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The fire – fire user relationship: a grounded theory of criminalised fire users' experiences

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ABSTRACT

Progress has been made in the psychological study of arson and firesetting but existing research is predominantly offence-focussed, meaning that the nuances of humans' relationship with fire have not been fully captured. This study explored the fire – fire user relationship from the perspective of an incarcerated sample. Semi-structured interviews were conducted with 12 adults with arson convictions and/or a record of institutional firesetting. Data analysis was based on the principles of grounded theory. Three themes were identified, underpinning participants' life-long psychological relationship with fire, namely: 1) Immediate Gratification, 2) Self-Concept, and 3) Self-Preservation. This study is the first to explore the lifelong fire – fire user relationship. Implications are discussed, most notably in relation to how findings could inform youth fire-setting prevention initiatives.

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KEYWORDS Firesetting; arson; forensic psychology; qualitative; grounded theory; evolution

Introduction

Psychological literature addressing the misuse of fire most commonly refers to either 'arson' or 'firesetting'. The former is a legal term (Daykin & Hamilton, 2012), whereas the latter constitutes 'all deliberate act of setting fire that are not recreational in nature' (Gannon & Barrowcliffe, 2012, p. 2). Within this paper the term firesetting (rather than arson) is used when citing existing literature, however, the author argues for a broader term – fire use – which will also be applied in reference to the current study.

Firesetting is a worldwide problem (Tyler et al., 2019) but psychological literature is limited (Sambrooks & Tyler, 2019), when compared to what is known about other forms of offending. That being said, in the past 15 to 20 years the knowledge base has grown with research addressing topics such as recidivism (Ducat et al., 2015; Edwards & Grace, 2014) and characteristics of

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firesetters (Gannon et al., 2013; Ó Ciardha et al., 2015). In addition, a body of research using community samples has emerged, which has circumvented the under-representativeness of prison-based studies (for examples see Gannon & Barrowcliffe, 2012; Barrowcliffe & Gannon, 2015, 2016). The growth in high quality research has been valuable in shaping our theoretical understanding of firesetting, for example, through informing the multi-trajectory theory of adult firesetting (M-TTAF; Gannon et al., 2012a) and contemporary treatment (see Sambrooks & Tyler, 2019). However, there are areas where further work is required.

Firstly, although humans' relationship with fire is complex and life-sustaining, it has seldom been acknowledged in the psychological literature. More can be learnt about this through reference to inter-disciplinary work, namely from evolutionary anthropology and sociology. Charles Darwin considered anthropogenic fire use to be '... probably the greatest [discovery], excepting language, ever made by man' (Darwin, 1871, p. 137) and some authors propose that fire played a part in evolution by natural selection. For example, according to Wrangham (2010) the discovery of fire meant our ancestors could cook their food, which resulted in a greater net energy gain. Consequently, we evolved to have smaller digestive systems and a larger cranial capacity. Additionally, fire helped to keep predators at bay (Clark & Harris, 1985) and enabled our ancestors to produce tools (Fessler, 2006; Pyne, 1998). Sociological perspectives also offer insights on fire use. For instance, Goudsblom (1992) notes that fire has always been a focus of group life because of the comfort and security it offers and Presdee (2005) suggests that our emotions and fire are intertwined, and that fire plays an important role in human identity.

A second issue with the existing literature is that psychological research on fire is largely offence-focussed, which is arguably limited because there are manifold appropriate uses of fire, such as the lighting of candles. The author proposes that fire use is best conceptualised as sitting along a continuum – the continuum of fire use (CoFU; Horsley, 2021). At one end of this sits 'criminalised' behaviour (i.e. that which fails to adhere to social rules and/ or the law) and at the other end sits 'non-criminalised' (i.e. behaviour which adheres to social rules/ norms and the law). These terms capture how behaviour is appraised by society, in addition to the legal system, which aligns with what has been written about the social construction of legality in criminology (Andrews & Bonta, 2014), anthropology (Heyman, 2013) and sociology (Botoeva, 2019).

Finally, qualitative research is limited, which marks another gap in the literature. Qualitative approaches have been applied in the study of firesetting offences (Barnoux et al., 2015; Tyler et al., 2014), but there is yet to be a qualitative study focussing exclusively on individuals' lifetime relationship

with fire. A fuller understanding of this relationship could inform approaches to firesetting reduction and prevention.

Rationale

This study explored the fire – fire user relationship in an incarcerated sample. It was underpinned by the CoFU conceptualisation (Horsley, 2021) and so extends upon previous research by focussing on non-criminalised forms of fire use, as well as criminalised. The study aimed to develop a grounded theory based on the following research question: what psychological mechanisms underpin criminalised fire users' relationship with fire?

Methods

This study was a non-experimental qualitative design. The constructivist approach to grounded theory informed data collection and analysis (Charmaz, 1990). Participants were recruited from three prisons in the UK; two female establishments and one male establishment. Ethical approval was granted by the National Offender Management Service (NOMS) National Research Ethics Committee.

Guidance from Robinson (2014) was followed to determine the nature of the desired sample. To be included, participants had to have an arson conviction and/ or institutional firesetting on record. For participant recruitment, a named contact point was designated by the governor/ deputy governor of each prison with whom the researcher liaised. The contact point identified suitable participants using the prison national offender management information system (PNOMIS). Information about the study was sent to potential participants. Those willing to take part signed a consent form and returned it to the contact point.

An indicative interview schedule was devised in line with the research question and based on guidance from Charmaz (2014). Face to face interviews were semi-structured, audio-recorded and transcribed verbatim. Interviews ranged in length from 54 to 156 minutes, with an mean of 85 minutes ($SD = 20$). Data collection ceased when theoretical saturation was reached as described by Birks and Mills (2015). Theoretical saturation is the point at which no new topics are noted in participants' narratives. Rather, the researcher observes the same topics repeatedly and, thus, the same themes.

The sample comprised 12 convicted offenders, seven of whom identified as women and five as men. The uneven gender split reflects who was willing to take part in the study and is returned to below. The age range was 19 to 45 years, with a mean of 31 ($SD = 9$). Participants were assigned a pseudonym.

All participants had lifetime experience of fire use, ranging from memories of coal fires in the family home to setting inhabited buildings on fire, thus spanning the length of the CoFU. Eleven participants had an arson conviction (of varying severity), one of whom had also set fires in custody. The remaining one participant had no arson conviction but an extensive history of setting fires in prison.

A systematic process of data analysis specific to grounded theory was undertaken, based on guidance from Willig (2013). All analysis was done by hand, first on a transcript-by-transcript basis. Descriptive codes were assigned to each line of the transcript, which were then sorted into descriptive categories. Descriptive categories were arranged into higher-order analytical categories and lastly into themes and sub-themes for each participant. Finally, axial coding was undertaken where data was sorted into core themes and sub-themes across all 12 participant transcripts.

Steps were taken to ensure reliability and validity of data collection and analysis. Firstly, an *audit trail* was used to systematically record the process of data collection and analysis (Schwandt, 2001). *Constant comparison* was used to identify similarities and differences between emerging categories at each stage of data analysis (Willig, 2013). In addition, the researcher adopted *reflexivity* through memo-writing, which is particularly important for a social constructivist approach to grounded theory (Charmaz, 2006). *Negative case analysis* was also employed to scrutinise inconsistencies in the data (McPherson & Thorne, 2006). A list of negative cases, i.e. descriptive codes and categories which did not, initially, fit with any of the analytical categories, was compiled and scrutinised. Some inconsistencies were deemed irrelevant to the research question, for example, where a participant named Milly commented that she is 'on medication', and so these inconsistencies were recorded in the audit trail but underwent no further analysis. Upon further review, the remaining negative cases were assigned to an existing analytical category and the rationale was recorded.

To ensure reliability in the coding process, a second rater (a practitioner forensic psychologist and researcher with a background in qualitative methods), who had no previous knowledge of the study, screened a sample of the data. The second rater was presented with 143 descriptive codes (25% of the total number of distinct descriptive codes across all 12 transcripts), along with definitions of each theme and sub-theme. Using a code book, the second rater was asked to independently decide on which theme and sub-theme each descriptive code should be assigned to. Agreement between the two raters was calculated using Cohen's Kappa (1960). Initially, the Kappa Measure of Agreement value was .63 ($p < .0005$). The researcher and second rater then engaged in a process of 'negotiated agreement' (Campbell et al, p. 306), whereby discrepancies in themes and sub-themes were explored. For some descriptive codes, this resulted in a consensus being reached but for others

the discrepancies in judgment remained and the researcher's coding prevailed. It is noteworthy that, of all disagreements, over two thirds were only at the sub-theme level. The final Kappa Measure of Agreement value was .91 ($p < .0005$), which is considered very good (Peat, 2001, p. 228).

Results

Three core themes were identified (Immediate Gratification, Self-Concept and Self-Preservation), each with sub-themes. The first two themes reflect participants' lifelong relationship with fire, whereas the last theme, Self-Preservation, relates to this relationship specifically post-reprimand. The themes apply to all participants, irrespective of the type of arson conviction and/ or institutional fire setting.

Immediate gratification (IG)

This relates to the immediate and transient effects of fire on participants' emotional state. These effects are beneficial and reinforcing. IG is comprised of two sub-themes:

Arousal

This sub-theme captures the immediate impact of fire use on participants' physiological arousal level. It relates to a broad range of fire uses. Participants make reference to stimulating qualities of fire, as noted by Ellen who reflects on setting fire to a field: *'it looked amazing to see the fire burning. It was amazing to see all the flames'*. The acoustic appeal of fire is also conveyed by Rory: *'you put an aerosol can on [a fire]. It makes a big bang and it's exciting'*. Many participants note physiological changes whilst engaging with fire, such as Clarissa: *'my heart just races and my stomach's full on giddy. I'll get really giddy and my heart will be pumping'*.

In addition to stimulation, fire use (mostly non-criminalised forms) also relaxes and calms. For example, participants recalled being in the presence of coal fires in the family home and lighting candles, as conveyed by Tia: *'it's calming; I can't run out of candles in my home because they relax me'*. Participants portray a sense of safety in fire, which also helps them to feel relaxed. For example Tyrone says: *'everything else around me crumbles. But I'm safe next to [the fire]'*, and Sherry says: *'I think I turned to [fire] for comfort 'cause I was being abused by various members of the family'*.

The Arousal sub-theme relates to the nature of participants' physiological state, whereas the next sub-theme is concerned with regulation of that state.

Release

This sub-theme relates predominantly to criminalised forms of fire use. Participants have engaged with fire as a means of releasing 'pent up' emotions, as epitomised by Viv who reflected on her arson offence: *'I was angry to the point where I didn't know what I was capable of at that point'*. Likewise, when speaking of feelings at the time of setting a fire, Clarissa states *'[I] felt angry and pissed off'*. Engaging with fire also acts as an emotional release through subjectively resolving interpersonal problems, for example, Tyrone comments: *I don't like lashing out. I like voicing myself; not aggressively but quite assertively. And [fire] makes people notice'*. In setting fires, some participants not only wanted to gain attention but were also looking for a specific need to be met, for example, Rory says: *'within prison environments, I had to set fire to my cell to get my mental health medication'*.

In summary, the IG theme relates to the transient emotional benefits of fire use. The remaining two themes are concerned with longer-term psychological state. The first of these is Self-Concept.

Self-Concept (SC)

For participants in this study, fire use has become part of who they are and is a route through which they can 'feel good' about themselves. While participants speak predominantly about criminalised fire use in this respect, there are also references made to forms of non-criminalised use. The SC theme has two sub-themes.

Identity

This relates to the role that fire has played in participants' memories and, thus, who they are. For many participants criminalised fire use was a 'normal' part of life as they grew up. Rory's first experience as a young child led to serious consequences: *'I first experienced messing around with a lighter; stood there flicking it away and, without noticing, there's a dressing gown [hanging] on the back of the door, and it's gone up in flames'*. Tony speaks here of daily occurrences on his home estate: *'there'd be empty houses on fire or there'd be cars on fire or there'd be a fire built'* and Nelly says of her home area: *'it's a rough estate. There's certain people on that estate who set people's cars on fire'*. Many participants gained first-hand experience of criminalised fire use from an early age. For example, Morris describes how he and his friends used it to combat boredom: *'just standing around a bit fed up with nothing to do so we burnt our name[s] into a fence so it goes black, like a tag'*.

In addition to influencing identity, fire has also influenced participants' self-esteem.

Self-Esteem (SE)

Fire use has, in some cases, enhanced participants' self-esteem (SE), defined here as positive or negative self-appraisal. For participants, fire use has provided a sense of togetherness, belongingness and kudos amongst peer groups. For example, both Tony and Zane speak of jumping into fires in the presence of their friends as adolescents: *'it's something that is between you and your friends -who got the closest [to the fire], bragging rights'* and *'a male bravado thing - I've got bigger balls than him'*. Participants' SE is also boosted through feeling they have 'done a good job'. Milly and Sherry, for instance, reflect on non-criminalised examples where they built and maintained fires in the family home as adolescents: *'[it] felt good cause I liked to help; I felt appreciated'* and *'I were chuffed because it would give me warmth and light in the room'*. In the latter quote, Milly alludes to the relaxing effects of fire, thus highlighting a link to the IG arousal sub-theme above, however, the emphasis here is the pride she feels at having personally created the positive effects.

The SC theme represents the largely positive effects of fire use. However, it is closely aligned with the final theme – Self-Preservation, which depicts some of the harmful psychological effects of criminalised fire use, including a 'threat' to one's self-concept in the longer-term.

Self-preservation (SP)

Participants' relationships with fire have offered psychological benefits in the past, as reflected in the previous themes. Conversely, Self-Preservation (SP) captures beliefs which participants have formed whilst in prison in order to manage the impact of the reprimand/s they have received for firesetting. It relates to the psychologically harmful effects of being labelled as an arsonist or firesetter, as alluded to by Sherry: *'who's gonna trust a person [who is convicted of arson]'*. Paradoxically, being labelled in this way may have actually perpetuated participants' criminalised behaviour (see below) as well as leading to a phenomenon known as cognitive dissonance – defined as 'the existence of non-fitting relations among cognitions' (Festlinger, 1957, p. 3). Here, the arsonist or firesetter label is inconsistent with how participants like to view themselves and how they wish to be viewed by others (i.e. as a 'good' person). This indicates a link with the SC theme (returned to below). The SP theme captures cognitive strategies employed by participants to help mitigate the psychological effect of being labelled. Two key strategies, corresponding to the two sub-themes, are discussed below.

Validation

This sub-theme represents the process through which participants assert that they no longer pose any risk of criminalised fire use. Firstly, participants self-

affirm that firesetting holds no residual temptation. For example, Milly says: *'[arson is] something that I won't be doing again'* and Zane says: *'I will never ever – whether people believe it or not – I will never ever set fire to anything ever again'*. Secondly, participants express their hatred and mistrust of fire, thus asserting that they have no desire to be near to it again, for example Tia comments: *'fire is evil in disguise; it's like the devil. It comes in many forms, like evil'*. Like many of the sample, Tia, goes on to personify fire in order to emphasise her dislike of it: *'[a candle flame] just looks really innocent, doesn't it? It's, like, really innocent on its little candle; all cute and smelling nice. If that knocked over it could just burn down a full house'*. Participants' conviction that they have no residual interest in setting a fire, along with their hatred of fire as an entity, serves as self-validation that they are no longer a risk.

Validation is one form of SP. The other, captured by the second sub-theme, is *Distance*.

Distance

This is the process through which participants seek to exonerate (distance) themselves from their criminalised fire use. Some participants deny/ excuse aspects of their behaviour. For example, Zane says: *'I'm gonna be labelled now as an arsonist. Yes, I've committed an arson attack but I'm not an arsonist. I didn't get no excitement from it. I wasn't happy about it'*, and Clarissa says: *'I've never actually set a house on fire. I wouldn't because that's going over the top'*. Participants also try to divert attention from their behaviour to the behaviour of others. For example, Rory suggests that arson is a problem which *'the government needs to look at'* and, Sherry suggests a *'lack of education'* is behind firesetting.

The fire-fire user relationship

A theoretical framework was constructed in order to demonstrate that the themes are process-orientated (from left to right in [Figure 1](#)– below), and to depict the linkages between them. The short-term and transient immediately gratifying effects of fire use (relating to the IG theme) are positively reinforcing and, thus, this prompts repeated fire use, which is represented by the cyclical process appearing to the left of the figure. Over time, repeated fire use impacts on participants' self-concept and psychological wellbeing and so the related themes are conceptualised as longer-term effects. More specifically, fire use has a positive impact on one's identity and self-esteem as represented by the Self-Concept theme. However, being labelled as an arsonist can also be harmful to the way a person perceives themselves, hence the Self-Concept and Self-Preservation themes are connected via the psychological threat mechanism.

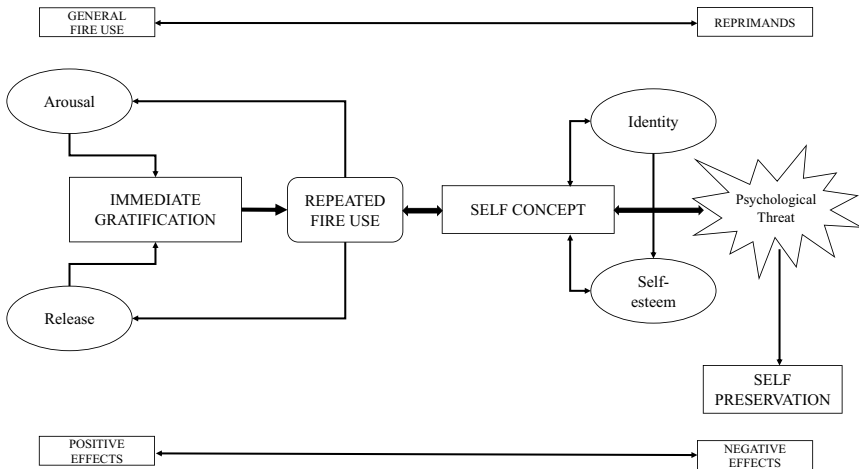


Figure 1. The fire – fire user relationship.

Discussion

It is important to note that although the data from this study highlight no obvious differences between how men and women speak about fire use, this was not systematically explored. The existing literature, alongside which the current findings are considered below, is mostly based on male samples (Gannon et al., 2012b).

Three key mechanisms (themes) characterise participants' relationship with fire. IG relates to the immediate and transient benefits of fire use on participants' emotional state. Fire serves as a stimulant and relaxant for participants, as well as helping them to 'release' negative emotions. Similar concepts are noted in the literature on firesetting (for example, see Barnoux et al., 2015), including within the M-TTAF (Gannon et al., 2012a). This suggests that emotions and emotional regulation are important in understanding fire use in criminalised populations. Encouragingly, this is a treatment target in existing firesetting programmes, such as the FIPP (Gannon, 2012; as cited in Sambrooks & Tyler, 2019). However, the current data emphasise the strength of the lure of the immediate gains of fire use, which becomes even more significant when considered from an evolutionary perspective if the argument about our relationship with fire being 'hard-wired' is accepted.

An evolutionary preference for immediate gains, alongside the notion that some offenders have deficits in self-control (Pratt & Cullen, 2000), highlights the extent of the challenge in trying to combat the immediately gratifying effects of fire when working with firesetters. This is particularly the case for those whose criminalised fire use has been continually reinforced. The potential value of early preventative strategies must, therefore, be emphasised.

Sensitising young people to the effects of fire might be helpful in reducing the lure of the immediate gains, although the right balance would need to be found to ensure that habituation to fire is achieved, rather than continual reinforcement (Murray et al., 2015).

The second theme – SC – highlights the role of fire in participants' identity and self-esteem. Reference to the latter features in existing research on fire-setting (for examples see Duggan & Shine, 2001; Gannon et al., 2013) and, thus, it is already a focus of rehabilitative approaches such as the FIPP (Gannon, 2012; as cited in Sambrooks & Tyler, 2019). Self-esteem also features in the M-TTAF; it is conceptualised as a moderator, which interacts with psychological vulnerabilities (Gannon et al., 2012a).

The connection between fire and identity is under-researched. Based on the findings of this study, fire has played a significant role in the lives of participants, which is broadly consistent with findings from Barnoux et al. (2015) who identified that 33 out of 38 firesetters reported childhood fire-related experiences (p. 54). This presents another challenge for adult rehabilitative programmes because by the time adult firesetters are in prison, their relationship with fire has already formed based on memories of personal experiences. 'Re-writing' these memories is likely very difficult, particularly if part of our affinity with fire has an evolutionary basis (Fessler, 2006; Sandgathe, 2017; Wrangham & Carmody, 2010). Again, this highlights the potential value of early interventions to enable a healthy self-concept to form from the start of life.

Lastly, this study highlights the detrimental impact of being labelled as an arsonist/ firesetter, and according to labelling theory such labels can actually perpetuate criminal behaviour (Becker, 1963, 2018; Rocque et al., 2016). To be clear, whereas fire use in general offers many positives, the labelling effect of criminalised use, specifically, is negative. The SP theme highlights the cognitive strategies utilised by participants to mitigate the psychological threat of being labelled. Similar processes are described as *cognitive distortions* within the psychological literature; defined as 'offence supportive attitudes or beliefs' (Ward et al., 1997, p. 498). Cognitive distortions have received a great deal of research attention, particularly in the field of sexual offending (for examples see Howitt & Sheldon, 2007; Pervan & Hunter, 2007) and it is thought that they might help to protect offenders' self-image (Marshall et al., 1999). Despite the conceptual overlap, self-preservation is considered a more appropriate term to describe the function of the strategies discussed by participants in this study because they are employed to protect the self.

Historically, offenders' cognitive distortions were considered to be a negative risk indicator and consequently, sex-offender treatment programmes sought to 'fix' them (Auburn & Lea, 2003, p. 281). However, self-preservation strategies are protective for participants in this study, which is broadly consistent with the view of Maruna and Mann (2006). Furthermore, it

is possible that over time they are internalised leading to a shift in participants' global identity from firesetter to 'law-abiding citizen'. Criminological work has highlighted the powerful role such a shift can play in desistance (Maruna, 2001).

Even if self-preservation strategies contribute to desistance, other aspects of participants' relationship with fire (captured in the IG and SC themes) still pose rehabilitative challenges. Again, early intervention could be the key here. If young people can form healthy relationships with fire, this could reduce the risk of criminalised fire use thus avoiding being labelled altogether.

Limitations and future directions

There is a lack of heterogeneity with respect to nationality and cultural background in the current sample. The use of fire is likely to vary greatly across different countries, cultures, races, ethnicities, societies and religions and so in the future this demographic information should be systematically collected and variations should be explored. Additionally, gender differences were not explored systematically. There is no convincing evidence of gender differences in the characteristics of firesetters (Fritzon & Miller, 2016) but men do commit more offences than women (Fritzon & Miller, 2016) and so gender differences could be explored in the future. Furthermore, the current grounded theory should be reviewed as more data are collected, for instance, on the basis of gender/ cultural differences, which could inform early intervention. For example, practitioners could tailor approaches by gender/ cultural background if useful. Future work should also explore how the current findings can add to the M-TTAF (Gannon et al., 2012a) to enhance theoretical understanding of fire-related behaviour.

Conclusion

The current findings illuminate the potential value of youth intervention programmes in shaping a healthy lifelong relationship with fire as a firesetting reduction strategy. Currently in the UK, the Fire and Rescue Service deliver fire safety education to young people but there is vast regional variation (Foster, 2020). The findings of the current research endorse the view of Foster (2020) that standardisation of these programmes should be improved, which would enable a national evaluation. In developing the content of youth intervention programmes, practitioners could draw on the findings of this study.

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Disclosure of potential conflicts of interest

No potential conflict of interest was reported by the author(s).

Data availability statement

Interview transcripts contain detailed information about participants' backgrounds, occupation/s, and criminal history from which identification might be possible. To protect anonymity full transcripts will not be made available, however extracts can be shared upon request.

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