

Correlates of firesetting in a community sample of young adolescents

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Objective: To investigate relationships between firesetting, antisocial behaviour, individual, family and parenting factors in a large community sample of adolescents.

Method: A cross-sectional study of students ($n = 2596$) aged 13 years on average, from 27 schools in South Australia with a questionnaire on firesetting, antisocial behaviour (adapted 21-item Self Report Delinquency Scale), risk-taking, drug use, suicidality, physical and sexual abuse, depressive symptomatology, hopelessness, anxiety, locus of control, self-esteem, family functioning (McMaster Family Assessment Device) and parenting style (Influential Relationships Questionnaire). Data analysis included χ^2 , ANOVA and logistic regression.

Results: Large significant differences are found between firesetters and non-firesetters on all measures. Among adolescents with serious levels of antisocial behaviour (7+ acts included in diagnostic guidelines for DSM-IV conduct disorder), firesetters differ from non-firesetters in reporting more extreme antisocial behaviour (10+ acts), extreme drug use, suicidal behaviour, and perceived failure at school. Gender differences are apparent. A study limitation is the single item assessment of firesetting.

Conclusions: Self-report firesetting is strongly associated with extreme antisocial behaviour in young community adolescents, in support of existing evidence from incarcerated delinquent and psychiatric populations. Early detection of community firesetters demands further assessment and intervention. Clinicians should consider its coexistence with serious drug use and high risk-taking (especially in girls), and suicidality, sexual and physical abuse (in boys).

Key words: adolescents, antisocial behaviour, firesetting.

Australian and New Zealand Journal of Psychiatry 2004; 38:148–154

Firesetting is a devastating phenomenon, injurious to individuals, destructive to property, and costly to communities both economically and socially. The behaviour

starts in childhood or adolescence, and although aetiology is not well understood, it includes individual and parenting factors, and possible neurochemical predisposition [1,2]. Among juveniles, firesetting is more prevalent in males than females, peaking at age 12–14 years [3]. Sixty percent of all fires in large US cities are lit by adolescents aged 11–18 years [4]. High rates of recidivism in firesetting children (50% among non-patient and 59% among patient samples) [5] indicate the seriousness of the problem, although treatment strategies for juveniles can be effective if implemented appropriately [4,6]. Progression of firesetting behaviour into adulthood, however, is not uncommon, and a study of mentally disordered adult male offenders reveals that age at first firesetting and history of firesetting make strong contributions to the prediction of future firesetting [7].

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Received 11 April 2003; revised 1 August 2003; accepted 3 August 2003.

Firesetting behaviour is known to be strongly associated with antisocial behaviour (ASB). Studies of delinquent firesetters and non-firesetters suggest they are similar neuropsychiatrically, intellectually and behaviourally [8]. More recently, Stickle and Blechman [9] found greater variety and frequency of aggressive and antisocial acts, and earlier age at arrest among juvenile offender firesetters compared to non-firesetters, concluding that firesetting is indicative of more developmentally advanced, serious and varied ASB [9]. Forehand *et al.* [10] studied delinquents aged 13–17 years diagnosed with conduct disorder (CD), categorizing them into firesetters, non-firesetters with similar numbers of CD symptoms, and non-firesetters with fewer CD symptoms. The latter group differed widely from the first two on the Child Behaviour Checklist [11]. Firesetters and non-firesetters with similar CD did not differ from one another, indicating that firesetting, as perceived by caregivers, is part of ASB and not a unique syndrome.

Among child psychiatric outpatients in Western Australia, Kosky and Silburn [12] compared firesetters and non-firesetters, and found firesetters presented a mixed clinical picture with widespread psychopathology, including high levels of CD. Among psychiatric inpatients, Kolko and Kazdin [13,14] found firesetting children aged 5–13 years had higher levels of covert and overt ASB, hostility, impulsivity, aggression, and lower levels of sociability, suggesting that firesetting may emerge late in a sequence of antisocial symptoms involving more extreme acts. In some contrast, Moore *et al.* [15] found psychopathology in adolescent male firesetters was more complex as well as more severe than in non-firesetting conduct-disordered patients, but concluded that distress, alienation, depression, disordered thoughts and poor reality testing may be motivations in themselves for firesetting.

Firesetting is classified by the DSM-IV as an ‘impulse control disorder’ not associated with other disorders [16]. Subgroups of firesetters have been proposed for children: ‘curiosity, conduct disordered and adjustment disordered’ [17]; and adolescents: ‘delinquent, destructive and pathological’ [18]. Clearly, not all firesetters are severely antisocial, and the risk-taking, thrill-seeking aspect of the behaviour has rarely been investigated, though motives of curiosity and fun have been reported by firesetting children [19].

Both Australian and US studies have found firesetting unrelated to socioeconomic status [5,12], and its relationship with dysfunctional family and parental practices is not conclusive. Studies of family characteristics have revealed greater disturbance in individual psychopathology, greater personal/marital distress among parents, and more disturbed parent–child relationships

among firesetters [20], though the authors acknowledge this may be due to the diverse and severe nature of the behaviour of firesetters compared to non-firesetters. Furthermore, in Kolko *et al.*’s [5] 2-year longitudinal evaluation of the course and predictors of fire-setting behaviour in patient and non-patient samples aged 6–13 years, parental practices and family functioning were not significantly associated with firesetting.

To our knowledge, no studies have investigated firesetting in large community populations, or its association with risk-taking and drug use beyond that of ASB. Comparison of firesetters with other children exhibiting salient antisocial behaviours would help determine specificity of disturbances attributed to firesetting [13]. This study reports on the prevalence of self-report firesetting in a large community sample of young adolescents, and investigates relationships between firesetting, antisocial behaviour, risk-taking, drug use and other individual and family factors.

Method

The Early Detection of Emotional Disorders program was approved by the South Australian Department of Education and Children’s Services, and Flinders Medical Centre Ethics Committee on Clinical Investigation. The central focus of the program was early detection of suicidal behaviours, risk and protective factors implicated in later suicide. Data used in the present study is drawn from the first wave of the repeated measures 3-year longitudinal study.

Participants

Students in grade 8 (approximately 13 years old) from 17 public and 10 private (approximately one-third) rural and suburban schools in lower to upper middle socio-economic areas of South Australia participated in the study. Following parental assent, 2596 high school students were surveyed, an overall participation rate of 85%. Questionnaires were completed by students voluntarily, under the supervision of teachers, and followed by a group debriefing session. Counsellors were available for any student showing distress.

Measures

Items of interest reported here form part of a larger composite questionnaire [21]. Socio-demographic information collected included school, gender, age, country of birth, main language spoken at home, Aboriginal or Torres Strait Islander origin.

(i) Firesetting was assessed by a single item drawn from the DSM-IV criteria for CD: ‘*I have set fire to things in public places just for fun*’ with a yes/no response.

(ii) Antisocial behaviour was assessed with an adaptation of the Self-Report Delinquency Scale [22]. Students responded ‘yes’ (score 1) or ‘no’ (score 0) to statements such as: ‘*I have stolen out of a little shop*’. Three items were added to bring the scale closer to DSM-IV diagnostic guidelines for CD. These were: ‘*I have graffitied*

(tagged) things in public places'; 'I have deliberately tried to physically hurt someone'; 'I have deliberately tried to attack someone in a sexual way'. For this analysis, two original scale items regarding alcohol and illegal drug use were disregarded to avoid overlap with the current study's more extensive assessment of drug use. Reliability for the adapted 21-item scale was good ($\alpha = 0.87$). Total scores were calculated and recoded to new 2-category variables based on cut-offs calculated from the mean (2.53) plus one standard deviation (3.41), and mean +2 SD. Thus, total scores ≥ 7 were coded 'serious', and scores ≥ 10 coded 'extreme'.

(iii) Drug use was assessed by asking: 'Which of the following drugs have you used in the last year? alcohol; tobacco; marijuana, acid or LSD; sniffed glue, petrol, or solvents; injected illegal drugs (heroin, speed); oral stimulants (speed, crack, or ecstasy) magic mushrooms'. Respondents rated frequency of use for each on a five-point scale: 0 (never); 1 (less than once per month); 2 (one to three times a month); 3 (once a week); or 4 (more than once a week). Total scores (0–32) were recoded to new two-category variables based on cut-offs of the mean (1.82) plus SD (2.87), and mean +2 SD. Thus, total scores ≥ 5 were coded 'serious', and scores ≥ 8 coded 'extreme'. Reliability for the summed items was good ($\alpha = 0.82$).

(iv) Risk-taking was assessed with the 'Brief Adolescent Risk-Taking Measure' (BART), a 9-item measure adapted from the original [23]. Items include statements such as: 'I accept rides in cars from people I do not know'; 'I take part in dangerous activities'; 'I usually talk things over with my parents before doing something new'. Responses are 'never' (score 0 or 2), 'sometimes' (score 1) or 'often' (score 0 or 2). Reliability of the summed items was good ($\alpha = 0.72$). Principal components analysis indicated two factors: danger and caution. Total scores were recoded to a two-category variable based on a cut-off of mean (6.46) plus SD (3.0). Thus scores ≥ 11 were coded 'high'.

(v) Suicidality was assessed by establishing the time frame, frequency and severity of suicidal behaviour, following the work of Pearce and Martin [24]. Items included in this study were: 'Have you ever... thought about killing yourself?'; '... made plans to kill yourself without carrying them out?'; '... made threats to others that you will kill yourself'; '... deliberately tried to hurt yourself?'; and '... tried to kill yourself?' Response choices are 'never', and 'yes' with six options of when it occurred, from 'last month', to 'more than 12 months ago'. For this study, responses were collapsed to provide yes/no categorical data.

(vi) Students were asked to rate their current overall academic performance as: 'failing'; 'below average'; 'average'; or 'above average'. For this analysis, scores were recoded to a two-category variable of failing/below average or average/above average.

(vii) Sexual and physical abuse were assessed simply: 'Have you ever been sexually abused?'; and 'Have you ever been physically abused, bullied or beaten up?', with yes/no responses.

(viii) Hopelessness was measured with the Beck Hopelessness Scale [25], a 20-item true/false self-report instrument to assess an individual's negative expectations about their future.

(ix) Depressive symptomatology was measured with the Centre for Epidemiological Studies Depression Scale (CES-D), a self-report 20-item instrument recommended for use with community adults [26] and adolescents [27]. Respondents rate frequency of depressive symptoms in the past week on a four-point Likert scale ranging from 'rarely or none of the time' (score 0), to 'most or all of the time' (score 3).

(xi) Rosenberg's Self-Esteem Scale [28] is a 10-item, self-report measure of students' current level of self-esteem and global self-worth. Descriptive statements about life and self-satisfaction were rated on a 5-point Likert scale, ranging from 'almost always true' to 'never true'. Total scores range from 10 to 50, higher scores indicating higher self-esteem.

(xii) The Nowicki-Strickland Locus of Control Scale for Children (CNSIE) [29] is a 40-item measure of internal and external attributional style with yes/no responses, appropriate for ages 9–18 years. Total scores range 0–40, higher scores indicating external attribution style.

(xiii) Anxiety was assessed with the Hospital Anxiety and Depression Scale [30]. Respondents rate the frequency of feelings during the past week on a four-point Likert scale (same as CES-D).

(xiv) Family functioning was assessed using the McMaster Family Assessment Device – General Functioning subscale (FAD-GF) [31]. Scores for the 12 items range 1–4; higher scores indicate family pathology.

(xv) Parenting style and quality of relationships between parents and adolescent were assessed with the Influential Relationships Questionnaire, a 37-item instrument consisting of Care, Protection and Criticism subscales [32].

(xvi) Parental structure was assessed with: 'Are your natural/biological parents married and living together?' with a yes/no response.

Data analysis

Data analysis was performed with SPSS V11 using both parametric and non-parametric procedures to investigate firesetting-related differences in ASB and other individual, parental and family factors. Separate analyses were conducted for boys and girls as significant gender differences were expected. Significant differences between groups classified by firesetting and ASB status were detected using Pearson χ^2 for dichotomous variables, and ANOVA for continuous variables. Where sample sizes were small and homogeneity of variance tests failed (groups were significantly different), non-parametric Kruskal–Wallis tests were performed to confirm any significant findings. Finally, logistic regression was used [33] to further investigate multivariate relationships between significant independent variables and their contribution to firesetting (dichotomous dependent variable). Examination of tolerance values and variance proportions for all variables indicated no multicollinearity [34], and the high ratio of number of cases to independent variables indicated it was safe to undertake logistic regression tests [35].

Results

Approximately 88% of the sample fully completed questions relevant to this study. Sociodemographic characteristics and prevalence of firesetting and antisocial behaviour (ASB) are presented in Table 1.

Firesetting and ASB are 2–3 times more prevalent in boys than girls, although similar proportions of firesetting boys (56%) and firesetting girls (57%) are classified as serious ASB (7+ acts).

Given the known strong association between firesetting and ASB, the sample was grouped to aid elucidation of effects uniquely

associated with firesetting alone. Thus all firesetters are compared to all non-firesetters (Fire vs. NoFire), and firesetters with serious ASB are compared to non-firesetters with serious ASB (Fire + SASB vs. NoFire + SASB). Differences between groups were investigated for sociodemographic (not significant) and other dichotomous variables assessing extreme ASB (10+ acts), other risk-taking behaviour, drug use, suicidality, abuse and parental structure. Significant results are presented in Table 2.

First, large differences are found between firesetters and non-firesetters for both boys and girls. More firesetters are classified as 'extreme' ASB, compared to non-firesetters (boys: 43% vs. 3%; girls: 37% vs. 1%). Firesetters compared to non-firesetters engage in more serious drug use (boys: 37% vs. 7%; girls: 57% vs. 8%); high risk-taking (boys: 51% vs. 16%; girls: 60% vs. 8%); suicidal thoughts (boys: 40% vs. 15%; girls: 70% vs. 26%) and suicidal plans (boys: 27% vs. 6%; girls: 35% vs. 14%).

Table 1. Prevalence of firesetting and antisocial behaviour

	Boys n (%)	Girls n (%)
n	1442	1154
Born in Australia	1338 (92.8%)	1075 (93.2%)
English main language spoken at home	1386 (96.1%)	1111 (96.3%)
Aboriginal and Torres Strait Islander origin	17 (1.2%)	7 (0.6%)
Firesetters		
Yes (Fire)	153 (10.6%)	35 (3.0%)
No (NoFire)	1220 (84.6%)	1074 (93.1%)
Antisocial behaviour (ASB) [†]		
Serious scores ≥ 7 (SASB)	195 (13.5%)	70 (6.1%)
Extreme scores ≥ 10	92 (6.4%)	22 (1.9%)
Firesetters and serious antisocial behaviour (Fire + SASB)	86 (5.9%)	20 (1.7%)
Not firesetters and serious antisocial behaviour (NoFire + SASB)	107 (7.4%)	48 (4.2%)

[†]Serious' scores ≥ 7 , cut-off at mean +SD; 'extreme' scores ≥ 10 , cut-off at mean +2 SD.

Table 2. Differences on dichotomous measures comparing firesetters (Fire) to non-firesetters (NoFire); and firesetters with serious antisocial behaviour (Fire + SASB) to non-firesetters with serious antisocial behaviour (NoFire + SASB)

Group 1 vs. Group 2	Pearson's χ^2 [†]			
	Boys	Boys	Girls	Girls
	Fire vs. No Fire	Fire + SASB vs. No Fire + SASB	Fire vs. No Fire	Fire + SASB vs. No Fire + SASB
Measure				
Serious ASB [†]	333.6	–	179.1	–
Extreme ASB [†]	323.5	20.2	229.8	13.8
High risk-taking [†]	108.1	NS	108.9	NS
Serious drug use [†]	124.3	8.8**	101.5	NS
Extreme drug use [†]	110.5	5.1*	101.1	NS
Failing school	15.5	NS	28.6	7.8**
Suicide thoughts	52.7	NS	31.2	NS
Suicide plans	78.2	12.1**	12.6	NS
Suicide threats	40.7	NS	13.5	NS
DSI	60.7	NS	16.7	NS
Suicide attempt	60.6	5.0*	11.1**	NS
Physical abuse	16.7	NS	20.9	NS
Sexual abuse	25.9	6.0*	15.5	NS
Parents live apart	4.3*	NS	7.4*	NS

[†]Pearson χ^2 significance $p < 0.001$ except ** $p < 0.01$; * $p < 0.05$; NS not significant; [†]mean +SD cut-off for 'serious' and 'high', mean +2 SD cut-off for 'extreme'; ASB, antisocial behaviour; DSI, deliberate self-injury.

Second, fewer and smaller significant differences are found between firesetters with serious ASB and non-firesetters with serious ASB. In boys, differences are for measures of extreme ASB, serious and extreme drug use (scores of 5+ and 8+ on drug usage scale), suicide plans and attempts, and experiences of sexual abuse. In girls, differences are for extreme ASB and perception of academic failure.

Means and significant group differences (ANOVA) on measures of family functioning, parental and individual characteristics are presented in Table 3.

Significant differences between firesetters and non-firesetters are found for all measures in boys, and all but one measure in girls. Family dysfunction, lack of 'mother care' and 'father care', depressive symptomatology and hopelessness are most strongly associated with firesetting.

In contrast, when comparing firesetters with serious ASB and non-firesetters with serious ASB, no significant differences are found for boys; for girls only hopelessness is significant ($F_{1,61} = 6.4, p < 0.05$).

Logistic regression was chosen as the most appropriate multivariate method [33] to further investigate complex relationships between firesetting, ASB and other significant variables identified in univariate tests. A hierarchical regression onto firesetting as the dependent variable enabled identification of the unadjusted contribution made by the strongest predictor alone in step (i), and subsequent independent contributions by each predictor when all were included in the final model. Preliminary analysis included forward stepwise (conditional $p < 0.05$) entry of all demographic, family, parenting and individual variables; significant predictors from the preliminary analyses were entered into the final regression models; results are presented in Table 4.

Serious ASB unadjusted in step (i), is strongly associated with firesetting with odds ratios of approximately 13-fold for boys and 27-fold for girls. For boys, the addition of serious drug use in step (ii) contributes significantly to the model, concurrently reducing

the contribution by serious ASB, indicating a partial mediation of the relationship between serious ASB and firesetting. Physical abuse in step (iii) and risk-taking in step (iv) make small but significant independent contributions to the model, reducing the contribution by ASB and drug use only slightly. The final model indicates that the strongest predictor of firesetting is serious ASB, with increased odds of 7-fold, compared to low ASB.

For girls, the addition of risk-taking in step (ii) and serious drug use in step (iii) substantially reduce the contribution by serious ASB to the prediction of firesetting. In the final model, risk-taking, serious drug use and serious ASB make relatively similar contributions to firesetting with increased odds of more than 3–5-fold, compared to low ASB.

Discussion

This cross-sectional study of adolescents aged 13 years on average, found firesetting is strongly associated with serious antisocial behaviour (comprising more than seven acts similar to those required for a DSM-IV diagnosis of CD which requires only three). Our findings from this large community study support existing evidence from delinquent and psychiatric populations [10,13]. A further novel finding is that frequent use of at least three harmful/illegal drugs and frequent engagement in dangerous or risk-taking activities are also strongly associated with firesetting. Further, young adolescents who set fires are significantly more likely to have suicidal thoughts and plans, to threaten and attempt suicide, and to deliberately self-injure than non-firesetters.

Table 3. Means for continuous variables and group differences comparing firesetters (Fire) to non-firesetters (NoFire)

	Boys [†]			Girls [†]		
	Fire	No Fire	F [†]	Fire	No Fire	F [†]
Family						
General function	2.03	1.82	27.37	2.20	1.77	25.96
Maternal						
Mother care	24.71	27.30	29.02 [§]	22.94	27.94	23.93 [§]
Mother criticism	14.33	9.82	23.37	12.77	9.51	12.31
Mother overprotect	11.95	12.60	11.74**	14.51	12.52	NS
Paternal						
Father care	22.21	25.20	26.66	20.03	25.52	19.53 [§]
Father criticism	12.43	10.75	10.92**	13.00	9.69	9.06**
Father overprotect	12.95	11.41	8.03***	15.17	11.95	7.29**
Individual						
Depressive symptoms	15.87	10.70	46.29	24.06	13.27	30.39
Hopelessness	5.05	3.24	36.06	7.00	3.60	25.84
Locus of control	15.83	13.54	21.68	18.23	13.79	20.75
Self-esteem	37.96	40.98	24.38	33.82	39.19	17.56
Anxiety	5.17	3.70	19.17	7.60	4.81	11.98**

[†]Oneway ANOVA significance $p < 0.001$ except ** $p < 0.01$, * $p < 0.05$; NS, not significant; [‡]differences due to firesetting status among serious ASB group not significant for boys for all variables, and for girls for all variables except Hopelessness, $F_{1,61} = 4.5, p < 0.05$;

[§]fails homogeneity of variance check but remains significant with Kruskal–Wallis test; ASB, antisocial behaviour.

Table 4. Forward stepwise (conditional) logistic regression model (final) giving adjusted odds ratios (95% CI) for predictors[†] significantly associated with firesetting

Firesetting Boys [‡]	Odds ratio (95% CI) ***			
	Step (i) Serious ASB	Step (ii) + Serious drug use	Step (iii) + Physical abuse	Step (iv) + High risk-taking
Serious ASB	13.6 (8.9–20.7)	9.5 (5.8–15.4)	9.0 (5.5–14.6)	7.0 (4.1–11.9)
Serious Drug Use		2.4 (1.4–4.1)**	2.4 (1.4–4.1)**	2.0 (1.2–3.6)*
Physical Abuse			1.7 (1.1–2.6)*	1.7 (1.1–2.7)*
High Risk-Taking				1.9 (1.1–3.2)*
Model χ^2 (df)***	142.907 (1)	152.226 (2)	157.707 (3)	163.38 (4)
Nagelkerke R ²				0.275
Girls [‡]	Step (i) Serious ASB	Step (ii) + High risk-taking	Step (iii) + Serious drug use	
Serious ASB	27.1 (12.9–56.6)	8.4 (3.2–21.9)	4.8 (1.7–13.4)**	
High Risk-Taking		6.2 (2.4–16.3)	4.5 (1.7–12.0)**	
Serious Drug Use			3.6 (1.3–9.5)*	
Model χ^2 (df)***	66.840 (1)	80.310 (2)	86.706 (3)	
Nagelkerke R ²			0.316	

***All significant at $p < 0.001$ except ** $p < 0.01$; * $p < 0.05$; †mean +SD cut-off for 'serious' ASB and drug use and 'high' risk-taking;
[‡]significant variables in preliminary analyses not included in final model: boys: father care, depressive symptomatology, hopelessness; girls: family dysfunction; ASB, antisocial behaviour.

They are also significantly more likely to report feelings of depression and hopelessness, to have experienced sexual and physical abuse, and to come from dysfunctional families where parental care is perceived as low.

To determine whether these characteristics are intrinsic to firesetting alone, or are part of a wider spectrum of antisocial behaviour, the subset of adolescents who reported serious antisocial behaviour was investigated further, and firesetters and non-firesetters within this group were compared. There are fewer, although some significant, differences. More firesetting boys and girls reported extreme antisocial behaviour comprising a wider repertoire of antisocial acts (10 or more) than serious antisocial behaviour (seven or more). Boys alone reported more serious and extreme drug use, more suicide plans and attempts, and a history of sexual abuse. Girls alone reported more perceived failure in school. These findings indicate the severe pathology and low self-image of the firesetting group, over and above their antisocial behaviour status. Of particular note, family functioning and parental care, as perceived by the adolescent, appear to be unrelated to firesetting status among seriously antisocial adolescents.

When all family, parenting and individual factors are considered together (in separate stepwise regression models for boys and girls), serious antisocial behaviour in boys is strongly associated with firesetting, with increased odds of 7-fold, compared to not serious antisocial behaviour. Serious drug use, high risk-taking behaviour and reported physical abuse make independent though smaller contributions (less than 2-fold). In

contrast, in girls, serious antisocial behaviour, high risk-taking and serious drug use all make similar independent contributions to firesetting, with increased odds of 3–5-fold, compared to not serious antisocial behaviour. High risk-taking comprises at least nine risky or dangerous activities undertaken 'sometimes' as well as two or more done 'often'. A possible interpretation is that firesetting in girls is more indicative of drug-induced thrill-seeking, rather than destructive or anti-authoritarian behaviour which is more indicative of boys.

A limitation is the single item assessment of firesetting, which lacks information on severity and frequency. The question stipulates a 'public place' with motives of 'fun', thus attempting to establish mischievous intent without regard for consequences. However, it may have been misinterpreted, e.g. as meaning a family barbecue at the local park. Second, though the sample is large, small numbers of firesetting girls may have resulted in non-significant group comparisons. Third, self-report limits substantiation of facts, in contrast to other in-depth investigations [20], casting doubt on our negative findings regarding perceived parenting style and family function.

Conclusion

Our study reveals an association between firesetting and serious antisocial behaviour. After controlling for antisocial behaviour, physical abuse in boys, use of harmful/illegal drugs and risk-taking in boys and girls are independent contributors to firesetting. Though family

dysfunction, depressive symptoms and hopelessness do not contribute independently their clinical presentation should not be overlooked. Univariate associations indicate that a history of sexual abuse and suicidality may also present clinically.

The study supports the utility of early detection. If our analysis is credible, and continuity between youthful firesetters and adult arsonists occurs [7], discovery of severely antisocial young people who light fires demands clinical assessment and intervention.

Acknowledgement

The research was supported by the South Australian Health Commission.

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