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Female arsonists and firesetters

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Understanding the aetiology of arson and firesetting and how to assess and treat individuals who deliberately set fires is a complex process that is still very much ‘work in progress’. However, as with most forensic issues, the research literature examining *male* individuals who set fires is substantially more developed than the research literature focusing on females. To date, for example, review articles examining the concept of arson and firesetting either focus very little attention towards females (e.g., Barnett & Spitzer, 1994; Smith & Short, 1995) or focus solely on males (Gannon & Pina, 2010). The main aim of this chapter is to provide a summary overview of what is currently known regarding women who set fires. In particular, this chapter will focus on outlining key characteristics and features of women who fireset; the aetiology of female-perpetrated firesetting, and key treatment and risk relevant issues associated with women who set fires. Where possible, the available literature on women will be compared with what is currently known about males who set fires and women offenders who do not fireset. Throughout this chapter, we will generally use the term ‘firesetting’ to refer to intentional firesetting since ‘arson’ is an arguably narrow and legally constructed term that is unable to account for those whose firesetting remains unapprehended (e.g., firesetting in forensic psychiatry settings). Using the term ‘firesetter’ in relation to women may come to be especially important since women appear to be treated relatively leniently by criminal justice officials in relation to men; perhaps due to childcare responsibilities or other stereotyped preconceptions around females’ risk (Steffensmeier & Demuth, 2006; Wilbanks, 1986). Thus, many females who set a fire may not hold a conviction for ‘arson’ on record. However, taking into account clinical figures, professionals estimate that male firesetters outnumber females at a figure of around 6:1 (Stewart, 1993).

Key Characteristics and Features

Socio-demographic Features

Many of the socio-demographic features noted in male firesetters who come to our professional attention (see Gannon & Pina, 2010 for a review) are similar to those noted for females. For example, research suggests that female firesetters who come to professionals' attention—like other female offenders—are typically characterised by low average IQ (Noblett & Nelson, 2001; Stewart, 1993; Tennent *et al.*, 1971), low socio-economic status and poor education (Harmon *et al.*, 1985; Stewart, 1993; Tennent *et al.*, 1971; Wachi *et al.*, 2007). Female firesetters are also generally noted as being primarily of Caucasian ethnicity (Noblett & Nelson, 2001; Puri *et al.*, 1995) and typically being aged from their mid 20s (Bourget & Bradford, 1989) to their late 30s (Wachi *et al.*, 2007).

Developmental Context

Female firesetters appear to experience developmental backgrounds that are characterised by negative and labile features including physical, sexual, and emotional abuse, negligent parenting and separation from one or other genetic parent (Dickens *et al.*, 2007; Harmon *et al.*, 1985; Hickle & Roe-Sepowitz, in press; Lewis & Yarnell, 1951; Puri *et al.*, 1995). These features appear similar to those observed in male firesetters and other female offenders (Bennett & Hess, 1984; Blanchette & Brown, 2006; Bradford, 1982; Lewis & Yarnell, 1951; Puri *et al.*, 1995). However, of the small number of studies that have compared female firesetters' childhoods with other female offenders, two discrepancies have been noted (see Gannon, 2010): (1) female firesetters appear more likely to have been separated from one or both genetic parents (Stewart, 1993; Tennent *et al.*, 1971), (2) female firesetters appear more likely to have experienced sexual abuse or premature sexual interactions (Noblett & Nelson, 2001; Stewart, 1993; Tennent *et al.*, 1971). There is very little research directly comparing female and male firesetters. Some research does, however, suggest that female firesetters are more likely to have been sexually abused as children (Dickens *et al.*, 2007). The wider research literature also suggests that female offenders—relative to males—are likely to

hold more pervasive developmental experiences of abuse (Blanchette & Brown, 2006).

Clinical Features

Psychopathology associated with fire. A key psychopathology often used interchangeably with firesetting is *pyromania*. Pyromania is defined by the DSM-IV-TR (American Psychiatric Association; APA, 2000) under the category of impulse control disorders not otherwise specified and is dependent upon establishing the following criteria: (i) deliberate and repeated firesetting, (ii) tension or arousal prior to firesetting, (iii) fascination with fire, its consequences, and fire paraphernalia, (iv) enjoyment, satisfaction or relief following partaking in, or witnessing, firesetting events. Furthermore, the firesetting must not be motivated by economic gain, socio-political ideology, crime concealment, anger or revenge, or intended enhancement of residential conditions. Neither should the firesetting be associated with impaired judgment (e.g., delusions, intoxication, dementia) or be explained by the psychiatric diagnoses of conduct disorder, mania, or antisocial personality disorder. Thus, a diagnosis of pyromania is reserved only for individuals who set fires out of intense preoccupation with fire to the exclusion of all other motivating factors.

Perhaps unsurprisingly, given this specific criteria, pyromania is rarely diagnosed in either male or female firesetters (Dickens *et al*, 2007; Leong, 1992; O'Sullivan & Kelleher, 1987; Richie & Huff, 1999). For example, Bourget and Bradford (1989) reported finding only 1 female and 2 male pyromaniacs in their groups of 15 female and 77 male psychiatrically-referred firesetters. However, commentators in the area (e.g., Mavromatis, 2000; Moore & Jefferson, 2004) and the DSM-IV-TR (APA, 2000) typically describe pyromania as being less prevalent in females relative to males at a ratio of around 1:2 (DSM-IV-TR; APA, 2000; Howell & Watson, 2005). Nevertheless, it is unclear how such conclusions have been drawn since a variety of published studies highlight rather variable findings regarding pyromania diagnoses or features: no evidence of pyromania in males and females (Geller & Bertsch,

1985; Leong, 1992), higher pyromania in females relative to males (Grant *et al.*, 2007), and higher pyromania in males relative to females (Dickens *et al.*, 2007; Lochner *et al.*, 2004). However, such studies typically operationalise pyromania in differing ways and use arguably unrepresentative sampling techniques making it incredibly difficult to draw definitive conclusions.

Other psychopathology. It is not unusual for professionals and psychiatrists to document general psychopathological diagnoses in female firesetters (Barnett & Spitzer, 1994; Bourget & Bradford, 1989; Harmon *et al.*, 1985). Common diagnoses include *affective disorders* (Bourget & Bradford, 1989; Dickens *et al.*, 2007; Stewart, 1993), *schizophrenia* (Harmon *et al.*, 1985; Leong, 1992; Tennent *et al.*, 1971) and *substance abuse* (Bourget & Bradford, 1989; Harmon *et al.*, 1985). Unfortunately, however, very few researchers appear to have compared such psychopathologies with that exhibited in other relevant comparison groups (e.g., male firesetters or general female offenders); although there are some exceptions (Anwar *et al.*, 2009; Bourget & Bradford, 1989; Dickens *et al.*, 2007; Enayati *et al.*, 2008; Stewart, 1993; Tennent *et al.*, 1971). In an early study, Tennent *et al.* (1971) examined psychopathologies recorded over a five-year period for inpatient female firesetters and a comparison group of female inpatients. Both groups displayed similar levels of diagnoses for schizophrenia (approximately 30%) and depression (approximately 9%). Finally, although psychosis appeared to be more prevalent in the firesetting group relative to the comparison group (52% vs. 39%), this difference was not statistically significant. In a recent study, Enayati *et al.* (2008) examined psychiatrically referred male and female firesetters ($N = 214$; 28% of whom were female) and compared them with violent offender referrals on psychiatric disorder diagnoses using DSM-IV criteria. Male and female firesetters could not be differentiated on Axis I or II diagnoses. However, relative to female violent offenders, female firesetters were found to exhibit higher diagnoses of learning disability (8.5% of firesetters

vs. 2.6% of controls) and alcohol use disorder (25.4% of firesetters vs. 14.4% of controls). In a comparatively rare prison study, Stewart (1993) compared psychiatric diagnoses acquired via file and self-report interview for female firesetters and a comparison group of female offenders. In this study, both groups were found to exhibit similarly high diagnoses of *substance abuse* (44.4% of firesetters and 46.4% of comparisons), *depression* (37% of firesetters and 28.6% of comparisons) and *schizophrenia* (33.3% of firesetters and 25% of comparisons). At least in this study, then, female firesetters did not appear to be discriminable from other female offenders on psychiatric diagnoses. Finally, in a Swedish study, Anwar *et al* (2009) examined 1689 individuals in Sweden convicted of firesetting (349 of who were women) for prevalence of schizophrenia. Interestingly, when these individuals were compared to a large group of general population controls, and after controlling for confounds, it was found that diagnoses of schizophrenia were greatly overrepresented in those convicted of firesetting (i.e., a diagnoses was more than 20 times more likely). Furthermore, it was women firesetters who exhibited the highest prevalence of schizophrenia since they appeared to be nearly 40 times more likely than the general population to hold a diagnosis of schizophrenia. Nevertheless, as the authors themselves note, this finding appears to mirror a gender difference found for other violent offences (see Fazel *et al*, 2009).

Personality disorder. Similarly to general psychopathology, it is common for professionals to document the presence of personality disorder in female firesetters (Coid *et al*, 1999; Harmon *et al*, 1985; Rix, 1994; Tennent *et al*, 1971). In particular, both borderline personality disorder and antisocial personality disorder appear to be commonly associated with female firesetters (Coid *et al*, 1999; Harmon *et al*, 1985). Furthermore, research suggests that, for females diagnosed with borderline personality disorder, firesetting and self-harm may share a common aetiological link (Coid, 1993; Miller & Fritzon, 2007).

Unfortunately, however, research comparing the prevalence of personality disorder in

female firesetters and other relevant subgroups is scant and underdeveloped. Bourget and Bradford (1989), for example, described findings suggesting that over half of a sample of female firesetter psychiatric referrals (58.3%, $n = 7$) held diagnoses of personality disorder compared with only 40.8% of male firesetter psychiatric referrals ($n = 31$). Nevertheless, although Bourget and Bradford appear to stress the importance of personality disorder in the aetiology of female-perpetrated firesetting, it remains unclear as to whether or not these differences were statistically significant. Furthermore, no information is provided regarding the specific subtypes of personality disorder characterising either male or female firesetters. Similarly, Rix (1994) found that approximately half of their male and female firesetter referrals held a diagnosis of personality disorder. However, it is unclear how firesetters compare statistically on diagnoses subtypes. In a study of UK female prisoners who had self-harmed, Coid *et al* (1999) reported that those who had been involved in firesetting had similar levels of borderline personality disorder diagnoses to non firesetters. What was notable, however, was that female firesetters—relative to non-firesetters—were significantly more likely to have a diagnoses of antisocial personality disorder (76%; $n = 19$ vs. 24%; $n = 12$ respectively).

In terms of general interpersonal traits, research shows that female firesetters tend to be characterised by passive personality traits and low self worth relative to female offender comparisons (Noblett & Nelson, 2001). Female firesetters also appear to hold traits of neuroticism relative to female offender and non offender comparisons (Tennent *et al*, 1971) but do not appear to differentially endorse aggressive personality traits (Noblett & Nelson, 2001).

Neurobiological deficits. Both poor cerebrospinal fluid monoamine metabolite concentrates (i.e., 5-hydroxyindoleacetic acid [5-HIAA] and 3-methoxy-4-hydroxyphenylglycol [MHPG]) and glucose metabolism irregularities have been linked to

male convictions for firesetting and firesetting recidivism (Roy *et al.*, 1986; Virkkunen, 1984; Virkkunen *et al.*, 1987; Virkkunen *et al.*, 1989). However, these links are not yet totally understood, although researchers suggest that serotonin reductions, for example, may generally increase impulsivity and risk taking (Moore *et al.*, 2002). Although female firesetters have not yet been specifically examined in studies of glucose metabolism, they have been included in some studies examining the general link between 5-HIAA concentrations and anti-social behaviour in general. In a meta-analysis of such studies, Moore *et al.* have shown that although the link is significant, effect size is reduced substantially when females are included with men in study samples. Thus, it may be that poor 5-HIAA concentrations exhibit different effects for female firesetters and this is something that clearly warrants further investigation.

Sexual pathology. Interestingly, in the nineteenth century, menstruation onset was linked not only to criminal behaviour but also to firesetting (Barker, 1994; Harry & Balcer, 1987). However, there does not appear to be any substantial empirical evidence supporting this link (see Harry & Balcer, 1987; Lewis & Yarnell, 1951). Tennent *et al.* (1971) appear to be the only researchers to have examined the presence of menstruation abnormalities in female psychiatric inpatient firesetters. In this study, Tennent *et al.* found that female firesetters—relative to female offender comparisons—were significantly more likely to hold acute dysmenorrhoea (43% of the firesetters vs. 14% of the comparisons). However, given the lack of empirical work in this area it is currently unclear whether or not menstruation problems play a role in firesetting aetiology for women.

Finally, firesetting has typically been linked to sexual fetishism (Freud, 1932) and a small number of researchers have noted that some males set fires in order to fulfill such sexual fetishes (Kocsis & Cooksey, 2002; Lewis & Yarnell, 1951). However, the literature examining female firesetters has not generally highlighted such sexual pathology as an issue

linked to their firesetting (Lewis & Yarnell, 1951).

Motivators for Female-Perpetrated Firesetting

The aetiological underpinnings of female firesetting are, as yet, poorly understood. To illustrate, there are no comprehensive theories available to specifically describe female firesetting (although see Fritzon, Chapter 2 for Fineman's 1995 or Jackson's 1987 theoretical accounts of *male* firesetting) and our understanding of the motives underlying female firesetting are based on only a small number of studies; some of which do not employ adequate controls (i.e., male firesetters). In the absence of a comprehensive theory of female firesetting, we turn our attention to studies examining the possible factors motivating female firesetting.

Motives Underlying Female Firesetting

Studies with a comparison group. In studies that have included a male firesetter comparison group (e.g., Dickens *et al.*, 2007; Lewis & Yarnell, 1951; Icové & Estépp, 1987; Rix, 1994), there appears to be some small differences in the motivators underlying female and male firesetting. For example, Rix (1994) examined the motives of 153 firesetters who were referred for psychiatric evaluation (24 of whom were female; 16%). Overall, fifteen categories were found to accommodate all of the firesetters' motivations. The three most popular motivators for females were *revenge*, (21%, $n = 5$), *re-housing* (i.e., setting a fire to promote residential relocation; 21%; $n = 5$) and *attention seeking* (i.e., firesetting to elicit help or attract attention; 17%, $n = 4$). The three most popular motivations for males were *revenge* (33%, $n = 42$), *excitement* (12%, $n = 16$) and *vandalism* (10%, $n = 13$). Thus, *revenge* appeared to be the most popular motive for both male and female-perpetrated firesetting. However, for the other popular motivators, males and females appeared to differ. Here, males appeared most likely to set a fire due to excitement or as part of antisocial vandalism. Females, however, appeared more likely to use fire in order to promote their own residential

relocation, or to attract attention or assistance from others.

Icove and Estep (1987) examined a large number of arrest interviews (1,016; 50% male, 8% female, remainder unspecified) for crimes involving fire or firesetting. Icove and Estep reported that motivators for males could be categorised under the following themes: *excitement* (40%, $n = 200$), *vandalism* (27%, $n = 136$), *revenge* (18%, $n = 91$), *crime concealment* (3%, $n = 13$) and *profit* (<1%, $n = 4$). However, females did not fit into the crime concealment or profit categories and instead were classified into the themes of *revenge* (28%, $n = 40$), *vandalism* (21%, $n = 21$) and *excitement* (17%, $n = 14$). Although gender differences are not discussed in detail by Icove and Estep, they do note the preference for females to use firesetting as a form of revenge.

More recently, Dickens *et al* (2007) studied the motives of firesetters referred for psychiatric evaluation (overall $N = 167$; female $n = 38$ or 22.8%). Dickens *et al* reported that females, relative to males, were significantly more likely to set fires as a result of cry for help-type motivations (36.8% of females vs. 17.8% of males respectively). Females also appeared to be significantly less likely than males to set fires due to traits associated with pyromania (13.2% of females vs. 32.6% of males respectively). A novel aspect of this study is the statistical comparison of motivators across female and male firesetters.

Studies without a comparison group. The vast majority of researchers—even recently—have examined the motivators of female firesetters in the *absence* of any male firesetting control group (Cunningham *et al*, in press; Harmon *et al*, 1985; Noblett & Nelson, 2001; Tennent *et al*, 1971; Stewart, 1993; Wachi *et al*, 2007). For example, Harmon *et al* (1985) examined the case files of 27 US firesetters referred for psychiatric evaluation. Harmon *et al* reported two overarching categories that appeared to account for the motivators underlying female firesetting: *Anger-related* motivators (i.e., firesetting motivated by anger, with or without a target, and sometimes associated with delusions; $n = 17$), and *Cry for Help-*

related motivators (i.e., firesetting motivated by the desire to draw attention to one's circumstances or issues, often associated with mental health issues; $n = 7$). A small number of women also appeared to have engaged in firesetting that was accidental or motiveless ($n = 3$). Interestingly, Harmon *et al* noted that planned firesetting was associated with anger-related motivators.

Stewart (1993) found that just over a third of her female firesetter prisoners held multiple motives for their firesetting (e.g., revenge and mental illness). The most common motives characterising the sample, however, were *revenge* (33%, $n = 13$), *attention seeking* (20%, $n = 8$) and *instrumental* (i.e., firesetting as a way of achieving another goal such as crime concealment; 20%, $n = 8$). Far less prevalent motivators were also noted, however, focusing on *mental illness* (10%, $n = 4$), *suicide* (8%, $n = 4$) and *pyromania traits* (5%, $n = 2$). Although specific examples of each of the motives are not discussed, Stewart's study is unusual since she provides readers with inter-rater reliability figures for her motive classification (84.6% agreement).

Tennent *et al* (1971) examined 56 UK female firesetter inpatients who were associated with 111 firesetting instances. Of these, the most prevalent motivator was reported as being some conflict with authority (in hospital, prison or work; 39%, $n = 43$). Other noted motivators were *revenge* (directed at non-authority targets; 24%, $n = 27$), *attention seeking* (15%, $n = 17$) and *self-harm/destruction* (6%, $n = 7$). Unfortunately, however, more specific examples of each motive are not provided.

In a more recent UK study designed to examine the personal reflections of 9 female inpatient firesetters, Cunningham *et al* (in press) found that females tended to report firesetting in the context of *distressing life experiences* and in an attempt to *manage* such experiences. For example, the majority of female firesetters described experiencing a period of constant stress—as a result of myriad factors—prior to their firesetting and themes of

isolation were also highly evident. Some female participants appeared to use firesetting as a way of promoting change to these stressful or lonely circumstances (i.e., being taken to hospital or prison where they would be looked after), others, however, appeared to use firesetting as a means of obtaining personal satisfaction and control (e.g., a sense of achievement and pride). Some women reported setting fires with no real thought as to the consequences of their actions; seemingly as the result of impaired reasoning. This study provides an interesting insight into the personal reflections of female firesetters. However, because the aim of the study was to simply examine firesetting reflections and not motivators *per se*, it is unclear how many of the participants were motivated by each individual factor.

Some very preliminary observations have been made regarding the *targets* of firesetting committed by females. In 1951, for example, Lewis and Yarnell commented that females tended not to set fires “*beyond the limits of their own circumscribed world*” (p. 347). Put simply, females appear to set fires to property related to themselves in some way rather than unknown targets. Other research appears to support this basic premise (Bourget & Bradford, 1989; Harmon *et al.*, 1985; Stewart, 1993; Tennent *et al.*, 1971; Wachi *et al.*, 2007). To illustrate, Bourget and Bradford found that Canadian female firesetter psychiatric referrals selected a target “*invested with emotional meaning*” (p. 298) and Wachi *et al.* found that Japanese female firesetters committed their offences in or in close proximity of their place of residence.

In summary, the literature examining the reasons for female-perpetrated firesetting is scant and underdeveloped. There are no comprehensive female-specific theories designed to explain the onset or maintenance of firesetting, and, in their absence, we have examined the range of studies investigating the possible motivators underlying female-perpetrated firesetting. Overall, our examination of the literature shows that there do not appear to be *incomparable* differences across female and male firesetters. Nevertheless, in studies that

include a male firesetter comparison group cry for help-type motivators appear to be highly prevalent in female firesetters relative to males.

Risk and Treatment Issues

There appear to be few treatment programmes for adult firesetters generally (see Palmer *et al.*, 2007) and although attempts are now being made to develop standardised programmes for males (see Hollin, 2011), there are no standardised programmes for females. There appear to be two main issues underlying the lack of treatment for firesetters generally and these issues appear to be particularly exacerbated for females. First, there is very little information examining recidivism in relation to apprehended firesetting. Thus, knowledge of how such recidivism may vary as a function of gender is conspicuously absent. Second, very little information is known about risk factors for firesetting in males or females and so it is unclear which factors would require targeting to reduce future acts of this nature. Some highly relevant questions in relation to risk concern: (1) Do females recidivate at a rate that warrants specific assessment and treatment of their firesetting activities?; (2) Is this recidivism notably different from that reported for males?; and (3) What types of risk factors are specifically related to firesetting.

Recidivism

In terms of recidivism for firesetting, Rice and Harris (1996) have reported that base rates of firesetting reoffending in mentally disordered males is about 16% over a 7.8 year follow-up ($N = 208$). However, other studies—notably those that have been critiqued methodologically (see Brett, 2004) — have suggested higher figures in the region of 28% (Geller *et al.*, 1992; Lewis & Yarnell, 1951). Thus, the yardstick with which to compare figures for female firesetting recidivism is extremely poor. In the few studies that have examined females in relation to this issue, the low numbers of females examined relative to males (e.g., Soothill & Pope, 1973) make it almost impossible to compare female recidivism

rates adequately. Furthermore, one of the only studies to examine the recidivism of females *prospectively* (Lewis & Yarnell, 1951) is extremely old and used such poor recidivism criteria that the results (i.e., 13% over 15 years) may be unreliable to use as key benchmarks in the literature.

Because of the lack of rigorous information relating to prospective measures of female firesetting recidivism, an examination of the proportions of females who engage in multiple firesetting behaviours may be somewhat informative. However, an examination of such studies reveals significant variation across samples (i.e., around 11% to 79%; see Brett, 2004). To illustrate, Harmon *et al* (1985) found that just 3 (or 11%) of their psychiatric referrals for firesetting had previous firesetting convictions on file. At the other extreme, however, Tennent *et al* (1971) found that the majority of their female firesetter psychiatric inpatients (79%) reported multiple firesetting acts. Undoubtedly, the various sampling sources, methodologies, and differing criteria used to define and record firesetting behaviours inevitably lead to wildly differing estimates across studies. In a more recent retrospective study, however, Dickens *et al* (2009) examined the criminal histories and files of 167 UK firesetter psychiatric referrals (38 of whom were female; 23%). Interestingly, in this study, Dickens *et al* reported findings suggesting that gender was not a variable that predicted repeat firesetting. Nevertheless, of interest was the finding that repeat firesetting occurred in nearly half of the sample overall (49%, $n = 81$). Other studies have compared male and female firesetters' previous acts of firesetting and found that multiple firesetting appears to be relatively comparable across gender with approximately one in five of both males and females likely to have a history of firesetting (Geller & Bertsch, 1985; Puri *et al*, 1995; Rix, 1994).

To summarise, we know very little about the recidivism of females in relation to firesetting. However, the existing research that we have examined suggests that (1) the figure

may be quite substantial and (2) the figure is likely to be comparable with the figures suggested for males. Thus, early figures suggest that the recidivism of females in relation to firesetting is an issue likely to warrant specialist treatment. Nevertheless, until more rigorous studies are developed to examine this issue it is impossible to ascertain exactly the extent of the problem regarding female firesetter recidivism.

Risk Factors

An issue highly associated with recidivism is knowing the exact risk factors to pinpoint in order to reduce future risk of firesetting offences. As noted in the literature (i.e., Gannon & Pina, 2010; Dickens *et al*, 2009), there is little information available for professionals regarding how to predict or establish severity of risk for males or females who have engaged in firesetting. For example, there are no published risk assessment tools developed to assess risk of firesetting, although some schedules of risk for violence include such offences within their general assessment (e.g., HCR-20; Webster *et al*, 1997). In addition, the majority of research examining factors predictive of firesetting have generally focused on either male children/adolescents (e.g., Kolko *et al*, 2006) or adult psychiatric males (e.g., Rice & Harris, 1996). In a recent exception, Dickens *et al* (2009) used predictive regression analyses to examine the key features of male and female firesetter recidivists. Amongst other features, Dickens *et al* reported that recidivist firesetters were characterised by features such as: being *young, single*, having some developmental history of *family violence or substance abuse, early onset of criminal convictions, lengthier prison stays, relationships troubles, and property offence pre-convictions*. Dickens *et al* also discovered that male and female firesetters who were coded as having lit a dangerous fire (i.e., one that would likely cause significant harm/damage) appeared no more likely to recidivate than seemingly less dangerous firesetters. Dickens *et al*'s overall findings are valuable since they not only contravene intuitively appealing assumptions about firesetters (i.e., that those who

light the most dangerous fires will be those most likely to offend) but also suggest that those most likely to recidivate are property offenders who experience developmental adversity and problems with later relationships. Dickens *et al* also report that more recidivist firesetters experienced anxiety or excitement associated with their firesetting. Consequently, it appears that interest in, sensory reinforcement from, or excitement around fire is likely to be one type of risk factor for both male and female firesetters (see also Rice & Harris, 1996).

In summary, there is a distinct lack of research examining the likely risk factors and associated treatment needs of either male or female firesetters. In order for effective risk-assessments and treatment programmes to be developed, further research needs to explore both static and dynamic factors of risk that increase the likelihood of repeat firesetting. Furthermore, because of the paucity of work in this area, there is little attention paid to females *specifically* in relation to these issues. Nevertheless, based on our review of the literature, we would suggest that developmental adversity might represent one set of stable risk factors for female firesetting. Furthermore, in relation to dynamic risk factors, or factors directly amenable to treatment, general mental illness and factors relating to the motivators underlying firesetting (i.e., poor communication) would appear to be suitable variables for future study in relation to female firesetting more generally.

Treatment Initiatives

Given the paucity of research examining the recidivism rates or risk factors associated with female firesetting it is perhaps unsurprising that there is no standardised treatment programme for either male or females who have set fires. To date, the only published descriptions of treatment for female firesetters have described either tailored treatment for unusual cases (e.g., Awad & Harrison, 1976) or treatment of women in psychiatric facilities using cognitive-behavioural frameworks (e.g., Swaffer *et al*, 2001; Taylor *et al*, 2002; Taylor *et al*, 2006). For example, Swaffer *et al* (2001) have described their UK treatment group for

mixed mentally disordered patients ($N = 10$; 6 of whom were female) made up of 62 group sessions covering the following factors: (1) fire danger, (2) coping skills (e.g., social skills, assertiveness, conflict resolution), (3) reflective insight (e.g., self esteem and self concept) and (4) relapse prevention work. In addition to the group work, Swaffer *et al* (2001) describe individualised treatment for the patients and also individualised psychometric treatment needs assessment examining fire interest, anger, depression, self esteem, and assertiveness. A detailed case study description of one of the female patients is provided to illustrate overall effectiveness of the intervention. Nevertheless, a detailed analysis of clinical change is not provided due to the small numbers of patients within the programme.

A group programme for intellectually disabled patients in the UK has been described by Taylor *et al* (2002). This programme appears to have been implemented separately for male and female patients although the treatment appears to have examined the same basic content over 40 sessions. This content included fire education, analysis of offending patterns, a focus on coping skills and family adversity, and general relapse prevention. Nevertheless, although Taylor *et al* report some encouraging post-treatment progress using psychometric measures, males and females are not compared and it would perhaps be misleading to do so given the small numbers of patients involved in the intervention ($N = 14$).

In a more recent study, Taylor *et al* (2006) describe a very similar treatment programme to that outlined by Taylor *et al* (2002). In this case, however, the treatment clients were six intellectually disabled female psychiatric inpatients. Following treatment completion, Taylor *et al* (2006) reported post-treatment progress on self-esteem (measured via the *Culture Free Self Esteem Inventory*, Battle, 1992), anger (measured via the Novaco Anger Scale; Novaco, 1994), depression (measured via the Beck Depression Inventory – Short Form; Beck & Beck, 1972), and goal attainment in relation to treatment needs (measured via the Goal Attainment Scales; Kiresuk & Sherman, 1968). However, of note was

the fact that the only *significant* treatment progress related to goal attainment in relation to treatment needs. However, overall treatment did look promising as described via individual case reports and it is possible that the small number of patients involved precluded meaningful statistical significance testing.

To summarise, there is evidence of encouraging individual treatment initiatives for female firesetters in the UK. However, to date, these initiatives appear to relate only to women in psychiatric settings and very small sample sizes preclude meaningful interpretation of the overall success of each treatment programme. Clearly, it will take larger sample sizes and more sophisticated designs and follow up methods (i.e., the addition of a matched comparison group) in order for us to further understand what actually *works* regarding the treatment of female firesetters.

Future Research and Treatment Initiatives

The overview of female arson and firesetting research provided in this chapter highlights a number of areas in need of research. A prominent need is to gain more understanding of the overall features and characteristics of females who start fires in relation to (1) their male firesetting counterparts and (2) females who do not start fires. Furthering our understanding of the factors associated with female-perpetrated firesetting will inevitably lead to increased professional knowledge of this specialist group and of the most suitable interventions to implement with them. Particularly pertinent areas for future investigations concern the need to investigate the specific and general psychopathologies associated with female firesetters (i.e., the prevalence and nature of pyromania and other mental disorders in female firesetters relative to appropriate comparison groups). A further highly pertinent research need revolves around the requirement for prospective studies of firesetting recidivism that examine the base rates of firesetting for females relative to males. Examining these base rates will enable researchers to more effectively ascertain the range of factors

predicting female-perpetrated firesetting so that these factors may be utilised in effective and gender-responsive treatment programmes.

In terms of treatment needs, our overview of the research literature suggests that male and female firesetters may share similar factors (e.g., childhood adversity, personal characteristics and motivators for firesetting). Thus, it may be reasonable to suggest that male and female firesetters would both benefit from attending flexible treatment that emphasises (1) analysis of offending behaviour, (2) the links between childhood experiences and adult functioning (e.g., coping, conflict resolution, communication), (3) attitudes supporting firesetting, (4) preoccupation or interest in fire and (5) general relapse prevention work. However, based upon the treatment targets established for female offenders more generally (see Covington & Bloom, 2006; Koons *et al.*, 1997) it could be hypothesised that in order for firesetter treatment to be responsive to the needs of females it would need to address previous victimisation (particularly in relation to men) and the effect of such victimisation on communication skills, self esteem, and coping. Based on our review of the motivators underlying female-perpetrated firesetting, it may also be the case that females require specific work examining the development of personally satisfying and supportive relationships that enable women to gain attention in a pro-social manner. A particularly appealing rehabilitation model to use in this respect would be the Good Lives Model (Ward & Stewart, 2003) which conceptualises risk factors or treatment needs as obstructions (either due to lack of skills or external supports) that a person experiences which limit their abilities to obtain the human experiences essential for psychological well-being (e.g., satisfactory relationships).

Another topic that may be particularly relevant for female firesetters in treatment is an exploration of the link between self-harm and firesetting. Given that self-harm and firesetting may share similar aetiologies—including an inability to communicate trauma and needs successfully (see Coid *et al.*, 1999; Liebling *et al.*, 1997)—exploring and learning new

communication styles may be essential for any form of comprehensive rehabilitation for female firesetters who also evidence self-harm in their history. In relation to trauma, it is worth noting that treatment effectiveness for female offenders generally is believed to be optimised in all female groups (see Ashley *et al*, 2003; Lex, 1995). Consequently, females who are likely to divulge abuse at the hands of males are likely to feel safer exploring their past in an all-female treatment group.

Conclusions

In this chapter, we have explored the main features, characteristics, psychopathologies and treatment needs of female firesetters. Our examination of the empirical literature suggests that female firesetters are typically neglected in research and are rarely studied within their own right or are included in large general mixed sex cohorts and are not analysed or discussed separately. Thus, few studies have made adequate comparisons between male and female firesetters or female firesetters and the general female offender population. Because of this it is almost impossible to draw definitive conclusions regarding the features and characteristics of female firesetters in relation to male firesetters and female offenders generally. In light of these caveats which are hindering professionals' abilities to assess and treat female firesetters in an empirically informed manner, we urge researchers to carefully consider the design of any study that includes female firesetters. In particular, in studies with a sole focus on female firesetters, relevant comparison groups should be included where possible to help ascertain which features are unique to female firesetters. Furthermore, in larger cohort studies of male and female firesetters, time should be taken to include sex-based analyses and comparison. Only by making such comparisons will the research field begin to hold a more empirically-informed and rigorous understanding of female-perpetrated

firesetting.

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