bonta & Wormith, 2011.

10 Ward & Stewart, 2003.

11 Hollin, 1999.

12 Watt & Ong, 2016.

13 PFSI; Taylor, Thorne & Slavkin, 2004.

14 Davies & Beech, 2012.

with intellectual disabilities and a history of firesetting was not published,¹⁵ but briefly described by Watt and Ong.¹⁶ This instrument is based on the Historical Clinical Risk Management-20 (HCR-20) and has five historical and six clinical risk factors for which a relationship with firesetting was established empirically. More recently, the St Andrew's Fire and Arson Risk Instrument (SAFARI) was developed based on empirical information.¹⁷ This risk-assessment instrument has a cognitive-behavioural basis, looking at antecedents and consequences of behaviour by means of a semi-structured interview. The pilot study shows good reliability and validity for this instrument.

Proper assessment is crucial to identify not only the risk of recidivism but also the criminogenic and positive human needs on which treatment should focus.¹⁸ General assessment consists mainly of clinical interviews,¹⁹ in which specific self-report questionnaires are frequently used. Several studies describe using one or more specific assessment tools in addition to more general assessment instruments.²⁰ The Firesetters Assessment Schedule includes 32 statements concerning events, feelings and cognitions both prior to and after the firesetting for which the subjects is asked to describe them as 'usually', 'sometimes' or 'never' true for him/her.²¹ The Fire Interest Rating Scale describes 14 fire-related situations (e.g. watching a house burn down or seeing firemen hosing a fire) for which respondents are asked to rate their feelings ranging on a scale from 1 to 7 with 1 being 'most upsetting/absolutely horrible' and 7 stating 'very exciting, lovely, very nice'.²² The Fire Attitude Scale is a self-report measure with 20 items focussing on attitudes towards the use of fire (e.g. 'if you've got problems, a small fire can help you sort them out').²³ The Identification with Fire Questionnaire is a self-report measure with 10 items concerning identification and affinity with fire (e.g. 'fire is almost part of my personality'), also rated on a 5-point scale (1 = strongly disagree, 5 = strongly agree).²⁴ The Fire Setting Scale is based on empirical literature reviews and has two subscales ('behaviour' and 'fire interest') both with 10 items to measure antisocial behavioural problems relating to firesetting (e.g. 'I am a rule breaker') and general fire interest (e.g. 'I like to watch and feel fire').²⁵ The Firesetting Proclivity Scale measures the propensity of a person to set fire. Six hypothetical incidences of firesetting are

15 NFRA; Taylor & Thorne, 2005.

16 Watt & Ong, 2016.

17 Long, Banyard, Fulton & Hollin, 2014.

18 Hollin, 1999.

19 Grant et al., 2011.

20 Taylor, Robertson, Thorne, Belshaw & Watson, 2006.

21 FASch; Murphy & Clare, 1996.

22 FIRS; Murphy & Clare, 1996.

23 FAS; Muckley, 1997.

24 IFQ; Gannon, Ó Ciardha & Barnoux, 2011.

25 FSS; Gannon & Barrowcliffe, 2012.

rated on fascination with the fire, behavioural propensity to engage in similar actions, general arousal to fire and general antisocialism.²⁶

A recent study used exploratory factor analysis to distinguish factors in the Fire Interest Rating Scale (FIRS), the Fire Attitude Scale (FAS) and the Identification with Fire Questionnaire (IFQ). These instruments were administered to 234 male prisoners, half of whom had a history of firesetting, resulting in a model with five factors.²⁷ These factors were: *identification with fire, serious fire interest, perceived fire safety awareness, everyday fire interest and firesetting as normal*. Besides *everyday fire interest*, the other four factors could differentiate firesetters from non-firesetters. The Fire Setting Scale (FSS) and Fire Proclivity Scale (FPS) have been validated in a study involving 150 participants whom – with intervals of two weeks – filled in the questionnaires twice. This study showed that both instruments had good internal and excellent test-retest reliability. Firesetters scored higher on the FSS subscale *behaviour* (antisocial behavioural problems relating to firesetting) but not on *fire interest*. Results of comparing the FPS between firesetters and non-firesetters showed significantly higher scores in firesetters on *fire fascination, behavioural propensity* and the *arousal* index.²⁸ Taken together, only the reliability of the FSS and FPS instruments has been studied to some extent but the FIRS, FAS and IFQ appear promising in this respect. The FASch has not been used in recent literature.

Assessment provides a clear direction for clinical intervention and maps the areas in which treatment is necessary. What this treatment should include exactly in order to be effective will be discussed below.

4.3 Elements ‘that work’

4.3.1 Fire safety education

One behavioural intervention that can contribute to reducing fire setting behaviour is fire safety education. It is believed that information about the dangers associated with fire and the acquisition of fire safety skills can contribute to awareness of risks associated with fire, and to decreased instances of firesetting.²⁹ This educational intervention is mostly used and evaluated in the treatment of children and juveniles in Anglo-Saxon countries, showing improvement in knowledge on fire safety and fire safety skills, playing with matches, fire curiosity and interest,³⁰ and a decrease in the number of fires set.³¹ However it also appears to be beneficial in the treatment of adult offenders

26 FPS; Gannon & Barrowcliffe, 2012.

27 Ó Ciardha et al., 2015.

28 Gannon & Barrowcliffe, 2012.

29 Palmer, Hollin, Hatcher & Ayres, 2010.

30 Kolko, Herschell & Scharf, 2006.

31 Bennett, Gamelli, Duchene, Atkocaitis & Plunkett, 2004.

with intellectual disability as part of a broader treatment programme.³² Taylor and colleagues for instance, gave firesetters in their treatment programme a presentation illustrating the role of the Fire Department, the chemistry of fires and the rapidity with which they spread.³³ The possible human cost of fire was shown in a distressing film of a house fire in which two children died.

4.3.2 Social skills and assertiveness training

Firesetters are generally described as socially inept, shy and non-assertive.³⁴ It is hypothesized that firesetters often experience difficulties in interpersonal skills and use fire as a passive-aggressive means of expressing emotions. For this reason, social skills and assertiveness training might be useful for those firesetters who suffer from unassertiveness and show difficulty in social interactions and adequately expressing their emotions. An early study of Rice and Chaplin did show that social skills training (for eight sessions, administered twice a week) in hospitalized male firesetters resulted in a significant increase in social skills.³⁵ Whether this would also lead to a decrease in firesetting behaviour remains unclear. However, over one third of the studies found describe social skills training and/or assertiveness training as part of the treatment for firesetters making a strong case for this treatment element as part of *best practice*.³⁶

4.3.3 Cognitive behavioural therapy

The most frequently described intervention found in this literature study is cognitive behavioural therapy, often implemented in a clinical setting. A survey conducted by Palmer and colleagues in England and Wales under 27 forensic mental health units showed that in all of the seven units with firesetting-specific treatment this treatment was cognitive behavioural in nature.³⁷ Results of the literature review show that of the 24 studies that specifically deal with treatment and not assessment, inventory or treatment history, nineteen address this form of therapy to some extent.³⁸

It is not surprising that this form of therapy is so often mentioned; in general, cognitive behavioural therapy appears to be effective in reducing recidivism in

32 Alexander et al., 2011; Taylor et al., 2002; Taylor et al., 2004; Taylor et al., 2006.

33 Taylor et al., 2006.

34 Gannon & Pina, 2010; Harris & Rice, 1996.

35 Rice & Chaplin, 1979.

36 Burton, McNeil & Binder, 2012; Clare, Murphy, Cox & Chaplin, 1992; Fritzon, Doley & Clark, 2013a; Gannon & Pina, 2010; Gannon & Lockerbie, 2011; Gannon et al., 2015; Swaffer et al., 2001; Taylor et al., 2002; Taylor et al., 2004; Taylor et al., 2006.

37 Palmer, Caulfield & Hollin, 2007.

38 Antar & Hollander, 2014; Burton et al., 2012; Clare et al., 1992; Ducat & Ogloff, 2011; Fritzon et al., 2013a; Gannon & Pina, 2010; Gannon & Lockerbie, 2011; Gannon et al., 2015; Grant et al., 2011; Grant, 2006; Grant & Kim, 2007; Grant, Schreiber & Odlaug, 2013; Grant, Thomarios & Odlaug, 2010; Horley & Bowlby, 2011; Schreiber, Odlaug & Grant, 2013; Swaffer et al., 2001; Taylor et al., 2002; Taylor et al., 2004; Taylor et al., 2006.

adults.³⁹ And based on the *best evidence* studies found in this literature review, it also appears to be effective in reducing recidivism among firesetters, especially those with intellectual disabilities or suffering from personality disorders.⁴⁰ The single case study described by Clare and colleagues clearly shows how cognitive behavioural techniques can be deployed in treating firesetters.⁴¹ A 23-year old male firesetter with intellectual disabilities was offered a multifaceted treatment package with mainly cognitive behavioural therapy. This therapy consisted of graded exposure to holding matches to desensitize him to lighting fire and the acquisition of alternative coping strategies for distressing feelings and difficult life events. In addition, he had multiple facial operations to improve his appearance which was hindered by a physical abnormality, and received academic education and social skills training. At 4-year follow-up he had not relapsed, although he was sometimes tempted to set fire in periods of stress. He had a full-time job (adjusted to his level of intellectual functioning) and had an intimate partner relationship.

The treatment programme of Taylor and colleagues that will be described below is specifically based on cognitive behavioural principles.⁴² One of their studies shows that this treatment is effective in reducing fire interest, improving attitudes towards fire and the development of new coping skills in 14 firesetters of both genders with mild mental disabilities.⁴³ This cognitive behavioural group intervention was also used to treat six females with mental disabilities who had not reportedly set any fires at 2-year follow-up.⁴⁴ Although these are small and specific populations, these studies indicate that cognitive behavioural therapy can be effective in treating firesetters in general.

4.3.4 Behavioural interventions

Apart from behavioural elements in cognitive behavioural therapy, some purely behavioural techniques are described to treat firesetters, such as positive reinforcement, threats of punishment, operant-structured fantasy, stimulus satiation and aversion therapy.⁴⁵ However, currently there is little evidence for the effectiveness of these interventions in firesetters. An older example of an effective (yet outdated) behavioural intervention is the study of Royer and colleagues in which a man with chronic schizophrenia received aversion therapy to deal with his ongoing firesetting behaviour.⁴⁶ The therapy consisted of nine sessions in which the man received 20 matches and toilet paper which he had to light after which an electric shock was administered. After incidents

39 Allen, MacKenzie & Hickman, 2001.

40 Clare et al., 1992; Taylor et al., 2002; Taylor et al., 2006.

41 Clare et al., 1992.

42 Taylor et al., 2002; Taylor et al., 2004; Taylor et al., 2006.

43 Taylor et al., 2002.

44 Idem; Taylor et al., 2006.

45 Antar & Hollander, 2014; Fritzon et al., 2013a; Grant et al., 2010; Horley & Bowlby, 2011.

46 Royer, Flynn & Osadca, 1971.

so-called booster sessions were administered. Nearly four years after treatment the patient had not relapsed. Although behavioural interventions did not receive much attention in literature, the treatment programmes described below by Gannon and Lockerbie,⁴⁷ and by Gannon,⁴⁸ include covert sensitisation as treatment element.⁴⁹

4.3.5 Pharmacotherapy

Pharmacotherapy is mentioned in several reviews as a possible intervention in the treatment of firesetters, with the following agents emerging: antipsychotics (olanzapine), antidepressants and especially the SSRIs (escitalopram, sertraline, fluoxetine), mood stabilizers (lithium), and anticonvulsants (topiramate, sodium valproate and carbamazepine).⁵⁰ In addition, the use of beta-blockers, naltrexone, stimulants, anti-androgens and clonazepam is described.⁵¹

Firesetting, and particularly impulsive firesetting, shows resemblances with addictions on a phenomenological level (craving, tolerance), a neurobiological level (the role of dopamine) and on a genetic level.⁵² Following this addiction parallel, a promising treatment of firesetting behaviour can be the administration of opioid antagonists, like nalmefene hydrochloride and naltrexone. They have been hypothesized to influence the dopamine neurotransmission in the nucleus accumbens, the same area where craving in addicts is situated. In the treatment of pathological gambling and kleptomania, other impulse control disorders, administration of these agents was effective.⁵³

Current evidence for effectiveness of pharmacotherapy is casuistic. An inventory of 21 firesetters diagnosed with pyromania showed that 14 of them had been prescribed psychotropic medication, and improvement appeared in six cases.⁵⁴ Psychiatric drugs which were prescribed were topiramate, escitalopram, sertraline, fluoxetine and lithium.⁵⁵ Pharmacotherapy was (partially) effective in six firesetters (topiramate, escitalopram, sertraline, fluoxetine and lithium). In three persons the tendencies to set fire returned after stopping the medication. In eight people the medication did not work (fluoxetine, sodium, lithium, sertraline, olanzapine, escitalopram, citalopram and clonazepam). A case study involving an eighteen-year-old man diagnosed with pyromania who was treated for 12 months with topiramate and received

47 FIP-MO; Gannon & Lockerbie, 2011.

48 FIPP; Gannon, 2012.

49 See also Bell, 2016.

50 Antar & Hollander, 2014; Grant et al., 2013; Grant et al., 2010; Schreiber et al., 2013.

51 Antar & Hollander, 2014.

52 See Chapter 5 Section 4.2; Brewer & Potenza, 2008; Grant & Potenza, 2005; Grant et al., 2006; Grant & Kim, 2007; Koenraadt et al., 2015.

53 Grant & Potenza, 2005; Grant et al., 2006; Grant & Kim, 2007; Grant et al., 2008; Grant, Kim & Odlaug, 2009; Holden, 2001.

54 Grant & Kim, 2007.

55 See also Grant, 2006.

three weeks of daily cognitive behavioural therapy showed a reduction in the urge to start fires,⁵⁶ but it is unclear whether this reduction is attributed to the medication, the (intensive) cognitive behavioural therapy, or both. Another case study focused on the classic antipsychotic olanzapine and the anti-epileptic drug sodium valproate. Parks and colleagues describe the combined treatment with these agents of a 20-year-old homeless man who was diagnosed with pyromania and neuropsychological limitations.⁵⁷ After treatment, his firesetting behaviour abated and neuropsychological tests after five months showed an improvement in cognitive level. Generally, olanzapine is associated with a reduction in impulsivity, aggression, and disorganization in patients with psychosis.

4.4 Combining the elements: treatment programmes

It is clear that several treatment elements appear to be effective in treating firesetters. Treatment programmes that combine these components are therefore promising, although in practice these specialized treatment programmes are rare and to this date little use has been made of them. The survey conducted by Palmer and colleagues revealed that only seven of the 27 forensic mental health units who responded offered some intervention programme for firesetters.⁵⁸ These seven interventions were predominantly cognitive behavioural in approach, administered either in groups or in one-to-one contact. Vast differences were found regarding intensity of the programme, ranging from one to 43 sessions lasting 1-1.5 hours, although it is unclear whether this relates to the population in a particular unit. This means that there is still little consensus about the treatment of firesetters, and treatment programmes are rare. In the following section some relevant and promising treatment programmes combining various elements are discussed.

The first is the structured intervention programme for mentally disordered firesetters designed by Swaffer, Haggitt and Oxley based on the functional analytic model of Jackson, Glass and Hope.⁵⁹ They developed their structured treatment programme for mentally disordered adult firesetters residing in Rampton Hospital in the UK. The treatment programme consists of individual work and group work. A weekly 2-hour group session is supplemented with a 1.5 hour individual session each month. In a 16-month period, patients work through four sequenced modules. The first module *dangers of fire* consists of 12 sessions and involves learning about the dangers of fire through psycho-education. In the second module *skills development* skills are developed in 24 sessions by means of training programmes (e.g. assertiveness, anxiety

56 Grant, 2006.

57 Parks et al., 2005.

58 Palmer et al., 2007.

59 Jackson et al., 1987; Swaffer et al., 2001..

management, and conflict resolution). *Insight and self-awareness* are targeted in the third module through functional analysis therapy (12 sessions). Their treatment programme ends with the module *relapse prevention* focusing on relapse prevention and the development of behavioural alternatives in 14 sessions. The programme was explained in detail using a case description of a woman named Sharon. Post-treatment evaluation is not available but Sharon was assessed as doing well at completion of the second module.

Another treatment programme that has been developed in clinical practice and that bears similarities to the programme of Swaffer and colleagues,⁶⁰ is the programme of Taylor and colleagues specifically developed for adult firesetters with mild to borderline intellectual disabilities.⁶¹ This cognitive behavioural treatment programme is also based on the functional analysis paradigm,⁶² and is aimed at inappropriate levels of fire interest and attitudes towards fire and firesetting, distorted beliefs concerning the responsibility for and the risk factors associated with firesetting, as well as anger, self-esteem and depression. There is some evidence for the effectiveness of this treatment programme with respect to reducing fascination with fire and anger, and with respect to improving attitudes towards fire, emotional expression, risk perception, understanding victims and self-esteem in fourteen firesetters.⁶³ Case studies of four male firesetters showed that for all men the scores on the treatment goals (Goal Attainment Scales) improved and anger decreased. Interest in fire diminished and attitudes towards fire improved in one subject, while self-esteem increased slightly in two participants.⁶⁴ Treatment of six women also showed an improvement on treatment goals and after two years nobody had set new fires.⁶⁵

A more recent programme for the treatment of impulse control disorders in general (including pyromania), is the Cognitive Behavioural Therapy Programme for the Treatment of Impulse Control Disorders developed by Grant, Donahue and Odlaug.⁶⁶ Although not firesetting specific (firesetters are rarely diagnosed with pyromania)⁶⁷, Grant and colleagues focus on firesetting behaviour as an important component of pyromania and describe individual work from a cognitive behavioural perspective and additional homework to target inappropriate fire interest, offence-supportive thinking, communications and relationships, and emotion regulation and coping.⁶⁸

60 Swaffer et al., 2001.

61 Taylor et al., 2002; see also Taylor et al., 2004.

62 Jackson et al., 1987.

63 Taylor et al., 2002.

64 Taylor et al., 2004.

65 Taylor et al., 2006.

66 CBT-ICD; Grant et al., 2011.

67 See Chapter 6 Section 2.3.

68 Grant et al., 2011.

The most recent treatment programmes specifically concerning the treatment of firesetters are the Fire Setting Intervention Programme for Mentally Disordered Offenders,⁶⁹ and the Fire Setting Intervention Programme for Prisoners.⁷⁰ These treatment programmes are based on the Risk-Need-Responsivity Model and the Good Lives Model, and have a cognitive behavioural basis with a psychotherapeutic element. For 28 weeks, firesetters follow weekly (all-male or all-female) 2-hour group sessions and a 1-hour individual session. In addition, homework assignments are given. The programmes address fire-related factors (targeting problematic interests/associations with fire, giving fire safety and prevention education, focussing on the development of insight into the firesetters' own offending behaviour and risks), offence-supportive thinking (by means of cognitive restructuring of attitudes supporting violence, entitlement, and antisocial behaviour), emotional regulation/coping (focussing on anger arousal, cognitions, and provocation tolerance leading up to the offence), and social competence/communication and relationships (by psycho education, behavioural exercises regarding assertiveness, relationships and self-esteem). Research showed that firesetters following the FIPP improved on self-reported problematic fire interest and associations with fire and showed a decrease in problematic attitudes towards violence and antisocial attitudes.⁷¹ Evaluation of the FIP-MO is currently being performed.

In general, points of interest for treating firesetters are offence analysis, coping skills, emotion regulation, social problem-solving, interpersonal interaction styles and assertiveness.⁷²

5 Conclusion

The aim of this chapter was to answer the question of what types of treatment can contribute to reducing recidivism in adult firesetters. After an elaborated search for literature, a first important notion is the apparent lack of evidence based-interventions for the treatment of firesetters in a forensic setting. This lack of randomized controlled trials to investigate treatment effectiveness can be explained by the general shortfall in knowledge on firesetters and their characteristics. In addition, the fact that populations of firesetters in various treatment settings are generally small and dispersed also impedes research on treatment effectiveness. However, some *best practices* have been developed over the years, indicating that some forms of treatment are promising, i.e. fire safety education, social skills and assertiveness training, cognitive behavioural therapy, some behavioural interventions and pharmacotherapy. Currently

69 FIP-MO; Gannon & Lockerbie, 2011.

70 FIPP; Gannon, 2012.

71 Gannon et al., 2015.

72 Fritzson et al., 2013a; Long et al., 2014.

interventions and treatment programmes combining these elements are being designed and/or evaluated internationally; see for instance the work by Gannon and colleagues on the FIPP and FIP-MO programmes,⁷³ but also work in Australia⁷⁴ and the US.⁷⁵ Nevertheless, because these treatment efforts are still in their infancy, strong empirically-based further research into effective treatment is desperately needed. Chapter 11 of this study will contribute to the knowledge on treatment of firesetters by discussing treatment tailored to specific needs of various subgroups of firesetters.

73 Gannon & Lockerbie, 2011; Gannon, 2012; Gannon et al., 2015.

74 Fritzon et al., 2013b.

75 Grant et al., 2011.

Part III

Firesetters and their fires from an empirical perspective

Chapter 8

Populations of firesetters

A description and comparison

1 Introduction

Part I of this study viewed firesetting and firesetters through a historical and theoretical lens, and Part II reflected the empirical literature. The third part of this study takes an empirical perspective using macro, meso and micro levels of analyses. In this chapter, firesetters are characterized on a macro-level of analysis; various populations of firesetters are described and characteristics of these populations are compared. As discussed in Chapter 1, it is impossible to know the size of the entire population of Dutch firesetters due to a large *dark number* of non-reported firesetters. However, in this study known data of Dutch firesetters based on various populations are used. Starting wide, a population of firesetters that entered the criminal justice system and were convicted for arson is analysed. A narrower population specifically focuses on firesetters who underwent a mental health evaluation, either on an inpatient or an outpatient basis. The most specific population underlying this study comprises firesetters who underwent a pre-trial forensic mental health assessment in the Pieter Baan Centre. Whereas this chapter starts broad using a macro-level of analysis, Chapter 9 describes subgroups of firesetters within a larger population taking a meso-level approach, whilst Chapters 10 and 11 focus on identifying and treating subgroups and individual firesetters (meso and micro-level approach). This chapter has two aims. First, the three populations that form the empirical base of this study are described regarding their nature and representativeness. Second, a comparison is made to see whether these populations differ, and the differences that are found are discussed in the light of specific qualities of the specific populations. This comparison contributes to a better understanding of findings in subsequent chapters by placing the populations used in a broader perspective and highlighting the importance and meaning of study samples when interpreting results. Further, comparing these populations also holds practical implications in forensic mental health and the criminal justice system. These aims are translated into the following research questions:

*What are the characteristics of the various populations of Dutch firesetters?
And: To what extent are differences in characteristics related to the population studied?*

These questions are answered using data from the following three populations: forensic mental health reports of firesetters who underwent pre-trial assessment (PBC data), police files of convicted firesetters (PF data), and information on pre-trial mental health assessments of firesetters registered in the Forensic Registration and Information System (FRIS data).¹

2 Representativeness of the populations

In the Netherlands, an indication for pre-trial forensic mental health evaluation is based on a specific instrument taking into account characteristics of the offence (e.g. bizarre, serious) and the offender (e.g. odd behaviour, recidivism).² Arson is an offence for which pre-trial mental health assessments are common.³ Based on the random sample of 100 convicted firesetters in the Netherlands (PF data), 55 percent was evaluated.⁴ More in general, around ten percent of all pre-trial forensic mental health evaluations concern cases of firesetters,⁵ which is similar to the number in other European countries like Sweden.⁶

Pre-trial forensic mental health evaluations can take two forms: inpatient or outpatient. The empirical part of this study specifically focuses on the inpatient evaluations and the core empirical underpinnings are formed by PBC data. These data have a broad representativeness, due to the national function of this observation hospital; virtually all inpatient forensic evaluations are conducted here. Since the founding in 1949, around 11,000 suspects who by their nature, or based on their offence(s) gave the impression of being mentally disturbed, were assessed here.⁷ Although the severity of the offences in which an inpatient pre-trial forensic mental health assessment was ordered increased over time, firesetters formed an important category of suspects, with about a dozen arson suspects examined each year, a number apparently increasing in recent years.⁸ However, this population does not include evaluations on an outpatient setting.

A more general overview of pre-trial forensic mental health evaluations is provided by the FRIS data. This extensive dataset is used to compare the

1 Chapter 2 Section 1 gives an overview of the populations used in this study.

2 Van Kordelaar, 2002.

3 Idem.

4 76 percent of cases in Zwolle were evaluated compared to 34 percent of cases in Utrecht. FRIS data show small and fluctuating numbers of arson cases per jurisdiction, so this finding might be incidental (data based on a selection of registered cases in FRIS between 2008 and 2012; NIFP, 2016). This regional difference may also be explained by differences in firesetters or their offences, environmental differences, or by differences in policy between the jurisdictions with varying priorities due to limited evaluation capacity.

5 Canton, 2004; Van Kordelaar, 2008.

6 8.5 percent; Fazel & Grann, 2002.

7 Hoeffelman, 1962; Koenraadt et al., 2007.

8 Idem; Noach, 1962.

PBC and PF data with,⁹ and includes both inpatient and outpatient evaluations. The representativeness of the FRIS data is high, because as a principle all evaluations in the Netherlands are registered in this system. However, it is only used as a control because the available data are limited in content.

The PF data give a more general overview of all cases of firesetting that come to court. This population includes cases with outpatient evaluations ($n = 55$, 55%) and no evaluations ($n = 45$, 45%). However, one must realize that the representativeness of this dataset is limited because it does not cover the Netherlands as a whole. However, this is remedied by the vast amount of information that could be retrieved per police file. Table 8.1 provides an overview of characteristics of the populations of firesetters.

Table 8.1. Some characteristics of populations of firesetters.

	PBC	FRIS	PF
N	607	1,561	100
Gender	♂ ♀	♂ ♀	♂ ♀
Age	15 and up	15 and up	12 and up
Population	Firesetters having undergone pre-trial forensic mental health assessment on an inpatient basis	Firesetters having undergone forensic mental health assessment on an inpatient and outpatient basis	Convicted firesetters
Data source	Pre-trial forensic mental health evaluations	Forensic mental health evaluations	Police files of convicted firesetters
Period	1950-2012	2006-2012	2008-2012
Representativeness	National (inpatient)	National (inpatient and outpatient)	Regional

PBC = Pieter Baan Centre case files; PF = Police Files of convicted arsonists; FRIS = data from the Forensic Registration and Information System.

The populations used have their own strengths and weaknesses. The nationwide FRIS data have a large sample size, with a high level of internal validity because of the small regional differences in the Netherlands. However, detailed information on characteristics of the firesetter and the offence is lacking. The strength of the PF data lies in the vast amount of detailed information that is available; but data were collected in only two regions in the Netherlands, diminishing nationwide generalizability. In addition, data on mental health issues were less reliable in police files because in only half of the cases a thorough mental health evaluation report was present. The limitations of the FRIS and PF data are remedied by data from the PBC, which covers the entire country in the sense that most pre-trial forensic mental health assessments on an inpatient basis are conducted here, and these assessments contain detailed

9 See Section 3.1.

information. However, this set of data has its own limitations, first because it covers a long period of data collection with societal changes influencing pre-trial forensic mental health evaluations.¹⁰ A second disadvantage of using PBC data is the overrepresentation of mentally ill offenders. Subjects that undergo pre-trial forensic mental health assessment, especially on an inpatient basis, are believed to differ substantially regarding their mental sanity.¹¹ Finally, some overlap exists in the populations. A total of 39 firesetters in the FRIS population are also included in the PBC population and 29 firesetters in the PF data are also included in the FRIS data.¹² However, none of the PF data concerned inpatient evaluations, so no overlap exists between the PF and PBC data, which are the most important populations in this study.

3 Differences between populations

3.1 Differences between PBC, PF and FRIS data

Table 8.2 presents an overview of sociodemographic, lifetime, pathological and judicial characteristics and related differences between PBC, PF and FRIS data that must be taken into account when interpreting results based on these populations. All characteristics differ significantly between the three populations with females and unemployed firesetters being most prevalent in the FRIS population, who are most likely to have a DSM classification on Axis I. Axis II classifications are predominantly found in the PBC population, who have the most (severely) diminished accountability, whilst criminal accountability is least often impaired in the PF group. In Section 4 below, these and other differences are discussed in detail.

10 See Chapter 4.

11 Van Kordelaar, 2002.

12 Of the 76 PBC cases since 2006 only 39 were registered in FRIS, and of the 55 PF cases in which a forensic mental health evaluation was conducted, only 29 were recorded in FRIS; this low response rate may be explained by inconsistencies in registering.

Table 8.2. Comparing PBC, PF and FRIS data regarding sociodemographic characteristics, intelligence, pathological and judicial characteristics.

	PBC (N = 607)	PF (N = 100)	FRIS (N = 1,561)	
Sociodemographic characteristics	M(SD)	M(SD)	M(SD)	χ^2
Age (years)	30/10.2 ^c	24/11.4 ^c	37/13.5 ^c	221.528**
	%	%	%	χ^2
Gender				21.96**
Male	92 ^b	88	84 ^a	
Female	8 ^a	12	16 ^b	
Dutch nationality	89	81 ^a	90	7.58*
Marital status (single)	77 ^a	90 ^b	87 ^b	25.77**
No or low education	57 ^b	46	39 ^a	31.70**
Unemployed	67 ^a	69	74 ^b	8.78*
Intelligence and pathological characteristics				
Intelligence				34.99**
Below average	40 ^a	54	52 ^b	
Average	41	38	38	
Above average	19 ^b	8	11 ^a	
DSM classification				201.11**
No classification	7	17 ^b	9	
Axis I classification	28 ^a	42	47 ^b	
Axis II classification	28 ^b	9	6 ^a	
Axis I and II classification	37	32	38	
Judicial characteristics				
Accountability				300.16**
Fully accountable	5 ^a	49 ^b	12	
Slightly diminished in accountability	14 ^a	22	33 ^b	
Diminished in accountability	46 ^b	16 ^a	36 ^a	
Severely diminished in accountability	23 ^b	7	8 ^a	
Fully unaccountable	13	5 ^a	11	
Treatment recommended	65 ^b	14 ^a	92 ^b	347.86**

Notes: PBC = Pieter Baan Centre case files; PF = Police Files of convicted arsonists; FRIS = data from the Forensic Registration and Information System;

* $p < .05$; ** $p < .001$ (two-sided);

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96;

^cPost Hoc Mann-Whitney U tests, $p < .001$.

3.2 Differences between PBC and PF data

A more extensive comparison could be made between the PBC and PF data. This comparison is especially valuable as these two populations form the basis of Chapters 9, 10 and 11, and showing differences between these two groups

of firesetters places subsequent findings in perspective. In Tables 8.3-8.5 the characteristics and related differences are presented. Most of the variables compared show a difference between the two datasets with firesetters in the PBC population *inter alia* having more problems in interpersonal contact, self-reliance, self-confidence and coping skills, a more serious criminal background and more dangerous fires targeting persons.¹³

Table 8.3. Differences between PBC and PF data regarding pathological characteristics.

	PBC (N = 607)	PF (N = 100)	χ^2
Pathological characteristics	%	%	
Victim of physical abuse growing up	67	43	18.58**
History of mental health care contact			8.33 [†]
No contact with mental health care	22 ^a	32 ^b	
Outpatient care	25	32	
Clinical care	53 ^b	37 ^a	
Prolonged/severe problems with alcohol	49	19	29.57**
Prolonged/severe problems with soft drugs	19	18	.00
Prolonged/severe problems with hard drugs	15	9	2.29
Psychotic disorder diagnosed			7.89 [†]
No/subclinical psychotic disorder	80 ^a	92 ^b	
Psychotic disorder diagnosed in the past	4	2	
Current psychotic disorder	17 ^b	6 ^a	
Personality disorder in the past			14.07*
No disorder	41 ^a	65 ^b	
Traits	39 ^b	22 ^a	
One or more personality disorders	20	13	
Impulsivity			17.71**
No impulsivity	6	4	
Moderate impulsivity	34 ^a	56 ^b	
Severe impulsivity	61 ^b	40 ^a	
Hostility			4.77
No hostility	20	28	
Moderate hostility	39 ^b	27 ^a	
Severe hostility	40	45	
Social skills			40.43**
Appropriate/Good	19 ^a	43 ^b	
Moderate	32	41	
Poor/absent	48 ^b	16 ^a	
Self-reliance			14.74*
No to mild problems	32 ^a	55 ^b	
Moderate problems	17	15	

¹³ See Section 4 for a more detailed discussion of these differences.

Severe problems	52 ^b	30 ^a	
Self-confidence			23.66**
Low	80 ^b	55 ^a	
Average	12 ^a	39 ^b	
High	8	7	
Empathy			23.82**
No to mild problems	13 ^a	32 ^b	
Moderate problems	49	50	
Severe problems	37 ^b	18 ^a	
Coping skills			15.54**
Adequate	25 ^a	42 ^b	
Limited, sufficient under stable conditions	36	39	
Poor	39 ^b	19 ^a	
Social network			74.35**
Adequate	17 ^a	55 ^b	
Limited	37	29	
Poor	46 ^b	16 ^a	
Behavioural problems (12-plus)	85	83	.16
Friends	59	83	14.48**

Notes: PBC = Pieter Baan Centre case files; PF = Police Files of convicted arsonists;

[†] $p < .05$; * $p < .01$; ** $p < .001$ (two-sided);

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 8.4. Differences between PBC and PF data regarding judicial characteristics.

Judicial characteristics	PBC	PF	χ^2
	(N = 607)	(N = 100)	
Accusation only including firesetting	61	59	.12
Criminal background			46.78**
No prior judicial contacts or (suspended) custodial sentence	39 ^a	75 ^b	
1-7 prior (suspended) custodial sentences or a conditional mandatory hospital placement	47 ^b	22 ^a	
≥ 8 prior (suspended) custodial sentences or a mandatory hospital placement	15 ^b	3 ^a	
Pure firesetter	10	-	2.85
Accusation including multiple fires	34	25	3.30
Arson recidivist	31	5	28.73**
Recidivism risk			17.50**
Low	17 ^a	36 ^b	
Moderate	21	26	
High	62 ^b	39 ^a	

Notes: PBC = Pieter Baan Centre case files; PF = Police Files of convicted arsonists;

** $p < .001$ (two-sided);

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 8.5. Differences between PBC and PF data regarding event-related characteristics.

Event-related characteristics	PBC (N = 607)	PF (N = 100)	U
	M(SD)	M(SD)	
Distance travelled to the crime scene (in kilometres)	6/24.6	5/13.5	24278.000
	%	%	χ^2
Nature of the offence			11.52*
Expressive-person	18	22	
Instrumental-person	27 ^b	12 ^a	
Instrumental-object	14	13	
Expressive-object	42 ^a	54 ^b	
Fire set impulsively	64	70	1.15
Fire set to the firesetter's own property	23	16	2.30
Known victim	38	24	7.45*
Acting alone	84	48	66.31**
Intoxicated at the time of the offence	57	41	6.96*
Suicide ideation at the time of the offence	15	11	1.09
Denial of responsibility	18	11	2.99

Notes: PBC = Pieter Baan Centre case files; PF = Police Files of convicted arsonists;

* $p < .01$; ** $p < .001$ (two-sided);

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

4 Discussion of findings

This is the first study to analyse and compare characteristics of populations of firesetters in the Netherlands. In doing so, this chapter gives insight into the differences that exist between firesetters found in various settings. From a theoretical perspective, this is valuable because it highlights the importance of study samples in the generalizability of the results found. In addition, this comparison gives perspective to findings discussed in the following chapters of this study. From a practical perspective, increased knowledge on firesetters that can be found in both forensic mental health and criminal justice settings can help clinicians and legal workers who are confronted with these offenders in their line of work. Several characteristics of firesetters found correspond to findings in literature: e.g. being predominantly male, single, unemployed and autochthonous.¹⁴ However, studies show vastly different outcomes (for example, a review by Brett shows recidivism rates ranging from 4 percent to 60 percent¹⁵) based on differences in study designs and samples, clearly showing

14 See Chapter 6 Section 2.3.

15 Brett, 2004.

that study design and study sample influence the generalizability of results and highlighting the need of additional research to compare similar groups.

4.1 *Sociodemographics*

In consistence with the literature, most firesetters in all three populations are male, single, unemployed, and have the Dutch nationality.¹⁶ The relatively high proportion of males in the (older) PBC data can be explained by the increase of female firesetters over the years.¹⁷ The younger age in the PF data can be explained by the high proportion of young teens included in this sample. These youngsters usually do not enter the forensic mental health care (yet), mainly because of their young age and saner reasons for committing arson (like sensation seeking and peer pressure). This high proportion of young offenders may also account for the high percentage of single firesetters in this group, whilst the PBC reports also include reports from earlier years in which having a relationship was more common. Remarkably, the FRIS firesetters have the highest age. This might partially be explained by the fact that this database also includes forensic mental health evaluations that are conducted long after the fact, to see whether a treatment measure (that has been executed for some time, even years) can be ended. Their higher age may also account for the fact that firesetters in the FRIS database more often have a higher education (fewer youths who are still in school) and no work at the time of the offence (older age is negatively related to labour-market participation).

4.2 *Intelligence and pathological characteristics*

Most PF and FRIS firesetters have a below average intelligence, which is consistent with findings reported elsewhere.¹⁸ However, firesetters in the PBC population have a higher intelligence, a finding that reflects the important notion that mental illness does not always impede intelligence. This difference can also be the result of different ways of measuring intelligence used over time.

In general, findings show that firesetters in the PBC and FRIS group are more disturbed than the PF population. This is reflected by a larger number of DSM classifications and becomes even more apparent from the comparison between the PBC and PF data (see Table 8.3). Differences in lifetime and pathological characteristics clearly show that the PF population is less disturbed mentally. No differences were found regarding hostility and behavioural problems from the age of 12.¹⁹

16 See Chapter 6 Section 2.3.

17 Räsänen et al., 1995a; Soothill et al., 2004.

18 Davis & Lauber, 1999; Dickens et al., 2007; Räsänen, Hirvenoja, Hakko & Isänen, 1994; Stewart, 1993; Vreeland & Levin, 1980.

19 See also Ducat et al., 2013a; Stewart, 1993; Vreeland & Levin, 1980.

4.3 *Judicial characteristics*

Comparing the three groups reveals that firesetters in the FRIS group are more often fully accountable or only slightly diminished in accountability for their actions, whilst the PBC group is more often diminished or even severely diminished in accountability. This is remarkable because both the PBC and the FRIS firesetters have many pathological disturbances and DSM classifications.²⁰ However, these disturbances are more serious in the PBC population, which is to be expected because in more serious or disturbed cases the suspects are more likely to be placed in the observation hospital.²¹ Mandatory treatment is more often recommended in the PBC and FRIS groups and less often advised in the PF group.

The main difference between PBC and PF data concerns the seriousness of previous crimes, with PF firesetters having significantly better histories, and a lower future risk of offending. This difference may very well be attributed to the difference in seriousness between the populations, with the PBC group being more disturbed, while PF firesetters more often appear to be common criminals and vandals.

4.4 *Event-related characteristics*

Firesetters usually set fire in close proximity to their home.²² In the two populations, mean distance travelled did not differ, but was higher than expected based on the study by Fritzson that found an average distance travelled of two kilometres.²³ All four patterns described by Canter and Fritzson were seen,²⁴ although firesetters in the PBC population more often acted out of an instrumental motive with a person (or personal object) as target. In line with their more person-oriented offences, a known victim was more often targeted by the PBC population. Most firesetters acted impulsively, and did not set fire to their own property. Firesetters in the PBC data more often acted alone and were more often intoxicated at the time of the offence. Again this difference can be attributed to the different background of the populations, with more youthful vandals in the PF population, acting in groups under the influence of peer pressure rather than intoxicating agents.

20 See Section 3.1.

21 Van Mulbregt & Beekman, 2007.

22 Kocsis & Irwin, 1997; Schoenmakers et al., 2012; Tamura & Suzuki, 2008; Wachi et al., 2007.

23 Fritzson, 2001.

24 Canter & Fritzson, 1998; see Chapter 6 Section 3.4.

5 Conclusion

This chapter gives insight into general characteristics of three populations of Dutch firesetters, contributing to knowledge on firesetters from various backgrounds, and who vary in the degree of criminal responsibility and mental health problems. Making distinctions between these groups of firesetters is relevant in the field of forensic mental health as well as the criminal justice system as it can contribute to tailored management and treatment of firesetters. The most general picture of firesetters in the Netherlands is given by data from police files. All firesetters that were convicted in a specific time period were included in these data, with or without pre-trial forensic mental health assessment giving insight into the firesetters that enter the criminal justice system in the Netherlands. However, only a very small number of arson cases result in an actual conviction, limiting the generalizability of these data. More specific information on firesetting and firesetters is provided for by the FRIS data, with information on all firesetters having undergone a pre-trial forensic mental health assessment. However, these data are limited because only a small number of items per case were available. The most specific group described consists of firesetters who underwent a pre-trial forensic mental health assessment on an inpatient basis in the Pieter Baan Centre.

The overall characteristics of all three populations mainly correspond with findings presented in Chapter 6. However, the populations also show numerous differences in characteristics. Many of these differences relate to the different nature of these populations. In general, the PBC population is the most disturbed (forensic mental health assessment on an inpatient basis was deemed necessary), the FRIS population is also disturbed but to a lesser extent (short outpatient evaluations were mostly considered to be sufficient) and the PF population is the most 'healthy' group (for a large part no evaluations were carried out).²⁵ In the three subsequent chapters, firesetters are studied using a meso and micro approach, with Chapter 9 focussing on subgroups of firesetters (meso level), Chapter 10 describing detectable characteristics of subgroups of firesetters (meso level), as well as individual firesetters (micro level), and Chapter 11 introducing a differentiated treatment model for subgroups of firesetters (meso level).

25 In this respect it must be noted that the possibility does exist that no pre-trial forensic mental health evaluations were ordered in cases where mental health problems were present.

Chapter 9

Subgroups of firesetters

The next step towards individualization

1 Introduction

Using a macro-level approach, Chapter 8 presented a description and comparison of populations of firesetters. However, such an approach does not provide insight into the subgroups of firesetters within a particular population. Firesetters form a heterogeneous group and as follows from Chapter 6, a significant part of previous studies on firesetting and firesetters dealt with categorizing this offence and its offenders into various subtypes.¹ The focus on categorizing the individual firesetter is not surprising: differentiating between groups of firesetters can be seen as the first stage in developing both a good theory as well as a coherent strategy for dealing with this behaviour.² More specifically, knowledge on subtypes of firesetters that enter the criminal justice system and/or the forensic mental health system is paramount for both their identification³ and treatment.⁴ This chapter zooms in on two populations and takes a meso-level approach in order to distinguish subgroups of firesetters within a larger population, which translates into the following research question:

Which subgroups of firesetters enter the criminal justice and forensic mental health system in the Netherlands?

This research question covers three objectives: (a) to subdivide firesetters using police file data supplemented by expert interviews to gain insight into subtypes of firesetters that enter the criminal justice system.⁵ This study further aims (b) to test the validity of the five subtypes of firesetters based on the Multi-Trajectory Theory of Adult Firesetting (M-TTAF),⁶ using a large sample of Dutch firesetters.⁷ Third, this study seeks (c) to assess whether a specific

1 E.g. Geller, 2008; Harris & Rice, 1996; Inciardi, 1970; Lewis & Yarnell, 1951; Prins et al., 1985.

2 Blackburn, 1993; Canter & Almond, 2002.

3 See further Chapter 10.

4 See further Chapter 11.

5 See Chapter 2 Sections 1.2 and 1.4.

6 Gannon et al., 2012; see Chapter 5 Section 4.3.2.

7 See Chapter 2 Section 1.1.

psychotic subtype exists and whether these firesetters differ from the non-psychotic firesetters.

Next, the subdivision of police file data into subgroups of firesetters will be discussed. Section 3 describes the results of cluster analysis to distinguish subgroups of firesetters based on reports from the Pieter Baan Centre. Psychotic and non-psychotic firesetters are discussed in Section 4. A comprehensive answer to the research question is given in the concluding section.

2 Subtypes of convicted firesetters

2.1 Making a distinction (police file data)

Based on previous studies the expectation is that firesetters can be subdivided into several subgroups, including firesetters that act out of revenge after a dispute with a known victim, instrumentally driven firesetters (financial, political, to cover up other crimes), mentally disordered firesetters (including suicidal and cry-for-help firesetters), vandalism firesetters and pyromania-like firesetters (serial firesetters).⁸ The interviews revealed that experts also view firesetters as a heterogeneous group. Various subtypes or subgroups were recognized, with serial firesetters, revenge firesetters and firesetters for financial gain mentioned most often (see Table 9.1). In addition, the hypothesized subtypes were unanimously verified by the interviewees.

Table 9.1. Subgroups of firesetting/firesetters mentioned by interviewees (N = 11).

Subgroups	N	%
Serial firesetters, firesetting out of excitement/lust for fire, or pyromania	11	100
Revenge, spite firesetters	10	91
Firesetting for financial gain	8	73
Vandalism or wanton firesetters	7	64
Firesetting as suicide attempt, or to the firesetter's own property, cry-for-attention firesetters	7	64
Disordered firesetters	6	55
Cover-up firesetting	2	18
Firesetting out of sensationalism, boredom	1	9
Political firesetting	1	9
Firesetting by unassertives	1	9
Mentally disabled firesetters	1	9

However, clustering based on age, gender, motive and nature of the offence⁹ resulted in only two clusters that were large and heterogeneous. Therefore, a

⁸ See Chapter 6 Section 3 and in particular Table 6.6.

⁹ Canter & Fritzon, 1998.

more practice-based categorization was made. Based on previous studies, the interviews and personal experience, firesetters were grouped into the following five subgroups: disordered firesetters, instrumentally driven firesetters (opportunistic firesetters), vandalism firesetters, firesetters who act out of revenge because someone has upset them (disturbed-relationship firesetters), and pyromania-like firesetting (desiring firesetters) (see Table 9.2).¹⁰

Table 9.2. Subgroups of firesetters in PF data (N = 100).

Subgroups	N
Vandalism firesetters	45
Disordered firesetters	28
Disturbed-relationship firesetters	11
Opportunistic firesetters	11
Desiring firesetters	5

2.2 Description of the subtypes

As expected, the five subtypes of firesetters all differed significantly with respect to a large number of offender and offence characteristics.¹¹ Although some differences could be attributed to the variables according to which the firesetters were grouped,¹² the majority of significant results supports the existence of the hypothesized subgroups of firesetters.

In short, *vandalism firesetters* can be described as young, native boys who set fire out of boredom, thrill seeking, sensationalism or plain vandalism. They act in groups and usually set fires to objects without causing any danger to persons. In general, these boys have below-average intelligence, still live with their parents, attend school, and have friends. They frequently have behavioural problems and ADHD, behavioural disorders and pervasive developmental disorders on Axis I of the DSM. However, they generally function well, are capable of showing empathy, have good social skills and do not abuse intoxicants. This group of firesetters acts impulsively, setting fire to randomly chosen objects that are freely accessible. Houses and vehicles are a common target. They usually move around on foot and often utilise accelerants that they bring to the crime scene, which is usually located in a residential area. These firesetters are usually not intoxicated when committing the crime.

Disordered firesetters are generally male (although women are also found in this group), in their thirties, single and of average intelligence. Most have only attended elementary school and grew up with their parents in a problematic

¹⁰ See Appendix 9.1 for the grouping.

¹¹ See Appendix 9.2 (Tables 9.a-9.g) and Chapter 10 for a more in-depth discussion of visible and detectable differences. The numbers in these analyses were small limiting statistical power; see also Chapter 12 Section 2.

¹² See also Appendix 9.1.

domestic setting. They lack daytime activities and friends. Prior convictions are common, as are psychiatric diagnoses. Disordered firesetters have usually had multiple admissions to mental hospitals in their past and current DSM classifications. Furthermore, they are very impulsive, hostile, have limited empathic capabilities, interpersonal problems, problems with self-reliance and inadequate coping skills. Strongly diminished responsibility, a high risk of recidivism and the imposition of treatment measures further characterize this subtype. Fires are predominantly set impulsively, targeting persons. Most of these firesetters target themselves, acting under the influence of a psychosis or out of suicidal reasons, with their own homes being a common target. Accelerants are used in half of the cases. Disordered firesetters usually act alone and are intoxicated in half of the cases. Some of them remain at the scene of the crime, sometimes trying to extinguish the fire. Most of these fires are set during daytime.

The group of *disturbed-relationship firesetters* consists of firesetters in their late twenties with average or below-average intelligence who act out of revenge or retribution. They live alone and independently, and have experienced childhood abuse growing up. They often have a social life as well as a daily occupation, like work, where they function well. Even though they have been in contact with the law before, this mostly concerns minor crimes. Past psychopathology is rare but a current DSM classification is common. They are impulsive, not good at bonding on an emotional level and have limited social skills. Problems with alcohol and soft drugs are present. Fires are predominantly instrumental in nature and targeted at a known victim like a partner or ex-partner with whom the relationship is disturbed, frequently resulting in danger to persons. Planning of the offence occurs in half of the cases. The distance travelled to the crime scene is quite large. Most fires are set in residential areas and target freely accessible objects like cars, using accelerants. Disturbed-relationship firesetters mostly set their fires in the fall and in the winter.

Opportunistic firesetters are primarily motivated by a financial or otherwise instrumental motive. They are single Dutch males in their mid-twenties with below-average intelligence. They generally have a daily occupation and no debts. Psychopathological characteristics are rare, although they do have difficulties controlling their impulses. Most opportunistic firesetters are deemed fully accountable for their offence and treatment is rarely advised. They often set fire with one or more accomplices, targeting material objects that they have explored beforehand and using fire accelerants they brought to the scene. To prevent getting caught, the offence is usually committed in the cold and dark winter months on a weekday in the early morning hours or in the late afternoon. The fires are set in residential areas, targeted at vehicles or houses. Opportunistic firesetters are usually not intoxicated whilst committing the offence.

In general, *desiring firesetters* are young, single, autochthonous males, with low intellectual capabilities. They exhibit behavioural problems in their youth, especially after the age of twelve and there are problems in the parenting

situation. As expected, desiring firesetters have set multiple fires out of a lust or fascination for fire or its aftermath, extinguishing fire. Fires are also set as a means to alleviate tension. Desiring firesetters do not have proper social skills and are limited empathically. Impulse control appears to be hampered and DSM classifications are often present including one classification of pyromania. However, most do have some daily occupation and friends. They frequently act alone, and use fire conductors like a piece of paper or cloth to set fire. However, the use of fire accelerants is rare. Fires are set impulsively to randomly chosen objects like rubbish bins and most fires only endanger property, despite being set in residential areas. Most desiring firesetters move around on foot or by bicycle and do not stay to watch the fire. There are, however, firesetters who do return to the crime scene afterwards.

3 Subtypes of forensic mental health assessed firesetters (PBC data)

3.1 Sample characteristics

Most firesetters in the PBC data are Dutch, unemployed and single males. Table 9.3 below presents general characteristics of the sample used to find subtypes of firesetters.

Table 9.3. Characteristics of firesetters evaluated at the Pieter Baan Centre (N = 389).

	M(SD)
Age (years)	29.1 (10.1)
	%
Gender	
Male	91
Female	9
Dutch nationality	92
Marital status (single)	78
No or low education	56
Unemployed	67
Intelligence	
Below average	39
Average	42
Above average	19

3.2 Cluster solution

Based on the PBC data, a two-step cluster analysis automatically determining the optimal number of clusters gave a two-cluster solution with a fair cluster quality (average silhouette 0.3), a ratio of 2.18, covering 289 cases. However,

a fixed-cluster solution with five clusters had a similar cluster quality (average silhouette 0.3) but a better ratio (1.96) and a higher number of cases (313). Because the aim was to validate the five prototypes described in the second tier of the M-TTAF, this cluster solution was chosen. Table 9.4 shows the descriptive statistics and chi-square values of the five-cluster solution.

Cluster 1 (opportunistic firesetters)¹³ contained 49 firesetters. One third of them had either witnessed or been a victim of caregiver abuse in childhood. Firesetters in Cluster 1 had the best scores on empathy, coping and social skills; they also had low impulsivity scores. They were not psychotic at the time of the offence. Cluster 2 (reward firesetters) consisted of 47 firesetters who had all experienced caregiver abuse in childhood. In comparison with people in other clusters, they more often scored moderately on the empathy and social skills scales, but like Cluster-1 members, they had low scores on impulsivity and fewer problems with coping. Cluster 3 (multi-problem firesetters) was the second largest, holding 76 individuals, all with high scores on the risk/problems scale with regard to empathy, and most scored high on severe problems with coping skills, social skills and impulsivity. Childhood abuse by caregivers was also common in this cluster. Cluster 4 (disturbed-relationship firesetters) held 49 people, all, as in Cluster 2, abused in childhood. They had high impulsivity and low coping skills scores, but their empathy and social skills ratings were moderate. The fifth and largest cluster (disordered firesetters) held 92 individuals, all of whom had serious problems with impulsivity and who had often been diagnosed with a psychotic disorder. They were all at least moderately poor in their coping skills, social skills and empathy. Over half had experienced childhood abuse.

13 The meaning of this and following labels will be discussed in Section 3.4.

Table 9.4. Two-step cluster solution with fixed cluster number.

	1 Opportunistic (n = 49)	2 Reward (n = 47)	3 Multi- problem (n = 76)	4 Disturbed- relationship (n = 49)	5 Dis- ordered (n = 92)	Outliers cluster (n = 76)	
	%	%	%	%	%	%	χ^2
Developmental context							
Victim of caregiver abuse	33 ^a	100 ^b	79 ^b	100 ^b	59 ^a	46 ^a	96.48**
Psychological vulnerabilities/critical risk factors							
Empathy							302.12**
No risk/problems	33 ^b	- ^a	- ^a	12	- ^a	43 ^b	
Moderate risk/problems	65 ^b	92 ^b	- ^a	88 ^b	44	36 ^a	
High risk/severe problems	2 ^a	9 ^a	100 ^b	- ^a	57 ^b	21 ^a	
Impulsivity							261.21**
No risk/problems	- ^a	2	- ^a	8	- ^a	28 ^b	
Moderate risk/problems	96 ^b	70 ^b	24	6 ^a	- ^a	30	
High risk/severe problems	4 ^a	28 ^a	76 ^b	86 ^b	100 ^b	42 ^a	
Coping skills							256.76**
No risk/problems	65 ^b	51 ^b	9 ^a	25	- ^a	30	
Moderate risk/problems	35	43	- ^a	6 ^a	73 ^b	46	
High risk/severe problems	- ^a	6 ^a	91 ^b	69 ^b	27 ^a	24 ^a	
Social skills							230.34**
No risk/problems	59 ^b	- ^a	- ^a	20	- ^a	42 ^b	
Moderate risk/problems	16 ^a	100 ^b	21 ^a	25	38	24 ^a	
High risk/severe problems	25 ^a	- ^a	79 ^b	55	62 ^b	34 ^a	
Moderators							
Psychotic disorder at the time of the offence							F.E.**
No/subclinical psychotic disorder	100 ^b	92	97 ^b	98 ^b	60 ^a	70 ^a	
Psychotic disorder diagnosed in the past	-	2	3	2	- ^a	11 ^b	
Current psychotic disorder	- ^a	6	- ^a	- ^a	40 ^b	20	

** $p < .001$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

3.3 Differences in offender and offence characteristics between clusters

Tables 9.5 and 9.6 show the comparisons between personal and offence characteristics of members of the various clusters. Table 9.7 presents a visual summary of differences based on adjusted standardized residuals. Individuals in Cluster 1 were typically first offenders. Firesetters in this cluster had low hostility and usually an adequate social network. Emotional and physical neglect in childhood were uncommon and personality disorders were rare. The main motives were revenge/retribution and profit. Compared to the other clusters, firesetters in Cluster 2 generally did not have a judicial history, had moderate problems instead of high problems on hostility, and had most likely experienced emotional neglect as a child. Revenge/retribution, profit and need for recognition were the main motives. Firesetters were likely to be accused of firesetting only and offence planning was common. The third cluster included the highest proportion of women. Members of this cluster scored high on general recidivism and hostility. Adequate social support was rare and one third had experienced physical neglect as a child. Their main firesetting motives were revenge/retribution and cry for help. Individuals in the fourth cluster also had high general recidivism scores, but were more likely to be pure firesetters. Behavioural problems from age 12, childhood emotional neglect and physical abuse were common. Revenge/retribution was the main firesetting motive, followed by cry for help. Planning of the offence was rare. Cluster 5 firesetters most often had extensive criminal backgrounds including prior impositions of a tbs measure, stronger hostility, inadequate social support and one or more personality disorders. Emotional neglect and physical abuse as a child were less likely. Revenge/retribution and cry for help were the main motives. Individuals in this cluster typically had suicidal thoughts at the time of the offence.

Table 9.5. Differences in offender characteristics described in the second tier of the M-TTAF.

	Cluster 1 Opportunistic (n = 49)	Cluster 2 Reward (n = 47)	Cluster 3 Multi-problem (n = 76)	Cluster 4 Disturbed-relationship (n = 49)	Cluster 5 Disordered (n = 92)	
Offender characteristics	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	χ^2
Age (years)	28.53 (11.6)	27.34 (9.5)	27.53 (9.2)	29.61 (9.4)	30.12 (10.6)	4.689
Age first conviction	20.52 (7.4)	22.55 (17.0)	19.46 (5.8)	20.36 (5.3)	20.38 (6.1)	3.014
	%	%	%	%	%	χ^2
Gender						F.E. [§]
Male	98	92	84 ^a	94	91	
Female	2	9	16 ^b	6	9	
Criminal background						24.04 [§]
No prior judicial contacts	39	40 ^b	20 ^a	22	27	
No prior (suspended) custodial sentences	10	4	5	12	11	

1-2 prior (suspended) custodial sentences	33	30	37	27	27	
3-7 prior (suspended) custodial sentences or a conditional mandatory hospital placement	14	13	20	27 ^b	13	
≥ 8 prior (suspended) custodial sentences or a mandatory hospital placement	4 ^a	13	18	12	22 ^b	
First offender (firesetting)	82 ^b	81	63	61	67	9.50 [‡]
Pure firesetter	-	8	10	22 ^b	9	F.E. [‡]
Behavioural problems >12	73 ^a	86	91	96 ^b	84	12.27*
Hostility						72.39**
No hostility	39 ^b	24	9 ^a	13	18	
Moderate hostility	57 ^b	60 ^b	25 ^a	46	25 ^a	
Severe hostility	4 ^a	16 ^a	65 ^b	42	57 ^b	
Social network						41.78**
Adequate	41 ^b	17	7 ^a	8	8 ^a	
Limited	35	47	37	37	38	
Poor	25 ^a	36	56	55	54	
Friends	68	63	49	50	54	5.26
Emotional neglect	45 ^a	94 ^b	77	88 ^b	60 ^a	40.56**
Physical neglect	6 ^a	20	32 ^b	23	20	12.16*
Sexual abuse	6	16	18	15	9	4.92
Physical abuse	31	48	44	65 ^b	31 ^a	17.82*
Personality disorder in the past						21.23*
No disorder	65 ^b	44	36	39	38	
Traits	30	40	43	52	35	
One or more personality disorders	4 ^a	16	21	9	27 ^b	
Motive						39.69
Financial/opportunistic	13 ^b	13 ^b	5	-	1 ^a	
Revenge/retribution	24	24	22	33 ^b	17	
Sensationalism/boredom/vandalism	7	-	3	4	6	
Fire interest/thrill	2	3	2	2	2	
Cry for help	2	5	9	13	14	
Suicide/self-harm	4	-	2	2	3	
Need for recognition	4	11 ^b		2	1	
Crime concealment	7	5	5	2	2	
Other	36	53	49	42	53	

* $p < .05$; ** $p < .001$; [‡] $p < .10$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 9.6. Differences in offence characteristics described in the second tier of the M-TTAF.

	Cluster 1 Oppor- tunistic (n = 49)	Cluster 2 Reward (n = 47)	Cluster 3 Multi- problem (n = 76)	Cluster 4 Disturbed- relationship (n = 49)	Cluster 5 Disordered (n = 92)	
Offence characteristics	%	%	%	%	%	χ^2
Accusation only including firesetting	55	66	51	65	61	4.04
Suicide ideation	5	7	15	16	16	5.46
Offence planned	40	43	30	20 ^a	33	7.12
Accusation including multiple fires	39	34	29	39	37	2.00
Dangerousness (personal harm)						8.92
No harm to persons	36	32	28	29	33	
Threat of bodily harm	53	53	57	61	62	
Physical injury	6	6	4	6	1	
Fatal injury	4	9	11	4	4	

^a The value of the adjusted standardized residual was less than -1.96;

^b The value of the adjusted standardized residual was greater than 1.96.

Table 9.7. Summary of differences between the clusters on clustering variables, offender and offence characteristics based on adjusted standardized residuals.

	Cluster 1 Opportunistic	Cluster 2 Reward	Cluster 3 Multi- problem	Cluster 4 Disturbed- relationship	Cluster 5 Disordered
Clustering variables					
Victim of caregiver abuse	No	Yes	Yes	Yes	No
Empathy	No problems and Moderate problems	Moderate problems	High problems	Moderate problems	High problems
Impulsivity	Moderate problems	Moderate problems	High problems	High problems	High problems
Coping skills	No problems	No problems	High problems	High problems	Moderate problems
Social skills	No problems	Moderate problems	High problems	-	High problems
Psychotic disorder at the time of the offence	No	-	No	No	Yes
Offender characteristics					
Gender	-	-	Female	-	-
Criminal background (general recidivism)	Less often ≥ 8 incarcerations	More often no judicial history	Less often no judicial history	More often 3-7 incarcerations	More often ≥ 8 incarcerations or a tbs measure
First offender (specific recidivism)	Yes	-	-	-	-
Pure firesetting	-	-	-	Yes	-
Hostility	No problems and Moderate problems	Moderate problems	High problems	-	High problems
Social network	Adequate	-	Less often adequate	-	Less often adequate
Emotional neglect as a child	No	Yes	-	Yes	No
Physical neglect as a child	No	-	Yes	-	-
Physical abuse as a child	-	-	-	Yes	No
Behavioural problems >12	No	-	-	Yes	-
Personality disorder in past	No	-	-	-	Yes
Motives	Profit	Profit Need for recognition	-	Revenge/ retribution	Less often profit
Offence characteristics					
Offence planned	-	-	-	Less often	-

3.4 Empirical validation of five subtypes

This subsection describes the empirical validation of the five subtypes proposed in the M-TTAF.¹⁴ The first cluster found is best characterised as non-pure firesetters with low specific recidivism, with a range of motives, including revenge and profit. This was the cluster in which firesetters had the most favourable characteristics, criminologically and psychologically. Given the generally favourable background and psychological condition, and the instrumental motives (i.e. financial, crime concealment), this cluster is labelled the *opportunistic* subtype. It most resembles the M-TTAF subtype following an *antisocial cognition* trajectory.¹⁵ In Cluster 1, however, unlike this M-TAFF type, people had less extensive criminal careers and no serious antisocial characteristics, such as poor empathy or high hostility.

The second cluster includes individuals with moderate scores on many personal characteristics such as empathy, impulsivity, social skills, hostility or behavioural problems but also with many individuals who experienced caregiver abuse; they were more often motivated by an apparent need for recognition. The developmental context in this cluster appears to be an important contributor to the firesetting, perhaps fulfilling needs that have not been met in childhood, as postulated by Jackson and colleagues.¹⁶ The fire interest-motivated fires were mostly found in this cluster, suggesting some overlap with the fire interest subtype suggested by Gannon and colleagues.¹⁷ Compared with Clusters 3, 4 and 5, firesetters were more often motivated by profit. The combination of expressed needs for recognition and financial gain, however, led us to label this cluster as the *reward* subtype.

Members of the third cluster showed even more developmental problems and also psychological vulnerabilities, so this cluster was labelled the *multi-problem* subtype. It was also the cluster with the largest proportion of women. The dangerousness of fires in this cluster was high, often with possible physical harm to others, and these perpetrators had often reported that they were seeking revenge/retribution or crying for help, the latter equating to the 'expressive motives' described by Canter and Fritzon.¹⁸ Overall, however, this cluster displays the strongest similarities with the *multi-faceted* trajectory described in the M-TTAF, although it differs with respect to gender distribution and setting of multiple fires.

Revenge and retribution were even more prevalent motives in Cluster 4, also characterized by interpersonal problems, and there was a sense that the firesetting

14 Gannon et al., 2012. Appendix 9.3 shows how all variables, including cluster variables, were represented in the second tier of the M-TTAF.

15 See also Table 9.4 for more details.

16 Jackson et al., 1987.

17 Gannon et al., 2012.

18 Canter & Fritzon, 1998.

revenge was their way of communicating: members had no friends and severe social skills deficits and impulsivity. These firesetters had also commonly been victims of childhood caregiver physical abuse and emotional neglect, so I called this the *disturbed relationship* subtype. Its revenge qualities, however, may be seen as similar to the motive-based subtype in prior studies.¹⁹ This cluster also has features in common with the grievance trajectory of the M-TTAF,²⁰ although the level of relationship disturbance and hostility did not seem as high.

The fifth cluster contained a high proportion of cry-for-help-motivated and psychotic firesetters. Personality disorders were also common, and individuals often had disturbed problem-solving skills, impulsivity, hostility, seriously poor empathy, poor social skills and an inadequate social network, even though their childhood had been less abusive or neglected than in Clusters 2, 3 and 4. I labelled this cluster the *disordered* subtype. Mental disorders are often found among firesetters,²¹ and have been used in previous classifications.²² This subtype also has features in common with the emotional expressive component described by Gannon and colleagues.

4 A psychotic type of firesetters within the disordered subtype

4.1 A distinct psychotic type of firesetters

Results show differences between psychotic and non-psychotic firesetters with respect to various offender characteristics.²³ Psychotic firesetters were older, more often single and more frequently unemployed. Self-reliance was more impaired in the psychotic group. Psychotic firesetters less frequently experienced physical abuse growing up and had a more extensive and intensive history of mental health care. In their past, personality disorders were frequent, but at the time of the offence these were actually less often diagnosed.²⁴ They did have more diagnoses of psychotic disorders whilst problems with alcohol were less frequent. With respect to judicial characteristics, firesetting was more often the only crime in the indictment and psychotics had a more extensive criminal background. Criminal accountability was more impaired, recidivism risk deemed higher and treatment was more frequently recommended. Regarding event-related characteristics, psychotic firesetters more often set fire to their own property and travelled less far. Also, all psychotic firesetters acted alone, as

19 Icove & Estep, 1987; Inciardi, 1970; Lewis & Yarnell, 1951; Prins et al., 1985.

20 Gannon et al., 2012.

21 Blanco et al., 2010; Burton et al., 2012; Ducat et al., 2013b.

22 Geller, 2008.

23 See Appendix 9.4; see also Chapter 2 Section 2.1.

24 This contradiction may be explained by the fact that a current psychosis can obscure underlying personality issues and by the fact that certain psychotic diagnoses exclude a simultaneous diagnosis of a personality disorder.

opposed to those in the non-psychotic group. Firesetters in the psychotic group, however, were less often intoxicated whilst committing the offence. Logistic regression analysis showed age and childhood abuse to be good predictors of group membership.²⁵

4.2 *Psychotic versus non-psychotic firesetters*

Some of the differences between psychotic and non-psychotic firesetters, such as a longer history of mental health care, lower self-reliance, higher number of singles and higher unemployment rate, reflect characteristics associated with psychotic disorder in general.²⁶ In contrast to other studies,²⁷ psychotic firesetters did not suffer from parental physical abuse, which was a powerful predictor of group membership. This more favourable upbringing may indicate that psychotic firesetters follow a different pathway with different background experiences leading up to the offence.²⁸ A trend was found suggesting that psychotic firesetters have more problems with the use of soft drugs,²⁹ which is in line with studies showing an association and even a causal link between cannabis use and psychosis.³⁰ In general, alcohol is associated with firesetting in which it can act as a trigger, decreasing inhibitions.³¹ The finding that psychotic firesetters showed less frequent intoxication at the time of the offence may be explained by their psychosis providing them with a different source of disinhibition leading up to the firesetting. Research shows that patients with a psychotic disorder have deficits in response suppression,³² indicating a difficulty with inhibiting extraneous responses that is not much different from the triggering effects of alcohol. Psychotic firesetters more often exclusively committed arson,³³ which might be explained by the fact that firesetting is in part a function of their thought disturbance and does not serve an instrumental goal embedded in broader antisocial behaviour. This corresponds to findings in Finland showing that psychotic arson recidivists were more often pure firesetters than firesetters with personality disorders.³⁴ Criminal accountability was deemed to be more limited and the forensic mental health recommendation given in the reports more often favoured treatment.³⁵ In general, psychotic

25 See Appendix 9.5.

26 Fujii & Ahmed, 2007; Noll, 2007.

27 O'Sullivan & Kelleher, 1987; Rix, 1994; Stewart, 1993.

28 Gannon et al., 2012.

29 $\chi^2(1, N = 112) = 2.89, p = .089$.

30 Arseneault et al., 2004; Kuepper et al., 2011; Large et al., 2011; Moore et al., 2007; Tosato et al., 2013.

31 Burton et al., 2012; Jayaraman & Frazer, 2006; Lindberg et al., 2005; Ritchie & Huff, 1999; White, 1996.

32 Harris, Reilly, Thase, Keshavan & Sweeney, 2009.

33 See also Repo & Virkkunen, 1997.

34 Lindberg et al., 2005.

35 Barendregt, Muller, Nijman & de Beurs, 2008.

firesetters acted alone targeting their own property, a finding dissimilar to that of Repo and Virkkunen.³⁶ They may less frequently interact with others because of their condition and the often delusional motives, which are difficult to share with accomplices.

4.3 Psychotic versus vandalism firesetters

The clear distinction between psychotic and non-psychotic firesetters may for a large extent be explained by the vandalism group of offenders who are generally found to be young and acting in groups.³⁷ This forms a contrast with the older and individually-acting psychotic firesetters.³⁸ The finding that psychotics are more often exclusively accused of arson, rather than in combination with other offences, can be explained by the fact that young offenders who set fire out of vandalism frequently commit other vandalism crimes, such as destruction of property.

5 Conclusion

Firesetters are a heterogeneous group, and differentiation is important for both theory and practice. Knowing which type of offender might be responsible for a fire at hand may well improve chances of identification, and tailoring treatment to specific needs of a firesetter could improve treatment effectiveness. This chapter described various subgroups of firesetters that can be found in the criminal justice system and forensic mental health system in the Netherlands. Table 9.8 summarizes the findings of this chapter and gives a final subdivision of firesetters based on the different populations.

Table 9.8. Newly developed subdivision of Dutch firesetters based on police file data and pre-trial forensic mental health assessments.

Police file data	PBC data	Newly developed subdivision
Vandalism firesetters	-	Vandals
Disordered firesetters	Disordered firesetters	Disordered firesetters
Disturbed-relationship firesetters	Disturbed-relationship firesetters	Disturbed-relationship firesetters
Opportunistic firesetters	Opportunistic firesetters	Opportunists
Desiring firesetters	Reward firesetters	Desiring firesetters*
-	Multi-problem firesetters	Multi-problem firesetters

* which refers to both the lust for fire and the need for recognition.

36 Repo & Virkkunen, 1997.

37 Canter & Almond, 2002; Dalhuisen & Koenraadt, 2014; Rix, 1994; White, 1996.

38 Canter & Fritzon, 1998; Harris & Rice, 1996; Rix, 1994.

Based on police file data, five distinct groups of firesetters were found: *vandalism* firesetters (e.g. young boys acting out in groups); *disordered* firesetters (e.g. a psychotic firesetter making a bonfire in their living room); *disturbed relationship* firesetters (e.g. the vengeful ex-husband setting fire to the new partner's car); *opportunistic* firesetters (e.g. setting fire to claim insurance money); and *desiring* firesetters (e.g. setting multiple fires out of an urge to see flames). Data from pre-trial forensic mental health assessments of firesetters also revealed five subgroups, showing overlap with the five trajectories proposed in the M-TTAF,³⁹ and the five groups found based on police file data (see Table 9.8): *opportunistic* firesetters who had the most favourable backgrounds and used fire as an instrument for achieving a specific objective like crime concealment or financial goals; *reward* firesetters who often experienced caregiver abuse, sought recognition and other (financial) rewards by setting the fire; *multi-problem* firesetters with many psychological vulnerabilities and developmental problems setting fire as a cry for help or to seek revenge; *disturbed relationship* firesetters with a history of childhood abuse and interpersonal problems, who use firesetting as a communication tool predominantly out of revenge or to seek retribution; and *disordered* firesetters who are psychotic, cry-for-help-motivated, often have a personality disorder, have many psychological vulnerabilities but more favourable backgrounds than the reward, the multi-problem and the disturbed-relationship firesetters. These findings showed that psychotic firesetters constitute a distinctive subgroup with their own features and specific treatment needs.

One should note differences with respect to research populations. Vandalism firesetters are the largest subgroup in the police file data, whilst they are apparently absent in the more disordered population of firesetters who underwent pre-trial forensic mental health assessment. However, this can easily be explained by the fact that vandals are generally younger and less often show signs of mental disturbance, making them less prevalent in the forensic psychiatric population. It should be kept in mind that police files are not as reliable concerning information on mental health problems as are forensic mental health reports. Although most information on mental health issues such as DSM diagnoses was based on outpatient pre-trial forensic mental health evaluations included in the police files, sometimes this was based on older or less thorough (probation) reports or merely mentioned mental health issues. The possibility that no pre-trial forensic mental health evaluation was ordered in cases where mental health problems could be present must be acknowledged. Despite these limitations, the subgroups found in the police file data do show overlap with the subgroups found based on PBC data.

To conclude, findings indicate the following six subgroups: *vandals*, particularly found in the criminal justice system and because of their mental

39 Gannon et al., 2012.

condition largely absent in more disordered populations; *disordered firesetters*, found in both research populations, with psychotic offenders making up an important subcategory; *disturbed-relationship firesetters* for whom fire is a way of resolving interpersonal conflict, clearly present in both populations and previous research; *opportunists* who use fire as an instrument for criminal objectives resulting in a reward, found in both populations and showing similarities with the antisocial cognition trajectory; *desiring firesetters* for whom fire is a means to a psychological end (recognition) or a goal in itself (lust for fire); and finally the *multi-problem firesetters* that form a residual category, including firesetters who do not fit well into any of the other categories or are a mix of multiple categories.

Differentiation between firesetters is crucial for a better understanding of this specific offender population, improving knowledge on their crime-scene behaviour and characteristics and gaining insight into their specific treatment needs. The following chapters elaborate on the practical implications of distinguishing firesetters, with a focus on the criminal justice system in Chapter 10 and the field of forensic mental health in Chapter 11.

From offence to offender

Identification of firesetters based on relevant characteristics

1 Introduction

In the Netherlands (as in other Western countries) many cases of (suspected) firesetting remain unresolved.¹ First of all, the *dark number* in this type of offence is expected to be large. Many cases of firesetting are not recognized as such or are simply not reported. And if a wilfully set fire is detected, finding the culprit is another problem due to the hands-off, non-confrontational and often surreptitious nature of the offence. Annually around 20 percent of known arson cases are resolved in the Netherlands, in the sense that at least one suspect is known to the police, even if this person is still a fugitive or denies having set the fire.² Furthermore, from the resolved cases only a small percentage eventually results in an actual conviction.³ It is clear that the identification of firesetters is difficult and does not rank high on the often overloaded priority list of the police. This chapter aims to promote the identification of subtypes of offenders (meso-level approach) by making use of relevant characteristics, primarily related to the offence but to a lesser extent also concerning the offender, that are visible or detectable based on either crime-scene evidence or other evidence like witness statements. Identifying a subtype, in turn, is helpful in identifying the individual firesetter (micro-level approach). This chapter answers the following research question:

How can relevant offender and offence characteristics contribute to identifying subtypes of firesetters?

Linking visible or detectable characteristics of the crime scene to possible subtypes of offenders is believed to be helpful in the process of criminal investigation and contribute to making more effective use of limited police resources. The findings presented in this chapter strongly rely on findings reported in Chapter 9, addressing various subtypes of firesetters.

1 See Chapter 1 Section 2.2.

2 See Chapter 1 Table 1.1.

3 See Chapter 1 Section 2.2.

2 Differences in relevant characteristics between offenders

Tables 10.a-10.e⁴ show characteristics that are either visible or detectable and present the related differences between vandals, disordered firesetters, disturbed-relationship firesetters, opportunistic firesetters and desiring firesetters.⁵ The meaning of these differences is discussed in Section 5. Vandals were more often male and were younger. They predominantly set outdoor fires, and their crime scenes were mostly (partly) visible to the general public. Subsequently, crime scenes were most often freely accessible. Most vandals acted in groups with multiple accomplices. Targets had no personal meaning and included vegetation or vacant buildings, and fires resulted less often in danger to persons or property compared to other subgroups. If any victims were targeted, they did not play an active role (see Table 10.a).

In comparison, disordered firesetters were more often female and had a higher age (see Table 10.b). Fires were typically started in July or November between 9 a.m. and 3 p.m. Most fires were located indoors hiding them from sight. Precautions to prevent or delay discovery, like closing the curtains and locking the door, were more often seen. Objects were mostly personal and private dwellings – often the firesetter’s own home – were likely targets, making their fires very dangerous. Because disordered firesetters often set fire to their own residence, they did not travel far and fire accelerants were consequently not brought to the scene. Most disordered firesetters acted alone.

Comparing disturbed-relationship firesetters to the other subgroups revealed fewer significant detectable differences in characteristics (see Table 10.c). However, comparisons revealed that they were older, and typically targeted a person or an object with personal meaning resulting in danger to persons. They acted alone and used a car or scooter to travel to the crime scene and less often walked there.

Opportunistic firesetters differ from the other subgroups with respect to relevant characteristics, showing much more intensive exploration of the crime scene before the act. In addition, they more often used fire accelerants and typically had one or more accomplices, with the convicted firesetter having a subordinate role (i.e. torch for hire). In comparison with the other subgroups, they often travelled by car and were let in by the victim or other parties, and usually brought fire accelerants to the scene. All targets were material in nature. Table 10.d presents the differences.

Firesetters that acted out of a desire for fire (surprisingly) did not use fire accelerants, although fire conductors (like pieces of paper or cloth) were typically used. Most of them acted alone during the spring or autumn and their crime scenes were partially visible to the general public (see Table 10.e).

4 See Appendix 10.

5 The numbers in these analyses were small limiting statistical power, see also Chapter 12, Section 2.

3 Linking relevant characteristics to possible offenders

In the previous section, results are presented based on the offenders and their characteristics as starting point. However, in real life, things are quite different. With the crime, the process of identifying the culprit starts. Therefore results are now presented ‘the other way around’, i.e. starting with the visible and detectable characteristics and using them as pointers towards a potential offender subtype. Linking offender and offence supports the criminal investigation. In Table 10.1 the findings⁶ are summarized with +/- indicating characteristics being more or less often present in a particular subtype of firesetters. For example, vandalism firesetters are more often male and disordered firesetters more often female compared to the other subgroups, whilst disturbed-relationship, opportunistic and desiring firesetters do not differ from the other subgroups regarding gender. So, if witnesses state they saw a woman setting the fire, this offender is less likely a vandalism firesetter and more likely a mentally disordered firesetter; and if fire accelerants are found at the scene that were brought there, this is less likely the work of a mentally disordered firesetter and more likely a fire set by an opportunistic firesetter.

6 See Tables 10.a-10.e in Appendix 10.

Table 10.1. Relevant offender and offence characteristics that are more (+) or less (-) often present in various subtypes of firesetters.

	Vandalism firesetters (n = 44)	Disordered firesetters (n = 28)	Disturbed- relationship firesetters (n = 11)	Oppor- tunistic firesetters (n = 11)	Desiring firesetters (n = 5)
Offender characteristics					
Gender					
Male	+	-			
Female	-	+			
Age (years)					
10-17	+				
18-30			+		
>30		+			
Offence characteristics					
Taking precautions to prevent/ delay discovery					
		+			
Day					
Sunday	+				
Wednesday	-				
Month					
March					+
May					+
July		+			
October		-			+
November		+			
Timeframe					
3-6 a.m.		-			
9-12 a.m.		+			
12-3 p.m.		+			
Fire located indoors					
	-	+			
Visibility of the crime scene					
Not visible	-	+			
Partly visible	+	-			+
Visible	+	-			-
Nature of target					
Personal/persons	-	+	+	-	
Material/objects	+	-	-	+	
Target					
Vegetation	+				
Private residence	-	+			
Vacant building	+				
Public building	-	+			
Vehicle		-			
Fire results in danger to persons	-	+	+		
Fire results in danger to property	-				
Active role victim					
No	+				

Yes, incitement	-				
Travelling to the crime scene					
On foot	+	-	-		
By car	-		+	+	
By scooter			+		
Offender did not move	-	+			
Exploration of crime scene beforehand	-			+	
Revisiting the crime scene post-offence		-			
Access to the crime scene					
Freely accessible	+	-			
Forced entry	+	-			
Offender lived/worked there	-	+			
Let in by victim or other parties	-			+	
Bringing fire accelerants		-		+	
Using fire accelerants					-
Using fire conductors					+
Acting alone					
Yes	-	+	+	-	+
One accomplice	+				
Multiple accomplices	+	-			-
Division of roles between offender and accomplice(s)					
No fixed roles				-	
Firesetter subordinate to accomplice				+	

4 Case descriptions of individual firesetters

Next, a micro-level approach is used to look at individual firesetters and their characteristics. This section aims to illustrate the various subtypes and give possible members of these subtypes an identity. In doing so, the individual firesetters are placed within a broader context to counteract the reduction which is inherent in subdividing populations of firesetters. The following prototypical descriptions are based on the police file data (2008-2012), altered to ensure privacy and supplemented based on experience and comments of the interviewees. These descriptions are presented to give a general idea of individual firesetters; it must be kept in mind that in reality many individual differences occur.

4.1 *The Vandal: Patrick*

Patrick is a sixteen-year-old boy who is in the final year of his pre-vocational secondary education. He lives with his parents and a younger brother. The relationship with his parents is generally good, but they have trouble restraining

Patrick's behaviour. He has been diagnosed with ADHD and has difficulty structuring and controlling his impulsive behaviour. His ADHD also underlies behavioural difficulties at school; especially since high school, with Patrick being unruly and rude. At home, his parents try to keep him in line by applying very strict rules. However, this is counterproductive and in his spare time Patrick prefers to be outside where he hangs around with a group of friends. This group has been in trouble with the law on many occasions for causing nuisance. Patrick looks up to the often older boys and finds it cool to be part of this group.

On a warm Thursday evening in September, Patrick is out 'chilling' with his friends. They are strolling through the neighbourhood and Patrick has a deodorant canister and a lighter on him. He says: 'I was actually a bit bored and fooling around with the lighter and deodorant canister. I sprayed deodorant into the air and lit it, so you got a blowtorch. I found this to be a pretty sight in the dark'. The group thought it interesting and for a moment Patrick finds himself in the centre of attention. To further impress his peers he impulsively decides to light a conifer hedge which they come across with his blowtorch. The boys stay around to watch the fire for a while, but when they see the flames erupt and witnesses approaching, they run away.

A court ordered pre-trial forensic psychological evaluation on an outpatient basis reads: 'The person concerned has never learned how he could spend his free time in a meaningful, satisfactory manner. For him, being out on the streets with other boys was the ultimate way of leisure. However, this resulted in boredom and an accumulation of irritations and frustrations that were vented and abreacted in the environment. The commission of the offence fits this pattern.' Patrick is deemed slightly diminished in accountability, since his impulsiveness due to ADHD was an important instigator of the offence. In addition, recidivism risk is estimated to be low. Patrick had not previously been in trouble with the law and this incident made a great impression on him. Although at first he denied the offence, he later took full accountability and showed remorse. Patrick was sentenced to 120 hours of community service, of which 40 hours conditionally.

This case presents a good example of a vandal. A young boy is out late with his friends and starts a fire out of boredom, frustration and a desire to impress his peers. The fire in itself is quite harmless (i.e. targeting vegetation), and the offender did not plan for it to happen. The behavioural problems exhibited by Patrick are relatively common amongst vandals setting fire. Firesetters in this category have a fairly positive prognosis as is illustrated by Patrick's feelings of remorse and low estimated risk of recidivism.

4.2 The Disordered Firesetter: William

William is a single man, aged 53. He grew up in a problematic family suffering from pedagogical and emotional neglect. In addition he experienced multiple

instances of sexual abuse, by his father and two teachers. William has very low intelligence and only finished primary education. At the time of the offence he did not work because of psychiatric problems. William has a long psychiatric history and has been in a mental institution for the last few years with judicial authorization. For quite some time he has had psychotic symptoms and experienced feelings of anxiety. In the past William was diagnosed with paranoid schizophrenia. His personality is characterized by antisocial, borderline and narcissistic traits, mainly reflected in externalizing behaviour. This implies that William places responsibilities and causes of problems outside himself. He often experiences auditory hallucinations, usually commands. Although he receives medication for this symptom, the voices have not completely gone. In the past, William has had multiple encounters with the law and received some suspended sentences.

When William learns that he might be transferred to a more lenient and open ward of the institution, he is afraid. Changes are difficult for him and can cause a state of anxiety. Panicking, William leaves the institution and returns to his own home. He then consumes a large amount of alcohol and under the influence of command hallucinations sets fire to his home. He uses a bottle of methylated spirits and sets fire to the curtains in the living room, causing danger to himself but also to other residents of the apartment building. Fortunately, the time of the fire (around 6 p.m.) allows the fire to be quickly discovered by neighbours. When he is arrested, William is clearly psychotic. He explains he set the fire because he had to and was disorganized in speech and behaviour.

He undergoes pre-trial forensic mental health assessment by both a psychiatrist and a psychologist. The evaluation shows that he suffers from chronic post-traumatic stress disorder and schizophrenia of the paranoid type. In addition, he is diagnosed with mental retardation. William acts impulsively, has difficulty in social contact and a very limited social network. Further, he lacks self-efficiency and his ability to cope with stressful conditions is impaired, as demonstrated by the offence that he committed out of panic due to an upcoming change in his situation. His criminal accountability is severely diminished and the risk of reoffending is high. Conditional treatment is advised. The court follows this advice and also sentences William to eight months' imprisonment.

The case of William is quite representative for the whole subgroup of disordered firesetters. Disadvantageous childhood experiences and extensive histories of mental health care contact are frequent in these offenders. This offender group is the most vulnerable, and the case of William shows that life events can trigger firesetting, for instance by amplifying the mental health issues underlying this behaviour. The dangerousness of the fire set by William is also exemplary for disordered firesetters, who often set fire to private residences. Due to a high risk of reoffending, accountability being severely diminished and the presence severe and/or long-lasting mental health issues, prospects for these offenders are not very positive.

4.3 *The Disturbed Relationship Firesetter: Peter*

Peter is a 34-year-old man who divorced his wife a few months ago. They have a daughter together. Peter was raised by both his parents, who stayed together despite their troubled relationship. Therefore, he did not grow up in a stable home, physical abuse occurred and his emotional needs were not met. As a child Peter exhibited behavioural problems. He is of average intelligence and yet had problems keeping up at school. After school he starts working in construction, which he still does at the time of the offence.

The relationship with his wife ended in turmoil and not long afterwards his ex-wife started a new relationship. Peter suspects that this relationship was already going on when they were still married. To make matters worse, his ex-wife's new partner is a mutual friend. All this results in a tense situation and a lot of anger and resentment in Peter. To cope with his problems, Peter starts to drink a lot. When his ex-wife's new partner sends him a Facebook message in which he belittles Peter and states that his wife only stayed with him out of pity because of the hardship he endured following his mother's death, Peter's had enough. He is hungry for revenge, as he states: 'That message made me really mad; I could not let him get away with this. I wanted to scare him and take revenge'. One evening after giving himself Dutch courage, Peter takes his car and drives over to this man's house, some four kilometres away. He then throws a burning Molotov cocktail at the house, resulting in a fire at the front door. This fire endangers persons, especially since it is a terraced house in a residential area.

Clearly, the offence is motivated by revenge. Although Peter partly recognizes his role in the offence, he blames the victim for inciting him by sending a mean Facebook message. Pre-trial forensic mental health evaluation shows Peter has alcohol dependence and a personality disorder not otherwise specified with antisocial and narcissistic traits. Criminal accountability is slightly diminished. The court sentences Peter to eight months' imprisonment, of which four months conditionally, with the specific parole condition of undergoing treatment for his alcohol problem.

Peter is a good example of a firesetter in the disturbed-relationship group. He fits the profile of a single, Dutch man around the age of thirty (although Peter is somewhat older) of average intelligence with a non-stable family background. What is more, retaliation was the main motive for his offence and he targeted a specific victim, making his fire very dangerous. Although he functions quite well in life (i.e. he has a job) Peter appears to lack the ability to resolve his conflict in an acceptable manner, turning to firesetting instead.

4.4 *The Opportunists: Susan and Bert*

Susan is a married woman in her early thirties. She has never been in trouble with the law, had a favourable childhood and no psychiatric or psychological

problems. In addition, she shows no signs of impulsiveness or hostility. She has good social skills and empathy.

A close friend asks her if she knows anyone who could set fire to a warehouse he owns to collect insurance money. His business had been slow and setting fire to the outdated and poorly maintained premises would give him the opportunity to rebuild. Susan works as an administrative assistant at the company of her friend. In addition, her friend had helped her brother to find work, for which Susan was very grateful. To help out her friend and to maintain her job, she approaches Bert.

Bert is a man in his early forties who is known in the village for his eccentric and criminal behaviour. In the past 25 years he has had multiple encounters with the law and was imprisoned seven times, predominantly for property crimes. He committed these crimes to support his cocaine addiction. Although he no longer uses cocaine, his alcohol and cannabis use is still problematic. Bert only received primary education, is of below-average intelligence, has memory problems and difficulty learning new skills. He comes from a troubled home, especially lacking a father's love. He uses cannabis and alcohol daily and struggles financially. He has debts and lives on benefits.

When he is promised €500 to set fire to the warehouse, he decides to take the 'job'. Together with Susan he explores the location beforehand, a business park outside the village. He then makes a Molotov cocktail and one night at around half past two Susan drives him to the site. Bert throws in a window of the property and sprays gasoline inside. Then he throws in the lit Molotov cocktail. A major blaze erupts, burning down the warehouse completely.

Neither Susan nor Bert underwent pre-trial evaluation by a psychiatrist or psychologist. However, Bert's probation report shows an estimated low to moderate risk of reoffending. Susan and Bert are convicted and sentenced to 180 hours of community service, and a suspended prison sentence of three months with two years' probation.

Opportunistic firesetters often work together, as is the case in the above described example. Their offences are instrumental and well organized: Susan and Bert carefully planned the firesetting, explored the crime scene beforehand and brought fire accelerants to the scene acting in the middle of the night to prevent discovery. Susan and Bert are both deemed fully accountable for the offence. On average, opportunistic firesetters are males in their mid-twenties, so Susan and Bert do not fit this general pattern.

4.5 *The Desiring Firesetter: Mitchell*

Mitchell is a 16-year-old boy who set six fires and attempted another one. Because of severe emotional and physical neglect and a very difficult family situation, Mitchell has been in foster care since the age of one and has no contact with his biological parents. Both at home and at school he shows many behavioural problems and he went to a special primary school for severely

maladjusted children. Because of his low intelligence he had no further education. At the time of the offence he therefore had no structural daytime activities. From around the age of ten it had been obvious that Mitchell is really interested in fire and sirens. He played with fire multiple times and was always very excited at those occasions.

Mitchell set the fires to cottages at a recreation park where he was staying with his foster family (four times), another building at the recreation park, a trash can and a private residence in his neighbourhood. Every time he used paper as a fire conductor which he brought with him to the scene. For example, he uses an old newspaper which he lights and throws through an open bathroom window in a holiday home. Mitchell is arrested and confesses setting the fires. Interrogations reveal that he often thinks of fire and when he sees lighters or matches for instance, his urge to set fire intensifies. He says: 'I have had times when I could leave something when I saw it. Thinking constantly: Will I, won't I do it? It does help to think of the consequences and I sometimes look for distraction by turning on the television. Sometimes it [the urge] goes away'.

The multidisciplinary pre-trial mental health evaluation shows that Mitchell has mild mental retardation and ADHD. In addition, this is one of the rare cases in which pyromania is diagnosed, due to his fascination with fire and fire-related things, like sirens and firemen. Mitchell is particularly excited by the act of firesetting and not by watching it burn. He experiences tension beforehand, which is discharged during and after the firesetting. Although he sometimes sets fire in a fire pit under the supervision of adults, due to weather and other circumstances this is not always possible. In periods in which he feels he cannot set enough controlled and supervised fires, tension elevates. At times Mitchell is capable of suppressing his urges to set fire, but when external control fails and the urge becomes too strong he can no longer control his urges. Moreover, Mitchell had set multiple fires in the past. Therefore, the risk of recidivism is high. Based on his mental health problems connected with the offence, his accountability is judged to be severely diminished. Mitchell is sentenced to juvenile detention, with the special condition of undergoing treatment for his pyromania and impulsiveness.

The case of Mitchell is brought up here because he fits the general pattern of desiring firesetters very well. He is a young, single, Dutch boy with mild mental retardation and behavioural problems who set multiple fires. He clearly exhibits a fascination for fire, flames and firesetting and shows signs of a fire-addiction including craving that builds up when his lust for fire is not met. He uses paper as a fire conductor and chooses his targets impulsively.

5 Discussion of findings

This chapter addressed how subtypes of firesetters could be identified based on relevant offender and offence characteristics. First of all, it should be noted

that based on offender and offence characteristics it is possible to distinguish between subtypes of firesetters.⁷ Vandalism firesetters are young boys acting in groups, setting fire to random objects outdoors without targeting a known victim. The differences found reflect this description. Most differences found concerning disordered firesetters can be explained by them setting fire to their own home, resulting in dangerous indoor fires, which are set alone and without them travelling to the crime scene. Their disorganized firesetting is reflected in them setting fire in broad daylight. The fact that disturbed-relationship firesetters more often use a car as mode of transportation can be explained by the fact that they have a specific goal and travel to a known victim they want to target rather than just wandering around and setting fire impulsively to materials at hand. Opportunistic firesetters are more organized (often headed by an accomplice) which is reflected in them exploring the place of the fire beforehand, arranging a way to gain easy access to the target and bringing fire accelerants. Desiring firesetters are most likely to use fire conductors and set fire throughout the year. This can be explained by their more intrinsic motivation to set fire: fire conductors like paper or pieces of cloth allow more direct contact with the fire and their desire is not seasonal.

This chapter has shown that characteristics of both the offender and the offence that are visible or can be detected can be used to identify a particular subgroup of firesetters. This information can be a guiding tool in the identification process to find the person(s) responsible for the fire, by pointing towards one or in some cases more subtypes based on the information available to the police. If a fire is set to a private home for instance, making it a personal target, mentally disordered firesetters or disturbed-relationship firesetters are more probable offender types than opportunistic or vandalism firesetters. If that particular fire is set in broad daylight, a mentally disordered offender is even more likely. Or, to take yet another example, if fire is set to a vacant warehouse and witnesses heard persons talking to each other, indicating multiple offenders at the scene, findings suggest that opportunistic or vandalism firesetters are more likely offenders than the other subgroups. If the location of that vacant warehouse is remote and it is probable that offenders got there by car the offenders are probably opportunistic firesetters. These examples give an indication of how the results of this chapter can be translated to practice. However, it must be kept in mind that linking these crime-scene data to offender subtypes only provides an indication of a possible type of offender and should be used as such. The results do not correspond to individual offenders and should not be treated as hard evidence. However, a likely subtype may indicate the type of individual offender that is responsible. Established links ought to be used cautiously and one must always keep an open mind regarding alternative scenarios.

7 See Chapter 9.

6 Conclusion

Several characteristics of the offender and the offence can be used to identify the subtype of firesetters of which the offender is a likely member. This knowledge can be useful in law enforcement by guiding both the criminal investigation and the interrogation of suspects. To be precise, relevant characteristics may provide clues in the criminal investigation, increasing the chance of successfully identifying a suspect while using less resources. And, if that suspect is apprehended, one has more insight into this person's possible background, which helps establish some degree of trust during the interrogation, increasing the willingness to give statements. However, to avoid tunnel vision it must be kept in mind that each offender and offence is unique and that the established links between characteristics and offenders cannot be generalized. After discussing the identification of individual offenders, the next chapter describes the final step in dealing with firesetting behaviour: treatment in forensic mental health settings.

A model of differentiated treatment

1 Introduction

After having been identified and apprehended by the police, firesetters enter the criminal justice system. Although only a small proportion is eventually convicted,¹ a substantial part of these convicted firesetters receive some form of treatment, either framed within a specific treatment measure such as *tbs*, or as part of their prison sentence.² It must be noted in this respect that most firesetters are criminally accountable to some degree, justifying punishment to some extent. Despite the fact that firesetters form an important category of offenders in the forensic mental health system, currently there are no specific standardized treatment programmes for firesetters in the Netherlands.³ Different types of firesetters are often treated in a similar fashion and together with aggressive or even sexual offenders. However, they form a specific, heterogeneous offender population and in order to be effective, treatment should be tailored to these particular offenders and focus on their specific criminogenic and positive human needs.⁴ What is more, to date, no studies on effectiveness of general offender treatments in treating firesetters exist,⁵ and interviews with eight imprisoned New Zealand serial firesetters (i.e. who had set five or more fires) revealed that firesetters view the available treatment as ineffective, because their specific fire-related problems are not addressed.⁶ Although promising specific treatment programmes are being developed and/or evaluated in the US, UK and Australia,⁷ in general treatment efforts for firesetters are still in their infancy. This chapter contributes to the much-needed knowledge on treatment of firesetters taking into account subgroups of firesetters by answering the following research question:

1 See Chapter 1 Section 2.2.

2 De Vogel & De Ruiter, 2004; Graat et al., 2011; Tuinier, 1989; Van Nieuwenhuizen et al., 2011.

3 Dalhuisen, 't Lam, Koenraadt & Hagenauw, 2016.

4 Andrews et al., 1990; Andrews et al., 2011; Ward & Stewart, 2003.

5 Bell, 2016.

6 Haines, Lambie & Seymour, 2006.

7 Fritzon et al., 2013b; Gannon & Lockerbie, 2011; Gannon, 2012; Gannon et al., 2015; Grant et al., 2011.

How can treatment be tailored to the specific treatment needs of subtypes of firesetters?

In answering this question, first a description of the specific treatment needs and relevant characteristics of subtypes of firesetters is given (meso level), resulting in the introduction of a model of differentiated treatment for subgroups of firesetters. This model provides a schematic summary of findings, linking the characteristics and needs of specific subgroups of firesetters to specific treatment elements. The model and its implications for practice are discussed. In this respect it must first be noted that this model is not and does not strive to be a comprehensive treatment programme. Rather, it can be used as an empirically based guideline in the further development of treatment for subgroups of firesetters and individual members of these subgroups.

2 Risk factors and associated treatment needs

There is not much information on risk factors and treatment needs of firesetters, which is a prerequisite for the development of adequate treatment for firesetters.⁸ The literature review described in Chapter 7 resulted in five articles specifically concerning risk factors and treatment needs in firesetters that will be discussed below. The focus will be on dynamic risk factors, because these can be influenced and changed in treatment. However, to provide a complete picture, static factors that emerged in the studies are also described.

An article on treatment needs and risk factors in female firesetters in particular describes the following possible risk factors and focus points of treatment, that appear to overlap with those of male firesetters: negative developmental experiences such as childhood abuse, personal characteristics such as low self-esteem and other factors related to general pathology, and underlying motives for setting fire.⁹ Based on these risk factors, it is stated that both female and male firesetters are likely to benefit from a treatment programme with various flexible modules including offence analysis, adult functioning styles (e.g. coping skills, anger management, assertiveness, communication styles) and the influence of childhood history, attitudes towards fire or fire interest, and relapse prevention. In addition, treatment for female firesetters must specifically focus on prior victimization and its effect on interpersonal functioning, self-esteem and coping, the development of interpersonal skills in order to attain and maintain healthy relationships.¹⁰

A review of existing literature on risk factors in recidivist firesetters describes general risk factors and criminogenic needs such as a history of criminal and

8 Gannon, 2010.

9 Idem.

10 Idem.

antisocial behaviour, mental illnesses, a disadvantageous development and interpersonal problems such as a lack of assertiveness and poor social skills. Firesetting-specific risk factors are described as well, including: interest in fire, a younger age when setting the first fire, a history of firesetting, specific emotions and emotional states before, during or after the firesetting (i.e. fascinated, bored, excited, empowered, recognized, relieved, and/or not concerned), and cognitions supporting firesetting (implicit theories, cognitive distortions).¹¹

In the model with multiple trajectories leading up to adult firesetting (M-TTAF), risk factors are described for each of the five trajectories.¹² For firesetters following the *antisocial cognition* path, the most prominent risk factor is having offence-supportive attitudes that support general criminality. Issues with self-regulation such as poor impulse control and problem solving are also likely. Firesetters in the *grievance* group who often act out of revenge have self-regulation issues as the most dominant risk factor. These self-regulation problems mainly concern management of aggression, anger and hostility. Communication problems and inappropriate fire scripts (cognitive beliefs/internal working model) about the uses and meanings of fire, i.e. that fire is a powerful means to send an authoritative message to people who have mistreated them (indirect aggression) are also important risk factors. For firesetters following the route of *fire interest*, (logically) having an inappropriate interest in fire and inappropriate fire scripts in which fire is seen as a way to deal with problems are the main risk factors that should be addressed in treatment. In addition, firesetters in this group have firesetting-specific offence-supportive attitudes. The *emotionally expressive/need for recognition* trajectory consists of firesetters for whom communication problems are the most prominent risk factor and in case of emotionally expressive firesetters self-regulation issues must also be addressed in treatment in order to reduce the risk of recidivism. The last route described in the model is labelled the *multi-faceted* trajectory, in which offence-supportive attitudes and values supporting both firesetting and criminal behaviour in general, and inappropriate fire interest and fire scripts are the main risk factors. Additional risk factors described are self-regulation issues and communication problems.

Apart from more descriptive articles, some studies make a comparison between firesetters and non-firesetters regarding risk factors and characteristics relevant for treatment. A study by Gannon and colleagues on differences between 68 male firesetters and 68 matched non-firesetters serving a prison sentence showed that firesetters differed significantly in terms of fire-related issues, self-regulation (i.e. goal setting, self-monitoring and evaluation processes related to self-control) and self-concept. Firesetters particularly had higher levels of anger-related cognitions, were more interested in serious fires, and identified with fires more strongly. In addition, they had lower levels of perceived fire

11 Doley, Fineman, Fritzon, Dolan & McEwan, 2011.

12 Gannon et al., 2012; see also Chapter 5 Section 4.3.2.

safety awareness, lower general self-esteem and lower external locus of control scores, meaning that they less often believed that life is influenced by external factors, such as fate.¹³

A study on specific risk factors measured with the HKT-30 (a risk assessment instrument with ten historical, ten clinical and ten future items) completed for eleven firesetters and 35 non-firesetters who were admitted to a forensic psychiatric hospital in the Netherlands, showed that social and relational skills were significantly poorer in firesetters and hostility was higher in this group.¹⁴

So although evidence on risk factors and associated treatment needs is scarce, it supports the notion that firesetters have certain specific treatment needs. In summary, the following areas are of importance in effectively treating this offender population:¹⁵

- (a) fire-related issues, such as an inappropriate fire interest and inappropriate fire scripts and a lack of knowledge on danger associated with fire;
- (b) interpersonal skills and communication;
- (c) coping and self-regulation (in particular anger and hostility); and
- (d) self-esteem and self-confidence.

3 Treatment needs in subgroups of firesetters

In order to tailor treatment to particular firesetters, it is important to first describe specific treatment needs of subgroups of firesetters. Similar to the work of Gannon and colleagues,¹⁶ this section specifies the associated treatment needs of the six subgroups of firesetters found in this study. The treatment needs discussed in this section concern the needs that are believed to be associated with risk of specific recidivism. In this respect, more general treatment needs of offenders e.g. related to their antisocial behaviour or specific mental disorders is not discussed, but must also be addressed for treatment to be effective in reducing recidivism in general.

The first subgroup of *vandals* comprises firesetters who least often enter the forensic mental health system, simply because they do not regularly exhibit mental health problems. These predominantly young offenders are best characterized as mischievous and not disordered. However, for those vandals who do receive treatment for their firesetting behaviour, this treatment should focus predominantly on their (c) coping and regulation of emotions such as boredom and excitement. Group pressure often plays a role in vandalism fires, and targeting (d) self-esteem and self-confidence can be helpful in teaching

13 Gannon et al., 2013.

14 Hagenauw, Karsten, Akkerman-Bouwsema, de Jager & Lancel, 2015.

15 Doley et al., 2011; Gannon, 2010; Gannon et al., 2013; Gannon et al., 2012; Hagenauw et al., 2015.

16 Gannon et al., 2012.

young offenders to withstand peer pressure. What is more, *vandals* are often (a) unaware of the dangers associated with fire, which must be addressed in treatment. In addition, (b) learning them how to develop a more healthy network (e.g. pro-social friends) and receive positive support when needed, can help diminish the risk of reoffending.

The second subgroup of *disordered firesetters* exhibits a wide variety of problems concerning mental health, in particular psychotic disorders. In general, disordered firesetters can be characterized as deranged individuals who act based on psychotic motives or to commit suicide. Apart from treating this psychosis and/or other mental health problems that directly or indirectly influence their firesetting behaviour, addressing (c) coping, (b) interpersonal abilities, and to a lesser extent (d) self-worth are believed to contribute to reducing the risk of recidivism. Teaching these firesetters to cope with stressful circumstances related to their mental health problems, for instance to get help when needed, can prevent them from completely losing contact with reality and committing psychosis-induced arson. However, disordered firesetters often live on the fringes of society, and do not have many social contacts. Improving their social abilities and investing in healthy relationships can diminish the urge to set fire by providing them with the care they need. Improving self-worth is believed to be helpful because of its positive effects on well-being, diminishing suicide ideation.

Inability to adequately express feelings of anger towards someone with whom they have some sort of relationship is the main characteristic for firesetters in the *disturbed relationship* group, who use fire as a means of taking revenge. This is clearly related to the treatment needs of (c) coping and self-regulation, and (b) interpersonal skills and communication. Teaching them how to deal with feelings of anger, resentment and hostility after real or perceived wrongdoings and increasing the abilities to respond in a more socially acceptable manner in these situations, for instance by assertively making one's feelings known, are important elements in treatment. Moreover, for these firesetters fire is a powerful weapon and is used as such. This (a) inappropriate cognitive script related to fire must be addressed in treatment in order to reduce the risk of reoccurrence.

Similar to the vandals, *opportunists* are also relatively uncommon in forensic mental health facilities, because treatment is rarely imposed. These offenders are best characterized as criminal or bad rather than disordered or mad, and instead of treatment they are more likely to receive punishment. However, because they show some difficulty in controlling their impulses teaching them to (c) control and regulate can be a useful target in treatment. What is more, they are likely to have (a) inappropriate fire scripts, namely that violence (i.e. by means of fire) is an acceptable way to obtain their goals or that fire is necessary to survive in a dangerous world, which can be addressed in treatment.

The fifth subtype of *desiring firesetters* most dominantly has treatment needs specifically related to (a) an inappropriate fire interest and inappropriate

fire scripts. For them fire holds important satisfying qualities and is seen as a means to alleviate tension, as exciting, or rewarding. Apart from addressing their distorted beliefs and disproportionate interest in fire, treatment of these firesetters must also focus on their (b) limited social skills and impaired empathy, and (c) problems controlling their impulses.

The final residual subgroup of *multi-problem firesetters* is diverse in their treatment needs because this category includes firesetters that do not fit well into any of the above-mentioned subgroups or firesetters who fit into multiple subgroups. All of the treatment needs described in Section 2 can be present in this category. Therefore, it can only generally be stated that treatment should focus on those treatment needs that are most salient in a specific individual.

4 Combining effective treatment and firesetters: making it work

From the literature review on effective treatment it is clear that there is a general lack of evidence-based specific treatment for firesetters.¹⁷ Still, the following treatment elements are likely to contribute to treatment effectiveness: fire safety education, social skills and assertiveness training, cognitive behavioural therapy, behavioural interventions, and pharmacotherapy. After describing general and specific treatment needs, the final step in tailoring treatment to specific subtypes of firesetters is linking effective treatment elements to specific treatment needs.¹⁸

When promising treatment elements are matched with the identified treatment needs, first, various interventions can be utilized to address (a) fire-related issues. Fire-safety education can be used to improve knowledge on dangers associated with it.¹⁹ More importantly, cognitive behavioural therapy can contribute to a change in inappropriate fire scripts and fire-supporting attitudes. The inappropriate interest in fire can be tackled using behavioural therapeutic elements, such as aversion therapy.²⁰ In addition, there is evidence that pharmacotherapy can reduce excessive interest in or the desire to set fire. Second, (b) interpersonal skills and communication can be improved by providing social skills and assertiveness training. Third, (c) coping and self-regulation can be addressed by means of cognitive behavioural therapy, possibly including behavioural interventions to gain insight into specific routes or pathways that lead up to setting fire and to learn new skills to better regulate emotions and stressful life events. Finally, (d) self-esteem and self-confidence

17 See Chapter 7; see also Bell, 2016.

18 It must be kept in mind that the aim is not to describe a comprehensive treatment programme, but to focus on promising treatment elements in combination with described treatment needs only.

19 Palmer et al., 2010.

20 Royer et al., 1971.

can be positively influenced by training and improving interpersonal skills. In addition, cognitive behavioural therapy can alter negative thoughts and attitudes concerning the self.

Table 11.1 presents a summarizing model of subgroups of firesetters with their treatment needs in order of importance and corresponding treatment elements.

Table 11.1. Newly developed model of differentiated treatment for subgroups of firesetters.

Subgroups of firesetters	Likely treatment needs	Promising treatment elements
Vandals	Coping and emotion regulation (boredom/excitement)	Cognitive behavioural therapy; Behavioural interventions;
	Self-esteem and self-confidence	Social skills and assertiveness training;
	Lack of knowledge on dangers associated with fire Interpersonal skills and communication (pro-social network)	Fire-safety education
Disordered firesetters	Coping	Cognitive behavioural therapy;
	Interpersonal abilities	Social skills and assertiveness training
	Self-worth	
Disturbed-relationship firesetters	Coping and self-regulation (anger/hostility)	Cognitive behavioural therapy; Behavioural interventions;
	Interpersonal skills and communication	Social skills and assertiveness training
	Inappropriate fire script (fire as a weapon)	
Opportunists	Self-regulation (impulsiveness)	Cognitive behavioural therapy;
	Inappropriate fire script (fire as acceptable means to an end)	Behavioural interventions
Desiring firesetters	Inappropriate fire interest	Behavioural interventions;
	Inappropriate fire scripts (fire as rewarding/exciting)	Pharmacotherapy; Cognitive behavioural therapy;
	Interpersonal skills (empathy)	Social skills and assertiveness training
	Self-regulation (impulsiveness)	
Multi-problem firesetters	Combination of above-described needs	Combination of above-described elements

5 Conclusion

That firesetters are a heterogeneous group of offenders has become clear by now. Their heterogeneity must be taken into account when treating them. However, there are several shortcomings in the current treatment of firesetters. First, no standardized treatment programmes specifically targeted at reducing recidivism in firesetters currently exist in the Netherlands.²¹ Obviously, firesetters do receive treatment, but this treatment is general in nature. Secondly, in the existing literature on the treatment of firesetters, hardly any differentiation is made based on the characteristics of the offender. Although treatments are described for men or women, or offenders with a mild intellectual disability, there has been no further differentiation according to subtypes of firesetters so far. Finally, *hard evidence* on the effectiveness of described treatment modalities has also been virtually lacking to this date.²² Although some evidence on effectiveness of interventions exists based on *best practices*, it is recommended that this gap in knowledge is filled by further research (preferably experimental in nature).

Despite shortcomings in treatment literature, this chapter aimed to present guidelines on how treatment can be tailored to subtypes of firesetters and their specific treatment needs. Based on literature, general treatment of firesetters must in any case focus on fire-related issues, interpersonal skills and communication, coping and self-regulation, and self-esteem and self-confidence. It is clear that subgroups of firesetters differ regarding their specific treatment needs. Combining their specific needs with interventions that appear promising with respect to reducing recidivism,²³ this chapter resulted in a summary presenting an empirically based model of differentiated treatment in firesetters.²⁴ This model offers guidance in the treatment of subgroups of firesetting in two ways. First, it guides practitioners in the field of forensic mental health when dealing with individual firesetters who are member of a specific subgroup. It identifies focus points of treatment and describes possible treatment modalities. Second, from a more theoretical perspective, this model also encourages the further development of evidence-based treatment for subgroups of firesetters by focussing on differentiating treatment needs and combining them with effective treatment elements. In this respect the context of treatment, i.e. the

21 A brief survey of sixteen mental health care facilities in the Netherlands revealed that in only one institution firesetting-specific treatment was offered: the cognitive behavioural therapy module by Taylor and colleagues (2002).

22 Bell, 2016.

23 See Chapter 7.

24 It should be noted that firesetters often have comorbid mental health problems and display antisocial behaviour. Treatment must therefore be a combination of both general and firesetting-specific modules.

living conditions in penitentiaries and forensic mental health hospitals, must also be taken into account.²⁵

There is still much to be gained in the field of effective treatment of firesetters, both in dealing with this group as a whole and in treatment tailored to specific subgroups and individual firesetters. For future theoretical development it is paramount that existing *best practices* are used on a larger scale, which will ultimately result in a growing body of knowledge and more thorough empirical research on the effectiveness of these interventions. What is more, it is important to bear in mind that a differentiated approach is preferred, taking into account specific characteristics of subgroups of firesetters.

25 Boone, Althoff & Koenraadt, 2016.

Chapter 12

Integration

Although firesetting is an offence with potentially severe consequences and offenders often show signs of mental disorder, this phenomenon has not received much attention in research. In the Netherlands as well as globally, knowledge on firesetting and firesetters falls short. This study aimed to contribute to the current body of knowledge on the firesetting phenomenon in at least six ways. Firstly, a historical account on the development of pyromania and beliefs on firesetting as mad or bad, followed by a contemporary discussion of changes in forensic mental health assessments gave much-needed background to this phenomenon. Secondly, a review of theoretical literature resulted in a newly developed explanatory model of firesetting taking into account theories from different perspectives. Thirdly, reviews were conducted on characterizing, categorizing and treatment of firesetters, providing an up-to-date and relevant overview of the current body of knowledge. Fourthly, the hiatus in knowledge on the individualization of specific firesetters was filled by providing insight into (members of) subgroups of firesetters based on different populations. Fifthly, this individualisation resulted in insight into identifiable characteristics that can aid detection and interrogation of firesetters by the police. And finally, a new model of differentiated treatment of firesetters was introduced.

In this chapter, I will answer the central research question: How can Dutch firesetters be identified and individualized, and how can treatment be tailored to these persons? In doing so, I will start by reviewing results and discussing the meaning of these findings. Then I will discuss some methodological considerations that must be taken into account when interpreting the findings discussed. Subsequently, attention is paid to several implications of this study and directions of future research.

1 Recapitulation and discussion of findings

1.1 Contextualisation: historical developments and theory on firesetters

In the first part of this study the firesetting phenomenon was placed in a historical, contemporary and theoretical context, to provide the necessary background to this central research topic and subsequent findings. First firesetting was

placed in a historical context, discussing developments regarding culpability of firesetters in the field of criminal justice, and in general psychiatry and forensic psychiatry from the beginning of the nineteenth century until the first half of the twentieth century. Starting this monograph with a historical account is valuable in at least two ways. First, discussing developments in time from a medico-legal viewpoint gives background to psychiatric and legal notions on firesetting and firesetters and changes herein. So knowledge on past developments places current findings in perspective. What is more, these historical developments offer a background to more contemporary changes in views of firesetters as either dangerous criminals or disordered offenders that can be seen from the second half of the twentieth century onwards. Second, much of the current practice on mentally disordered offenders in general can be traced back to the beginning of the nineteenth century, such as the notion that mental disorders can diminish criminal accountability and that in addition to punishment, treatment can be indicated, making a thorough understanding of past developments paramount for a good understanding of current practice.

History shows an ongoing pendulum movement when it comes to views on firesetting as either a culpable and punishable act, or an act stemming from pathology making it excusable and favouring treatment over punishment. This movement can be explained when looking at developments in general psychiatry, amongst other things influencing treatment optimism and changes in the views on pyromania. It must however be noted that historical developments are embedded in a much broader historical context with other factors involved. Looking at the early 1800s, psychiatry emerged in consort with overall treatment optimism. Moreover, around that time the diagnosis of pyromania was also introduced with a general consensus that it was a distinct disorder and generally regarded as a motiveless, irresistible impulse to set fire especially found in juveniles with irregular sexual development. These developments were reflected in legal practice with many instances of exculpation based on insanity in firesetting cases, especially concerning young offenders. In the second half of the nineteenth century however, treatment optimism faded away *inter alia* due to biological and hereditary beliefs dominating psychiatry. What is more, there were doubts about the existence of pyromania as a distinct diagnosis. As a result the punishment of firesetters was favoured over exculpation and treatment, even in the instances where indications of mental disorders could be discerned. In the twentieth century, pathology in firesetters received new emphasis, influenced by psychoanalytic theory and individualism. However, in this instance the focus was on underlying pathology rather than pyromania, and in legal practice a more moderate view on exculpation or punishment was seen with awareness of possible mental disorders associated with firesetting but no instances of almost automatic exculpation based on pyromania. At this moment, the pendulum appears to be hovering somewhere in between culpability and exculpation with attention for mental disorders underlying the behaviour that possibly limit criminal accountability. However, another

development concerning mentally disordered firesetters can be discerned in a more contemporary analysis of pre-trial forensic mental health assessments of Dutch firesetters from 1950 onwards. Based on this analysis, having a mental disorder has become less important and dangerousness in the sense of recidivism risk more important in the behavioural advice given to the judiciary over time. So, it appears that currently treatment of mentally disordered firesetters receives less emphasis, whilst the focus on risk management (even in those offenders who are mentally ill) prevails.

Apart from a historical and contemporary background, the first part of this study also resulted in an explanatory model of firesetting based on criminological, psychological and pathological perspectives on why a person sets fire. In line with the multidisciplinary academic cooperation between lawyers, criminologists, and forensic psychiatrists called the Utrecht School, which had its heyday in the 1950s,¹ this model is the first to incorporate explanations of firesetting from different perspectives, placing the behaviour in a broader theoretical context. From a criminological perspective, Routine Activity Theory is used to explain firesetting behaviour by looking at the interplay of motivated offenders, suitable targets, and the absence of capable guardians.² However, how one becomes a motivated offender remains unclear and that is where psychological perspectives come into play. A multi-factorial model can do justice to the complexity of the behaviour and should encompass at least social-learning factors, biological factors, addiction susceptibility, developmental factors and psychological factors such as self-esteem. The models of Jackson and colleagues,³ and Gannon and colleagues⁴ are useful in this respect. Routine Activity Theory assumes that people make rational choices on whether or not to act given the circumstances in a particular situation. However, more erratic forms of firesetting (e.g. setting fire to one's own home in broad daylight) are not explained in this model and although the multi-factorial models discussed include mental health factors in some way, the specific influence of pathology on firesetting is not fully accounted for. Therefore a third, pathological perspective is included in the integrated model to explain fires that directly or indirectly stem from mental disorders. When interpreting the newly developed integrated explanatory model of firesetting it must be kept in mind that it does not display linear relationships, but rather explanations from various perspectives that interact in a broader context.

1 De Jong & Kelk, 2015.

2 Cohen & Felson, 1979.

3 Jackson et al., 1987.

4 Gannon et al., 2012.

1.2 Individualizing firesetters

The aim of this study was to identify subgroups of firesetters by providing an overview of characteristics and categorizations in literature and combining datasets from multiple sources to develop a new subdivision of Dutch firesetters based on police file data and pre-trial forensic mental health assessments. Identifying subgroups of firesetters and their unique characteristics is important in three ways. Firstly, it contributes to current knowledge on subdividing firesetters with a specific Dutch population. Secondly, it can be useful in the identification of firesetters by law enforcement personnel. And, lastly, it can guide the development and administration of treatment of firesetters in forensic mental health institutions.

Firesetters share common characteristics and are generally characterized in literature as young, single, unemployed, white males of below average intelligence, who frequently have mental health issues and set their fire mostly out of anger or revenge, in the dark, without accomplices, when intoxicated, and close to home. These findings correspond to the nature of the offence. Firesetting is a crime for which one does not have to be particularly smart or skilled and for which one does not have to confront the victim in a direct manner but can rather have an effect whilst remaining hidden in the dark. What is more, it appears that fire is chosen as a means predominantly by people suffering from mental disorders, underlining the often disordered nature of this offence. The general picture in literature is also reflected in the own empirical findings, with firesetters being mostly single, unemployed, Dutch males with a history of mental health care and/or current diagnoses and other mental health problems. However, their age was higher, especially in the PBC and FRIS populations, which can be explained by the fact that these populations are more disordered and less often include vandals who are typically young offenders. In addition, overall intelligence was higher, which may be explained in part by the level of compulsory education in the Netherlands.⁵

In addition to shared characteristics, differences exist within the group of firesetters and subgroups emerge. In the literature several distinctions are made based on either motive, characteristics of the offender, of the offence, or of a combination of factors, with revenge and anger firesetting, vandalism, firesetting for financial gain, psychotic/disordered firesetting and firesetting to cover up other crimes being the most often described categories. This study's aim was to contribute to individualizing firesetters by comparing populations and creating subgroups using empirical methods. A comparison between study populations showed differences corresponding to the nature of these populations with the PBC population being the most disordered (i.e. mad) whilst the PF population was the healthiest (i.e. bad). Zooming in on the PBC population and

5 Brinch & Galloway, 2012; Ritchie et al., 2013.

using two-step clustering to subdivide this group of firesetters, five subgroups emerged that showed similarities with five subgroups based on PF data and subtypes of firesetters described in literature. Combining these subgroups into a newly developed subdivision of Dutch firesetters resulted in the following six groups: vandals, disordered firesetters (of which psychotic firesetters are a distinct component), disturbed-relationship firesetters, opportunists, desiring firesetters and multi-problem firesetters.

Looking at the integrative explanatory model of firesetting developed in Chapter 5 the following hypothesized explanations can apply for firesetters in the various subgroups. Firesetting by vandals may be best explained by a combination of psychological, individual factors (psychological perspective) as well as environmental factors (criminological perspective): these are young boys who are easily influenced by peers and want to have fun without parental or other forms of control, and just happen to come across suitable targets in their environment. Firesetting by disordered firesetters is best explained from a pathological perspective: these types of offenders do not make a rational decision but rather set fire directly or indirectly influenced by their mental health issues. For firesetters in the disturbed-relationship category, a lack of social competence because of pathology and/or due to developmental problems (psychological perspective) may result in them not knowing how to resolve conflict in a pro-social manner making them more motivated to use fire as a means of retribution if the situation allows it (criminological perspective). For opportunists fire has a specific function (e.g. financial gain) and they may become motivated offenders because of social-learning processes about the rewarding properties of crime and other psychological characteristics, such as poor impulse control and a need for instant gratification. However, the criminological perspective is also salient in this subgroup because they act in a very organized manner, calculating the risk of apprehension and taking into account the absence of capable guardians. Addiction susceptibility (psychological perspective) and pyromania or pyromania-like symptoms (pathological perspective) can explain how desiring firesetters become motivated offenders. They often set multiple fires to low-risk objects, suggesting that they take environmental factors into account (criminological perspective). Explanations of fires by multi-problem firesetters are expected to be a combination of many of the above-described factors. This subdivision is used to further individualise firesetters in order to direct identification by the police,⁶ and treatment in forensic mental health institutions.⁷

1.3 Identifying firesetters

When one or more firesetting incidents occur, this can cause great unrest in society. Fire is a dangerous and greatly feared phenomenon, and finding the

6 See Section 1.3.

7 See Section 1.4.

person(s) responsible would be expected to have the highest priority in the criminal justice system. And in cases of multiple firesettings that receive much media attention, this is true to some extent.⁸ However, police capacity is limited and identifying the culprits is difficult in cases of firesetting, which is reflected in the small proportion of arson cases solved by the police.⁹ One aim of this study was to enhance the chances of identifying the culprit(s) in cases of firesetting by providing directions and guidelines to the police regarding identifiable characteristics of firesetters, based on visible or detectable crime-scene data and other evidence that are more or less frequently seen in specific subgroups of firesetters. In addition, knowledge on subtypes of firesetters can be used to guide the interrogation of suspected firesetters by the police, increasing the chance of identifying them.

This study identified five distinctive subtypes of firesetters that are most likely to enter the criminal justice system. In order of importance: (a) vandalism firesetters, comprising young boys acting out in groups, targeting random objects; (b) disordered firesetters, who suffer from mental illnesses (especially psychotic disorders) or have suicidal ideations and set fire to their own home in a disorganized manner; (c) disturbed-relationship firesetters, who want to retaliate with respect to (perceived) wrongdoings, targeting a specific victim; (d) opportunistic firesetters, consisting of financially or otherwise instrumentally driven firesetters who use fire as a means to a specific end; and (e) desiring firesetters, for whom fire has intrinsic value and is set multiple times. These five subtypes differ regarding various characteristics. Zooming in on the characteristics that are visible or can be detected by the police and linking them to specific subgroups of firesetters can be a guiding tool in the identification of the person(s) responsible for the fire, by pointing towards one or in some cases several subtypes based on the information available to the police. Identifying a likely subtype of firesetters, in turn, is indicative of the individual offender.

1.4 Tailoring treatment to individual firesetters

Apart from identifying the culprit(s), the firesetting problem can be addressed by treating the offenders to reduce recidivism. Research on treatment of firesetters is much needed to fill the lacunae that currently exist. There is a lack of general knowledge on effective treatment for firesetters.¹⁰ Because treatment programmes specifically targeting firesetting behaviour are virtually non-existent, firesetters receive treatment that is similar to that of other offenders.

8 E.g. in a case of multiple firesettings in the Northern part of the Netherlands ('t Zant) in 2007 the police went to great lengths to find the culprit. Even the army was called in to assist in the investigation.

9 See Chapter 1 Section 2.2.

10 Bell, 2016.

However, effectiveness of these general treatment models appears to be low.¹¹ The limited knowledge on effective treatment of firesetters combined with the fact that most treatment efforts made in the field of firesetting do not distinguish between the various types of offenders demonstrates the need for differentiated treatment of firesetters. The final objective of this study was to fulfil this need and fill the void by describing effective treatment tailored to individual firesetters. In working towards this goal, results of the literature review on effective treatment and the newly developed subdivision of Dutch firesetters were incorporated into a new model of differentiated treatment for subgroups of firesetters. This treatment-oriented and delinquent-centred objective matches well with an approach that has its origin in the Utrecht School.¹²

Results of the literature review showed that evidence-based interventions are rare, inter alia because of a general lack of knowledge on characteristics and risk factors of firesetters, but randomized controlled trials are also difficult to conduct due to small and heterogeneous populations of firesetters in forensic mental health facilities. *Best practices* are developed and based on various (case) studies,¹³ showing that several treatment elements can be effective in reducing recidivism in firesetters. Treatment programmes that incorporate fire safety education, social skills and assertiveness training, cognitive behavioural therapy, and behavioural interventions like covert sensitisation are the most promising and are currently being designed and/or evaluated internationally. The Firesetting Intervention Programme for Prisoners¹⁴ effectively reduced problematic fire interest and associations with fire and was also helpful in improving general attitudes towards violence and antisocial attitudes.¹⁵ A similar intervention programme for mentally disordered offenders is currently being evaluated.¹⁶ There is some evidence that pharmacotherapy can reduce the urge to set fire, but this intervention receives less attention in current treatment efforts. This might be explained by the fact that most recent treatment programmes are developed by psychologists and not psychiatrists. However, in the treatment model presented by this study, pharmacotherapy is included because of the potentially beneficial effects.

To this day, evidence on risk factors for these offenders is scarce, but it is clear that firesetters have specific treatment needs. In line with the Risk-Need-Responsivity model and the Good Lives Model, treatment of firesetters should address the following issues: (a) fire-related problems (e.g. an inappropriate interest in fire, inappropriate fire scripts and a lack of knowledge on fire safety); (b) interpersonal skills and communication; (c) coping and

11 Haines et al., 2006.

12 De Jong & Kelk, 2015.

13 See Chapter 7 for an in-depth discussion of these studies.

14 Gannon, 2012.

15 Gannon et al., 2015.

16 Gannon & Lockerbie, 2011.

self-regulation; and (d) self-esteem and self-confidence. Various interventions that emerged from the literature review can be used in treatment of firesetters, with fire-safety education, cognitive behavioural therapy, aversion therapy and pharmacotherapy to address fire-related issues, social skills and assertiveness training to target interpersonal problems, cognitive behavioural therapy with behavioural interventions to teach alternatives and regulation of emotions to address coping and self-regulation, and social-skills training combined with cognitive behavioural therapy to enhance self-esteem and self-confidence.

Differences in specific treatment needs emerged, e.g. with vandals predominantly having problems with coping and emotion regulation and to a lesser extent with self-esteem and self-confidence issues and a lack of knowledge on the dangerousness of fire, and desiring firesetters primarily having issues with inappropriate fire interest and fire scripts and to a lesser extent limited social skills and impulse control problems. Combining these treatment needs per subgroups with promising treatment elements based on the outcomes of the literature review resulted in an empirically based model of differentiated treatment for subgroups of firesetters.¹⁷ The implications of this model are discussed in Section 3.

2 Methodological considerations

In this study various research populations were analysed using various research methods. A first important methodological consideration is the generalizability of findings which depends on the actual population used. In general, this study focused on Dutch data only. Because legal frameworks and recommendations for and methods of forensic mental health assessment differ between countries,¹⁸ caution must be exercised when translating these findings to other jurisdictions. Furthermore, the study populations used differ regarding their representativeness.¹⁹ The most general overview of firesetters is provided by the police file data, which includes firesetters convicted at two district courts in the Netherlands. However, in this respect it must be noted that only a small percentage of known arson cases result in a conviction and it is unclear how many arson cases remain unknown. What is more, this data does not cover the entire country and is limited in size, hampering the representativeness of findings. The population of firesetters included in the forensic registration and information system is the largest and has the highest representativeness, including most mental health evaluations conducted in the Netherlands.²⁰ The Pieter Baan

17 See Chapter 11 Table 11.1.

18 Dressing & Salize, 2006; Nedopil, 2009.

19 See also Chapter 8 Section 2.

20 As a principle, all mental health evaluations are registered in FRIS. However, due to inconsistent registering some reports are missing.

Centre has a national function, with for adults almost all inpatient forensic mental health evaluations in the Netherlands being conducted there. However, a selection bias can be seen resulting in a population that is more strongly mentally disordered. Firesetters that are referred to a forensic mental hospital to be assessed – especially on an inpatient basis – are thought to differ from other persons regarding their mental health, resulting in an overrepresentation of mentally ill offenders limiting generalizability to firesetters in general.²¹

Secondly, availability of data must also be addressed. On the whole, the data that were available depended on the completeness of the police files, forensic mental health reports and the FRIS forms. Because of the retrospective nature of this study, the large time period and changes in forensic mental health reporting over time,²² data were inevitably lacking regarding various items.²³ In addition, the available information differed between populations regarding level of detail. The largest research population based on the nationwide registration system (FRIS) lacked detailed information on characteristics of the firesetter and the offence. The police file data were much more extensive and detailed, allowing for more comparisons and inferences, yet were less representative of the situation of firesetters in the whole country. The data from the Pieter Baan Centre were both representative for the whole of the Netherlands and contained detailed information for a reasonable number of firesetters. However, the cases used dated back to 1950 and societal changes influence pre-trial forensic mental health evaluations,²⁴ affecting the criteria for inpatient pre-trial forensic mental health evaluation, the notions of mental disorders, and the extent to which a particular mental disorder could influence criminal accountability. This is an important yet unavoidable limitation in research covering such a long time span. What is more, being dependent on recorded data has impacted on the findings because there were no other sources but the available data. Certain relevant factors like fire interest, offence-supportive attitudes, and other cognitive and affective components²⁵ were not measured and could therefore not be studied in detail. In the future, a more qualitative study design can counter these limitations. Based on the above, the three data populations underlying this study have their own strengths and weaknesses, with the FRIS population being the largest and most representative, yet the least detailed and solely including (assumedly) mentally ill offenders; the PF population not being as reliable concerning information on mental health issues because this information is not always based on pre-trial forensic mental health evaluations but also on other less reliable sources (e.g. older reports), and being the least representative regarding geography (only two district courts) but more

21 Koenraadt et al., 2007; Van Kordelaar, 2002.

22 See Chapter 4.

23 See Chapter 2 Sections 1.1 and 1.2. to see how missing data was dealt with.

24 See also Chapter 4.

25 Gannon et al., 2012; Jackson et al., 1987.

representative regarding the nature of firesetters included; whilst the PBC population is reasonable in size and nationwide in the sense that most pre-trial forensic mental health assessments on an inpatient basis are conducted here, but biased regarding the mental health of offenders. Combining data from these populations that are to a large extent clearly demarcated can overcome their weaknesses and allows findings to be embedded in and differentiated between various populations.

Thirdly, the possibility of confirmation bias must be considered in the analysis of both quantitative as well as qualitative data. In this study all police files and forensic mental health reports were coded or at least extensively checked by the author who was aware of the objectives of this study.²⁶ To counteract a possible confirmation bias, checklists were used to analyse the data. In addition, the interviews were started by asking open questions on subdividing firesetters first, before validating the author's own hypothesised subgroups of firesetters.

A fourth consideration concerns the interpretation of findings described in Chapter 10. Linking crime-scene data to offender subtypes merely provides an indication of a possible offender subtype that might be responsible for the offence. The results do not correspond to individual offenders and should not be treated as hard evidence. However, knowing a likely subtype is indicative of the type of individual offender that is responsible. In addition, established links ought to be used cautiously and one must be aware of and try to prevent 'tunnel vision'; evidence might direct the investigation into other directions and there must always be room for alternative scenarios.

A fifth methodological consideration concerns the fact that psychotic firesetters are treated as a uniform group. A growing body of evidence shows that psychotic offenders are diverse, with different characteristics and pathways into offending.²⁷ However, subdividing our group of psychotic offenders would result in sample sizes that are too small to allow for statistical comparison.

Finally, it should be noted that some of the samples used in this study were small,²⁸ limiting statistical power and possibly increasing the chance of Type II errors being made (i.e. false negatives). In addition, given the small sample sizes of some of the subgroups of firesetters, the number of statistical comparisons that could be made was restricted. In addition, the Type I error rate may increase (i.e. false positives), because the significance levels were not adjusted for multiple testing. Keeping in mind these methodological considerations, caution must be exercised when interpreting the results.

26 Interrater reliability between students and the author was substantial with a mean Kappa of 0.65, ranging from .56 to .90. Still, all items that were subject to discussion were checked by the author.

27 Hodgins, 2008; Kooyman et al., 2012.

28 See for instance Chapter 4 with a sample of 72 firesetters.

3 Implications

With its severe negative consequences, firesetting has a large impact on society and prevention of this behaviour should have the highest priority. The main overall objective of this study is to contribute to the prevention of (future) firesetting and findings do have important implications for the prevention of future firesetting by law enforcement, prevention by effective treatment of firesetters in forensic mental health, and more general preventative measures.

3.1 Prevention by law enforcement

An important way to stop a firesetter from further firesetting is identifying and subsequently apprehending him. Findings of this study related to the identification of firesetters contribute to the prevention of (future) firesetting by law enforcement personnel. First, this study has shown that visible or detectable offender and offence characteristics are linked to offender subtypes, which has significant benefits. It directs the investigation, making more effective use of limited policing resources. Knowing where one should look for the culprit(s) holds the advantage of making more efficient use of time and money. By identifying the firesetter and apprehending him, further firesetting is prevented. However, whether or not a firesetter will be tried in court preventing him from committing the offence for the duration of a sentence or a treatment measure mainly depends on evidence that is found against him. So, obtaining evidence is important for the prevention of future firesetting and knowledge on characteristics of offender subtypes can contribute to this in the following stage of the investigation. Broadly knowing with whom one is dealing is useful in planning and conducting the interrogation, which is an important part of the investigation in arson cases. Because there is often a lack of ‘hard’ evidence, obtaining a confession is essential in building a case.²⁹ Knowledge about subtypes of firesetters is important in preparing the interrogation.³⁰ And incorporating knowledge on characteristics of various subtypes of offenders allows for more targeted and specific questioning. In addition, information on likely personal (background) characteristics is beneficial for establishing some degree of trust in the interrogation, increasing the willingness to declare.

Because of these substantial contributions to the prevention of firesetting by law enforcement, implementing relevant findings on the identification of offender subtypes based on visible or detectable characteristics in both training and work methods of law enforcement personnel is recommended. This may be done by converting these findings into a comprehensive (digital) programme in which various characteristics can be linked to offender subtypes, and by the

29 This was further substantiated in the interviews that were conducted; see Chapter 2 Section 1.4.

30 See also Schoenmakers et al., 2010.

development and implementation of standardized interrogation schedules with differentiations based on offender subtype.

3.2 *Prevention in clinical practice*

Effectively treating firesetters with treatment that is tailored to their specific needs can reduce the chance of recidivism.³¹ Therefore, knowledge on offender characteristics is paramount in order for a treatment programme to be effective,³² and findings of our study contribute to more tailored treatment of subgroups of firesetters. Taken together, the findings of this study are translated into several recommendations for clinical practice.

First, clinicians should recognize that firesetters constitute a distinct offender group with specific treatment needs. Therefore, treating them in a similar manner as or even together with violent or sexual offenders is strongly discouraged. Instead, firesetters must receive specific, tailored treatment in which their needs are met.

Second, clinicians should differentiate between subtypes of firesetters and be aware of the fact that firesetters constitute a varied offender group with diverse treatment needs. The new model of differentiated treatment for subgroups of offenders as developed in this study directs treatment of firesetters in clinical practice in the following ways:

- (a) If a clinician is faced with a vandal, this firesetter will likely benefit from treatment directed at their inability to cope with boredom and a need for thrill seeking or excitement, their self-esteem issues which make them easy to be influenced by non-social peers, and their lack of knowledge regarding the dangers associated with their behaviour. The treatment should encompass cognitive-behavioural and behavioural elements directed at coping, at emotion regulation and at thoughts about the self; social skills and assertiveness training to deal with peer pressure and to obtain more healthy social contacts; and fire-safety education to increase their knowledge on the dangers of fire.
- (b) Disordered firesetters are most likely to have mental health-related issues and coping, interpersonal skills and self-worth are believed to be affected, which can be targeted by cognitive behavioural therapy and social skills and assertiveness training. Psychotic firesetters are a distinct category of disordered firesetters and intensity of treatment should correspond to their high risk of recidivism and larger judicial history and impairment of criminal accountability. Furthermore, treatment of psychotics should focus on improving the current mental condition and reducing positive symptoms, which are of major influence on the firesetting. This can be done by prescribing antipsychotic medication and focusing on medication

31 Andrews et al., 1990; Ward & Stewart, 2003.

32 Hollin, 1999.

compliance. In addition, attention should be paid to co-occurring soft-drug use. Results from this study also suggest that improving self-reliance (e.g. by concrete training) and focusing on finding employment may have positive effects for this specific population of firesetters, as might be the case with having a romantic relationship.³³

- (c) Disturbed-relationship firesetters are most likely to exhibit problems with anger and hostility, and in addition are expected to have interpersonal-skills deficits hampering their ability to resolve their problems in a prosocial manner, and have an inappropriate fire script with fire as a weapon to get back at someone. For these firesetters, cognitive behavioural therapy with behavioural interventions can address their coping and self-regulation as well as their inappropriate fire script, and adequate conflict resolution can be taught in social skills and assertiveness training.
- (d) Opportunists are most likely to benefit from cognitive behavioural therapy and behavioural interventions targeting their self-regulation issues (impulsiveness) and the cognitive belief that fire is an acceptable means to a specific end.
- (e) For desiring firesetters, their inappropriate interest in fire and beliefs about fire as pleasurable are the most important treatment needs and should be addressed with behavioural interventions (aversion therapy), pharmacotherapy, and cognitive behavioural interventions. In addition, desiring firesetters are likely to have interpersonal and self-regulation problems that must also be treated by means of social-skills and assertiveness training and cognitive behavioural therapy.
- (f) The multi-problem firesetters are the most difficult group where treatment is concerned, because of their complex and diverse problems that must be addressed by combining effective treatment elements.

Finally, because not all mental health facilities have many firesetters undergoing treatment, this differentiated treatment model is best implemented in a general treatment programme for all firesetters that combines different effective treatment elements, with the possibility of differentiation within the programme to focus on the most relevant treatment needs.

3.3 General prevention

Both the apprehension of firesetters by law enforcement personnel and the treatment of firesetters to reduce recidivism are focused on preventing a person who has previously set fire from reoffending, yet do not address preventing the behaviour from occurring in the first place. Results from the study at hand indicate that the social context of a person (e.g. family, friends, neighbours,

33 See also Healy, 2010.

teachers but also mental health professionals and police officers) is an important area where prevention of firesetting can occur.

First, findings show that firesetters often have interpersonal problems which are noticeable to persons in their immediate surroundings. To prevent them from becoming social misfits, early detection of their social skill problems and providing them with social-skills training, for example at school, is advised.

Second, firesetters often have troubled backgrounds increasing the risk of developing inappropriate ideas about the meaning and dangers of fire, and the absence of parental control might bring them into contact with welfare agencies at a young age. Social workers must be aware of the possibility of fire play and inappropriate fire interest at a young age; and if present, address these issues e.g. through training and education.

Third, firesetters (especially those in the mentally disordered subgroup) are likely to have a history of mental health care contact prior to their firesetting behaviour. On a preventative level, treating people suffering from a psychosis or other mental disorders adequately may prevent them from committing psychosis-induced firesetting or other forms of firesetting stemming either directly or indirectly from their mental health issues. So, ensuring that persons with mental health problems receive the care they need is expected to have preventative effects on firesetting.

Finally, this study clearly shows that the community and the police can also have a preventative role, especially in vandalism firesetting: by monitoring groups of young boys who muck around and might get involved in rowdy behaviour like firesetting; by limiting the possible targets to set alight (e.g. locking down vacant buildings and cleaning up trash piles); and by patrolling at certain times of risk (e.g. around New Year's).

4 Theoretical considerations and future directions

This is the first extensive study on firesetting and firesetters in the Netherlands, using various research populations and a variety of methods on various research levels. This study is unique as it is the first study analysing a large amount of detailed data on firesetters in the Netherlands. Specifically data on firesetters having undergone inpatient pre-trial forensic mental health assessment (PBC population) and firesetters that were convicted at first instance (PF population) form the basis of this study. Using these two populations together contributes to the uniqueness of this study, as it allows for a more complete study of firesetters in the Netherlands making results applicable to the field of forensic mental health but also the field of criminal justice. Findings of this study have several important implications for theory on firesetting and firesetters, not only in the Netherlands but worldwide.

First, the empirically based subdivision of firesetters contributes to our theoretical understanding of subgroups of firesetters, substantiating the claim

that firesetters are a heterogeneous group of offenders, showing similarities with many previous theoretically based categorizations.

Second, the newly developed integrative explanatory model of firesetting shows the importance of looking at the firesetting phenomenon from multiple theoretical perspectives. Future research should incorporate these various perspectives to contribute to current understandings on why a person sets fire. Moreover, findings of this study show that apart from the importance of theoretical perspective underpinning a study, the population used to study the firesetting phenomenon is essential for the outcome of a study; differences between studies can largely be attributed to differences in study populations. In this regard, data cannot be seen out of context. This notion is of great importance and highlights the strong need for more research in this area to allow comparison with similar groups. To overcome the limitations regarding generalizability, future research should include other populations, e.g. firesetters in prison, firesetters in the general mental health system, or people who have set fires without being convicted or recognized.

Third, this study shows the influence of societal changes in time on the field of forensic mental health. Forensic mental health is part of society as a whole and conclusions are partly a product of the zeitgeist. This influence is inevitable, but awareness of this phenomenon can contribute to a renewed focus on objectivity. Future research should overcome this limitation by focusing on data from a more recent time period.

Fourth, the new empirically based division of firesetters and the differentiated treatment model further substantiate the claim that subgroups of firesetters exist, which have their own characteristics and associated treatment needs. It would be important now to build on this work with larger and more diverse samples and qualitative research designs. If further validation of this subdivision and associated treatment needs is forthcoming, this model could provide useful guidance on prioritising aspects of treatment, particularly among those with multiple and more complex problems. However, future research regarding the long-term effects of targeting these aspects in subtypes of firesetters is needed. This can go hand in hand with the development of a treatment programme based on the findings of this study.

Appendices¹

- 1 Relevant court decisions in Dutch arson cases in 2012-2013
- 2.1 Checklist for analysis of PBC reports
- 2.2 Additional checklist for assessment of police files
- 2.3 Interview questions
- 3.1 Crimineel Wetboek voor het Koninkrijk Holland 1809
- 3.2 Code Pénal de 1810
- 3.3 Wetboek van Strafrecht 1886
- 7 Results of search for literature on treatment of firesetters
- 9.1 Creating subgroups of firesetters based on PF data
- 9.2 Comparing subgroups of firesetters on characteristics related to the offender and the offence
- 9.3 Relevant characteristics described in the second tier of the M-TTAF
- 9.4 Comparing psychotic and non-psychotic firesetters
- 9.5 Predictive value of characteristics (logistic regression analysis)
- 10 Comparing subgroups of firesetters regarding relevant offender and offence characteristics

1 The first digit of the appendix number refers to the corresponding chapter.

Appendix 1 Relevant court decisions in Dutch arson cases in 2012-2013²

Court decision

- ECLI:NL:RBZUT:2012:BV1270. Rechtbank Zutphen, 18-01-2012, 06/940027-11
- ECLI:NL:RBZUT:2012:BV1272. Rechtbank Zutphen, 18-01-2012, 06/940030-11
- ECLI:NL:RBARN:2012:BV1454. Rechtbank Arnhem, 20-01-2012, 05/700763-11*
- ECLI:NL:RBROE:2012:BV1477. Rechtbank Roermond, 20-01-2012, 04/860344-11*
- ECLI:NL:RBROE:2012:BV1482. Rechtbank Roermond, 20-01-2012, 04/860345-11*
- ECLI:NL:GHSGR:2012:BV6343. Gerechtshof 's-Gravenhage, 20-01-2012, 22-002384-11*
- ECLI:NL:RBALK:2012:BV7755. Rechtbank Alkmaar, 24-01-2012, 14-81036011
- ECLI:NL:RBASS:2012:BV6596. Rechtbank Assen, 07-02-2012, 830203-11*
- ECLI:NL:RBAMS:2012:BV3606. Rechtbank Amsterdam, 09-02-2012, 13/656624-10 (PROMIS)
- ECLI:NL:GHSGR:2012:BV6396. Gerechtshof 's-Gravenhage, 20-02-2012, 22-005261-10
- ECLI:NL:RBGRO:2012:BV7432. Rechtbank Groningen, 20-02-2012, 18-670574-11 (promis)
- ECLI:NL:RBGRO:2012:BV7798. Rechtbank Groningen, 20-02-2012, 18-670573-11 (promis)
- ECLI:NL:GHSGR:2012:BV8936. Gerechtshof 's-Gravenhage, 22-02-2012, 22-004004-10
- ECLI:NL:RBZUT:2012:BV7167. Rechtbank Zutphen, 28-02-2012, 06-940370-11*
- ECLI:NL:RBSGR:2012:BV7589. Rechtbank 's-Gravenhage, 02-03-2012, 09-607736-11
- ECLI:NL:GHSHE:2012:BV8223. Gerechtshof 's-Hertogenbosch, 08-03-2012, 20-002671-10
- ECLI:NL:GHSGR:2012:BV9037. Gerechtshof 's-Gravenhage, 14-03-2012, 22-006163-09
- ECLI:NL:RBUTR:2012:BW2225. Rechtbank Utrecht, 21-03-2012, 16/601127-11 [P]*
- ECLI:NL:RBLEE:2012:BW0330. Rechtbank Leeuwarden, 29-03-2012, 17/925127-11 VON
- ECLI:NL:RBSGR:2012:BZ1006. Rechtbank 's-Gravenhage, 29-03-2012, 09/920187-11 & 09/761086-11 (t.b.g.) & 09/920345-11 (gev. ttz.) & 09/930042-12 (gev. ttz.)
- ECLI:NL:RBUTR:2012:BW1084. Rechtbank Utrecht, 30-03-2012, 16-601171-11
- ECLI:NL:RBSHE:2012:BW4694. Rechtbank 's-Hertogenbosch, 13-04-2012, 01/825369-11*
- ECLI:NL:RBZLY:2012:BW3714. Rechtbank Zwolle-Lelystad, 24-04-2012, 07.662425-11 and 07.614443-09 (tul)
- ECLI:NL:RBZLY:2012:BW3722. Rechtbank Zwolle-Lelystad, 24-04-2012, 07.662426-11*
- ECLI:NL:RBZLY:2012:BW3723. Rechtbank Zwolle-Lelystad, 24-04-2012, 07.662456-11*
- ECLI:NL:GHSGR:2012:BW5125. Gerechtshof 's-Gravenhage, 27-04-2012, 22-005421-11*
- ECLI:NL:RBSHE:2012:BW4179. Rechtbank 's-Hertogenbosch, 01-05-2012, 01/839577-10*
- ECLI:NL:RBGRO:2012:BW4740. Rechtbank Groningen, 03-05-2012, 18-630031-11
-

2 The court decisions concerning pure firesetting are in italics.

- ECLI:NL:RBGRO:2012:BW4741. Rechtbank Groningen, 03-05-2012, 18/630032-11
ECLI:NL:RBBRE:2012:BW5215. Rechtbank Breda, 09-05-2012, 800104-11
- ECLI:NL:GHARN:2012:BW7514. Gerechtshof Arnhem, 05-06-2012, 21-002292-11
ECLI:NL:RBZUT:2012:BW7689. Rechtbank Zutphen, 06-06-2012, 06/940064-12
ECLI:NL:RBASS:2012:BW8472. Rechtbank Assen, 15-06-2012, 19.830054-12
- ECLI:NL:RBLEE:2012:BW9327. Rechtbank Leeuwarden, 15-06-2012, 17/880536-11
VON
ECLI:NL:RBZUT:2012:BW8782. Rechtbank Zutphen, 19-06-2012, 06/940029-12
- ECLI:NL:RBUTR:2012:BW9202. Rechtbank Utrecht, 21-06-2012, 16/655558-12 [P]
ECLI:NL:RBASS:2012:BW9147. Rechtbank Assen, 22-06-2012, 19.830052-12
ECLI:NL:RBASS:2012:BW9148. Rechtbank Assen, 22-06-2012, 19.830053-12
ECLI:NL:RBASS:2012:BW9150. Rechtbank Assen, 22-06-2012, 19.830043-12
ECLI:NL:RBHAA:2012:BW9252. Rechtbank Haarlem, 22-06-2012, 15/700698-11
- ECLI:NL:RBSHE:2012:BX2243. Rechtbank 's-Hertogenbosch, 23-07-2012, 01/845371-11
ECLI:NL:RBMAA:2012:BX2371. Rechtbank Maastricht, 23-07-2012, 700008-12
- ECLI:NL:RBZUT:2012:BX2400. Rechtbank Zutphen, 24-07-2012, 06/940115-12, 06/820079-12 en 06/820814-10 (t.u.l.)
- ECLI:NL:GHSHE:2012:BX2764. Gerechtshof 's-Hertogenbosch, 26-07-2012, 20-003419-11
ECLI:NL:GHARN:2012:BX5557. Gerechtshof Arnhem, 27-07-2012, 21-004323-10
ECLI:NL:RBHAA:2012:BX4074. Rechtbank Haarlem, 02-08-2012, 15/700229-12
ECLI:NL:RBASS:2012:BX3506. Rechtbank Assen, 07-08-2012, 19.810062-12
ECLI:NL:RBASS:2012:BX3507. Rechtbank Assen, 07-08-2012, 19.830137-12
- ECLI:NL:RBALK:2012:BX4460. Rechtbank Alkmaar, 09-08-2012, 14.810038-12
ECLI:NL:GHLEE:2012:BX4253. Gerechtshof Leeuwarden, 10-08-2012, 24-000842-12
ECLI:NL:RBZUT:2012:BX7578. Rechtbank Zutphen, 28-08-2012, 06/940194-12
*ECLI:NL:RBLEE:2012:BX7073. Rechtbank Leeuwarden, 11-09-2012, 17/925309-11*VON
ECLI:NL:RBMAA:2012:BX7423. Rechtbank Maastricht, 14-09-2012, 03-700454-12
ECLI:NL:RBMAA:2012:BX7427. Rechtbank Maastricht, 14-09-2012, 03-700465-12
ECLI:NL:RBSGR:2012:BX7533. Rechtbank 's-Gravenhage, 17-09-2012, 09/753344-12 and 10/743736-10 (TUL)
- ECLI:NL:RBSHE:2012:BY3298. Rechtbank 's-Hertogenbosch, 17-10-2012, 01/825330-12
ECLI:NL:RBZUT:2012:BY1084. Rechtbank Zutphen, 24-10-2012, 06/950476-11
- ECLI:NL:RBZLY:2012:BY5527. Rechtbank Zwolle-Lelystad, 13-11-2012, 07.650341-11
ECLI:NL:GHSGR:2012:BY7049. Gerechtshof 's-Gravenhage, 13-11-2012, 22-003437-11
ECLI:NL:RBZUT:2012:BY3608. Rechtbank Zutphen, 20-11-2012, 06/940108-10
ECLI:NL:RBASS:2012:BY4919. Rechtbank Assen, 04-12-2012, 19.830155-12
ECLI:NL:RBZLY:2012:BY9309. Rechtbank Zwolle-Lelystad, 18-12-2012, 07-650297-12
- ECLI:NL:RBSGR:2012:BZ1027. Rechtbank 's-Gravenhage, 20-12-2012, 09-752033-12
ECLI:NL:RBSGR:2012:BZ1072. Rechtbank 's-Gravenhage, 20-12-2012, 09/753601-12; 09715805-12 (t.b.g.); 09/760813-10 (tul)
- ECLI:NL:GHSHE:2012:BY7020. Gerechtshof 's-Hertogenbosch, 21-12-2012, 20-003404-11

- ECLI:NL:GHSHE:2012:BY7029. Gerechtshof 's-Hertogenbosch, 21-12-2012, 20-003509-11
- ECLI:NL:RBASS:2012:BY7545 Rechtbank Assen, 28-12-2012, 19.810133-12
- ECLI:NL:RBAMS:2013:BZ2812. Rechtbank Amsterdam, 23-01-2013, 13/651048-12 (zaak A); 13/650752-12 (zaak B); 13/654277-12 (zaak C); 13/654162-12 (zaak D) (Promis)
- ECLI:NL:RBONE:2013:BY9840. Rechtbank Oost-Nederland, 29-01-2013, 06/940501-11
- ECLI:NL:RBONE:2013:BZ0222. Rechtbank Oost-Nederland, 30-01-2013, 05/701476-12
- ECLI:NL:RBNNE:2013:BZ9468. Rechtbank Noord-Nederland, 31-01-2013, 18/670438-12*
- ECLI:NL:RBNNE:2013:BZ9474. Rechtbank Noord-Nederland, 31-01-2013, 18/670439-12*
- ECLI:NL:RBDHA:2013:BZ0530 Rechtbank Den Haag, 04-02-2013, 09-758719-12
- ECLI:NL:RBONE:2013:BZ1423. Rechtbank Oost-Nederland, 13-02-2013, 05/701106-12*
- ECLI:NL:RBNNE:2013:4907. Rechtbank Noord-Nederland, 14-02-2013, 17/880237-12*
- ECLI:NL:RBNNE:2013:1778. Rechtbank Noord-Nederland, 15-02-2013, S 880062-12 PROM
- ECLI:NL:RBOBR:2013:BZ2288. Rechtbank Oost-Brabant, 26-02-2013, 01/825642-11
- ECLI:NL:RBNNE:2013:1346. Rechtbank Noord-Nederland, 01-03-2013, S880386-12VEV
- ECLI:NL:RBLIM:2013:BZ5160. Rechtbank Limburg, 05-03-2013, 03/700658-12
- ECLI:NL:RBMNE:2013:BZ3729. Rechtbank Midden-Nederland, 11-03-2013, 16/604132-10 (P)
- ECLI:NL:RBNNE:2013:BZ4376. Rechtbank Noord-Nederland, 11-03-2013, 18/670534-12
- ECLI:NL:RBNNE:2013:BZ4378. Rechtbank Noord-Nederland, 11-03-2013, 18/670467-12
- ECLI:NL:RBMNE:2013:BZ5234. Rechtbank Midden-Nederland, 13-03-2013, 16/656573-12 (P)*
- ECLI:NL:RBONE:2013:BZ5876. Rechtbank Oost-Nederland, 25-03-2013, 07.650251-12*
- ECLI:NL:RBZWB:2013:BZ8272. Rechtbank Zeeland-West-Brabant, 03-04-2013, 12/715400-12*
- ECLI:NL:RBGEL:2013:BZ6656. Rechtbank Gelderland, 10-04-2013, 05/701522-12*
- ECLI:NL:RBGEL:2013:BZ6658. Rechtbank Gelderland, 10-04-2013, 05/701521-12*
- ECLI:NL:RBNNE:2013:2569. Rechtbank Noord-Nederland, 18-04-2013, 19.830321-12 promis
- ECLI:NL:GHSHE:2013:BZ8111. Gerechtshof 's-Hertogenbosch, 22-04-2013, 20-001838-12*
- ECLI:NL:RBGEL:2013:BZ9301. Rechtbank Gelderland, 26-04-2013, 05/800224-12*
- ECLI:NL:RBLIM:2013:BZ9239. Rechtbank Limburg, 01-05-2013, : 03/702517-13
- ECLI:NL:RBNNE:2013:CA0317. Rechtbank Noord-Nederland, 03-05-2013, 18/840657-12
- ECLI:NL:RBAMS:2013:CA1748. Rechtbank Amsterdam, 03-05-2013, 13/997042-10 (A) and 13/997006-12 (B) (Promis)
- ECLI:NL:RBAMS:2013:CA1758. Rechtbank Amsterdam, 03-05-2013, 13/997003-11 (A), 13/997011-11 (B) and 13/997011-12 (C) (Promis)

- ECLI:NL:RBNNE:2013:CA1732. Rechtbank Noord-Nederland, 30-05-2013, 18/830033-13*
- ECLI:NL:RBNNE:2013:CA3179. Rechtbank Noord-Nederland, 14-06-2013, 19.830277-12*
- ECLI:NL:RBMNE:2013:2757. Rechtbank Midden-Nederland, 25-06-2013, 07.660236-12; 07.690558-12 (ttz gevoegd)*
- ECLI:NL:RBGEL:2013:1519. Rechtbank Gelderland, 10-07-2013, 05/720171-13*
- ECLI:NL:RBMNE:2013:2695. Rechtbank Midden-Nederland, 11-07-2013, 16.659171-13*
- ECLI:NL:RBMNE:2013:2698. Rechtbank Midden-Nederland, 11-07-2013, 16.659309-13*
- ECLI:NL:RBROT:2013:5172. Rechtbank Rotterdam, 11-07-2013, 10/750144-12*
- ECLI:NL:GHDHA:2013:2645. Gerechtshof Den Haag, 17-07-2013, 22-000080-12*
- ECLI:NL:RBAMS:2013:4441. Rechtbank Amsterdam, 18-07-2013, 13/667086-11 (Promis)*
- ECLI:NL:GHARL:2013:5476. Gerechtshof Arnhem-Leeuwarden, 25-07-2013, KS3700-13*
- ECLI:NL:RBGEL:2013:2098. Rechtbank Gelderland, 31-07-2013, 05/720027-13 + 05/731233-12*
- ECLI:NL:RBOVE:2013:1700. Rechtbank Overijssel, 06-08-2013, 08/760080-13*
- ECLI:NL:RBDHA:2013:10163. Rechtbank Den Haag, 13-08-2013, 09/710145-12*
- ECLI:NL:RBNHO:2013:8270. Rechtbank Noord-Holland, 16-08-2013, 15/700111-13 and 15/700136-13*
- ECLI:NL:RBOBR:2013:4618. Rechtbank Oost-Brabant, 20-08-2013, 01/845304-12*
- ECLI:NL:RBNNE:2013:5098. Rechtbank Noord-Nederland, 22-08-2013, 18/830297-13*
- ECLI:NL:RBGEL:2013:2734. Rechtbank Gelderland, 28-08-2013, 05/720145-13 and 05/032026-13 (gevoegd ttz)*
- ECLI:NL:GHARL:2013:6335. Gerechtshof Arnhem-Leeuwarden, 28-08-2013, KS 24-002883-10 28-8-13*
- ECLI:NL:RBLIM:2013:5298. Rechtbank Limburg, 10-09-2013, 03/700719-12*
- ECLI:NL:RBLIM:2013:5299. Rechtbank Limburg, 10-09-2013, 03/700720-12*
- ECLI:NL:RBLIM:2013:5300. Rechtbank Limburg, 10-09-2013, 03/700718-12*
- ECLI:NL:RBDHA:2013:11764. Rechtbank Den Haag, 12-09-2013, 09/777408-13.*
- ECLI:NL:RBGEL:2013:3214. Rechtbank Gelderland, 24-09-2013, 05/861004-13*
- ECLI:NL:RBNHO:2013:14000. Rechtbank Noord-Holland, 30-09-2013, 15/743065-13*
- ECLI:NL:RBROT:2013:7738. Rechtbank Rotterdam, 03-10-2013, 10/700009-13*
- ECLI:NL:RBDHA:2013:15670. Rechtbank Den Haag, 17-10-2013, 09-752093-12*
- ECLI:NL:RBDHA:2013:15673. Rechtbank Den Haag, 17-10-2013, 09/752094-12*
- ECLI:NL:RBZWB:2013:8071. Rechtbank Zeeland-West-Brabant, 11-11-2013, STR-13_700159*
-

Appendix 2.1 Checklist for assessment of PBC reports³

Demographics

Gender
 Nationality
 Date of birth
 Date of the fire
 Age at the time of the offence
 Marital status
 Divorced
 Children
 Contact with children
 Children living with offender
 Behavioural problems of children
 Cultural background
 Religion
 Highest level of education
 Intelligence

Firesetting and motive

Index offence
 Motive
 Nature of the offence (see Canter & Fritzon, 1998)
 Nature of target
 Ownership of target
 Offence planned or committed impulsively
 Fire results in danger to property
 Fire results in danger to persons
 Fire set alone or in a group
 Taking responsibility for the offence
 Intoxicated at the time of the offence
 Distance travelled to the crime scene
 Living situation at the time of the offence
 School
 Work
 Profession at the time of the offence
 Suicide ideation at the time of the offence

3 The scales for the items on the checklist are available upon request.

Historic characteristics

Criminal background

Pure firesetter

Recidivist or first offender

Most serious prior offence

Age at time of first offence

Age at time of first firesetting

Behavioural problems <12

Behavioural problems >12

Truancy

Bedwetting

Victim of abuse/neglect by caregivers

Victim of abuse/neglect in other situations

Emotional neglect

Physical neglect

Sexual abuse

Physical abuse

History of mental health care contact

Work/school history

Currently in school

Alcohol use

Soft-drug use

Hard-drug use

Psychotic disorders (MMD) in the past

Personality disorders in the past

Psychopathy

Sexual deviance

Biological parents together/separated

Stepparents

Biological parents alive

Age offender when mother died

Age offender when father died

Contact with biological parents (until their death/present)

Place where offender grew up (e.g. both parents, foster care)

Number of children in family growing up

Did other children also suffer from problems in the family situation

Behavioural problems of other children

Did offender have friends

Psychiatric problems parents/caregivers

Abuse problems parents/caregivers

Clinical characteristics

DSM classification at the time of the offence

Axis I

Axis II

Axis III

Axis IV

Axis V

Impulsivity

Empathy

Hostility

Social skills

Self-reliance

Acculturation problems

Coping skills

Social network

Loneliness

Relationship

Self-confidence

Conclusion and advice

Criminal accountability

Recidivism risk

Judicial advice

Verdict

Length of confinement in months

Synopsis

A brief summary of the case is given, containing (at least):

the type of person concerned

the type of fire

the motive(s) for firesetting

the nature of the mental disorder

the degree of criminal accountability

the risk of recidivism

the advice

Appendix 2.2 Additional checklist for assessment of police files⁴

Offence and offender characteristics (for each fire incident in the conviction)

Month, day and timeframe of the fire
 Target
 Choice of target (random or specific)
 Location of the fire (e.g. residential area, business park)
 Visibility of the crime scene
 Taking precautions to prevent/delay discovery
 Location of ignition (i.e. indoors or outdoors)
 Travelling to the crime scene
 Access to the crime scene
 Use of fire accelerants
 Use of fire conductors
 Use of fire retardants
 Use of combustible materials
 Number of ignition sources
 Danger for persons based on location
 Location(s) of the crime scene
 Exploration of the crime scene beforehand
 Taking precautions to prevent recognition
 Bringing fire accelerants
 Bringing fire conductors
 Intoxicated with alcohol/soft drugs/hard drugs at the time of the offence
 Acting alone
 Division of roles between offender and accomplice(s)
 Watching the fire unfold
 Revisiting the crime scene post-offence
 Having an active role in the aftermath of the fire
 Living situation
 Problems in family of origin
 Type of problems
 Relationship with family
 Relationship with partner
 Tardiness at school
 Aggressive/behavioural problems at school
 Cognitive problems at school
 Monthly salary
 Performance at work
 Financial debt
 Managing own finances
 Daily activities
 Gambling problems

4 The scales for the items on the additional checklist are available upon request.

Development of conscience

Emotional well-being

Thought patterns

Type of previous offences

Type of previous sanctions

Specific victim

Active role of victim

Appendix 2.3 Interview questions

Part 1: Questions relating to personal experiences with firesetting and firesetters

Question 1: Personal experiences

1. How often are you confronted with firesetting and firesetters in your work?

Question 2: Subgroups based on own experience

- 2a How would you describe firesetters, based on your experience with these offenders?
How would you describe firesetting, based on your experience with this offence?
- 2b What is the uniqueness of people setting fires? In other words, what distinguishes these offenders from other types of offenders?
What is the uniqueness of the offence of firesetting? In other words, what distinguishes this crime from other crimes?
- 2c If you were asked to make a classification of firesetters in various subgroups, which subgroups would you use?
If you were asked to make a classification of firesetting in various categories, which categories would you use?
- 2d How would you describe the characteristics of the offenders in these various subgroups?
- 2e What would these subgroups look like in terms of characteristics of their offence? For example, the object of the fire, modus operandi, risks, etc.?

Part 2: Questions concerning validation of hypotheses and findings

Introduction: I have examined 100 criminal records of convicted firesetters. Based on various characteristics of the offender and the offence I have created a classification of five subgroups. I would like to discuss these subgroups with you and ask some questions about offender and offence characteristics which you believe fit best in a certain group.

I found the following five subgroups:

- 1) Vandalims firesetters
- 2) Disordered firesetters
- 3) Disturbed-relationship firesetters
- 4) Opportunistic firesetters
- 5) Desiring firesetters

Question 3: Verifying / falsifying five subgroups

- 3a Do you find any categories or subgroups missing?
- 3b Are any of these subgroups new or surprising to you?
- 3c Do you have any experience with examples of these different subgroups in your work?

Question 4: The role of the police

- 4a What in your opinion is the role of the police in cases of firesetting (e.g. detection, security at the time of fire)?
- 4b To what extent are the interventions by the police in cases of firesetting sufficient with regard to cooperation with external experts/technical fire investigation and the fire department?
Note: If believed to be insufficient, ask for tips for improvement.
- 4c To what extent are the interventions by the police in cases of firesetting sufficient with regard to the detection of suspects?
Note: If believed to be insufficient, ask for tips for improvement.
- 4d To what extent are the interventions by the police in cases of firesetting sufficient regarding the interrogation of suspects?
Note: If believed to be insufficient, ask for tips for improvement.
- 4e In which area or areas of intervention by the police regarding firesetting is there room for improvement and how could this improvement be brought about?

Appendix 3.1 Crimineel Wetboek voor het Koninkrijk Holland 1809

Tweede titel.

Van misdaden en derzelver toerekening.

Vierde hoofdstuk.

Van hen, aan wie de misdaad niet of minder wordt toegerekend.

Art. 21.

Kinderen beneden den ouderdom van twaalf jaren, misdoende, mogen deswegens door de regters niet gestraft worden; kinderen, ouder dan twaalf jaren en jonger dan vijftien jaren, zullen getuchtigd worden op de wijze als in het 48^{ste} artikel is bepaald, ook wanneer zij na de vervulling der vijftien jaren, wegens misdaden of overtredingen, in dien leeftijd begaan, in hechtenis geraken.

Wanneer door hen, die den ouderdom van achttien jaren niet ten vollen bereikt hebben, misdaad of overtreding is begaan, zullen de regers, naar mate der omstandigheden, eene lichtere, dan de gewone straf der misdaad, kunnen opleggen.

Art. 22.

Aan geheel zinneloozen, die van hunne verstandelijke vermogens beroofd zijn, kan geene daad, als misdaad worden toegerekend.

De regers moeten wijders beoordelen, tot hoe verre afwisselende zinneloosheid, lichaams-kwalen, welke op de zielsvermogens merkelyken invloed hebben, zeer groote onnoozelheid en eenvoudigheid, in elk bijzonder geval, eene lichtere straf of geheele vrijspraak vereischen.

Veertiende titel.

Van het stichten en bedreigen van brand.

EERSTE HOOFDSTUK: Van brandstichting.

Art. 171.

Die, met oogmerk om te benadeelen of uit andere misdadige inzigten of enkelen moedwil en baldadigheid, voorbedachtelyk brand stichten, doen ontstaan of veroorzaken, in gebouwen, woningen, stallen, schuren, loodsen, heinigen, bruggen, huizen, getimmerten, boschen, boomen, te velde staande vruchten, te veen of te velde staande turf, of anderen haardbrand, schepen, vaartuigen, tenten, magazijnen of voorraad van waren of materialen, het zij aan eht rijk, of eenige stad of plaats, het zij aan andere personen in eigendom toebehoorende, zullen met den strop gestraft worden.

Art. 172.

Gevangenen, gearresteerden of andere bewaarde personen, die, ten einde daardoor gelegenheid tot ontkoming te vinden, brand stichten in het gebouw, waarin zij bewaard worden zullen met geeseling, brandmerk, langdurige gevangenis en bannissement uit het koninkrijk, en bij herhaling, met den strop gestraft worden.

Art. 173.

Insgelijks zullen als brandstichters gestraft worden, die door middel van ontstoken buskruid zoodanige zaken doen springen of vernielen.

Art. 174.

Nog zullen met den strop gestraft worden, die deze daden begaan omtrent zoodanige goederen hun zelven in eigendom toebehoorende, met oogmerk, om daardoor soortgelijk onheil aan die van anderen te veroorzaken, eenige menschen in gevaar te brengen, vee of andere goederen, hun niet in eigendom toebehoorende, te doen verbranden of verloren gaan, hunne schuldeischers te leur te stellen of te bedriegen, den staat hunner zaken te bedekken, medelijden te wekken, uit gedane assurantien voordeel te trekken, vermoedens van brandstichting van zich aftewenden, of op anderen te doen ontstaan, in de verwarring of opschudding voordeel te doen, of uit andere dergelijke booze inzigten en oogmerken.

Art. 175.

Wanneer nogtans het algemeen gevaar der misdaden, in de vorige artikelen omschreven, zoo als die gepleegd of ondernomen waren, zeer klein en tevens het bijzonder nadeel, daardoor veroorzaakt, zeer gering geweest is, zullen de daders alleenlijk met schavotstraf, langdurige gevangenis en bannissement uit het koninkrijk gestraft worden.

De onderscheiding dezer gevallen wordt aan de beoordeling der regters overgelaten.

Art. 176.

Hij, die alles verrigt heeft, het geen hij wilde en konde doen om den brand of de uitbarsting te veroorzaken, zal volgens de inhoud *der voorgaande artikelen* gestraft worden, schoon ook door eenige omstandigheden buiten zijnen wil de bedoelde uitwerking niet mogt gevolgd zijn.

Art. 177.

Die, willens en wetens, tot de hier voren omschreven misdaden medewerken, daartoe vuur, brandstoffen of andere gereedschappen verschaffen, met de bedrivers nopens den tijd, of wijze van het plegen, of de middelen om den brand te doen voortduren, of het bluschen te verhinderen, afspraak maken, zullen, wanneer het misdrijf gevolgd is, of daartoe dadelijke pogingen in het werk gesteld zijn, als de bedrivers zelve gestraft worden.

Art. 178.

Die losse en op zich zelve staande goederen, als enkele meubelen, werktuigen, gereedschappen of dergelijke, aan anderen toebehoorende, in brand steken, om de eigenaren door het vernielen of bederven daarvan te benadeelen of uit baldadigheid, zullen, wanneer de door hen veroorzaakte en bedoelde brand verder is voortgeslagen, naar de meerdere of mindere boosheid van hun oogmerk, gestraft worden met den strop, geeseling en brandmerk, of geeseling, langdurige gevangenis en bannissement uit het koninkrijk of ander; en wanneer het overslaan van den brand

wel niet dadelijk is gebeurd, maar door de gelegenheid der plaats, of andere kenmerkende omstandigheden zeer ligtelijk had kunnen gebeuren, met geeseling, te pronk staan op het schavot, gevangenis of bannissement, te zamen of afzonderlijk, niet te bovengaande den tijd van veertien jaren.

Art. 179.

Die van het bestaan van eenig voornemen tot misdaden *in dit hoofdstuk* omschreven, kennis dragen, zullen verplicht zijn daarvan in tijds aan de politie of de justitie ontdekking te doen, en bij gebreke daarvan gestraft worden naar de omstandigheden met bannissement, niet te bovengaande den tijd van drie jaren, of met geldboete, niet hooger dan drie honderd guldens.

Alleenlijk zullen daarvan verschoon worden die genen, welker ontdekking zoude gestrekt hebben tot laste van echtgenooten of zulke nabestaanden als *bij het 68^{ste} artikel* zijn genoemd.

Art. 180.

Die bij het ontstaan van brand, door ongeluk, onvoorzigtigheid of op eenige andere wijze veroorzaakt, opzettelijk en moedwilliglijk de bluschgereedschappen, of het geen daartoe behoort, bederven, zullen, naar de omstandigheden, met schavotstraf of gevangenis gestraft worden.

TWEEDE HOOFDSTUK: Van het bedreigen van brandstichten.

Art. 181.

Die, het zij uit wraakzucht, nijd, afgunst, om gelden aftepersen, of ter bereiking van eenige andere bedoelingen, brandbrieven schrijven en afgeven; die dezelve, het zij door hen, of anderen geschreven, leggen bestellen, verzenden, aanplakken of verspreiden, zullen worden gestraft met geeseling, brandmerk, langdurige gevangenis en bannissement uit het koninkrijk.

Art. 182.

Door brandbrieven worden verstaan alle schriftelijke bedreigingen van brandstichting, het zij met stellige woorden, het zij door duidelijke te kennegevingen gedaan.

Art. 183.

Het leggen, toezenden of stellen van eenige teekenen, bedreiging van brandstichting ten doel hebbende, zal op dezelfde wijze gestraft worden.

Art. 184.

Mondelinge bedreiging van brandstichting, het zij met stellige woorden, het zij door duidelijke te kennegevingen gedaan, zal gestraft worden met gevangenis of bannissement, tezamen of afzonderlijk, niet te bovengaande den tijd van zes jaren.

DERDE HOOFDSTUK: Van de herhaalde misdaden.

Art. 185.

Die, na eenmaal over brandstichting, het bederven der bluschgereedschappen, of wegens brandbrieven of teekenen, gestraft te zijn, zich daarna weder aan dezelfde

of aan andere dezer genoemde misdaden schuldig maken, zullen gestraft worden met geeseling en brandmerk, of geeseling, langdurige gevangenis en bannissement, voor altijd uit het koninkrijk, zoo hunne nieuwe misdaden zelve geen zwaarder straffe vereischen.

Appendix 3.2 Code Pénal de 1810*LIVRE II**DES PERSONNES PUNISSABLES, EXCUSABLES OU RESPONSABLES, POUR CRIMES OU POUR DÉLITS.*

Article 64.

Il n'y a ni crime ni délit, lorsque le prévenu était en état de démence au temps de l'action, ou lorsqu'il a été contraint par une force à laquelle il n'a pu résister.

*CHAPITRE II**CRIMES ET DÉLITS CONTRE LES PROPRIÉTÉS.**SECTION III. - DESTRUCTIONS, DÉGRADATIONS, DOMMAGES.*

Article 434.

Quiconque aura volontairement mis le feu à des édifices, navires, bateaux, magasins, chantiers, forêts, bois taillis ou récoltes, soit sur pied, soit abattus, soit aussi que les bois soient en tas ou en cordes, et les récoltes en tas ou en meules, ou à des matières combustibles placées de manière à communiquer le feu à ces choses ou à l'une d'elles, sera puni de la peine de mort.

Article 435.

La peine sera la même contre ceux qui auront détruit, par l'effet d'une mine, des édifices, navires ou bateaux.

Article 436.

La menace d'incendier une habitation ou toute autre propriété, sera punie de la peine portée contre la menace d'assassinat, et d'après les distinctions établies par les articles 305, 306 et 307.

(...)

Article 439.

Quiconque aura volontairement brûlé ou détruit d'une manière quelconque, des registres, minutes ou actes originaux de l'autorité publique, des titres, billets, lettres de change, effets de commerce ou de banque, contenant ou opérant obligation, disposition ou décharge, sera puni ainsi qu'il suit :

Si les pièces détruites sont des actes de l'autorité publique, ou des effets de commerce ou de banque, la peine sera la réclusion ;

S'il s'agit de toute autre pièce, le coupable sera puni d'un emprisonnement de deux ans à cinq ans, et d'une amende de cent francs à trois cents francs.

(...)

Article 458.

L'incendie des propriétés mobilières ou immobilières d'autrui, qui aura été causé par la vétusté ou le défaut soit de réparation, soit de nettoyage des fours, cheminées, forges, maisons ou usines prochaines, ou par des feux allumés dans les champs à moins de cent mètres des maisons, édifices, forêts, bruyères, bois, vergers, plantations, haies, meules, tas de grains, pailles, foin, fourrages, ou de

tout autre dépôt de matières combustibles, ou par des feux ou lumières portés ou laissés sans précaution suffisante, ou par des pièces d'artifice allumées ou tirées par négligence ou imprudence, sera puni d'une amende de cinquante francs au moins, et de cinq cents francs au plus.

Appendix 3.3 Wetboek van Strafrecht 1886

Eerste boek.

Algemeene bepalingen.

Titel III: Uitsluiting, vermindering en verhooging van de strafbaarheid.

Art. 37.

Niet strafbaar is hij die een feit begaat dat hem wegens de gebrekkige ontwikkeling of ziekelijke storing zijner verstandelijke vermogens niet kan worden toegerekend. Blijkt dat het begane feit hem wegens de gebrekkige ontwikkeling of ziekelijke storing zijner verstandelijke vermogens niet kan worden toegerekend, dan kan de rechter gelasten dat hij in een krankzinnigengesticht worde geplaatst gedurende een proeftijd, den termijn van een jaar niet te boven gaande.

Tweede boek.

Misdrijven.

Titel VII: Misdrijven waardoor de algemeene veiligheid van personen of goederen wordt in gevaar gebracht.

Art. 157.

Hij die opzettelijk brand sticht, eene ontploffing teweegbrengt of eene overstrooming veroorzaakt, wordt gestraft:

- 1°. met gevangenisstraf van ten hoogste twaalf jaren, indien daarvan gemeen gevaar voor goederen te duchten is;
- 2°. met gevangenisstraf van ten hoogste vijftien jaren, indien daarvan levensgevaar voor een ander te duchten is;
- 3°. met levenslange gevangenisstraf of tijdelijke van ten hoogste twintig jaren, indien daarvan levensgevaar voor een ander te duchten is en het feit iemands dood ten gevolge heeft.

Art. 158.

Hij aan wiens schuld brand, ontploffing of overstrooming te wijten is, wordt gestraft:

- 1°. met gevangenisstraf of hechtenis van ten hoogste drie maanden of geldboete van ten hoogste driehonderd gulden, indien daardoor gemeen gevaar voor goederen ontstaat;
- 2°. met gevangenisstraf of hechtenis van ten hoogste zes maanden of geldboete van ten hoogste driehonderd gulden, indien daardoor levensgevaar voor een ander ontstaat;
- 3o. met gevangenisstraf of hechtenis van ten hoogste een jaar, indien het feit iemands dood ten gevolge heeft.

Appendix 7 Results of search for literature on treatment of firesetters

Table 7.a. Literature on treatment of firesetters.

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Antar, & Hollander (2014), US	N.A.	Pharmacotherapy: typical and atypical antipsychotics, selective serotonin reuptake inhibitors, beta-blockers, naltrexone, stimulants, lithium, anticonvulsants, antiandrogen agents, and clonazepam. Psychosocial treatments: short-term psychotherapy, day treatment programmes, short-term inpatient hospitalization, and placement in residential treatment facilities. Suicide evaluation.	N.A.	N.A.	Review (chapter in handbook)
Burton, McNiel, & Binder (2012), US	N.A.	Addressing underlying mental illness and substance-use disorders; social skills training, cognitive behavioural therapy, relapse prevention techniques; focusing on other factors that may precipitate the behaviour	N.A.	N.A.	Review
Clare, Murphy, Cox, & Chaplin (1992), UK	N=1 23-year-old male with a mild learning disability convicted of two instances of arson	Cognitive behavioural treatment: graded exposure, assisted covert sensitisation, alternative coping strategies. In addition: social skills and assertiveness training, facial surgery, day activities (education, sport, crafts and daily living skills).	N.A.	No firesettings/ hoax calls at 4-year follow-up; full-time employment (adjusted to his capabilities) and an intimate partner relationship.	Case report
Ducat, & Ogloff (2011), Australia	N.A.	Addressing both the underlying causes and the offending behaviour, in a group or individually. Multi-faceted prevention programmes, focussing on psycho-educational aspects and cognitive behavioural interventions.	N.A.	N.A.	Review

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Fritzon, Doley, & Clark (2013), UK	N.A.	Treatment approaches aimed at: inappropriate fire interest/scripts (specific behavioural interventions) offence-supportive cognitions (cognitive analytic therapy) communication problems (social skills training) emotion regulation problems (affect naming and recognition, self-soothing techniques) programmes must address the criminogenic risk needs of fire-setters	N.A.	N.A.	Review (chapter in handbook) of treatment with a theoretical foundation
Fritzon, Lewis, & Doley (2011), UK	N.A.	Narrative approach: two-tiered treatment model, combining group treatment with individual treatment, addressing the role that firesetting may play in identity formation and integration.	N.A.	N.A.	Review
Gannon, & Barrowcliffe (2012), UK	1: n=158 participants, of which 18 self- reported setting a deliberate fire. 2: n=150 participants	Administration of the Fire Setting Scale (FSS) and Fire Proclivity Scale (FPS) twice, with an interval of two weeks.	N.A. (within group design)	FSS has good internal consistency and test-retest reliability. FPS also has good internal consistency and test- retest reliability.	Development and validation of two assessment instruments, within group design

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Gannon, & Lockerbie (2011), UK	N.A	<p>Firesetting Intervention Programme for Mentally Disordered Offenders (FIP-MO), cognitive behavioural with a psychotherapeutic element. Weekly two-hour group therapy and one hour of individual therapy for 28 weeks. FIP MO focuses on: inappropriate fire interest (covert sensitisation), offence-supportive thinking (implicit schemas), communication and relationships, emotional regulation/coping</p> <p>Other important elements: self-esteem, empathy, insight into personal offending</p>	N.A.	N.A.	Description of a treatment programme for mentally disordered offenders
Gannon et al. (2015), UK	n=54 incarcerated adult male firesetters with at least one deliberate fire that was either recorded in prison files or in their conviction history	<p>Firesetting Intervention Programme for Prisoners (FIPP); weekly 2-hour group sessions and a weekly individual support session (up to 1 hour) for 28 weeks. FIPP addresses:</p> <p>Fire-Related Factors (targeting problematic interests/associations with fire, fire safety education, development of insight into one's own offending behaviour and risks), Offence-Supportive Cognition (cognitive restructuring of attitudes supporting violence, entitlement, and antisocial behaviour), Emotional Regulation (focus on anger arousal, cognition, and provocation tolerance leading up to the offence), Social Competence (psycho education, behavioural exercises regarding assertiveness, relationships and self-esteem)</p>	n=13 incarcerated adult male firesetters with at least one deliberate fire that was either recorded in prison files or in their conviction history Control condition: treatment as usual	<p>Fire-specific: specialist treatment group improved on self-reported problematic fire interest and associations with fire.</p> <p>General: attitudes towards violence and antisocial attitudes improved in the specialist treatment group</p> <p>Outcomes suggest that specialist CBT should be targeted at those with the most serious firesetting history</p>	Non-randomized trial of specialist group treatment

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Gannon, & Pina (2010), UK	N.A.	Adult interventions are typically cognitive behavioural and are implemented in psychiatric settings, both individual and in groups primarily addressing social skills, assertiveness and coping.	N.A.	N.A.	Review
Grant (2006), US	N=1 18-year-old man diagnosed with pyromania	3 weeks of daily cognitive behavioural therapy (90 minutes): imaginal exposure and response prevention, cognitive restructuring, relaxation training. 12 months of topiramate	N.A.	After 3 weeks CBT and 1 week of topiramate (75 mg/day) urges to set fires disappeared. Medication for 20 months: no symptoms	Case report
Grant, Donahue, & Odlaug (2011), US	N.A.	Cognitive Behavioral Therapy Programme for the Treatment of Impulse Control Disorders (CBT-ICD); <i>Assessment</i> : structured clinical interview. <i>Treatment</i> : six to seven sessions with additional homework assignments focused on excessive fire interest, offence-supportive thinking, communication and relationships and emotion regulation and coping. <ol style="list-style-type: none"> 1) education and motivational enhancement 2) identifying the trigger and elimination of potential firesetting items 3) behavioural interventions (alternatives) 4) imaginal exposure 5) cognitive therapy focused on impulsive beliefs 6) relapse prevention 7) family involvement (optional). 	N.A.	N.A.	Description of a treatment programme for impulse control disorders, including pyromania

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Grant, & Kim (2007), VS	N=21 persons (11 male, 10 female) between 15 and 49 years old, with lifetime pyromania	14 had previously received psychiatric treatment, 8 received psychotherapy (cognitive behavioural), although only 1 specifically for pyromania. All 14 received pharmacotherapy but only 2 specifically for pyromania symptoms	N.A.	Cognitive behavioural therapy reduced pyromania in 1 person. Pharmacotherapy resulted in partial or complete remission in 6 persons.	Survey/semi- structured interview
Grant, Thomarios, & Odlaug (2010), US	N.A.	Pharmacotherapy: topiramate, escitalopram, sertraline, fluoxetine, lithium, and a combination of olanzapine and sodium valproate. An equal number of other types of medicine have also shown no beneficial effect in the treatment of pyromania in case reports: fluoxetine, valproic acid, lithium, sertraline, olanzapine, escitalopram, citalopram, and clonazepam. Behavioural therapy: Combination of topiramate with 3 weeks of daily CBT. Other: fire safety education, aversive therapy, positive reinforcement, stimulus satiation, and operant-structured fantasies and prevention programmes designed for pyromania.	N.A.	N.A.	Review (part of encyclopaedia)
Grant, Schreiber, & Odlaug (2013), VS	N.A.	There are no controlled pharmacological or psychological treatment studies for pyromania, but case studies demonstrate possible benefits from antidepressants, mood stabilizers, and CBT	N.A.	N.A.	Review

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Horley, & Bowlby (2011), Canada	N.A.	Treatment programmes for adult arsonists, especially those deemed mentally disordered, include approaches such as strict behavioural techniques, emotional-behavioural therapy, cognitive-behavioural therapy, family psychotherapy, psychoanalytic therapy, and pharmacotherapy.	N.A.	N.A.	Review
Long, Banyard, Fulton, & Hollin (2014), UK	Pilot: n=15 women with a history of firesetting and detained in St Andrews under the Mental Health Act 1983	SAFARI aims to facilitate the design of an individually-tailored treatment programme for firesetting, using a wide range of techniques to address identified targets for change and cognitive behavioural in nature with a focus on antecedents and consequences of behaviour (ABC) and emphasis is placed on other indications for treatment (positive or negative).	N.A.	Staff rated SAFARI as acceptable to patients and easy to administer. Questions are comprehensible, the test-retest reliability and validity are substantial	Development of assessment instrument (SAFARI) based on a literature review
Ó Ciardha et al. (2015), UK	n=117 male prisoners with either a conviction for firesetting or with firesetting activity listed in their institutional file records	The Fire Interest Rating Scale (FIRS), Fire Attitude Scale (FAS) and Identification with Firesetting Questionnaire (IFQ) were administered and results were analysed using factor-analyzing techniques.	n=117 male prisoners without a history of firesetting behaviour	Four factors significantly discriminated between firesetters and non-firesetters (identification with fire, serious fire interest, perceived fire-safety awareness, firesetting as normal)	Factor analysis of three specific assessment instruments

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Palmer, Caulfield, & Hollin (2007), UK	N=27 forensic mental health units	Survey about the origin/development of the intervention, target population, profile of participants, referral sources, scheduling, intensity and dosage of the programme, intervention approach, staffing, training, and evidence of effectiveness	N.A.	N=7 units have firesetting- specific interventions. Origin: both self-developed and external; Referrals: own organization, also prison services, court, social services; Target group: >15 years old, mixed gender, convicted firesetters with mental illness or learning disabilities; Approach: cognitive behavioural, some education; Format: one-to-one and groups; Intensity: ranging from 1-43 sessions lasting 1-1.5 hours; Staffing: clinical psychologists. Some evidence of effectiveness is available.	Survey
Parks, Green, Girgis, Hunter, Woodruff, & Spence (2005)	N=1 20-year-old homeless man with pyromania and neuropsychological impairments	Psychopharmacological treatment with olanzapine and sodium valproate.	N.A.	Firesetting behaviour abated. 5-month follow- up neuropsychological assessment showed substantial improvement on cognitive tests.	Case report

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Rice, & Chaplin (1979), Canada	N=10 male firesetters in a maximum security psychiatric facility, n=5 first received social skills training, n=5 first received the control treatment.	8 sessions social skills training (behaviour rehearsal, modelling, coaching, instructions, and feedback). 2-hour-sessions, twice a week for four weeks.	8 sessions treatment to control for attention and expectancy of change. Same therapists, number and timing of sessions.	Role-playing improved significantly in both groups as a result of social skills training (and not resulting from the control treatment). No further firesetting at one-year follow-up.	Non-randomized trial
Royer, Flynn, & Osadca (1971), US	N=1 chronic schizophrenic man with persistent firesetting	Aversion therapy by administering electric shocks after lighting a piece of toilet paper with a match. 9 sessions of lighting 20 matches with booster sessions after incidents.	N.A.	No recurrence of firesetting in nearly four years	Case report
Schreiber, Odlaug, & Grant (2013), US	N.A.	Pharmacotherapy: topiramate, escitalopram, sertraline, fluoxetine, lithium, and a combination of olanzapine and sodium valproate. In other studies these types of medicine have not been found effective: fluoxetine, valproic acid, lithium, sertraline, olanzapine, escitalopram, citalopram, and clonazepam. A combination of topiramate with 3 weeks of daily CBT was effective.	N.A.	N.A.	Review (chapter in handbook) on pharmacotherapy

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Swaffier, Haggett, & Oxley (2001), UK	N.A.	Combination of group (once a week, 2 hours) and individual sessions (once a month 1.5 hours). Four sequential modules: 1) Dangers of fire – assessing and developing insight (12 sessions) 2) Skills development – coping without firesetting (24 sessions) 3) Insight and self-awareness – assessing and developing (12 sessions) 4) Relapse prevention – practical strategies to help break offence cycles (14 sessions).	N.A.	N.A.	Description of a treatment programme
Taylor, Robertson, Thorne, Belshaw, & Watson (2006), UK	N=6 women with mild and borderline intellectual disabilities detained in a low-secure hospital setting because of firesetting behaviour	Twice per week, 2 hours of cognitive behavioural group intervention targeting fire interest and attitudes towards fire and firesetting based on functional analysis (antecedents, cognitions/emotions/ behaviour, consequences). 4 programme components: 1) Preparatory work (establishing the group, group cohesion exercises, family and related issues) (9 sessions) 2) Review of offence cycle (12 sessions) 3) Education, skills acquisition and development (15 sessions) 4) Relapse prevention (4 sessions)	N.A. (within group design)	All 6 women improved on Goal Attainment Scales (mean score). At 2-year follow-up, there were no reports or suspicions of firesetting.	Non-randomised trial (within group) (pilot)

Author(s) (year), country	Participants	Interventions (described or carried out)	Comparators	Outcomes	Study design
Taylor, Thorne, Robertson, & Avery (2002), UK	N=14 men (n=8) and women (n=6) convicted for arson, with mild and borderline intellectual difficulties	<p>Cognitive behavioural group intervention aimed at inappropriate levels of interest in and attitudes towards fire, distorted beliefs concerning responsibility for and risk factors associated with firesetting, anger, self-esteem and depression (see also Swaffer et al., 2001). Offence-cycle analysis (antecedents, cognitions, emotions and behaviour, consequences), fire safety education, acquisition/rehearsal of skills (coping with emotional and interpersonal problems), relapse prevention plan</p> <p>Around 40 twice-weekly sessions lasting two hours, 7 modules: Group establishment, Group cohesion, information and education, offence analysis, alternative skills training, family and related issues, and risk management/reduction.</p>	N.A. (within group design)	<p>Improvement on Fire Interest Rating Scale and Fire Attitude Scale</p> <p>3 Goal Attainment Scales improved (victim issues, emotional expression, understanding risks).</p> <p>Lower scores on Novaco Anger Scale and higher scores on Culture Free Self Esteem Inventory</p>	Non-randomised trial (within group)
Taylor, Thorne, & Slavkin (2004), UK	N=4 adult male firesetters with intellectual difficulties	<p>Cognitive behavioural group intervention aimed at inappropriate levels of interest in and attitudes towards fire, based on functional analysis (antecedents, cognitions/emotions/behaviour, consequences).</p> <ol style="list-style-type: none"> 1) Establishing the group (2 sessions) 2) Group cohesion exercises (3 sessions) 3) Family and related issues (4 sessions) 4) Offence analysis (13 sessions) 5) Information and education (2 sessions) 6) Alternative skills training (13 sessions) 7) Risk management/relapse prevention (4 sessions) <p>Between 30 and 40 sessions, twice a week, 2 hours in duration</p>	N.A.	<p>After treatment (31 sessions) 1 patient improved on Fire Interest Rating Scale and Fire Attitude Scale, all 4 patients improved on Novaco Anger Scale and Goal Attainment Scales, scores on the Culture Free Self Esteem Inventory improved slightly for 2 patients</p>	<p>Description of treatment programme and case studies</p> <p>Brief description of <i>Pathological Firesetters Interview</i> assessment instrument</p>

Appendix 9.1 Creating subgroups of firesetters based on PF data

The following subgroups were created:

1. Vandalism firesetters
2. Disordered firesetters
3. Disturbed-relationship firesetters
4. Opportunistic firesetters
5. Desiring firesetters

Step 1. Categorizing based on motive:

The following motives were scored:

0. Financial/opportunistic
1. Revenge/retaliation
2. Jealousy
3. Anger/rage/hate
4. Sensationalism/boredom/vandalism
5. Thrill seeking
6. The experience of fascination, excitement or pleasure related to fire or fire extinguishment (fire interest)
7. Cry for attention/help
8. Attempted suicide
9. Self-assertion/heroism
10. Sexual motivation
11. Need for recognition
12. To prevent discovery of other offences/crime concealment
13. Psychosis-induced/delusional
14. To let off steam, release of emotions
99. Unknown

Firesetters were categorized based on the following motives:

Sensationalism/boredom/vandalism and Thrill seeking = group 1

Attempted suicide and Psychosis-induced/delusional = group 2

Revenge/retaliation and Jealousy = group 3

Financial/opportunistic and To prevent discovery of other offences/crime concealment = group 4

The experience of fascination, excitement or pleasure related to fire or fire extinguishment and sexual motivation = group 5

Motives that were not used to categorize:

3. Anger/rage/hate
7. Cry for attention/help
9. Self-assertion/heroism
11. Need for recognition
14. To let off steam, release of emotions

Step 2. In case of unknown motive, age in combination with gender and DSM classification is used to categorize:

Based on literature, the following assumptions are made:

- a) young boys often display vandalism and wanton behaviour. Obtaining recognition, self-assertion and acting out/letting off steam fits within this pattern. So if the firesetter is a boy aged 10-20 and acts out of motive 9, 11, or 14 = group 1
- b) motive 7 (cry for help) in combination with a DSM classification = group 2
- c) age >30 years in combination with a DSM classification = group 2
- d) women who act out of anger/rage/hate (motive 3) in combination with a DSM classification (or men who clearly show signs of mental disorder) = group 2

Step 3. Taking into account the relationship with the victim:

Motive 3 (anger/rage/hate) and a known victim = group 3.

Motive 11 and a known victim = group 3.

Step 4. Taking into account the number of fires in the accusation:

If multiple fires are listed in the accusation and motives 4, 5, 6 or 7 are present = group 5.

Appendix 9.2 Comparing subgroups of firesetters on characteristics related to the offender and the offence

Table 9.a. Differences between vandalism firesetters and other firesetters regarding offender characteristics.

Offender characteristics	Vandalism firesetters (n = 45)	Other subgroups (n = 55)	U
	M(SD)	M(SD)	
Age (years)	16.07 (2.34)	29.56 (12.33)	313.500**
	%	%	χ^2
Gender			11.16*
Male	100	78	
Female	-	22	
Marital status (single)	100	82	F.E.*
Living situation			F.E.**
Parental home	86 ^b	21 ^a	
Living alone and independently	- ^a	36 ^b	
Living with a partner	- ^a	15 ^b	
Abuse/neglect by caregivers			F.E.*
Never been victim/witness of abuse	70 ^b	40 ^a	
Victim of incidental abuse	16 ^a	37 ^b	
Victim of systematic abuse	- ^a	9 ^b	
Abuse/neglect outside the home			F.E.†
Never been victim/witness of abuse	95 ^b	74 ^a	
Victim of systematic abuse	- ^a	14 ^b	
Emotional neglect	23	48	5.52†
Physical abuse	14	40	6.90*
Sexual abuse	3	19	F.E.†
Problems in family of origin			7.32†
No problems	58 ^b	30 ^a	
Multiple problems	26 ^a	52 ^b	
Friends			13.44*
Yes, normal friends	46 ^b	26 ^a	
Yes, antisocial friends	49	36	
No	5 ^a	38 ^b	
Daily activities	88	46	17.94**
Employment	43	22	4.43†
School	86	27	34.31**
Financial debt	8	45	14.53**
Truancy (frequent)	23 ^a	58 ^b	6.89†
History of mental health care contact			F.E.**
No contact with mental health care	58 ^b	9 ^a	
Multiple (in)voluntary commitments	3 ^a	47 ^b	
Prolonged/ severe problems with alcohol	2	33	14.84**
Prolonged/ severe problems with soft drugs	9	27	4.72†

Prolonged/severe problems with hard drugs	-	17	F.E.*
Psychotic disorder diagnosed in the past	-	16	F.E.†
Personality disorder diagnosed in the past			F.E.**
No disorder	97 ^b	36 ^a	
Traits	3 ^a	39 ^b	
One or more personality disorders	- ^a	25 ^b	
DSM classification			F.E.*
No classification	32 ^b	9 ^a	
Axis I classification	52 ^b	36 ^a	
Axis II classification	8	9	
Axis I and Axis II classification	8 ^a	46 ^b	
Impulsivity			F.E.**
No impulsivity	4	4	
Moderate impulsivity	76 ^b	40 ^a	
Severe impulsivity	20 ^a	56 ^b	
Hostility			10.28*
No hostility	45 ^b	15 ^a	
Moderate hostility	29	25	
Severe hostility	26 ^a	60 ^b	
Social skills			16.23**
Appropriate/Good	63 ^b	27 ^a	
Moderate	34	47	
Poor/absent	2 ^a	27 ^b	
Self-reliance			17.42**
No to mild problems	68 ^b	18 ^a	
Moderate problems	21	37	
Severe problems	11 ^a	45 ^b	
Coping skills			9.95*
Adequate	60 ^b	27 ^a	
Limited, sufficient under stable conditions	36	44	
Poor	4 ^a	29 ^b	
Social network			F.E.**
Adequate	82 ^b	33 ^a	
Limited	18 ^a	52 ^b	
Poor	- ^a	15 ^b	
Motive			F.E.**
Financial/opportunistic	- ^a	19 ^b	
Revenge/retaliation	- ^a	15 ^b	
Anger/rage/hate	- ^a	15 ^b	
Sensationalism/boredom/vandalism	76 ^b	2 ^a	
Thrill seeking	7 ^b	- ^a	
Cry for attention/help	- ^a	15 ^b	
Attempted suicide	- ^a	14 ^b	
Psychosis-induced	- ^a	10 ^b	

Notes: ** $p < .001$; * $p < .01$; † $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 9.b. Differences between vandalism firesetters and other firesetters regarding offence characteristics.

	Vandalism firesetters (n = 45)	Other subgroups (n = 55)	
Offence characteristics	M(SD)	M(SD)	<i>U</i>
Distance travelled to the crime scene (in kilometres)	3.1 (9.53)	6.5 (16.03)	841.000 [†]
	%	%	χ^2
Criminal background			F.E.**
No prior judicial contacts or (suspended) custodial sentence	96 ^b	58 ^a	
1-7 prior (suspended) custodial sentences or a conditional mandatory hospital placement	4 ^a	36 ^b	
Recidivism risk			7.84 [†]
Low	41	32	
Moderate	38 ^b	16 ^a	
High	22 ^a	53 ^b	
Exploration of the crime scene beforehand	3	18	F.E. [†]
Nature of the offence			41.27**
Expressive-person	10 ^a	32 ^b	
Instrumental-person	- ^a	20 ^b	
Instrumental-object	- ^a	22 ^b	
Expressive-object	91 ^b	26 ^a	
Suicide ideation at the time of the offence	-	20	10.31*
Day			F.E. [†]
Sunday	31 ^b	9 ^a	
Wednesday	4 ^a	18 ^b	
Fire located indoors	33	76	18.70**
Visibility of the crime scene			24.24**
Not visible	16 ^a	67 ^b	
Partly visible	40 ^b	14 ^a	
Visible	44 ^b	20 ^a	
Nature of target			19.29**
Personal/persons	9 ^a	50 ^b	
Material/objects	91 ^b	50 ^a	
Ownership of target			F.E.**
Offender is owner	- ^a	16 ^b	
Offender is tenant	- ^a	13 ^b	
Owned by family/friends/acquaintances	9 ^a	35 ^b	
Unknown to offender	84 ^b	31 ^a	
Target			F.E.**
Vegetation	9 ^b	- ^a	
Private residence	20 ^a	40 ^b	
Vacant building	9 ^b	- ^a	
Public building	- ^a	26 ^b	

Target specifically chosen	16	64	22.80**
Fire results in danger to persons	31	62	9.35*
Fire results in danger to property	87	98	F.E.†
Specific victim			F.E.**
Unknown to firesetter	47 ^b	9 ^a	
Themselves	- ^a	27 ^b	
Active role of victim			23.45**
No	56 ^a	29 ^a	
Yes, incitement	- ^a	40 ^b	
Travelling to the crime scene			F.E.**
On foot	80 ^b	22 ^a	
By car	- ^a	16 ^b	
Offender did not move	4 ^a	47 ^b	
Access to the crime scene			F.E.**
Freely accessible	56 ^b	26 ^a	
Forced entry	24 ^b	7 ^a	
Offender lived/worked there	2 ^a	46 ^b	
Let in by victim or other parties	- ^a	13 ^b	
Acting alone			39.39**
Yes	16 ^a	76 ^b	
One accomplice	27 ^b	11 ^a	
Multiple accomplices	58 ^b	13 ^a	
Division of roles between offender and accomplice(s)			F.E.*
No fixed roles	74 ^b	25 ^a	
Firesetter superior to accomplice	9 ^a	33 ^b	

Notes: ** $p < .001$; * $p < .01$; † $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 9.c. Differences between disordered firesetters and other firesetters regarding offender characteristics.

	Disordered firesetters (n = 26)	Other subgroups (n = 74)	
Offender characteristics	M(SD)	M(SD)	<i>U</i>
Age (years)	33.4 (12.23)	19.6 (8.46)	280.000**
	%	%	χ^2
Gender			F.E.**
Male	68	96	
Female	32	4	
Living situation			F.E.**
Parental home (both parents)	4 ^a	45 ^b	
Living alone and independently	35 ^b	14 ^a	
Institution	31 ^b	11 ^a	
Homeless	8 ^b	- ^a	
Abuse/neglect by caregivers			F.E.†
Never been victim/witness of abuse	33 ^a	62 ^b	
Victim of systematic abuse	14 ^b	2 ^a	
Sexual abuse by caregivers	29	2	F.E.*
Physical abuse by caregivers	45	21	4.45†
Friends			35.81**
Yes, normal friends	19 ^a	41 ^a	
Yes, antisocial friends	15 ^a	52 ^a	
No	65 ^b	6 ^b	
Daily activities	26	81	25.25**
Work/school history			F.E.*
No problems	65 ^b	32 ^a	
Problems during a specific period	- ^a	37 ^b	
Employment	14	38	5.13†
School	11	71	29.69**
Financial debt	53	19	F.E.†
Truancy			F.E.†
Never	25 ^a	56 ^b	
Frequent	75 ^b	31 ^a	
History of mental health care contact			32.76**
No contact with mental health care	- ^a	44 ^b	
Multiple (in)voluntary commitments	67 ^b	10 ^a	
Prolonged/severe problems with alcohol	40	11	F.E.*
Psychotic disorder diagnosed in the past	30	-	F.E.**
Personality disorder diagnosed in the past			F.E.**
No disorder	15 ^a	86 ^b	
Traits	45 ^b	12 ^a	
One or more personality disorders	40 ^b	2 ^a	
DSM classification			F.E.†
No classification	4 ^a	25 ^b	

Axis I classification	36	46	
Axis II classification	8	9	
Axis I and Axis II classification	52 ^b	21 ^a	
Impulsivity			F.E. **
No impulsivity	4	4	
Moderate impulsivity	25 ^a	68 ^b	
Severe impulsivity	71 ^b	28 ^a	
Hostility			7.58 [†]
No hostility	10 ^a	35 ^b	
Moderate hostility	20	29	
Severe hostility	70 ^b	35 ^a	
Social skills			23.59**
Appropriate/Good	21 ^a	52 ^b	
Moderate	33	44	
Poor/absent	46 ^b	5 ^a	
Self-reliance			23.81**
No to mild problems	5 ^a	54 ^b	
Moderate problems	25	33	
Severe problems	70 ^b	13 ^a	
Coping skills			12.11*
Adequate	15 ^a	51 ^b	
Limited, sufficient under stable conditions	46	38	
Poor	39 ^b	11 ^a	
Social network			43.40**
Adequate	7 ^a	73 ^b	
Limited	63 ^b	27 ^a	
Poor	30 ^b	- ^a	
Motive			F.E. **
Anger/rage/hate	20 ^b	4 ^a	
Cry for attention/help	28 ^b	1 ^a	
Attempted suicide	28 ^b	- ^a	
Psychosis-induced/delusional	20 ^b	- ^a	
Sensationalism/boredom/vandalism	- ^a	48 ^b	

Notes: ** $p < .001$; * $p < .01$; [†] $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 9.d. Differences between disordered firesetters and other firesetters regarding offence characteristics.

	Disordered firesetters (n = 26)	Other subgroups (n = 74)	
Offence characteristics	M(SD)	M(SD)	<i>U</i>
Distance travelled to the crime scene (in kilometres)	2.9 (7.94)	5.6 (14.98)	416.000**
	%	%	χ^2
Criminal background			F.E.**
No prior judicial contacts or (suspended) custodial sentence	46 ^a	86 ^b	
1-7 prior (suspended) custodial sentences or a conditional mandatory hospital placement	43 ^b	14 ^a	
≤ 8 prior (suspended) custodial sentences or a mandatory hospital placement	11 ^b	- ^a	
Arson recidivist	15	1	F.E.†
Criminal accountability			F.E.*
Fully accountable	- ^a	18 ^b	
Slightly diminished in accountability	22 ^a	52 ^b	
Diminished in accountability	35	24	
Severely diminished in accountability	22	6	
Unaccountable	22 ^b	- ^a	
Treatment recommended			F.E.*
Special parole condition	67	77	
Some form of treatment recommended	33 ^b	3 ^a	
No specific advice given	- ^a	20 ^b	
Recidivism risk			6.95†
Low	24	41	
Moderate	14	31	
High	62 ^b	29 ^a	
Nature of the offence			F.E.**
Expressive-person	52 ^b	10 ^a	
Instrumental-person	15	10	
Instrumental-object	7	15	
Expressive-object	26 ^a	65 ^b	
Suicide ideation at the time of the offence	37	1	F.E.**
Taking precautions to prevent/delay discovery	18	-	F.E.*
Month			F.E.†
July	21 ^b	7 ^a	
October	- ^a	17 ^b	
November	14 ^b	3 ^a	
Timeframe			F.E.†
3 -6 a.m.	4 ^a	21 ^b	
9 -12 a.m.	22 ^b	6 ^a	
12 -15 p.m.	19 ^b	4 ^a	

Fire located indoors	93	43	20.40**
Visibility of the crime scene			39.32**
Not visible	93 ^b	23 ^a	
Partly visible	4 ^a	35 ^b	
Visible	4 ^a	42 ^b	
Nature of target			17.29 [†]
Personal/persons	63	19	
Material/objects	37	81	
Ownership of target			F.E.**
Offender is owner	32 ^b	- ^a	
Offender is tenant	18 ^b	3 ^a	
Unknown to offender	29 ^a	65 ^b	
Target			F.E.**
Private residence	50 ^b	24 ^a	
Public building	39 ^b	4 ^a	
Vehicle	- ^a	21 ^b	
Target specifically chosen	71	31	13.45**
Fire results in danger to persons	71	39	8.55*
Travelling to the crime scene			F.E.**
On foot	18 ^a	60 ^b	
Offender did not move	71 ^b	11 ^a	
Revisiting the crime scene post-offence	4	28	6.83*
Access to the crime scene			F.E.**
Offender lived/worked there	68 ^b	10 ^a	
Freely accessible	14 ^a	49 ^b	
Forced entry	4 ^a	19 ^b	
Bringing fire accelerants	11	49	12.29**
Acting alone			30.65**
Yes	93 ^b	32 ^a	
One accomplice	7	22	
Multiple accomplices	- ^a	46 ^b	

Notes: ** $p < .001$; * $p < .01$; [†] $p < .05$ (two-sided); F.E. = Fisher's exact;

^a The value of the adjusted standardized residual was less than -1.96;

^b The value of the adjusted standardized residual was greater than 1.96.

Table 9.e. Differences between disturbed-relationship firesetters and other firesetters regarding offender and offence characteristics.

	Disturbed- relationship firesetters (n = 11)	Other subgroups (n = 89)	
Offender characteristics	M(SD)	M(SD)	<i>U</i>
Age (years)	29.4 (11.86)	22.8 (11.25)	304.000 [†]
	%	%	χ^2
Living situation			F.E. [†]
Living alone and independently	55 ^b	15 ^a	
Physical abuse by caregivers	63	23	F.E. [†]
Motive			F.E. ^{**}
Revenge/retaliation	73 ^b	- ^a	
Sensationalism/boredom/vandalism	- ^a	40 ^b	
Offence characteristics			
Nature of the offence			F.E. ^{**}
Expressive-person	27	21	
Instrumental-person	64 ^b	5 ^a	
Instrumental-object	-	14	
Expressive-object	9 ^a	60 ^b	
One or more accomplices	18	56	5.66 [†]
Nature of target			F.E. ^{**}
Personal/persons	91	24	
Material/objects	9	76	
Ownership of target			F.E. ^{**}
Owned by family/friends/ acquaintances	82 ^b	16 ^a	
Unknown	9 ^a	61 ^b	
Target specifically chosen	82	38	F.E. [*]
Fire results in danger to life	82	44	5.33 [†]
Specific victim			F.E. ^{**}
(Ex)partner	18 ^b	1 ^a	
Family/friends/acquaintances	64 ^b	7 ^a	
Travelling to the crime scene			F.E. [*]
By car	27 ^b	7 ^a	
On foot	18 ^a	52 ^b	
By scooter	18 ^b	- ^a	

Notes: ** $p < .001$; * $p < .01$; [†] $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 9.f. Differences between opportunistic firesetters and other firesetters regarding offender and offence characteristics.

	Opportunistic firesetters (n = 11)	Other subgroups (n = 89)	χ^2
Offender characteristics	%	%	
Marital status (single)	64	93	F.E.†
Motive			F.E.**
Financial/opportunistic	82 ^b	1 ^a	
Sensationalism/boredom/vandalism	- ^a	40 ^b	
Offence characteristics			
Criminal accountability			F.E.*
Fully accountable	75 ^b	6 ^a	
Slightly diminished in accountability	25	40	
Diminished in accountability	-	31	
Severely diminished in accountability	-	14	
Unaccountable	-	10	
Treatment recommended			F.E.†
Special parole condition	40	77	
No specific advice given	60 ^b	8 ^a	
Exploration of the crime scene beforehand	55	5	F.E.**
Nature of the offence			F.E.**
Expressive-person	-	25	
Instrumental-person	-	13	
Instrumental-object	91 ^b	2 ^a	
Expressive-object	9 ^a	60 ^b	
Access to the crime scene			F.E.†
Let in by victim or other parties	36 ^b	3 ^a	
Bringing fire accelerants	73	34	F.E.†
One or more accomplices	82	48	4.40†
Division of roles between offender and accomplice(s)			F.E.*
No fixed roles	11 ^a	73 ^b	
Firesetter subordinate to accomplice	56 ^b	16 ^a	
Nature of target			F.E.†
Personal/persons	-	35	
Material/objects	100	65	
Travelling to the crime scene			F.E.†
By car	36 ^b	6 ^a	

Notes: ** $p < .001$; * $p < .01$; † $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 9.g. Differences between desiring firesetters and other firesetters regarding offender and offence characteristics.

	Desiring firesetters (n = 5)	Other subgroups (n = 95)	
Offender characteristics	%	%	
Motive			F.E.*
Fascination, desire, lust for fire	40 ^b	- ^a	
To let off steam, release of emotions	40 ^b	6 ^a	
Offence characteristics			
Accusation including multiple fires	100	21	F.E.*
Using fire accelerants (1 st fire)	-	54	F.E.†
Using fire accelerants (2 nd fire)	-	61	F.E.†
Using fire conductors (1 st fire)	80	17	F.E.*
Using fire conductors (2 nd fire)	80	4	F.E.*
Acting alone (2 nd fire)			F.E.*
Yes	80 ^b	13 ^a	
One accomplice	20	39	
Multiple accomplices	- ^a	48 ^b	
Acting alone (3 rd fire)			F.E.*
Yes	100 ^b	- ^a	
One accomplice	-	25	
Multiple accomplices	- ^a	75 ^b	
Month (2 nd fire)			F.E.*
March	40 ^b	- ^a	
May	20 ^b	- ^a	
October	20 ^b	- ^a	
Visibility of the crime scene (3 rd fire)			F.E.†
Not visible	33	33	
Partly visible	67 ^b	- ^a	
Visible	- ^a	67 ^b	

Notes: * $p < .01$; † $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Appendix 9.3 Relevant characteristics described in the second tier of the M-TTAF

	Antisocial cognition	Grievance	Fire interest	Emotionally expressive/ need for recognition	Multi-faceted
Clustering variables					
Victim of caregiver abuse	-	Yes	-	-	Yes
Empathy	-	-	-	-	Poor
Impulsivity	-	-	High	High	High
Coping skills	-	-	-	Poor	Poor
Social skills	-	-	-	-	Poor
Psychotic disorder at the time of the offence	-	-	-	-	-
Offender characteristics					
Age (years)	Young	-	-	-	-
Age of first conviction	Young	-	-	-	-
Gender	♂	♂, ♀	-	♀	♂, ♀
Judicial history (general recidivism)	High	-	-	-	High
First offender (specific recidivism)	High	-	-	-	-
Pure firesetter (no other offences in history/accusation)	Low	-	-	-	-
Hostility (3-point scale)	-	High	-	-	High
Social network (no network, moderate, adequate network)	-	No adequate network	-	-	-
Friends	-	No friends	-	-	-
Emotional neglect as a child	-	Yes	-	-	Yes
Physical neglect as a child	-	Yes	-	-	Yes
Sexual abuse as a child	-	Yes	-	-	Yes
Physical abuse as a child	-	Yes	-	-	Yes
Behavioural problems >12	-	Yes	-	-	-
Personality disorder in the past	-	-	-	Yes	-

Motives	Vandalism/ boredom crime concealment, profit revenge/ retribution	Revenge/ retribution	Fire interest/ thrill stress/ boredom	Cry for help self-harm, suicide need for recognition	Various
Offence characteristics					
Accusation only including firesetting	No	-	-	-	-
Suicidal thoughts	-	-	-	Yes	-
Offence planned	-	-	-	Yes	-
Accusation including multiple fires	-	-	Yes	-	Yes
Dangerousness (personal harm)	-	-	-	-	Yes

Appendix 9.4 Comparing psychotic and non-psychotic firesetters

Table 9.h. Differences between psychotic and non-psychotic firesetters regarding socio-demographic, and lifetime and pathological characteristics.

	Psychotics (n = 29)	Non-psychotics (n = 95)	
Socio-demographic characteristics	M(SD)	M(SD)	<i>U</i>
Age (years)	37.8 (10.3)	30.4 (10.2)	778.000**
	%	%	χ^2
Gender			.00
Male	86	86	
Female	14	14	
Dutch nationality	79	88	1.56
Marital status (single)	96	73	6.82*
No or low education	43	39	.124
Unemployed	90	71	4.16 [‡]
Lifetime and pathological characteristics			
Intelligence			.67
Below average	35	33	
Average	35	44	
Above average	30	24	
Victim of physical abuse growing up	35	60	4.58 [‡]
History of mental health care contact			15.61*
No contact with mental health care	10	26	
Voluntary short-term outpatient contact	7	11	
Voluntary long-term outpatient contact	3	23	
One (in)voluntary commitment	10	10	
Multiple (in)voluntary commitments	69	30	
Prolonged/ severe problems with alcohol	25	52	5.41 [‡]
Prolonged/ severe problems with soft drugs	52	33	2.89
Prolonged/ severe problems with hard drugs	38	34	.09
Psychotic disorder diagnosed in the past	79	8	53.99**
Personality disorder in the past			4.12
No disorder	8 ^a	28 ^b	
Traits	50	38	
One or more personality disorders	42	33	
Personality disorder at the time of the offence	24	68	17.29**
Impulsivity			2.77
No impulsivity	4	8	
Moderate impulsivity	22	36	
Severe impulsivity	74	56	
Hostility			.88
No hostility	15	20	
Moderate hostility	33	38	
Severe hostility	52	42	
Social skills			1.22

Appropriate/Good	8	17	
Moderate	32	32	
Poor/absent	60	52	
Self-reliance			10.94*
No to mild problems	14 ^a	42 ^b	
Moderate problems	10	17	
Severe problems	76 ^b	41 ^a	
Coping skills			3.13
Adequate	-	10	
Limited, sufficient under stable conditions	12	16	
Poor	88	74	

Notes: ** $p < .001$, * $p < .01$; ^a $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

^c Hard drugs are narcotics that are considered relatively strong and likely to cause addiction, in contrast to soft drugs like cannabis.

Table 9.i. Differences between psychotic and non-psychotic firesetters regarding judicial and event-related characteristics.

	Psychotics (n = 29)	Non-psychotics (n = 95)	
Judicial characteristics	%	%	χ^2
Accusation only including firesetting	62	38	5.28 [‡]
Criminal background			7.21 [‡]
No prior judicial contacts or (suspended) custodial sentence	28	35	
1-7 prior (suspended) custodial sentences or a conditional mandatory hospital placement	41	55	
≤ 8 prior (suspended) custodial sentences or a mandatory hospital placement	31 ^b	11 ^a	
Arson recidivist	38	34	.18
Criminal accountability			F.E. **
Fully accountable	– ^a	14 ^b	
Slightly diminished in accountability	– ^a	24 ^b	
Diminished in accountability	30	50	
Severely diminished in accountability	22	11	
Unaccountable	48 ^b	1 ^a	
Treatment recommended			8.37 [‡]
No treatment	17	13	
Some form of treatment recommended	79	58	
No specific advice given	3 ^a	30 ^b	
Recidivism risk			F.E. [‡]
Low	4	17	
Moderate	11	8	
High	79 ^b	52 ^a	
Cannot be estimated	7	22	
Event-related characteristics	M(SD)	M(SD)	<i>U</i>
Distance travelled to the crime scene (in kilometres)	6.0 (29.2)	7.4 (31.5)	575.000**
	%	%	χ^2
Nature of the offence			
Expressive-person	32	20	2.35
Instrumental-person	27	30	
Instrumental-object	9	20	
Expressive-object	32	31	
Fire set impulsively	80	68	1.11
Fire set to the firesetter's own property	57	18	16.68**
Acting alone	100	71	10.67*
Intoxicated at the time of the offence	33	59	4.43 [‡]
Suicide ideation at the time of the offence	17	16	.04

[‡] $p < .05$; * $p < .01$; ** $p < .001$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Appendix 9.5 Predictive value of characteristics (logistic regression analysis)

Logistic regressions were performed to assess the impact of different factors on the likelihood that a firesetter would fall into the psychotic category (see Table 9.j). The first model with socio-demographic variables was able to distinguish between psychotic and non-psychotic firesetters (χ^2 (2, N = 122) = 25.55, $p < .001$) with between 18.9% (Cox & Snell R square) and 28.6% (Nagelkerke R square) of the variance explained, and correctly classified 79.5% of cases. The second model which included individual variables (χ^2 (4, N = 104) = 26.55, $p < .001$) accounted for 22.5% - 35.0% of the variance, with 80.8% accurate predictions. The third model also incorporated a judicial predictor. Being statistically significant (χ^2 (5, N = 104) = 32.91, $p < .001$), this model explained between 27.1% and 42.1% of variance and 80.8% of cases were classified correctly. Finally, the fourth model also encompassed an event-related independent variable.⁵ This model was able to distinguish the two groups (χ^2 (6, N = 93) = 28.24, $p < .001$), explained between 26.2% and 41.8% of the variance and correctly classified 82.8% of cases. As shown in Table 9.j, two out of six independent variables significantly contributed to this model (age at the time of the offence and childhood abuse) and one variable showed a trend towards significance (accusation only including firesetting).

5 Although the item on whether the firesetting was committed alone showed a bivariate association, a model including this item resulted in a standard error larger than 2.0 and was not interpreted to avoid numerical problems such as multicollinearity.

Table 9.j. Stepwise logistic regression with four models to predict group membership of psychotic firesetters based on socio-demographic, individual, judicial, and event-related predictors (N = 124).

	Model 1: Socio-demographic predictors				Model 2: Socio-demographic and individual predictors			
	B	p	OR	95 % C.I.	B	p	OR	95 % C.I.
Age	.09	.000	1.09	1.04-1.15	.10	.001	1.10	1.04-1.17
Being single	2.71	.012	15.03	1.82-123.98	2.47	.036	11.82	1.18-118.23
Victim of physical abuse					-1.38	.018	.25	.08-.79
General impulsivity					1.84	.092	6.32	.74-53.91
Accusation only including firesetting								
Suicide ideation at the time of the offence								
Constant	-6.59	.000	.00		-7.81	.000	.00	

	Model 3: Socio-demographic, individual, and judicial predictors				Model 4: Socio-demographic, individual, judicial, and event-related predictors			
	B	p	OR	95 % C.I.	B	p	OR	95 % C.I.
Age	.11	.001	1.12	1.05-1.19	.11	.003	1.12	1.12-1.21
Being single	2.55	.052	12.76	.98-165.98	2.01	.187	7.43	.38-145.74
Victim of physical abuse	-1.52	.013	.22	.07-.72	-1.95	.009	.14	.03-.61
General impulsivity	1.60	.148	4.94	.56-42.87	2.45	.104	11.54	.60-221.16
Accusation only including firesetting	2.56	.045	12.91	1.06-157.26	2.18	.073	8.86	.81-96.55
Suicide ideation at the time of the offence					.57	.471	1.77	.38-8.27
Constant	-10.30	.000	.00		-10.41	.003	.00	

Appendix 10 Comparing subgroups of firesetters regarding relevant offender and offence characteristics

Table 10.a. Differences between vandalism firesetters and other firesetters on relevant offender and offence characteristics.

	Vandalism firesetters (n = 45)	Other subgroups (n = 55)	
Offender characteristics	M(SD)	M(SD)	<i>U</i>
Age (years)	16.07 (2.34)	29.56 (12.33)	313.500**
	%	%	χ^2
Gender			
Male	100	78	10.71*
Female	-	22	
Offence characteristics			
Day			F.E.†
Sunday	31 ^b	9 ^a	
Wednesday	4 ^a	18 ^b	
Fire located indoors	33	67	18.70**
Visibility of the crime scene			24.24**
Not visible	16 ^a	67 ^b	
Partly visible	40 ^b	14 ^a	
Visible	44 ^b	20 ^a	
Nature of target			19.29**
Personal/persons	9	50	
Material/objects	91	50	
Target			22.80**
Vegetation	9 ^b	- ^a	
Private residence	20 ^a	40 ^b	
Vacant building	9 ^b	- ^a	
Public building	- ^a	26 ^b	
Fire results in danger to persons	31	62	9.35*
Fire results in danger to property	87	98	F.E.†
Active role of victim			F.E.**
No	56 ^b	29 ^a	
Yes, incitement	- ^a	40 ^b	
Travelling to the crime scene			F.E.**
On foot	80 ^b	22 ^a	
By car	- ^a	16 ^b	
Offender did not move	4 ^a	47 ^b	
Exploration of the crime scene beforehand	3	18	F.E.†
Access to the crime scene			F.E.**
Freely accessible	56 ^b	26 ^a	
Forced entry	24 ^b	7 ^a	
Offender lived/worked there	2 ^a	46 ^b	
Let in by victim or other parties	- ^a	13 ^b	

Acting alone			39.39**
Yes	16 ^a	76 ^b	
One accomplice	27 ^b	11 ^a	
Multiple accomplices	58 ^b	13 ^a	

Notes: ** $p < .001$; * $p < .01$; † $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 10.b. Differences between disordered firesetters and other firesetters regarding relevant offender and offence characteristics.

	Disordered firesetters (n = 26)	Other subgroups (n = 74)	
Offender characteristics	M(SD)	M(SD)	<i>U</i>
Age (years)	33.43 (12.23)	19.63 (8.46)	280.000**
	%	%	χ^2
Gender			F.E.**
Male	68	96	
Female	32	4	
Offence characteristics			
Taking precautions to prevent/delay discovery	18	-	F.E.*
Month			F.E.†
July	21 ^b	7 ^a	
October	- ^a	17 ^b	
November	14 ^b	3 ^a	
Timeframe			F.E.†
3-6 a.m.	4 ^a	21 ^b	
9-12 a.m.	22 ^b	6 ^a	
12-15 p.m.	19 ^b	4 ^a	
Fire located indoors	93	43	20.40**
Visibility of the crime scene			39.32**
Not visible	93 ^b	23 ^a	
Partly visible	4 ^a	35 ^b	
Visible	4 ^a	42 ^b	
Nature of target			39.32**
Personal/persons	63	19	
Material/objects	37	81	
Target			F.E.**
Private residence	50 ^b	24 ^a	
Public building	39 ^b	4 ^a	
Vehicle	- ^a	21 ^b	
Fire results in danger to persons	71	39	8.55*
Travelling to the crime scene			F.E.**
On foot	18 ^a	60 ^b	
Offender did not move	71 ^b	11 ^a	
Revisiting the crime scene post-offence	4	28	6.83*
Access to the crime scene			F.E.**
Offender lived/worked there	68 ^b	10 ^a	
Freely accessible	14 ^a	49 ^b	
Forced entry	4 ^a	19 ^b	
Bringing fire accelerants	11	49	12.29**
Acting alone			30.65**
Yes	93 ^b	32 ^a	

One accomplice	7	22
Multiple accomplices	- ^a	46 ^b

Notes: ** $p < .001$; * $p < .01$; † $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 10.c. Differences between disturbed-relationship firesetters and other firesetters regarding relevant offender and offence characteristics.

	Disturbed- relationship firesetters (n = 11)	Other subgroups (n = 89)	
Offender characteristics	M(SD)	M(SD)	<i>U</i>
Age (years)	29.36 (11.86)	22.76 (11.25)	304.000 [†]
Offence characteristics	%	%	χ^2
One or more accomplices	18	56	5.66 [†]
Nature of target			F.E.**
Personal/persons	91	24	
Material/objects	9	76	
Fire results in danger to persons	82	44	5.33 [†]
Travelling to the crime scene			F.E.*
By car	27 ^b	7 ^a	
On foot	18 ^a	52 ^b	
By scooter	18 ^b	- ^a	

Notes: ** $p < .001$; * $p < .01$; [†] $p < .05$ (two-sided); F.E. = Fisher's exact;

^a The value of the adjusted standardized residual was less than -1.96;

^b The value of the adjusted standardized residual was greater than 1.96.

Table 10.d. Differences between opportunistic firesetters and other firesetters regarding relevant offence characteristics.

	Opportunistic firesetters (n = 11)	Other subgroups (n = 89)	χ^2
Offence characteristics	%	%	
Exploration of the crime scene beforehand	55	5	F.E.**
Access to the crime scene			F.E.†
Let in by victim or other parties	36 ^b	3 ^a	
Bringing fire accelerants	73	34	F.E.†
One or more accomplices	82	48	4.40†
Division of roles between offender and accomplice(s)			F.E.*
No fixed roles	11 ^a	73 ^b	
Firesetter subordinate to accomplice	56 ^b	16 ^a	
Nature of target			F.E.†
Personal/persons	-	35	
Material/objects	100	65	
Travelling to the crime scene			F.E.†
By car	36 ^b	6 ^a	

Notes: ** $p < .001$; * $p < .01$; † $p < .05$ (two-sided); F.E. = Fisher's exact;

^aThe value of the adjusted standardized residual was less than -1.96;

^bThe value of the adjusted standardized residual was greater than 1.96.

Table 10.e. Differences between desiring firesetters and other firesetters regarding relevant offence characteristics.

Offence characteristics	Desiring firesetters (n =5)	Other subgroups (n = 95)	χ^2
	%	%	
Using fire accelerants	-	54	F.E.†
Using fire conductors	80	17	F.E.*
Acting alone (2 nd fire)			F.E.*
Yes	80 ^b	13 ^a	
One accomplice	20	39	
Multiple accomplices	- ^a	48 ^b	
Acting alone (3 rd fire)			F.E.*
Yes	100 ^b	- ^a	
One accomplice	-	25	
Multiple accomplices	- ^a	75 ^b	
Month (2 nd fire)			F.E.*
March	40 ^b	- ^a	
May	20 ^b	- ^a	
October	20 ^b	- ^a	
Visibility of the crime scene (3 rd fire)			F.E.†
Not visible	33	33	
Partly visible	67 ^b	- ^a	
Visible	- ^a	67 ^b	

Notes: ** $p < .001$; * $p < .01$; † $p < .05$ (two-sided); F.E. = Fisher's exact;

^a The value of the adjusted standardized residual was less than -1.96;

^b The value of the adjusted standardized residual was greater than 1.96.

Samenvatting

Brandstichting en brandstichters in Nederland. Individualisatie, identificatie en behandeling

Brandstichting is een delict met potentieel zeer ernstige gevolgen. Om de kans op brandstichting en bijbehorende negatieve consequenties in de toekomst te voorkomen, is de identificatie van brandstichters van groot belang. Naast identificatie van daders is vervolgens behandeling essentieel in het verminderen van recidive. Er bestaat momenteel een gebrek aan kennis over brandstichting en brandstichters en hun behandeling, zowel in Nederland alsook wereldwijd. Dit onderzoek heeft als doel het vergroten van kennis over brandstichting en brandstichters. Meer concreet beoogt dit onderzoek bij te dragen aan identificatie, individualisatie en adequate behandeling van brandstichters in Nederland. Dit doel wordt nagestreefd door allereerst een historische en meer eigentijdse achtergrond te schetsen bij de notie van brandstichting als een slecht (bad) en/of gestoord (mad) gedrag om het fenomeen in te bedden in een bredere context. Deze context wordt gecompliceerd met een uitgebreid literatuuronderzoek naar theoretische verklaringen voor dit gedrag. Ten tweede richt dit onderzoek zich op de individualisatie van verschillende subgroepen van brandstichters en het vergroten van inzicht in de specifieke kenmerken van brandstichters in bepaalde subgroepen. Ten derde wordt de identificatie van brandstichters besproken aan de hand van deze individualisatie met gebruikmaking van voor de opsporing relevante karakteristieken. Ten slotte wordt een nieuw model van gedifferentieerde behandeling geïntroduceerd, dat is gebaseerd op de nieuw ontwikkelde indeling in subgroepen en waarin groepsspecifieke behandelbehoeften gekoppeld zijn aan veelbelovende interventies.

1 Historische ontwikkelingen en theorie over brandstichting en brandstichters

Om achtergrond te geven aan brandstichting wordt dit fenomeen in deel 1 van deze studie geplaatst binnen een historische, hedendaagse en theoretische context. Allereerst wordt brandstichting beschouwd vanuit historisch perspectief, met een focus op veranderingen in de visie op brandstichting als strafbaar

feit of excuseerbare uiting van pathologie vanaf het begin van de negentiende eeuw. De belangrijkste bevindingen van deze historische studie, die in hoofdstuk 3 uitgebreid wordt besproken, zijn dat in de loop van de tijd een voortdurende pendelbeweging is te onderscheiden, waarbij brandstichting aan de ene kant beschouwd wordt als een toerekenbaar en strafbaar feit en aan de andere kant meer als een handeling voortvloeiend uit pathologie, waarbij niet bestraffing maar juist behandeling de voorkeur verdient. Deze beweging hangt samen met ontwikkelingen in de algemene psychiatrie, die van invloed zijn op visies op het nut van behandeling, en veranderingen in de opvattingen over pyromanie. Aan het begin van de negentiende eeuw ontstond de psychiatrie als aparte discipline in samenhang met een algemeen behandeloptimisme. Daar komt bij dat rond diezelfde tijd de diagnose pyromanie geïntroduceerd werd en er consensus bestond over het bestaan van een ziekelijke vorm van brandstichting, welke werd beschouwd als een ongemotiveerde, onweerstaanbare drang of impuls om brand te stichten die vooral gevonden werd bij jongeren met een problematische geslachtsontwikkeling. Deze ontwikkelingen werden weerspiegeld in de juridische praktijk waar veel daders van brandstichting ontoerekeningsvatbaar werden verklaard en geen straf kregen, in het bijzonder in het geval van jeugdige delinquenten. In de tweede helft van de negentiende eeuw ebde het behandeloptimisme echter geleidelijk weg, onder meer als gevolg van biologische en erfelijkheidstheorieën die hun stempel drukten op de psychiatrie. Bovendien ontstonden er twijfels over het bestaan van pyromanie als een aparte diagnose. Dit resulteerde in een nadruk op bestraffing van brandstichters in plaats van op behandeling, zelfs in die gevallen waarin aanwijzingen bestonden van psychische problematiek. Onder invloed van de psychoanalytische theorie en een groeiend individualisme lag de nadruk in de twintigste eeuw wederom op de pathologie van brandstichters. Echter was er toen vooral aandacht voor onderliggende pathologie waaruit brandstichting verklaard kon worden, in plaats van een focus op pyromanie zoals in de eerste helft van de 19e eeuw. In de juridische praktijk was sprake van een meer gematigde visie op de vraag naar strafbaarheid of excuseerbaarheid, waarbij het besef bestond dat bepaalde psychotische aandoeningen geassocieerd kunnen zijn met brandstichting, zonder dat sprake was van een welhaast automatische conclusie van ontoerekeningsvatbaarheid op basis van pyromanie zoals in het begin van de negentiende eeuw. Thans lijkt de pendule ergens in het midden tussen schuld en verontschuldiging te blijven hangen, met aandacht voor psychische aandoeningen die ten grondslag kunnen liggen aan het brandstichten en mogelijk de toerekeningsvatbaarheid beperken.

Momenteel is er echter een andere ontwikkeling betreffende psychisch gestoorde brandstichters gaande, zoals blijkt uit de analyse van gedragskundige pro Justitia rapportages van brandstichters in Nederland vanaf 1950 tot 2010. Hoofdstuk 4 geeft de resultaten weer van onderzoek naar het belang van de psychische stoornis en de gevaarlijkheid en veranderingen daarin in de loop der tijd. Op basis van deze analyse is het hebben van een psychische stoornis

minder belangrijk en gevaarlijkheid geoperationaliseerd als recidiverisico belangrijker geworden in het gedragskundig advies aan de rechter. Het lijkt dat momenteel de behandeling van psychische gestoorde brandstichters minder benadrukt wordt, en de focus meer ligt op het hanteren van risico's.

Naast een historische en meer hedendaagse achtergrond, wordt in hoofdstuk 5 een theoretische achtergrond gegeven met de beschrijving van een multidisciplinair verklaringsmodel voor brandstichting gebaseerd op criminologische, psychologische en psychopathologische perspectieven. Vanuit een criminologisch perspectief wordt de gelegenheidstheorie (*Routine Activity Theory*) gebruikt om het gedrag te verklaren waarbij gekeken wordt naar de interactie tussen gemotiveerde daders, aantrekkelijke doelwitten en de afwezigheid van toezicht.¹ Deze theorie gaat echter niet in op de vraag hoe men een gemotiveerde dader wordt. Hiervoor wordt een psychologisch theoretische benadering gehanteerd waarbij de belangrijkste bevindingen zijn dat alleen een multifactorieel model recht kan doen aan de complexiteit van het gedrag. Dit model moet ten minste sociaal leren, biologische factoren, verslavingsgevoeligheid, ontwikkelingsfactoren en psychologische factoren bevatten. De modellen van Jackson en collega's² en van Gannon en collega's³ zijn hierbij relevant. De gelegenheidstheorie gaat ervan uit dat mensen rationele keuzes maken over het al dan niet handelen gezien de omstandigheden in een bepaalde situatie. Er zijn echter meer onberekenbare vormen van brandstichting (bijvoorbeeld het in brand steken van de eigen woning op klaarlichte dag) die niet verklaard kunnen worden vanuit deze theorie. En hoewel de multifactoriële modellen factoren aangaande psychische gezondheid bevatten, gaan ze niet specifiek in op de invloed van pathologie op brandstichting. Daarom is een derde, (psycho-) pathologisch perspectief opgenomen in het geïntegreerde verklaringsmodel, om ook branden die direct of indirect voortvloeien uit mentale stoornissen te verklaren.

2 Individualisatie van brandstichters

Deze studie beoogt vervolgens om subgroepen brandstichters te identificeren. Allereerst wordt hiervoor een literatuuronderzoek uitgevoerd naar karakteristieken en categorisaties van brandstichters. De uitkomsten hiervan, besproken in hoofdstuk 6, laten zien dat brandstichters bepaalde algemene kenmerken hebben. Zo zijn ze over het algemeen jonge, vrijgezelle, werkloze, beneden gemiddeld intelligente, blanke mannen die vaak met psychische problemen kampen. Ze stichten vooral brand uit woede of om wraak te nemen, doen dit in het donker, zonder mededaders, onder invloed van middelen (vooral alcohol) en dicht bij huis. Deze literatuurbevindingen worden gesteund door de

1 Cohen & Felson, 1979.

2 Jackson et al., 1987.

3 Gannon et al., 2012.

eigen empirische bevindingen waaruit blijkt dat de meeste brandstichters man, alleenstaand, werkloos, en autochtoon zijn, en vaak psychische problemen hebben (gehad) (zie hoofdstuk 8). Naast gemeenschappelijke kenmerken zijn er verschillen tussen brandstichters en subgroepen zichtbaar. In de literatuur wordt op basis van verschillende factoren onderscheid gemaakt tussen typen brandstichters; zo zijn er differentiaties die zich richten naar motief, kenmerken van de dader, kenmerken van het delict of een combinatie van factoren. De meest genoemde subgroepen zijn: a) brandstichting uit wraak en woede; b) brandstichting uit vandalisme; c) financieel gemotiveerde brandstichting; d) psychotische/geestelijk gestoorde brandstichting; en e) brandstichting om sporen van een ander misdrijf te verhullen.

Vervolgens heeft deze studie als doel een nieuwe empirisch onderbouwde onderverdeling te maken van Nederlandse brandstichters door het combineren van verschillende datasets, namelijk strafdossiers van veroordeelde brandstichters en pro Justitia rapportages in zaken van brandstichting zowel verkregen uit het archief van het Pieter Baan Centrum (PBC) als vanuit het Forensisch Registratie en Informatie Systeem (FRIS) van het Nederlands Instituut voor Forensische Psychiatrie en Psychologie (NIFP). Concreet worden de populaties allereerst op macroniveau beschreven en met elkaar vergeleken. De resultaten hiervan staan beschreven in hoofdstuk 8, met als belangrijkste bevinding dat de populaties op verscheidene karakteristieken van elkaar verschillen. De meeste van deze verschillen hangen samen met de aard van deze populaties, met de meeste psychische problemen in de PBC-populatie (intramuraal observatie is nodig gebleken), in mindere mate psychische problematiek in de FRIS-populatie (in meeste gevallen extramuraal observatie voldoende), en de minste psychische problemen in de politiepopulatie op grond van strafdossiers (in veel gevallen geen gedragskundige pro Justitia rapportage opgemaakt). Vervolgens wordt in hoofdstuk 9 op mesoniveau binnen verschillende populaties gekeken naar mogelijke subgroepen van brandstichters. Met behulp van clusteranalyse wordt de PBC-populatie onderverdeeld in vijf subgroepen, welke overeenkomsten vertoonden met de vijf subgroepen die naar voren komen uit de politiedata en subgroepen beschreven in de literatuur. Uiteindelijk worden deze verschillende subgroepen gecombineerd in een nieuw ontwikkelde onderverdeling van Nederlandse brandstichters resulterend in de volgende zes subgroepen: a) vandalen, b) gestoorde brandstichters (waar psychotische brandstichters in belangrijke mate deel van uitmaken), c) brandstichting als relatiedelict, d) opportunistische brandstichters, e) brandstichters met een zucht naar vuur, en f) multi-probleem brandstichters.

3 Identificatie van brandstichters

Hoewel brandstichting een ernstig delict is dat veel onrust in de samenleving teweeg kan brengen, zeker in geval van meerdere incidenten, is de capaciteit

van de politie beperkt en het vinden van de daders moeilijk; slechts in een klein deel van de brandstichtingen wordt de zaak uiteindelijk opgelost. Om te kunnen bijdragen aan de identificatie van brandstichters door opsporingsambtenaren wordt in hoofdstuk 10 ingegaan op kenmerken van brandstichters in de verschillende subgroepen die op basis van de plaats delict of eventuele getuigenverklaringen zichtbaar of onderzoekbaar zijn (zoals gebruik van brandbare stoffen en geslacht). Daarnaast wordt in dit hoofdstuk op microniveau een beschrijving gegeven van individuele brandstichters. Deze bevindingen geven richting aan het politieonderzoek, niet alleen voor wat betreft de opsporing maar ook het verhoor van verdachten van brandstichters, om zo de kans te daadwerkelijk te identificeren te verhogen.

Op basis van de politiedata zijn de volgende vijf subgroepen en hun zichtbare of onderzoekbare kenmerken besproken: a) vandalen, bestaande uit jonge jongens die in groepjes brand stichten aan willekeurige objecten; b) gestoorde brandstichters, lijdende aan psychische aandoeningen, die vooral psychotische stoornissen of suïcidale neigingen hebben en brand stichten in hun eigen woning op een gedesorgeriseerde manier; c) relationele brandstichters, die zich willen wreken na (ervaren) krenking en een specifiek slachtoffer treffen; d) opportunistische brandstichters, die brand gebruiken als een middel tot een bepaald financieel of ander instrumenteel doel; en e) zuchtige brandstichters, voor wie vuur intrinsieke waarde heeft en die meerdere branden stichten. Deze vijf subgroepen verschillen op de voor opsporing relevante kenmerken. Het koppelen van deze relevante kenmerken aan een bepaalde subgroep kan derhalve bijdragen aan de opsporing; het identificeren van een bepaalde subgroep is vervolgens indicatief voor de individuele dader.

4 Behandeling van individuele brandstichters

Naast het identificeren van de dader(s) kan het probleem van brandstichting worden aangepakt door middel van behandeling van brandstichters met als doel de recidive verminderen. Er bestaat momenteel echter een gebrek aan kennis over effectieve behandeling van brandstichters; hierdoor worden deze daders vaak op gelijke wijze en samen met andere daders behandeld. Toch lijkt de effectiviteit van algemene behandelmodellen laag.⁴ De beperkte kennis over effectieve behandeling gecombineerd met het feit dat de meeste inspanningen die er al zijn op het gebied van behandeling geen onderscheid maken tussen verschillende subtypen, tonen de noodzaak van een gedifferentieerde behandeling. Een belangrijk doel van deze studie is om in deze behoefte te voorzien door het beschrijven van een effectieve behandeling toegespitst op de individuele brandstichter. Om dit doel te bereiken is allereerst een literatuuronderzoek

4 Haines et al., 2006.

uitgevoerd. De belangrijkste bevindingen uit dit onderzoek zoals beschreven in hoofdstuk 7, zijn dat *evidence based* behandeling voor brandstichters zeldzaam is, maar dat op grond van *best practices* en casestudies gesteld kan worden dat behandelprogramma's die educatie over brandveiligheid, sociale vaardigheids- en assertiviteitstraining, cognitieve gedragstherapie, en gedragsmatige interventies zoals covert sensitivatie incorporeren, het meest veelbelovend zijn. Er zijn daarnaast aanwijzingen dat farmacotherapie de neiging om brand te stichten kan verminderen.

Vervolgens worden in hoofdstuk 11 risicofactoren van brandstichters beschreven en gekoppeld aan de verschillende veelbelovende interventies. Brandstichters hebben specifieke behandelbehoeften en overeenkomstig het *Risk-Need-Responsivity* model⁵ en het *Good Lives Model*⁶ moet behandeling om effectief te zijn zich richten op de volgende kwesties: a) aan brandstichting gerelateerde problemen (bijvoorbeeld ongepaste interesse in vuur, een ongepast intern werkmodel aangaande vuur (vuurscript) en een gebrek aan kennis over brandveiligheid); b) inter-persoonlijke vaardigheden en communicatie; c) coping en zelfregulatie; en d) eigenwaarde en zelfvertrouwen. Met educatie over brandveiligheid, cognitieve gedragstherapie, aversivetherapie en farmacotherapie kunnen aan brandstichting gerelateerde problemen worden behandeld; sociale vaardigheids- en assertiviteitstraining kan worden ingezet om inter-persoonlijke vaardigheden en communicatie te verbeteren; met cognitieve gedragstherapie en gedragstherapeutische interventies kunnen alternatieve coping strategieën en emotieregulatie aangeleerd worden; en eigenwaarde en zelfvertrouwen kunnen worden vergroot door middel van sociale vaardigheids- en assertiviteitstraining, vooral gecombineerd met cognitieve gedragstherapie. Naast de koppeling van veelbelovende interventies aan behandelbehoeften, blijkt dat de verschillende subgroepen verschillende behandelbehoeften hebben. Het combineren van deze per subgroep verschillende behandelbehoeften met de interventies resulteert in een samenvattend empirisch onderbouwd model van gedifferentieerde behandeling voor onderscheiden subgroepen van volwassen brandstichters.

5 Conclusies

De vraag die centraal staat in dit onderzoek is hoe Nederlandse brandstichters geïdentificeerd en geïndividualiseerd kunnen worden, en hoe behandeling zich zou kunnen toespitsen op deze personen. Uit de resultaten van het onderzoek kan worden vastgesteld dat brandstichting een complex fenomeen is en dat brandstichters geen homogene groep vormen maar dat er zes subtypen zijn te onderscheiden. Hoewel er overeenkomsten bestaan tussen de subgroepen, hebben ze elk onderscheiden karakteristieken. Deze verschillen zijn bruikbaar

5 Andrews, Bonta & Hoge, 1990; Andrews, Bonta & Wormith, 2011.

6 Ward & Stewart, 2003.

in de identificatie van brandstichters, aangezien bepaalde voor de opsporing relevante kenmerken indicatief zijn voor de subgroep waar de dader mogelijk onder geschaard kan worden, wat maat- en richtinggevend kan zijn in de opsporing en verdere bewijsverzameling in het verhoor. Daarnaast moet rekening gehouden worden met individuele verschillen in de behandeling, die het meest effectief is als deze is toegesneden op de behandelbehoeften van het specifieke individu. Het nieuw ontwikkelde gedifferentieerde behandelmodel heeft dan ook aandacht voor verschillen tussen brandstichters en bijbehorende behandelbehoeften.

Een belangrijk onderliggend doel van dit onderzoek is de preventie van (toekomstige) brandstichting te bevorderen. En de bevindingen van dit onderzoek dragen dan ook bij aan preventie van brandstichting door zowel politie en justitie als de forensische geestelijke gezondheidszorg.

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Previous publications

Chapter 1 Introduction

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Chapter 4 The observation of mental disorder and dangerousness in firesetters

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Chapter 5 Explaining firesetting

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Curriculum Vitae

Lydia Dalhuisen was born on 28 February 1987 in Epe, the Netherlands. In 2005 she finished her secondary education at the *Noordgouw College* in Heerde, the Netherlands. In that same year she started studying Clinical and Health Psychology at Utrecht University, where she obtained her Master of Science's degree in 2009. She also studied Dutch law and graduated *cum laude* as Master in Criminal Law in 2011. During this programme, she focused in particular on the interface between psychology and law, and was already studying the phenomenon of firesetting. In September 2011 she started as a PhD researcher at the Willem Pompe Institute of Criminal Law and Criminology at Utrecht University, also working as a researcher at the Forensic Psychiatric Hospital (GGZ Drenthe) in Assen, the Netherlands. She is currently employed at the Willem Pompe Institute where she teaches Forensic Psychiatry and Psychology and continues her research in this field.

Lydia Dalhuisen werd op 28 februari 1987 in Epe geboren. In 2005 behaalde ze haar VWO-diploma aan het Christelijk College de Noordgouw in Heerde. In dat jaar begon ze met de opleiding Klinische en Gezondheidspsychologie aan de Universiteit Utrecht waar ze in 2009 haar Master of Science behaalde. Daarnaast volgde ze een studie Nederlands recht en rondde ze in 2011 de master Strafrecht cum laude af. Tijdens deze master richtte ze zich op de grensvlakken tussen psychologie en recht en hield ze zich al bezig met onderzoek naar brandstichting. Vanaf september 2011 was zij als promovenda werkzaam aan het Willem Pompe Instituut voor Strafrechtswetenschappen van de Universiteit Utrecht. Daarnaast werkte ze sindsdien als onderzoeker bij de Forensisch Psychiatrische Kliniek van GGZ Drenthe in Assen. Momenteel is ze bij het Willem Pompe Instituut werkzaam als docent Forensische Psychiatrie en Psychologie en houdt zich daarnaast bezig met onderzoek binnen dit specialisme.

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