Abstract

Purpose: Previous qualitative research by Horsley (2020) and Lee (2019) highlighted the importance of self-concept (SC) in understanding fire use. The current study, therefore, sought to further investigate the relevance of SC in non-criminalised fire use, with a view towards informing early interventions for firesetting prevention.

Methodology: In this preliminary study, 10 participants engaging in extensive, non-criminalised fire use were interviewed about their fire-related experiences and how this relates to SC. This was analysed using techniques informed by Grounded Theory.

Findings: Three core categories were identified: (i) Control; (ii) Identity; and (iii) Self-Esteem; which provide a preliminary framework for understanding how SC and non-criminalised fire use are inter-related. The core categories relate to the study aim because they are conceptualised as three elements of SC, which are strengthened through interactions with fire. The mechanisms through which the categories relate to fire use and SC are discussed.

Originality: To date, firesetting research has focused primarily on criminalised acts i.e., arson. This paper adopts a different approach and explores how and why people engage with fire in healthy and adaptive ways.

Implications: Forensic implications are discussed regarding early intervention and prevention. We argue that knowledge of non-criminalised fire use could provide a valuable blueprint for healthy fire use and, thus, feed into treatment and intervention. Given that previous research has highlighted the importance of SC in relation to how and why people interact with fire, we suggest that it should be given greater emphasis in clinical work with those thought to be at risk of firesetting.

Key words: Firesetting; Self-Concept; Identity; Self-Esteem; Control.
Introduction

In 2018, across England and Wales, 770 individuals were sentenced for arson (Ministry of Justice, 2018); but despite these numbers, firesetting behaviour remains poorly understood (Tyler et al., 2019). To date, the bulk of firesetting research has focused on identifying psychological characteristics in firesetting (i.e., criminal and/or antisocial) populations (Horsley, 2020, 2021a, 2022), including impulsivity (Labree et al., 2010), social skills difficulties (Hagenauw et al., 2015), emotion regulation difficulties (Gannon et al., 2012), and higher suicide rates (Ritchie & Huff, 1999).

Existing theoretical work has also focused on firesetting as an antisocial behaviour. The most contemporary theory of adult firesetting is the Multi-Trajectory Theory of Adult Firesetting (M-TTAF) (Gannon et al., 2012; Gannon et al., 2022) which describes developmental, biological, cultural, social learning, and contextual factors which interact with psychological vulnerabilities such as inappropriate fire interest to facilitate and reinforce firesetting. The M-TTAF is of relevance to the current research because there are aspects of the theory which relate to our primary focus – self-concept (SC). Based on work by Horsley (2020), we suggest that SC is a broad construct, which has been poorly defined and requires further research, but we believe it comprises at least two facets, one of which is self-esteem. Gannon and colleagues posit that self-esteem can interact with psychological vulnerabilities to result in firesetting. Self-esteem also features in empirical work, for instance, it has been proven to differentiate those with arson offences compared to other offences (Cunningham et al., 2011; Duggan & Shine, 2001; Gannon et al., 2013). More recently, self-esteem was identified as being related to a broader behavioural construct - fire use - by both Horsley (2020, 2021bc) and Lee (2019). Horsley (2020, 2021bc) suggests that another facet of SC is identity and this, too, has been highlighted as relevant to firesetting. For example, Butler and Gannon (2021) found that those who set fires deliberately and, interestingly, fire service personnel, identify with fire, i.e., they interpret fire to be essential to their personal identity or functioning.

Although much progress has been made into the psychological understanding of firesetting, there are several issues with existing literature. Firstly, apprehended samples are often used, which has been criticised by Daykin and Hamilton (2012) for being “limited and speculative” (p. 11) due to poor arson detection rates. Secondly, research has tended to adopt a binary perspective, i.e., firesetter versus non-firesetter.
Horsley (2020) argues that this is reductionist and that human interactions with fire should be understood as sitting on a continuum of fire use to reflect that not all interactions with fire involve anti-social fire setting. Horsley (2020, 2021a, 2022) contests the sole focus on the mis-use of fire, which she terms criminalised fire-related behaviour. She proposes a novel conceptualisation, the Continuum of Fire Use (CoFU; Horsley, 2020, 2021a, 2022), in which fire use is conceptualised as a dimensional construct for a spectrum of fire-related behaviour from non-criminalised to criminalised (see Figure 1).

Figure 1
*The Continuum of Fire Use (CoFU). Source: based on figure by Horsley (2020).*

Horsley suggests that if fire use is a dimensional construct, then we should seek to understand the whole spectrum, rather than only focussing on one end (i.e., deliberate firesetting/ arson). If we accept Horsley’s premise that this spectrum to be fluid, then people’s interactions with fire could occupy different points of the continuum at different points in their life. Our proposition is that studying non-criminalised fire use can inform what we know of criminalised use, which can be exemplified by considering practice within the sexual offending field. Research into sexual offending has sought to understand deviant sexual interests through an understanding of non-deviant sexual interests (Joyal et al., 2016). Within the risk of sexual violence protocol (RSVP; Hart et al., 2003), practitioners are guided to assess sexual deviance “relative to non-deviant sexual interests” (p. 62). This principle can be applied to fire use in that to

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1 Horsley (2020) defines criminalised fire use as that which fails to abide by rules, laws, and/or social norms, is non-justifiable, and may be engaged in for malicious intent.

2 Horsley (2020) defines non-criminalised fire use as that which abides by rules, laws, and social norms, is justifiable and engaged in with non-malicious intent.
understand criminalised use, we must first understand the spectrum of non-criminalised use.

Horsley (2020, 2021bc) addressed both ends of the CoFU in a programme of qualitative research, which indicated a relationship between fire use and self-concept (SC: encompassing who an individual thinks they are and how they feel about the person they are) amongst criminalised and non-criminalised fire users. Horsley identified that SC was a psychological mechanism underpinning fire use in that fire use formed part of participants’ identity, i.e., how they define themselves and also improved self-esteem. The importance of SC was further highlighted by Lee (2019) with fire use contributing to positive self-esteem and identity in moderate fire users, suggesting parallels across the continuum. In fact, SC was the only psychological construct identified in both studies of fire use (Horsley, 2020, 2021bc, and Lee, 2019), therefore, there is value in further exploring its relevance in human-fire interactions.

The conceptualisation of SC has adapted and changed within research over several decades (Wehrle & Fasbender, 2019), with researchers providing differing definitions (e.g., Baumeister, 1997; Markus & Wurf, 1987). Our conceptualisation of SC (based on the work of Horsley, 2020, 2021bc) aligns with how Rogers (1959) conceptualises self-image and self-esteem. A more contemporary theoretical perspective – self-verification theory (SVT; Swann, 2012) is also of relevance. SVT posits that humans strive for stable identities over time, which could explain part of the appeal of fire. If fire use is a feature of an individual’s life from an early age, and humans strive for stability according to SVT, it is hypothesised that fire becomes an aspect of individuals’ identity which they are motivated to maintain.

Fundamentally, Horsley (2020) argues SC may be universal to fire use, and thus applies to the whole CoFU continuum and might be a core psychological mechanism in explaining fire use. Horsley suggests this may have treatment implications for firesetting behaviour, such as the Firesetting Intervention Programme for Prisoners (FIPP: Gannon, 2012) and Fire Intervention Programme for Mentally Disordered Offenders (FIP-MO: Gannon & Lockerbie, 2014), which include self-esteem and a focus on protective factors as argued for within the Good Lives Model (GLM) (Ward & Brown, 2004). The GLM conceptualises that individuals who lack prosocial means to achieve primary goods may use offending behaviour (e.g.,
Non-Criminalised Fire Use and Self-Concept: A Preliminary Grounded Theory Study

firesetting) to achieve these goods, and should be supported to develop prosocial means and protective factors.

In an evaluation study of the FIP-MO, Tyler and colleagues’ (2018) exploration of SC focused primarily on self-esteem and one aspect of identity, i.e., identification with fire. These facets were assessed pre- and post-treatment, with identification with fire appearing to reduce post-treatment. Findings also showed self-esteem improvements post-programme, however, there was no significant difference in the increase between the treatment and comparison groups. On this basis, there could be value in measuring additional facets of SC pre and post firesetting treatment programmes to explore any differences between treatment and control groups. The current study, which focusses on SC, provides valuable psychological insights into SC and, thus, how it could be measured in future research.

The current research aimed to investigate the relationship between extensive fire use and SC to understand the interrelated mechanisms in more detail. The wider objective was to elicit participants’ personal views and experiences, relating specifically to fire use and SC, whilst the aim was to identify underlying mechanisms which might explain the connection between fire use and SC. In this study, we chose to focus on predominantly non-criminalised fire users to address Horsley’s argument (Horsley, 2020) about the need to understand this end of the spectrum alongside firesetting/ arson. There were two research questions: (i) how are fire use and SC interlinked? and (ii) what psychological mechanisms underpin the connection between fire use and SC?

Methodology

Participants

The sample consisted of 10 adults whose fire use was predominantly non-criminalised. We are using the word ‘predominantly’ here because, as described above, fire use is a fluid construct and, as such, our participants had a wide range of fire-related experiences. All participants were selected using inclusion criteria, namely, reporting extensive fire use (i.e., a pattern of fire use involving usage of fire at least twice per week), with experiences including fire performing, burning candles for

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3 Extensive fire use is defined as “a pattern of fire use involving usage of fire at least twice per week”.

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relaxation, using wood burners at home, attending bonfires and festivals. A further inclusion criterion involved the majority of participants’ fire use being understood as sitting closer to the non-criminalised end of the CoFU (Horsley, 2020). None of the participants had arson convictions (an exclusion criterion for participation which is consistent with the research focus). However, several participants disclosed a history of reckless fire play during childhood (n=5), and some instances of using fire to self-harm (n=2). All individuals who volunteered to participate met the inclusion criteria. Participant narratives included a combination of retrospective and current fire use, and all participants were engaging with fire regularly at the time of interview.

Fire performance agencies were approached via email as one route to recruitment. Not only do these individuals have the required experience and used fire frequently enough to meet the aim of the study but approaching these groups enabled us to reach a relatively large group of people quickly. Participants were also recruited by advertising the study through the university participant recruitment scheme, and via social media groups. All participants volunteered to take part in the study after viewing the study advertisement via the agencies outlined above. This was done in line with purposive sampling (Etikan, Musa, & Alkassim, 2016) to recruit participants with characteristics relevant to the research.

Eight participants identified as male, and two as female. The age range was 20 to 48, with a mean age of 30. Participants consisted of five nationalities (English=4, Welsh=3, Polish=1, Czech=1, American=1), with all participants residing in the UK at the time of interview.

**Design**

A qualitative methodology was chosen for this study because, as demonstrated in the introduction, SC is a broad, ambiguous construct, with different definitions in psychological literature. Studying this quantitatively would have required identification of what specific facets of SC we planned to measure, which risks neglecting other facets. For example, as aforementioned, Tyler and colleagues (2018) chose to focus on self-esteem which is only one element of SC. Rather than being prescriptive about how to define and measure SC, therefore, we chose a qualitative approach to allow for interpretation by participants and, indeed, the research team. This allowed for the
quality and meaning that participants attribute to their own experiences and, specifically, SC, to be explored (Willig, 2013).

**Procedure**

Ethical approval was granted by the local ethics committee at Newcastle University. Firstly, participants contacted the researcher via email to express interest in taking part. The researcher then provided an information sheet via email which explained the purpose of the study; ensuring they understood they would be asked to discuss their experiences of fire use but should not disclose any details which may relate to a potential criminal offence. After reading the information sheet, participants who wished to take part were asked to provide informed consent via email and confirm their availability for interview.

One-to-one semi-structured interviews were conducted via Skype video-link, using an interview schedule as a guide. The researcher compiled the interview schedule under supervision, incorporating discussion topics based on suggestions from Horsley (2020, 2021bc) and Lee (2019). Discussion topics therefore included fire-related memories, recent fire use, SC, and the relationship between fire use and sense of self. Participants were encouraged to talk freely, with the interview schedule used only for prompts. Interviews lasted 59 minutes on average and were audio-recorded using an encrypted Dictaphone. Interviews were then transcribed, verbatim, on a computer using Microsoft Word, and subsequently analysed.

**Data Analysis**

Techniques informed by Grounded Theory (GT) were used to analyse the data, a method designed to develop an explanatory theory of basic social processes by eliciting the participant’s story. The constructivist approach to GT developed by Charmaz (1996) was adopted, which acknowledges the interaction between the researcher and the data. Analysis was conducted following guidance from Charmaz (1996) and Willig (2013), in that the researcher interacted with the data to interpret emerging themes (see Figure 2). Codes were grouped together based on similarities, and overarching themes were identified to explain the psychological mechanisms underpinning the relationship between fire use and SC (see Charmaz (1996) and Willig (2013) for details of analysis steps followed).
Data collection and analysis were carried out until theoretical saturation occurred, i.e., the data fully represented the constructs involved in the theory and no new information was being found (Starks & Brown Trinidad, 2007). Guidance on GT is flexible regarding sample size (Glaser, 1978). In line with Horsley’s (2020) research, an abbreviated version of GT was adopted in that it is expected that further data will be collected in the future.

**Reliability and validity**

The researcher maintained a reflexive journal of theory development throughout data collection and analysis, tracing emerging relationships between categories as they arose. This journal was valuable when considering reflexivity, i.e., how the researcher’s own biases, thoughts or feelings may have influenced findings (Watt, 2007). For example, within a journal entry outlining step four analysis, the researcher reflected on participant 7’s description of an “ego boost” associated with fire and how this seemed to be connected to external praise from audiences. The first author analysed the data in the first instance and met with the second author to discuss each theme to ensure reliability and validity.
Results

Overview of Results

GT analysis resulted in the identification of three categories, namely: (i) Control; (ii) Identity; and (iii) Self-Esteem. The categories are all considered to be facets of SC because they contribute to how an individual views themselves, and how they feel about the person they are. The framework is preliminary in that it is open to revision based on future data collection, in line with GT. Figure 3 shows a diagram depicting hypothesised links between categories; providing a visual representation of how the categories interact to be conceptualised as one process. The framework suggests participants were exposed to fire for survival and cultural purposes. Repeated fire use resulted in bidirectional relationships with participants’ identity and self-esteem, as participants began to experience perceived control over fire and the psychological benefits this could provide. These benefits positively reinforced repeated fire use, and the subsequent enhancement of identity and self-esteem contribute to improved SC.

Figure 3

*Theoretical Framework of the Relationship between Fire Use and Self-Concept. Source: created by authors.*
Core Category One: Control

Category one encompasses the control that participants perceived themselves to have over fire. This links to SC through participants ability to gain a sense of expertise in relation to fire, which may subsequently link to how they view themselves. Feeling able to control fire reinforces fire use as it diminishes the fear of unpredictability. This is also reinforced by a desire to continue to enhance mastery and internal control. It also includes participants’ experiences of using fire to control their own internal state, subsequently contributing to their SC by enhancing feelings of being in control.

Sub-category one: mastery.

This sub-category is characterised by participants’ identity as someone who controls fire and has a direct impact on its behaviour. This can be seen in participant 9’s description of herself as “the nominated fire starter” (line 285) within her group of friends on holidays. Participant 7 discussed how her identification with fire started: “the idea of controlling it, blew my mind. So that’s where the obsession started” (line 319). The idea of controlling fire appeared to be particularly appealing for participants who felt a lack of control within other areas of their life. Participant 3 recalled using fire during difficult times as a teenager: “I could hold onto this little bit of power and control” (line 502). Many participants appeared to understand fire’s unpredictable nature; participant 6 expressed “if it wasn’t kept under control, then it can be catastrophic” (line 306). Despite this, participants appeared confident in their mastery over fire: “if I was gonna start a fire, I’d know what I was doing in controlling it” (Participant 1, line 295).

During fire performances, several participants discussed creating a persona to provide courage on stage. For many, this persona took the form of a mythical or magical being which allowed them to physically connect with and control fire. Participant 1 described his persona as a “classic wizard thing isn’t it, to be able to shoot fireballs out of your hands” (line 688). This seemed to allow participants to manipulate fire and feel in control, as participant 5 considered his experiences: “feeling badass doing fire, feeling like some kind of ninja” (line 432). Over time, this persona appeared to become engrained into participants’ intrinsic sense of self, becoming a significant part of who they are. Participant 2 referred to himself as “the fire guy or the fire man” (line 435), highlighting the connection between his intrinsic identity and controlling fire.
Sub-category two: affective control.

This sub-category refers to participants’ perceived ability to control their internal affective state using the immediate remedial effects of fire. Within this research, this can be separated into three mechanisms: stimulant, tranquiliser, and escape, which reflect how participants felt they could use fire to control their psychological wellbeing.

Firstly, fire was viewed as a stimulant which provided energy and power. The ability to utilise fire’s power reinforced repeated interactions, as participants actively sought to embody this energy to control their affective state. This is exemplified by participant 9 who described the feeling of being around open fires: “it makes you feel alive, it’s quite invigorating” (line 264), and participant 7 who described using fire to energise her: “like there’s these flames that just fuel me so much” (line 658). Drawing further parallels with the concept of fire as a stimulant, participant 8 discussed how he was able to overcome drug addiction by replacing drugs with fire: “the fire became more of a, it was like my new addiction, as it were” (lines 260-261).

Secondly, fire was viewed as a tranquiliser in that it served to reduce tension, enhance relaxation, and control emotional regulation. Participants felt drawn in by the aesthetic qualities of fire which contributed to relaxation. This is demonstrated by participant 9: “because it’s constantly changing it becomes quite hypnotic… I really love the visual of it” (line 278). Some participants actively chose to use fire to control their responses to stress, including participant 6, who described using fire spinning as a form of relaxation:

“I actually found it very relaxing and therapeutic… I’m really destressed here, I’m nice and chilled and relaxed, I can think more clearly” (lines 181-184).

Third, fire acted as a distraction and escape from the difficulties of the outside world. This was the experience of participant 3, who regularly used fire to self-harm during adolescence as an escape from mental health difficulties: “I used it a lot for like self-harm at the time. I realised the pain lasted longer with less visible [scars] – so it was something to focus on” (lines 29-30). The notion of fire providing an escape appeared to be perceived by some participants as providing control over internal responses by alleviating negative thoughts and feelings.
Core Category Two: Identity

Category two reflects participants’ ability to use fire to create an identity for themselves; encompassing the first aspect of self-concept as defined by Horsley (2020, 2021bc), i.e., who an individual believes they are on an intrinsic level. Interactions with fire allowed participants to form a clearer identity, which often developed further until their internal view of themselves became interlinked with fire. Fire related aspects of participants’ identity appeared to be related to a sense of belonging, human survival, and self-expression. A mechanism of mutual reinforcement underpins the relationship between identity and fire use. More specifically, the more a person’s identity is strengthened through interacting with fire, the more they wish to engage with fire.

Sub-category one: sense of belonging.

This sub-category is characterised by a sense of belonging provided by fire, which often began with Western cultural events involving fire (e.g., bonfire night). This took several forms, including becoming part of a community (both exclusive communities such as circus and inclusive communities such as the wider society) and developing interpersonal relationships. Participants believed fire facilitated social gatherings and provided a focal point for celebrations, underpinning their integration into social groups. Participant 10 suggested a sense of community was one of the most important benefits of fire: “fire would be a very social thing, and typically that’s one of the main advantages” (line 69). This feeling of belonging was particularly important in developing the identity of participants who felt they had not belonged during childhood. This is illustrated by participant 9 when recalling bonfire night in her childhood village:

“Having a sense of community and a feeling of belonging is not something I’ve had throughout my childhood, so it’s got additional layers of importance to me because it’s something I missed out on” (lines 132-134).

Another aspect of belonging was the potential for fire performers to join exclusive communities based on their skills and develop their identity as skilled performers. Performers discussed their ability to join the circus community because of their fire spinning skills, in which they found deep connections with others. This is demonstrated by participant 5: “I found these people who were… these are my people
basically. And I never find that before in any place in the world” (lines 378-379). Participants felt these exclusive communities welcomed them in where wider society had not, allowing them to find their identity within a community for the first time.

**Sub-category two: survival.**

Within this study, participants appeared to consider their identification with fire to be intrinsic and connected to human survival, as all participants had been exposed to fire during childhood for tasks including heat and cooking. This sub-category is underpinned by participants’ belief that humans have a deep-rooted, physical connection to fire due to evolutionary and cultural practices. This connection appeared to facilitate integration of fire into their identity, as fire had been a stable trait in humanity for thousands of years and thus formed part of their current identity. Participant 4 explained “[fire] has been a necessary part of humanity for a lot longer than anyone can remember or realise” (lines 96-97).

The belief that fire is connected to human survival was shared by all participants, and, for some, fire still held this role as a functional tool. Participant 2 explained his identification with fire was facilitated by the fact that “loads of my cooking is done on an open fire… the heating of my house comes from a big fireplace” (lines 113-115). A deep-rooted connection to fire seemed to contribute to participants’ identity as they felt fire was already an element of their survival. Participant 7 explained: “[fire] is like a stable trait. It’s like something that’s just there and it’s never gonna leave… right now it’s what makes me, me” (lines 630-632).

**Sub-category three: fire for expression.**

Participants discussed how their relationship with fire developed over time, from reckless fire play during childhood to using fire in a positive way, i.e., as a form of creative expression thus, eventually contributing to a positive sense of self. Participant 1 discussed this shift from reckless fire play to performing during adolescence: “I eventually realised that I could use it creatively, I could still maintain that power without being destructive” (lines 35-36). Similarly, participant 7 reflected on her likelihood to continue to use fire to express herself: “I’m gonna do this for the rest of my life. I don’t think if it’s gonna be a career… or just spinning in my back yard. But I think it’s always gonna be there” (lines 635-638). Over time, participants recalled realising they could use fire as a form of expression and no longer engaged in dangerous fire use. This is
Non-Criminalised Fire Use and Self-Concept: A Preliminary Grounded Theory Study

exemplified by participant 3, who recalled the defining moment in which he realised he could use fire to express himself rather than as a form of vandalism:

“Respecting that it did start in a very negative place as well, there’s also a way to change someone’s mindset… and then it will no longer be vandalism, it will be a work of art” (lines 556-559).

Overall, this sub-category reflects the fluidity of participants’ relationship with fire. Using fire as a positive form of expression allowed development of a positive identity which reinforced prosocial fire use and contributed to overall SC.

Core Category Three: Self-Esteem

This category captures the second aspect of SC as defined by Horsley (2020, 2021bc): how individuals feel about who they are. Self-esteem refers to participants’ feelings about who they are and is strongly linked to the concept of identity presented in category two. They are conceptualised differently as identity refers to how participants defined themselves, whereas self-esteem encapsulates how participants felt about that definition. Mutual reinforcement underpins the relationship between fire use and self-esteem, in that successful use of fire enhanced self-esteem, which in turn reinforced repeated fire use as participants sought to maintain positive self-esteem.

Sub-category one: intrinsic self-esteem.

Intrinsic self-esteem focuses on participants’ internal judgements of who they are. Participants’ interactions with fire served to boost their intrinsic self-esteem, which over time appeared to become gradually more stable. During performances, participants experienced an ego-boost when they performed well, and good performances were consequentially linked to self-worth. Participant 3 explained how his confidence rose during performances: “if you nail the first half, your confidence is gonna be up, flying” (line 190). Several participants felt they were able to channel confidence on stage despite not feeling it internally, illustrated by participant 7: “if I feel like I’m not confident I will just fake it and I will become confident super fast again” (line 218). This ability to ‘fake’ confidence on stage seemed to subjectively increase actual confidence, enhancing self-esteem.

Another mechanism through which intrinsic self-esteem was developed was through a sense of self-efficacy in abilities around fire. Participants talked of skill
development over time to successfully manipulate fire, with the perception that knowledge is power. This was the case for participant 3: “I understand how fire works, I’ve got more tangible knowledge in fire than I do anything else” (line 523). By understanding the properties of fire, participants felt better equipped to appreciate its positive aspects and interact with it confidently, thus improving self-esteem and reinforcing repeated interactions.

**Sub-category two: extrinsic self-esteem.**

Extrinsic self-esteem refers to external recognition from others in the form of praise for fire-related skills. Whilst there are similarities between this sub-category and ‘sense of belonging’, they are distinct in that this sub-category refers to validation from others, e.g., an audience, regardless of whether they are part of the same social group. Alternatively, sense of belonging reflects a sense of identity provided by being part of a social group and the kinship this provides. Extrinsic and intrinsic self-esteem are connected in that both refer to participants’ feelings about who they are. The difference lies in that intrinsic self-esteem focuses on participants’ own internal judgements of themselves, whereas extrinsic self-esteem is reliant on the judgement of other people. This sub-category is characterised by participants feeling valued by others, which contributed to their overall sense of worth, exemplified by participant 9: “it makes me feel valued I suppose… as a person that has a certain amount of skill at a particular thing” (line 486).

Several participants discussed teaching classes in their local community. Many felt this allowed them to be viewed in a positive light by others, often for the first time. Participant 3 explained: “it’s really nice to be sort of recognised or appreciated… I turned from like a dodgy teenager to an outstanding member of the community” (lines 463-465). Participant 4 described feeling valued by “an amazing community which is giving, as much as I can give to it” (line 60). Consequently, participants felt that their contributions were appreciated by society, enhancing extrinsic self-esteem.

**Discussion**

Although preliminary, this research provides a useful foundation for understanding the relationship between extensive non-criminalised fire use and self-concept (SC). The categories offer a framework to explain the psychological mechanisms underpinning the connection between fire use and SC, and how this
relationship is reinforced and maintained. A mechanism of mutual reinforcement underpins the relationship between SC and fire use. More specifically, the more a person’s SC (including identity and self-esteem) is strengthened through interacting with fire, the more they wish to engage with fire. Participants were able to gain a sense of mastery, enhance self-esteem and develop an identity, which in combination contributed to repeated fire use to maintain their SC.

A perceived ability to control fire appeared to be important within the experiences of participants. This may be connected to human survival, as Fessler (2006) argues human fire use can be understood in terms of the control and production of fire. A feeling of control has been measured as a variable for self-worth (e.g., Moneta et al., 2017) and it is possible that fire provided a feeling of control for participants which subsequently contributed to their SC. Attempting to gain a sense of control has been highlighted as a factor in firesetting behaviour in theories as early as the psychodynamic theory (Freud, 1932) which suggested that individuals set fires in an attempt to gain power and control.

Participants in this study also appeared to utilise fire to attempt to control their affective state, indicating that fire is used to positively affect participants’ emotions, leading to an overall sense of emotional wellbeing. As highlighted by Horsley (2020), emotional security is implicit within the GLM (Ward & Brown, 2004) within primary goods such as ‘Inner Peace and Happiness’, drawing parallels with individuals’ ability to use fire prosocially to achieve primary needs.

The current framework suggests fire use contributes to SC by facilitating participants’ creation of an identity. These findings support Horsley’s (2020, 2022) Continuum of Fire Use Theory (CoFUT) which suggests that fire contributes to individuals’ identities by providing a link to their ancestry, influencing social standing, and providing a role/purpose. As argued by Butler and Gannon (2021), identification with fire can be found in non-criminalised samples including fire service personnel, suggesting that this identification alone need not result in destructive firesetting behaviour. This is useful to consider for rehabilitation. If, for example, fire is an important part of fire users’ identity, treatment could support individuals in strengthening other aspects of their identity or developing a prosocial identity with fire.
The content of existing treatments which feature identity, such as FIP-MO (Gannon & Lockerbie, 2014), could therefore be refined based on up-to-date research.

Furthermore, several studies have identified low self-esteem in individuals with arson convictions compared to other offences (e.g., Duggan & Shine, 2001; Gannon et al., 2013). Alternatively, fire use seemed to have a positive impact on the self-esteem of non-criminalised users in the current study, which points to the possibility that improved self-esteem is an outcome of all fire use (irrespective of where it sits on Horsley’s continuum). This has important practical implications when combined with the GLM (Ward & Brown, 2004). Firstly, with respect to early intervention, it suggests that if young people can be taught to engage with fire adaptively and to gain a healthy mastery over, this could improve their self-esteem and act as a protective factor to deter them from engaging in criminalised use. To illuminate this point, we need only consider existing initiatives such as Forest School (O’Brien, 2009), which is gaining popularity as an extra-curricular activity for school-aged children, as well as the scout movement where children are, routinely, exposed to learning how to light and use fire safely. Secondly, our finding adds support for existing firesetting treatment, i.e., the FIPP/ FIP-MO, because it already focuses on self-esteem.

As aforementioned, self-esteem is highlighted within existing firesetting interventions. Of importance in the current findings were a sense of self-worth and self-efficacy around fire, which allowed participants to feel good about themselves. This relates to another of the primary goods in the GLM entitled ‘Excellence in Work and Play’ (Ward & Brown, 2004); suggesting non-criminalised fire use may support some individuals to gain a sense of achievement, thus enhancing self-esteem. In line with the GLM, it is argued that those who set fires antisocially should be supported to identify alternative prosocial aspects of their identity.

**Forensic Implications**

The results of the current study suggest early intervention may be beneficial in preventing arson, utilising the idea of a healthy fire-related SC. If it were possible to promote positive early experiences of fire, this may influence individuals’ subsequent relationship with fire and how this interacts with identity and self-esteem. It is possible that, by utilising fire prosocially to enhance self-concept, this may result in fewer individuals utilising fire for antisocial means. Early interventions may also benefit from
acknowledging the psychological benefits of a *healthy* relationship with fire. In this case, early interventions with young people could focus on developing safe and healthy identification with fire to strengthen their SC and minimise the risk of antisocial firesetting. Further, the notion of fluidity in fire use shown in this sample (i.e., the ability to move across the CoFU) is potentially useful for rehabilitation and prevention strategies. The suggestion that individuals can move across the continuum implies that someone engaging in criminalised use may be able to progress towards the non-criminalised pole.

As aforementioned, there is an increasing focus on protective factors within forensic psychology consistent with a strengths-based approach to working with individuals with a history of offending behaviour (Ward, 2017). We may be able to learn from those who interact with fire in a prosocial manner, i.e., through supporting the positive components of fire use to promote strengths-based interventions. The current study supports positive psychology more generally as it highlights the importance of supporting individuals to develop and maintain a positive SC. This research also introduces new ways to think about SC as a general concept, which may be useful in psychology more broadly including consideration of how SC is measured within research and practice. This could also inform the way SC is measured within evaluation of treatment programmes, to expand on the focus on self-esteem as previously highlighted regarding Tyler and colleagues (2018) evaluation of the FIP-MO. As aforementioned, this research could provide a blueprint for how healthy fire use relates to SC and, thus, could help refine this as a treatment target. The relationship between non-criminalised fire use and SC could be used as a baseline comparison to help clinicians guide formulation and treatment plans.

This study provides the groundwork for understanding the relationship between extensive non-criminalised fire use and SC. Research into this area is scarce, despite its importance in understanding criminalised fire use. Future research could investigate the relationship between fire use and SC at various points across the CoFU (Horsley, 2020) to strengthen the research base into SC as a possible universal mechanism underlying fire use. Given the different facets of SC which have been highlighted in this research, e.g., identity, quantitative research could measure each individual facet to further explore this relationship.
Limitations

One limitation of the current study is a gender bias in the sample (eight males and two females), as it could be argued that this is not representative of females with extensive fire use. Indeed, forensic literature has outlined potential gender differences in firesetting, such as higher levels of self-harm in females with arson convictions (Coid et al., 1999; Miller & Fritzon, 2007) and increased sense of identification with fire (Alleyne et al., 2016). This study also focused specifically on extensive fire users, and it is possible that individuals with less frequent fire use may have different perspectives. The researchers accept the small sample size when compared with other GT studies. However, this study was seen as an extension of the work by Horsley (2020) and Lee (2019) and, therefore, the process of data analysis was informed by what was already known about SC and fire use. Taking these evaluative points into account, the current study provides a preliminary account of the relationship between fire use and SC and offers several implications.

Note: interview schedule available upon request.
References


Non-Criminalised Fire Use and Self-Concept: A Preliminary Grounded Theory Study


