

ADOLESCENT FIRESETTERS: FINDINGS FROM AN ANALYSIS OF 47 CASES[#]

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This paper reports a study of 47 young people, 35 boys (mean age 15.62 years) and 12 girls (mean age 15.41 years), detained in a secure residential facility following incidences of firesetting. It was found that these young people had experienced extremely chaotic childhoods, including high levels of disruption to family life and education. However, there was a low incidence of formally diagnosed psychiatric disorder in the sample. In addition to firesetting, most of the young people had committed a number of other offences. It is suggested that these findings present a backdrop for a more detailed study of the characteristics of young people who set fires.

Fire is a part of everyday life yet, with justification, there is a fear of the consequences, for both people and property, of an uncontrolled fire. Indeed, Soothill (1990) has suggested that the development of sophisticated techniques to reduce the risk of accidental fires has resulted in growing concern about intentionally set fires. This concern has primarily focused upon the individuals responsible for setting uncontrolled fires, of whom adolescents constitute a significant proportion (DeSalvatore & Hornstein, 1991).

The phenomenon of the young fire setter was first alluded to in the 19th century. Since then a variety of explanations have been advanced to explain this behaviour (Kolko, 1985). While early theoretical accounts associated firesetting with psychosexual

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development, particularly amongst young women (Harris & Rice, 1984), contemporary theories focused on cognitive-behavioural persuasion (Kolko & Kazdin, 1986). Further, the evidence very much suggests that firesetting is an activity predominant among young males (Kolko, 1985).

While firesetting is prevalent among child and adult psychiatric populations (Geller, 1992; Kolko & Kazdin, 1988), not all fire setters are psychiatrically disturbed and studies have looked at the personal characteristics of fire setters without psychiatric problems. Beginning with a fascination for fire, Kolko and Kazdin (1989) reported that compared to non-fire setters, children who set fires are characterized by a high level of curiosity about fire, but are neither less skilled in handling fire nor less aware of the dangers of fire. In terms of personal skills, Rice and Chaplin (1979) found that arsonists were shy and unassertive, although this study was carried out with an adult population, there are similarities between adults and adolescent fire setters, (e.g., Bradford & Dimock, 1986). Accordingly, Harris and Rice (1984) suggested that some individuals set fires as a consequence of a lack of interpersonal problem-solving skills, that is, unable to resolve conflicts in an acceptable manner, fires are set to gain revenge or express anger. Other often cited motivations for firesetting include excitement, frustration, and the desire to be a hero or heroine (Kolko, 1985).

Another theme that runs through the literature is the association between firesetting and other childhood disorders. While links specifically with enuresis and cruelty to animals remain doubtful (Jacobson, 1985), there is evidence to suggest that firesetting is associated with conduct disorder, including social skills deficits as well as high levels of delinquent and anti-social behaviour (Heath, Hardesty, Goldfine, & Walker, 1983; Kolko, Kazdin, & Meyer, 1985). However, the nature of the relationship between conduct disorder, delinquency, and firesetting remains a matter for debate.

A number of studies have looked at both family background and family functioning of young people who set fires (Bradford & Dimock, 1986; Kazdin & Kolko, 1986; Kolko, 1985; Kolko & Kazdin, 1988, 1989, 1990; Strachan, 1981). It has been found that the family backgrounds of juvenile fire setters are characterized by high levels of parental absence, family breakdown and disorganization, and parental distress and psychopathology. Patterns of family functioning are marked by low levels of affection, affiliation, and marital satisfaction; erratic styles of parental monitoring and discipline (including physical child abuse); and low levels of parental

involvement with their children. The nature of the relationship between family background, functioning, and child firesetting is less than clear and whether background or functioning plays the greater role is uncertain: indeed, both factors may interact with age of onset of firesetting (Kolko & Kazdin, 1992). In addition, many young fire setters have experienced multiple placements in child care establishments and foster homes (Kolko, 1985).

While the research literature is mostly North American, Strachan (1981) investigated a delinquent group of juvenile fire setters who had been referred to a Children's Hearing Panel (equivalent to a juvenile court) in Scotland. Strachan reported that these young firesetters were predominately boys often presented with multiple problems including other criminal offences, were already known to other agencies prior to referral, and had family backgrounds characterized by high levels of parental disharmony.

The present study describes the population of adolescent fire setters who have been resident in Glenthorne Youth Treatment Centre (YTC), Birmingham, England. As described by Millham, Bullock, Hossie, and Little (1989), the YTCs provide long-term care and treatment for a minority of young people who display extremes of disturbed and antisocial behaviour. The objectives of the study were three fold: First, to describe the demographic and personal characteristics of a substantial sample of adolescent fire setters; second, to see whether the fire setters here differed greatly from those described in previous studies; and third to compare directly boy and girl fire setters.

METHOD

Sample

From all the case files held at Glenthorne YTC a total of 47 adolescents were identified, 35 boys and 12 girls, who had a history of firesetting, although not all had been convicted of fire-related offences. These 47 young people therefore formed the study group. The average age on admission to Glenthorne YTC was 15.62 years for the boys (range 10.50 to 17.33 years), and 15.41 years (range 13.17 to 17.08 years) for the girls.

Procedure

Having identified the 47 fire setters, the case notes of each of these young people were examined in detail, and the relevant information was coded onto a database designed for this study. To

facilitate the processing of information, a coding manual was compiled containing 262 items. These items cover, in as much detail as possible, the young person's history prior to admission to Glenthorne YTC. The manual has seven subsections: (i) reasons for admission to Glenthorne YTC; (ii) intellectual functioning; (iii) developmental and physical condition; (iv) educational history; (v) criminal history; (vi) family details; and (vii) care and previous placement history.

The coding manual was piloted on four sets of case notes. Each set of case notes was coded independently by two trained assistants and the sets of codings compared as a test for reliability and consistency of coding. There was a high agreement between coders ($r = 0.84$), however where differences did exist they informed minor changes of the coding manual for the study.

The case files contained a variety of reports and documents, including Social Inquiry Reports, Admission Papers, Glenthorne YTC Review Reports, and Home Visit Reports. There was a marked absence of police, witness, and court statements. In those instances where a young person was currently residing at Glenthorne YTC (17.02% of the sample), they were asked personally to provide missing details if possible. In these cases, the young people were told of the purpose of the exercise, assured of confidentiality, and were asked to sign a consent form. None of the current residents refused to participate in the study.

It should be noted that the study was, in the main, only able to code information recorded in the case notes. Thus information not recorded is better conceived of as "absent information" rather than not present. The net effect of this absent information is that, to a greater or lesser extent, all reported figures are likely to be lower than the true figures.

RESULTS

The data were divided into two types, interval measurement and frequency counts. The means for the interval data are shown in the tables and statistical comparisons involving these figures used t -tests. The frequency data are presented in the tables as percentages, and statistical comparisons were made using Chi-square (χ^2) analyses (using a continuity correction when $df = 1$).

Firesetting

Table 1 shows the number of fires set by the young people and the locations of the fires.

Table 1

Number and Location of Fires for Boys and Girls

Variables	Boys (<i>n</i> = 35)	Girls (<i>n</i> = 12)
<i>Total number of recorded fires</i>	93	26
Mean number of fire sets	2.66	2.17
S.D. of the number of fire sets	1.83	1.96
<i>Location of fires (in percentages) *</i>		
Own Home	2.15	0.00
Others Home	8.60	3.85
Children's Home	7.53	34.62
School	17.20	7.70
Place of Work	12.90	3.85
Public Areas	6.45	0.00
Other	23.66	38.46
Unknown	21.51	11.54

* Percentage of the total number of fires, calculated separately for boys and girls.

Non significant difference was found between the total number of fires set by boys and girls, $t(45) = 0.56$, $p > .05$. Over half the sample (58.75%) set fires in a dwelling place (i.e., their own home, another person's home, or a children's home). Analysis indicated a significant difference between boys and girls in the number of fires started while the young person was resident in a children's home $\chi^2(1, N = 119) = 10.59$, $p < .001$. In all other locations there were non significant differences between boys and girls. Breaking these figures down further, only 2.15% of the sample had set fires in their own home, this percentage is significantly lower than the 40% of

adolescents in the Bradford and Dimock (1986), $\chi^2(1, N = 81) = 12.62, p < .001$.

Delinquency

Table 2 shows the average age, type, and length of sentence, and previous secure placements for the young people.

Table 2

Age, Length of Sentence, and Previous Secure Placements for boys and girls

Variables	Boys (<i>n</i> = 35)	Girls (<i>n</i> = 12)
Mean age on admission (in Years)	15.62	15.41
S.D of the age on admission	1.31	1.30
<i>Sentence (in percentages) *</i>		
Section 53(2)	54.28	25.00
Length (in Years)	4.50	4.00
Care order	45.71	75.00*
<i>Placement</i>		
LA Secure Unit	34.28	75.00
Young Offender		
Institution	17.14	0.00

*Percentages calculated separately for boys and girls.

Girls were significantly more likely to have experience of previous placements in Local Authority (LA) Secure Units, $\chi^2(1, N = 47) = 4.46, p < .05$. No other significant differences between boys and girls were found.

The mean length of stay at Glenthorne YTC (for the 39 young people who had left at the time of the study) was 2.17 years and 1.38 years for boys and girls, respectively. This length of stay was not significantly different for the boys and girls, $t(37) = 1.74, p > .05$. Most of the young people are no longer resident at Glenthorne YTC,

had left from an open setting (82%), with a minority therefore held in security up to the point of leaving.

Table 3

Referral Behaviours Prior to Admission to Clenthorne Centre

Variables	Boys	Girls
	(n= 35) %	(n= 12) %
Violent Assault	17.00*	26.00
Burglary	40.00	50.00
Theft	37.13	33.32
Taking and Driving Away	8.57	8.33
Arson	82.85	91.66
Arson with Intent	14.28	8.33
Deliberate Self-harm	22.85	50.00
Absconding	40.00	83.33
Substance Abuse	88.57	50.00

* Percentages within groups: As a young person may have committed more than one of the acts, totals are greater than 100%.

Table 3 shows the behavioural problems that formed, at least in part, the basis for admission to Glenthorne YTC. As expected from this particular sample, damage to property through fire-setting was the most common reason for admission. However, many young people also exhibited other behavioural problems and some had a history of non-fire related criminal offences, especially burglary and theft. Altogether, 97% of the young men and 92% of the young women had been convicted of some type of criminal act prior to their referral to Glenthorne YTC. A much smaller percentage (19.2%) had been convicted of violent offences. There were also significant differences between the boys and girls in that significantly more boys had recorded histories of substance abuse, $\chi^2(1, N = 47) = 5.80, p < .05$; while more girls had absconded from previous placements, $\chi^2(1, N = 47) = 5.09, p < .05$.

Recorded Abuse

Table 4 shows the history of physical and sexual abuse as recorded in the case notes.

Table 4

Recorded History of Physical and Sexual Abuse

Variables	Boys (<i>n</i> = 35) %*	Girls (<i>n</i> = 12) %
<i>History of serious violent assault</i>		
No	37.14	25.00
Yes	11.42	16.66
Unknown	51.42	58.33
<i>History of sexual assault</i>		
Definite	11.42	25.00
Suspected	2.85	25.00
Unknown	85.73	50.00

*Percentage within groups.

The reliability and accuracy of this personal and sensitive information is always difficult to establish. Consequently, the data in Table 4 were categorized according to the reliability of the information as recorded in the case notes. In some cases, e.g., abuse, the evidence was firm as there had been a disclosure of abuse and a subsequent formal investigation had supported the disclosure. In other cases, abuse was recorded as being suspected but there was no documented supporting evidence. It can be seen that in many cases the information was deemed to be either too unreliable or was absent from the case records. The figures in Table 4 must, therefore, be regarded as a probable underestimate of the true incidence of physical and sexual abuse.

Intelligence Tests

Results from standardized intelligence tests (in all cases the Weschler Adult Intelligence Scale-Revised (WAIS-R) was used) were available for only 23.4% of the sample. The mean full-scale score for those young people tested was 86.73 (*SD* = 16.96).

Educational Background

Table 5 gives the educational history of the young people, showing that most of the young people had attended more than one

secondary school. In all, 63.83% had been suspended or expelled from school.

Table 5

Education and School History of Boys and Girls

Variables	Boys (<i>n</i> = 35) %*	Girls (<i>n</i> = 12) %
Mean number of schools attended	3.50	4.20
For whom last schools attended was secondary	37.14	41.66
Stated under the 1981 Act	8.57	16.66
Suspended from school	37.14	8.33
History of bullying others at school	40.00	50.00
History of behavioral difficulties at school	68.57	75.00
Assaulted teachers	8.57	16.66
History of truancy	65.71	66.66
Taken a formal exam	5.71	25.00
Peer group problems	60.00	75.00

*Percentages within groups.

Over two-thirds of the sample were reported in the case notes to have presented behavioural difficulties at school: there were no significant differences in this respect between the boys and girls, $\chi^2(1, N = 47) = 0.86, p > .05$. While the figures suggest that some of these problems were more evident in girls, a greater percentage of girls had recorded histories of bullying other pupils, assaulting teachers, peer group problems, and truancy. However, none of the comparisons reached statistical significance. In keeping with this

trend, 17.1% of the boys and 25.0% of the girls had been referred for psychiatric assessment.

Care History

Table 6 shows the proportion of the sample who had been in Local Authority care, together with the number and kind of previous placements away from the parental home.

Table 6

Care History and Previous Placements of Boys and Girls

Variables	Boys (<i>n</i> = 35) %*	Girls (<i>n</i> = 12) %
Care Order	68.57	100.00
Place of safety order	11.42	16.66
Previous secure accommodation order	68.50	91.66
Fostered	11.42	66.66
Mean number of placements away from home	4.03	9.00
Having an identified social worker or probation officer on admission	17.14	58.33

*Percentage within groups.

Two significant differences were found between the boys and girls: more of the girls belonged to foster homes, $\chi^2(1, N = 37) = 7.33, p < .01$; and more girls had experienced a greater number of placements away from the parental home $t(43) = 4.39, p < .001$.

Experience of employment was also considered. Only two boys and one girl had experience of work prior to their admittance to Glenthorne YTC. In all three cases the young persons had been dismissed from their employment.

Family Background

Table 7 shows the status of the participants' primary care givers, including biological parents as well as foster, step, and adopted parents. It can be seen that substantial number of the sample had experienced a disrupted family background.

Table 7

Recorded Status of Primary Caregivers

Variables	Boys (<i>n</i> = 35) %*	Girls (<i>n</i> = 12) %
Girl primary care giver alive	97.5*	93.33
Boy primary care giver alive	68.09	88.24
Girl primary care giver living with husband	42.5	50.00
Boy primary care giver living with wife	36.17	50.00
Girl primary care giver contact with young person	62.85	33.00
Boy primary care giver contact with young person	45.71	41.66

* Percentage within group.

With regard to psychiatric history, 11% of the boys' mothers and 17% of the girls' mothers were known to have had contact with psychiatric services; whilst 3% of boys' fathers and none of the girls' fathers had recorded psychiatric contact.

DISCUSSION

What conclusions can be drawn from this study about the adolescents who find themselves in a secure residential treatment setting as a result of their firesetting? To begin with, many of the young people had been in care for a significant period of time, and

their firesetting had consequently occurred in places other than their home. Yarnell (1940) found that younger children tend to set fires in their own home, whereas adolescents tend to set fires in school or in community property. In keeping with Yarnell, but unlike the fire setters in the Bradford and Dimock (1986) study, most of the boys in the present study tended to target schools and derelict buildings in particular. The females, however, were more likely to have set fire to a children's home. These variations may be a reflection of the fact that the girls were more likely to have lived in Local Authority care, in contrast with the boys who were more likely to have been detained in custodial settings. Indeed, comparisons of boys and girls yielded few significant findings, the differences that were found mostly concerned previous placements. This pattern of findings is most probably a consequence of differences in the systems for troubled boys and girls rather than being related specifically to firesetting.

Most of the young people in the study had exhibited criminal and behavioural difficulties in addition to fire-setting, but had a low frequency of formal psychiatric contact. In this respect they are not different from other delinquent adolescents referred to secure treatment settings (Bullock, Hossie, Little, & Millham, 1990), although only a small proportion had a history of violence. However, as reported in other studies (Heath et al., 1983; Kolko et al., 1985), the fire setters did present a history of challenging behaviour, including deliberate self-harm, absconding, and substance abuse.

It is difficult to draw firm conclusions about the extent to which physical or sexual abuse featured in the lives of these young people. The case notes contained scant reliable information, leading to the conclusion that the figures reported are almost certainly an underestimate in light of the increased recognition of the prevalence of sexual abuse, especially in young boys (King, 1992; Watkins & Bentovim, 1992). In the present study, there were several cases in which fire-setting appeared to be linked with sexual abuse. One 15 year old boy, for example, reported that he had set fire to a number of motor vehicles and a derelict building with the specific aim of getting himself removed from the family home and taken into care in an attempt to escape his abuser. Given the general link between victimization and delinquency (Lauritsen, Sampson, & Laub, 1991), those who work with young offenders can not neglect issues of abuse.

The families of many of the young people in the study were in a similar state of disorganization and chaos as those in previous studies (Bradford & Dimock, 1986; Kazdin & Kolko, 1986; Kolko, 1985; Kolko & Kazdin, 1988, 1989, 1990; Strachan, 1981). It was found

that few families were intact; while, in addition, many of the young people had little or no contact with their biological parents. Some young people had been rejected outright from their families and an alternative placement had to be found in preparation for their return to the community. Further, the young people's experience of education was likely to have been disrupted by frequent moves, often as a result of their disruptive and, occasionally, violent behaviour. All of the girls, and more than two-thirds of the boys, had been in Local Authority care at some time, most having experienced several different placements. The girls had a higher frequency of placement with foster families as an alternative to residential care. While there may have been somewhat different pathways for boys and girls (Worrell, 1990), the lives of these young people had been marked by family disruption and breakdown, disjointed education, and general social upheaval.

While such findings paint a typical picture of the backgrounds of many delinquent young people (Hollin, 1992), none in themselves offer an explanation specifically for the firesetting. If the fire setting is to be understood, which is a pre-requisite for successful treatment (Epps & Hollin, 2000; Hollin & Epps, 1996; Kolko, 2001), then further research is clearly needed. While studies have looked at psychological factors such as motivation and personal skills (Kolko, 1985), these individual variables need to be seen in the context of life history and current environmental influences. One approach to this task, outlined by Jackson, Glass, and Hope (1987), is to attempt a case by case functional analysis, using both archival and interview information, of the factors which contribute to the development and maintenance of firesetting. Having developed such a methodology with violent offenders (Gresswell & Hollin, 1992) the extension of this methodology, including qualitative analysis (Swaffer & Hollin 1995), to young fire setters is a logical next step.

Finally, our task as applied researchers was considerably hampered by inconsistent recording of information in the case notes. This may have particularly affected the comparisons between boys and girls. It is not beyond the bounds of possibility that the decision to record a particular piece of information is influenced by the gender of the young person concerned. If case recording practices pose problems for us as researchers, then the same must also be true for those charged with the care of these young people as they regretfully move from setting to setting. A practical recommendation from our work thus far is that cross-agency attention should be given to the

system by which important information is both recorded and passed on.

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