



# Why do Fire-Setters Set Fires? Can Knowing why Help with Intervention?

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## Abstract

In recent years a number of investigations have considered why some individuals, both juvenile and adult, are drawn to the act of fire-setting. Here we briefly review two investigations into the causes and classification of fire-setting. The first investigation presents a classification system for child and juvenile fire-starters, while the second seeks to develop an understanding of why, in some cases fire-starting continues into adulthood. We then present some pointers for intervention based on an offence profile approach. Finally, we suggest that, in order to develop effective interventions, we need first to understand both the differential developmental experiences of offenders and the underlying motivations.

**Keywords:** Investigations; Juvenile and Adult; Fire-Setting

**Abbreviations:** FII: Fire Involvement Interview; FIQ: Fire Interest Questionnaire; FSS: Fire Safety Survey; TAPP-C: The Arson Prevention Program for Children; FI: Fire Interest; CQ: Curiosity Questionnaire; CBT: Cognitive Behavioural Therapy.

## Introduction

When we consider therapeutic interventions, we normally envisage processes which are put in place to help those with affective disorders [1]. Many forms of therapy, however, have been developed to help rehabilitate those with criminal behaviours. Devising appropriate therapeutic interventions for offenders is a difficult task because offenders commit different types of crime for different reasons. In addition to this, offenders within an offence category will differ from one another – in other words there are individual differences. Hence, when forensic psychologists adopt interventions known to work successfully on violent offenders for example, modifications are often made to meet the needs

of the individual concerned [2]. In order to tailor the intervention appropriately forensic psychologists perform an offence profile. By considering both the prototypical traits associated with the offence category and the motivations of the offender, interventions can be tailor-made to suit the needs of the individual concerned [3]. There are additional factors to consider when conducting an offence analysis. Questions need to be asked such as which risk factors prolong the behaviour linked with reoffending. And what risk factors increase the likelihood of committing the same offence? When performing an offence analysis, it is important that the right evidence is gathered so that correct intervention decisions are made. Interviewing the individual is often carried out with the aim of answering the levels of risk involved for the type of offence considered and for the individual perpetrator. This helps to determine the individual's level of risk and the best intervention to adopt [4].

In recent years an increasing number of investigations of fire-setting behaviour have been published [5,6]. In particular, a number of studies have focused on why some specific

individuals are drawn towards setting fires. In many of these studies an offence analysis approach is taken. Consideration of the demographic variations across the different fire-setters provides further analysis at an individual level. The findings provide in-depth scope for understanding fire-setter motivations which makes this form of offending worthy of discussion. Research has been conducted in order, not only to understand adult fire-setting behaviours, but also to understand children who offend in this way. There are commonalities across children and adults which could, in part, be explained as a behavioural continuum from unresolved developments occurring in childhood [7]. It therefore makes sense to explore the offence and offender traits occurring in young fire-setters first. In this brief review we consider two investigations into fire-setting; the first concerns classification of child fire-starters, while the second seeks to develop a framework for understanding why such patterns of behaviour continue into adulthood for some. We then present some pointers for intervention.

## Investigations

Juvenile involvement with fire, has, until recently, been an

under-researched area. This is surprising given that their involvement in fire-starting is a major contributor to death and serious injury in children and juveniles [8]. In order to develop an empirically based classification system, Del Bove and Mackay [9] explored fire-specific variables to create an offence profile. Their sample considered fire-setting behaviour in the 240 children and juveniles (aged between four to 17 years). There were individual and environmental factors considered that helped provide a historical narrative for their fire-setting behaviour. This information was collected using questionnaires and when analysed suggested three distinct categories of child fire-setter types (see Table 1). The Fire-setting Risk Interview examined fire-specific and general psychosocial factors that could be used to predict fire-setting recidivism. This helped create a picture of how the onset of fire-setting occurred. For example, playing with matches and being fascinated by the effects of seeing something alight. Psychosocial factors measured the extent of fire model exposure and how parental psychological control was executed. A relationship between harsh punishment and complaints about the child, for instance, served as potential risk factors for later initiation to fire-setting behaviours.

Categories	Fire-specific Behaviours	Demographics
Conventional-limited (CL)	Least fire interest and number of fire-setting incidents; lowest sources of ignition and number of targets	Oldest age of onset and mental health contact; most contact with parents; least abuse; highest academic achievement and social skills; least behavioural problems; 20% have antisocial motivations
Home-instability (HM)	More fire-setting events than CL but less than MP; increased fire interest, source attainment and targets than CL but equal to MP	Younger onset age than CL but older than MP; lowest parental contact but highest abuse in care; mental health contact when young; 86.5% with mothers who have mental health problems; more social/behavioural problems than CL but less than MP; poor academic achievement
Multi-risk persistent (MP)	Highest level of fire interest, source attainment, targets and fire-setting	Youngest onset; 97% in contact with welfare organisations but live with parents; more abuse than CL but less than HM; poor academic achievement; mental health problems; most social/behavioural problems; 41% have antisocial motivations

**Table 1:** The three categories of child fire-setters.

The children attended three clinic appointments as part of The Arson Prevention Program for Children (TAPP-C) over an 18-month period. During the first session, a number of questionnaires were presented. In the case of the Fire Involvement Interview (FII), specific information was obtained regarding fire involvement and the history of fire-setting behaviours. Information concerning fire involvement (Fire Safety Survey (FSS)) and level of fire interest (Fire Interest Questionnaire (FIQ)) was combined with parental ratings of their child using a four sub-scale Fire Interest/Curiosity Questionnaire (FI/CQ). The four sub-scales provided information regarding the:

1. Degree of fire interest
2. Degree of access to fire related materials
3. Persistence of playing with matches regardless of punishment
4. Arousal level to the fire

The second session was concerned with the child's developmental history and a variety of questionnaires were completed. It was during the third session that feedback about the child's fire-specific behaviour and general mental health was provided. This included recommendations to help overcome these challenges.

As we can see from Table 1, the three types of fire-setter profile, although mutually exclusive, do have traits that overlap such as premeditation of the offence; a fear of fire and substance abuse; spreading of fire as part of offence characterisation and using ignition taken from the home. There are two types of higher risk youths (HM and MP), but there are differences concerning the individuals' qualities and therefore how interventions should be tailored. The HM and MP types both tend to show child psychopathology, but their developmental pathways differ in terms of risk factors predictive of their fire-setting behaviours. Levels of caregiving breakdown, environmental stressors and/or temperamentally based factors vary across the HM and MP types and, in so doing, influence cumulative risk differentially. The CL types have the least fire-interest and frequency with which they set fires. Their childhood is less disruptive, and they are more academic and socially competent.

Problems associated with childhood continue into adulthood if not addressed. In terms both of assessment and of treatment, adult fire-starting is a relatively underdeveloped area of forensic-clinical psychology. In order to address this Gannon, Ó Ciardha, Doley and Alleyne [10] made a comprehensive study of adult fire-setters. Following a thorough review of existent typologies, motives and theories, Gannon et al. developed the Multi Trajectory Theory of Adult Fire-setting (M-TTAF). In the M-TTAF approach a culmination of factors were found that led to fire-setting behaviours:

- Developmental experiences (i.e. Attachment, neglect and abuse)
- Inherited genetics including personality predispositions (i.e. Psychopathy)
- Triggers for fire-setting behaviours
- Vulnerabilities which could relate to psychological states or external events and situations
- Social learning such as the use of coping scripts in times of disappointment (e.g. Setting fire to an ex-partner's flat)

Gannon et al. found that developmental experiences (e.g. insecure attachment, abusive and/or neglectful nurturance) can disrupt the development of self-esteem, self-regulation and social adjustment. Self-esteem, self-regulation and social adjustment develop through socialisation processes taught by our caregivers [11]. Appropriate socialisation includes the adoption of socially condoned ways of behaving, thinking and feeling. A child without an appropriate model to follow is more likely to adopt faulty social scripts, attitudes, values, mores, skills and scripts for coping behaviours. In the case of fire-setters, fire serves to increase an individual's sense of self-worth and identity. Gannon et al. found that those with inappropriate fire-interest/scripts perceive the use of fire as positive. This is because it reinforces their self-efficacy, power and economic gain. One perception of a fire

script is that fire is the preferred communicator as it sends an authoritative message to others (known as an aggression fire fusion script).

Fire-setters who meticulously plan the 'what', 'where' and 'how' tend to be able to control their emotions and behaviour more than those who have self-regulation problems. Individuals with limited self-regulation ability find it difficult to control their anger, tend to be impulsive, have low frustration tolerance and poor coping strategies. Hence, a fire-setter who sets their house on fire after an argument finds it challenging to regulate their emotions and exert self-control. Setting fire is a poor coping strategy in this instance. Gannon et al. argue that these problems stem from childhood and, in particular, from neglectful parenting. The ability to communicate effectively is also a problem experienced by many fire-setters. Research findings allude to there being impoverished communication such as social skills and assertiveness [12]. Fire-setting may therefore serve as a means of attaining power and status. For some fire-setters aggression is a trait which very much influences how they experience anger and respond to real or perceived social misdemeanours. Coupled with communication problems they may use fire as a warning signal to others. Under these circumstances fire can be regarded as a response to grievances. It can, however, be a way of drawing attention such as a cry for help. Fire-setters who use fire in this way have poor emotional regulation and coping towards triggers such as financial problems or death of a partner.

## Interventions

Typologies and models of fire-setters can, as we have seen, be very informative. These can provide forensic psychologists with a window to understanding the role fire plays in the lives of those who find fire-setting a comfort. But can we tailor interventions to meet the needs of fire-setters by tackling the problems underlying the motivations for starting fires? In Table 2 are examples of interventions used to help offenders with specific problems that can be adapted to fire-setters. There are many different types of intervention that will aid in the rehabilitation of fire-setters. One major issue with fire-setters is the notion that setting fires will solve all. They have cognitive distortions and thinking errors about the positive effects setting fires will bring to their lives. This misconception causes a multitude of other problems for different aspects of their lives such as social and interpersonal skills and communication ability. If forensic psychologists can effectively change these faulty beliefs about the use of fire and infuse alternative coping strategies, then the behaviours reinforcing these beliefs can be attenuated. Alternative coping scripts need to be instituted in conjunction with interventions designed to quell the desire to behave angrily, aggressively, dangerously,

impulsively and antisocially.

Hence, depending on the cluster of problem traits, a tailor packaged intervention programme can be used to rehabilitate fire-setters with different typologies. Child fire-setters typed as HM, for instance, have problems of attachment due to a developmental pathway of being in care away from their biological parents. Coupled with high levels of abuse, they are more likely to lack empathy and have moral developmental deficits. Consider the research of John

Bowlby [13] on institutionalised children. Bowlby found in his study of 44 juvenile thieves that they were separated from their parents in childhood and consequently were unable to form an attachment bond. He claimed that these children exhibited affectionless psychopathy which had profound effects on their later relationships such as failing to show warmth or empathy. For the HM fire-setters, benefit would come from interventions addressing moral reasoning skills and developing empathy for their victims.

Problem Areas	Interventions
Behavioural Problems	Behavioural therapy (aversion therapy and token economies); anger management; stress management; self-control and self-instruction training; rational-emotive therapy; drug therapy; childhood victim's survival group (CVSG) therapy
Anger issues Impulsivity Aggressiveness Dangerous action Antisocial	
Cognitive deficits and problems	Education and skill training for employment; assertiveness training; reasoning, thinking and problem-solving skills training; cognitive-behavioural therapy (CBT); mindfulness-based cognitive therapy (MBCT)
Cognitive distortions and thinking errors	Cognitive restructuring of beliefs and thinking that reinforce fire-setting behaviours; critical thinking skills; alternative coping strategies via new coping scripts; CVSG therapy
Social Problems	Social skills training; interpersonal skills training; assertiveness training and building self-esteem; group and family group therapy; relaxation techniques
Relationship difficulties Interactions Skills Competency	
Mental health problems	Drug therapy; victim empathy training; psychotherapy such as psychoanalysis and psychodrama; CBT
Empathy and moral development deficits	Psychotherapy; victim empathy training; moral reasoning skills; CVSG therapy
Vulnerabilities	Cognitive and social skills; behavioural and emotional management (as above)

**Table 2:** Interventions to help improve offender problems.

One commonly used intervention is cognitive behavioural therapy (CBT). This therapy can help with a multitude of problems [14]. It is often used to increase social competence and to reduce inappropriate patterns of thought and behaviour. In most cases of fire-setters it is the distorted thinking about how fire can improve their life that is the driving force behind the fire-setting behaviours. CBT is used to identify these distorted thinking patterns and help fire-setters to think differently about fire. The distorted thinking is replaced by appropriate ways of understanding fires thereby changing the behaviour. For example, CBT can help reduce the excitement that fire-setting serves for the

individual. Through this cognitive restructuring, the triggers causing children to set fires can be identified and therefore the motivations keeping the behaviour active. CBT has been used successfully with children fire-setters classified as MP (Table 1) [9].

Another form of cognitive therapy which can help change distorted thinking is role reversal. Here the child concerned pretends to be the victim of a fire. This role reversal helps the child potentially experience how the victim might feel about what has happened to them. By doing this, the child's distorted beliefs are challenged so that the reasons for setting

fires become redundant. In other words, their faulty coping strategies are challenged in such a way that these become replaced with appropriate options. Also, they become more aware of how their fire-setting affects their victims – hopefully leading to increased empathy. Changing distorted thinking is also the aim when developing interventions for adult fire-setters [10]. This includes changing what is known as offence-supportive attitudes.

An alternative coping strategy alongside interventions that reduce angry, aggressive, dangerous, impulsive and antisocial behaviour is various forms of emotional intervention. Quite often there are issues of self-control that prevent fire-setters from setting fires. Instead of being able to control their anger in response to a trigger (such as being ignored), adult and young fire-setters adopt inappropriate coping strategies [10]. Fire-setters classified as HM benefit from this type of therapeutic intervention (Table 1) [9]. One type of intervention which tackles the lack of self-control seen in children, who set fires, is self-instructional training. This begins by the child practicing the verbal instructions provided by the therapist. Hence, if the therapist says, “I must count to ten when I feel annoyed and not play with matches”, the child has to repeat this mantra and learn to use it outside of the therapy setting. Such verbal instruction is repeated aloud to control the impulse to set a fire. Eventually the verbal self-instruction becomes engrained and the child no longer has to say it aloud. Self-instructional training is a particularly successful emotional intervention with children who exhibit behavioural problems such as fire-setting.

Empathy awareness training plays an important role in child fire-setters who lack empathy and a moral compass. It focuses on the victim-offender relationship. At the same time CBT is often used to help control the thoughts behind the negative emotions. Empathy awareness training would be particularly beneficial for child fire-setters in the HM group [9,15]. Offence analysis has shown that children in the HM group have problems of attachment due to being in care. Coupled with high levels of abuse, they are more likely to lack empathy and have moral developmental deficits. Hence offence analysis can be an effective method of determining which form of therapy is most likely to succeed given the appropriate category for an individual fire-setter.

## Concluding Thoughts

Fire-setting is a very concerning behaviour which occurs cross-culturally. Between 2009 and 2011 in the USA alone youths set 49,300 fires causing 80 deaths and 860 civilian injuries [6]. The development of affective interventions is of more than academic intrigue. The development of such interventions will need to be based on a better understanding of the motivations underpinning this disturbing behaviour.

We can state this because, as we have seen, there is a relationship between how an offence is performed and the motivations underpinning it. Different types of fire-setter behaviour are underpinned by differential developmental experiences which, in turn, influence motivations for setting fires. It is anticipated that, by performing an offence analysis, appropriate interventions can be implemented.

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