Abstract

Purpose: Most individuals regularly encounter fire, but certain uses are legally disallowed. Horsley (2020; 2021; in press) proposed the Continuum of Fire Use Theory (CoFUT), which posits that legitimacy of fire use exists on a spectrum. This study aimed to investigate the CoFUT and to elucidate the process of conceptualising legitimacy in a sample of legitimate fire users.

Design: A sample of 16 legitimate fire users underwent semi-structured interviews regarding their own experiences with fire, the factors considered when determining legitimacy of fire use, and the relationships between those factors. The data extracted was subjected to a conceptual analysis.

Findings: Analysis indicated that legitimacy of fire use is best conceptualised along a continuum. Placement on the continuum required consideration of seven defining attributes: 1) function; 2) location; 3) scale; 4) materials used; 5) characteristics of the actor(s); 6) potential and actual consequences; and 7) social acceptance. These attributes were shown to have interactive semantic relationships with one another.

Practical implications: A continuum approach to understanding fire use is a novel conceptualisation. Exposing the nuances that exist along the continuum could inform early intervention strategies aimed at fostering healthy relationships between young people and fire. Furthermore, practitioners working with arsonists would benefit from adopting a continuum perspective that allows for consideration of offenders' individualised trajectory 'up and down' the CoFU.

Originality: Findings offer support for the CoFUT (2020; 2021; in press) and provide insight into how legitimacy of fire use is conceptualised in legitimate fire users.

Legitimacy of Fire use: Investigating the CoFUT

Fire has remained a significant aspect of the human experience for around 2 million years (Parker et al., 2015). Arson, which can reasonably be considered the most illegitimate use of fire, is defined by the Criminal Damage Act 1971 as 'the deliberate burning or attempted burning of personal property'. In England and Wales, arsonists can be charged with either simple arson (whereby property is damaged); reckless arson (whereby the defendant was aware of the risk that may occur); or arson with intent to endanger life (whereby the defendant aims to harm or kill another person; Averill, 2010).

Whereas the legal system abides by the aforementioned definition of arson and its sub-types, from a social and psychological perspective, Horsley (2020; 2021; in press) argues that fire-related behaviour is not so clear cut. This notion is one that is certainly supported in the forensic psychological literature. The predominant term in the literature for this behaviour remains 'firesetting', for which there are a myriad of conflicting definitions- some relating to the act of setting a fire (Geller et al., 1992) and some relating to the motivation behind fire-related behaviour (Hickle & Roe-Sepowitz, 2010). Furthermore, researchers have used the term firesetting interchangeably with the terms 'arson' (Horsley, 2020; 2021; in press; for examples, see Lewis & Yarnell, 1951; Palmer et al., 2007) and 'fire-raising' (Prins et al., 1985). Some propose that these terms refer to conceptually distinct acts of fire use so should not be used interchangeably (Vaughn et al., 2010).

As such, Horsley (2020; 2021; in press) coins a new term – fire use – which is broader and represents all interactions with fire. Horsley (2020; 2021) highlights that, although the legal system categorises firesetting and firesetters, from a social and psychological perspective, the behaviour is much more nuanced. This is supported by Andrews and Bonta's (2014) distinction between legal, moral, and psychological legitimacy to account for behaviours that are ostensibly legal but are also widely considered to be illegitimate. Horsley (2020; 2021; in press)

suggests that the literature base could be enhanced by viewing fire-related behaviour as existing along a continuum ranging from legitimate fire use to illegitimate fire use (Continuum of Fire Use; CoFU). This is also alluded to by Tyler & Gannon (2020). Following an extensive review of firesetting classification structures, they conclude that a spectrum-based perspective, allowing for consideration of both pro- and anti-social uses of fire, is the most appropriate. They propose that the complexity of humanity's relationship with fire consists of legitimate and illegitimate aspects that warrant equal exploration, thus binary or categorical approaches are too reductive. This provides further incentive for exploring the utility of the CoFUT.

Given the nuances that comprise humanity's relationship with fire, Horsley (2020; 2021) recommends adopting an interdisciplinary approach to fire use, drawing on aspects of anthropology, criminology, and sociology. Horsley (2020) posits that this is necessary to provide a comprehensive historical, cultural and social context to our understanding of contemporary fire use. Owing to this, we seek to adopt a similarly interdisciplinary approach in this paper. In particular, incorporating aspects of anthropological literature allows for exploration of cross-cultural conceptualisations of the legitimacy of a given behaviour, providing insight into how legitimacy of fire use may be conceptualised. Goody's (1970) analysis of the Gonja people of Ghana is useful here. This case study explored how tribe members conceptualised differences between legitimate and illegitimate uses of 'mystical aggression' (harm of another person through spiritual means). The concepts of legitimate and illegitimate mystical aggression were found not to act as a dichotomy of mutually exclusive categories, but rather as polarities along a continuum. More recently, Botoeva (2019) has explored the conceptualisation of legitimacy from a legal pluralist perspective. They found that state definitions of legal and illegal hashish harvesting practices were not necessarily consistent with social perspectives on the legitimacy of behaviour. In other words, enforced notions of illegality do not always render a behaviour socially unacceptable. These studies provide

support for the idea that legitimacy of everyday behaviours, such as fire use, may be best conceptualised along a continuum that represents underlying social representations, contingent upon layers of societal and personal interpretation present within a given social or cultural climate (Moscovici, 1972).

As demonstrated, whether fire-related behaviour can be binarily categorised or whether it lies on a continuum is important to investigate on social, psychological, and legal levels. Furthermore, limited attention has been provided to the perspectives of legitimate fire users, meaning there is a considerable dearth in the literature regarding those who use fire in socially acceptable ways daily. Exploring their perspectives will provide insight into the distinction(s) (if any) between legitimate and illegitimate fire use. This conceptual analysis subsequently sought to investigate the CoFU and to explore the following research questions: how do individuals who have encounter fire in legitimate contexts conceptualise legitimate and illegitimate fire use? Which factors are considered when deciding if fire use is legitimate or illegitimate? Are these factors always considered, or only in some circumstances? Are there any semantic relationships between these factors? Utilising concept analysis as a method allowed us to investigate these questions.

Methods

Vocabulary

For the purposes of this study, the term 'fire use' will be used to refer to both legitimate and illegitimate uses of fire. This is because we believe that human interactions with fire consist of much more than 'setting' a fire, so terminology should reflect the complex process of interacting with fire in any capacity.

Although Horsley (2020) refers to the polarities of the CoFU as criminalised and non-criminalised, the present study uses her original terms of legitimate and illegitimate, which

were felt to be more appropriate for the purpose of this study- namely, asking members of the public about fire use.

Participants

This study utilised a maximum variation purposive sampling strategy which allowed us to seek out participants in line with quota sampling. This provided diverse representation of demographic qualities and experiences with fire within a narrow, qualitative sample (Patton, 2002). Participants were recruited through word-of-mouth and on approach by the researcher(s). In accordance with Saunders et al.'s (2017) recommendations, 10 participants were initially recruited and interviewed. An initial audit was conducted to assess whether or not the data had saturated. In this case, data saturation was defined as no new codes emerging from an analysis of the most recent transcript (DiCicco-Bloom & Crabtree, 2006). As the data from the initial 10 participants had not saturated, further participants were recruited, and data saturation was reached by the time 16 participants had been interviewed. By recruiting in this manner and aiming for data saturation above a set sample size, the data is likely to have high informative power (Malterud et al., 2016).

All participants had relationships with fire that were non-criminalised in nature – their experiences with fire included fire-performances, use of fire for aesthetic or relaxation purposes, use of fire for religious or spiritual purposes, and ceremonial/social use of fire, such as bonfires. No participants had a history of firesetting or arson convictions. Ten of the sample identify as men and six as women. The age range is 18 to 71 and the average age is 37. All participants were residing in the UK at the time of interview.

Materials

Semi-structured interview was chosen as a design due to its flexibility in exploring attitudes, values, and beliefs without the hindrance of rigid standardised interview questions (Miles, 1979). The scope to probe for clarification is particularly important in research

regarding conceptualisation where participants may not articulate complex thought processes coherently (Irvine et al., 2013). Subsequently, the semi-structured interview guide was developed in line with Pietila et al.'s (2016) five phases, which provide an efficient and empirically robust methodology to preparing and implementing semi-structured interviews. The interviews were recorded using a Dictaphone and were stored on the password-protected laptop of the researcher before being manually transcribed onto Microsoft Word. Data analysis was conducted manually to most accurately account for interpretation of any nuances of language, such as slang.

Procedure

This study was approved by the ethics committee at the host university (ethics code 1483/3463/2018). Participants were informed that their data would be stored under a research pseudonym of their choice.

Conceptual analysis was the chosen analytic method due to its advantage of a hermeneutic, idiographic focus (Kahn & Zeidler, 2017). We felt that a thematic method would have provided a cursory analysis without accessing the conceptual nuances of fire use. Conceptual analysis was also preferred over interpretative phenomenological analysis because the study was focused on linguistic conceptualisation of legitimate and illegitimate fire use rather than experiences of fire use. Conceptual analysis is an a priori investigation with the purpose of clarification of everyday terms, generating rich, "thick" data (Geertz, 1973, pp. 3).

The data set was then manually analysed. The method utilised in this study was based upon Walker and Avant's (2011) linear method of concept analysis. This comprises of a staged process, beginning with determining the purpose of analysis, identifying previous uses of the concept(s), and defining central attributes of the concept(s). As per the first stage of their model, the purpose of the analysis was determined to be the operationalisation of the chosen concepts in order to clarify precisely what constitutes a legitimate or illegitimate use of fire and how one

can distinguish between them. Next, previous uses of the concepts of legitimate and illegitimate fire use were identified through a comprehensive review of academic literature and existing policy. The semi-structured interview guide was then developed in accordance with these findings. Following interview, the 'defining attributes' of both legitimate and illegitimate fire use were determined through a rigorous analytical process of coding, frequency measurements and semantic interpretation. The final stages of Walker and Avant's (2011) approach include identifying borderline, related, and contrary cases to the concept, identifying antecedents and consequences of the concept, and defining empirical referents. It was considered that these stages were beyond the scope of this paper given our primary aim of exploring general conceptualisation of legitimacy of fire use, though it is felt that these stages would constitute insightful areas for future research.

[INSERT TABLE I HERE]

A reflexive trial coding session, involving the primary coder and one secondary coder, was conducted on half of the transcripts ($n = 8$) using the initial codes generated. This was to ensure inter-rater reliability across all aspects of the analysis, negating the effects of interviewer bias. A Cohen's kappa coefficient (K) test was conducted to test for inter-rater agreement across qualitative codes. Inter-rater reliability was found to be high for all codes ($K's > 0.75$). Fleiss et al. (1981) propose that a kappa of over 0.75 indicates excellent interrater reliability, demonstrating that all significant data interpretations were accounted for during analysis.

Findings

Defining attributes of legitimate and illegitimate fire use

Seven essential defining attributes of fire use legitimacy emerged as a result of analysis: 1) function; 2) location; 3) scale; 4) materials used; 5) characteristics of the actor (i.e. person(s) involved); 6) potential and actual consequences; and 7) social acceptance. Each of these are expanded upon below.

Attribute 1: Function. Legitimate and illegitimate functions of fire use were found to exist along a continuum from 'always acceptable' to 'always unacceptable', as shown in Figure 1.

[INSERT FIGURE 1 HERE]

Participants felt that fire use was always legitimate if it was in aid of fulfilling a practical goal, such as cooking or heating. Although it was considered more legitimate when there were no viable alternatives to fire use (such as access to electricity or gas), practical uses were still considered legitimate even with access to alternative methods of cooking or heating. Sarah, for example, stated "*A fire's acceptable when it's being used for useful means. We need fire, so using it safely, even when there are other options, does no harm*".

The concept of human reliance on fire aligns with the anthropological literature. Wrangham and Carmody (2010), for example, posit that humanity's unique ability to control fire for cooking purposes has led to us physiologically adapting to need cooked food, thus cementing our reliance on fire both biologically and behaviourally. Sarah's understanding of the legitimacy of fire use appears to be intrinsically related to a deeper consideration of humanity's continued reliance on fire. Although humans have developed a variety of viable alternatives to fire that have reduced our overt reliance on it, a general consideration of fire as necessary to survival was noted during analysis.

Hari iterated the legitimacy of using fire in a symbolic fashion during religious ceremonies or festivals. He stated that *"Diwali is a significant event for Hindus and fire use is a central aspect of that".* Agni, the Hindu god of fire, is thought to safeguard the home and is required to witness important ceremonies and events. Subsequently, Hindus often light candles to symbolise protection of the domestic hearth. Religious fire use is predominant across other religions too, with Christians, Jews, and Pagans alike considering fire to represent purity, light,

and creation (Insoll, 2011). That participants viewed symbolic use of fire as legitimate emphasises the significance of the psychological and emotional meaning ascribed to fire.

Participants' opinions diverged when considering the legitimacy of fire use for aesthetic purposes. This can be defined as the use of fire and fire-related products for sensory experience involving the sight, sound, and smell of fire. An example might be a scented candle. Some participants considered this function of fire to be legitimate, with Jane reporting: *"Obviously functionality is a more valid form of fire use, it helps you achieve a practical goal, but I also think aesthetic firesetting is still perfectly legitimate".* James commented, *"I certainly don't see how anyone can find that the pros of using candles outweighs the risks. It seems so strange to me that people can feel relaxed around fire".*

The sample as a whole considered functions of fire use with an antisocial or illegal intent to be illegitimate. Mike stated, *"I've known younger groups of people to deliberately set off fireworks and things just so that all the dogs in the area get scared and are terrified for the rest of the evening".* Participants felt unanimously that any fire set with the intention to harm or kill another human being is wholly unacceptable and constitutes the most unacceptable function of fire. That the function of a fire appeared to be conceptualised by participants along a continuum of always legitimate to always illegitimate offers support for Horsley's (2020) dimensional hypothesis.

Attribute 2: Location. Fires set in urban and suburban areas were broadly considered antisocial and inconsiderate. Participants considered fire to be fundamentally irritating to those not involved in the process and considered setting a fire in a highly populated area (even within the confines of your own property) to be illegitimate. Participants justified this by emphasising the amenities in urban society that remove the need for fire which are generally unavailable in more rural communities. Elena stated, *"I feel like the countryside has a lot more need for fire.*

In the city, you have all of your amenities and regular bin collections. You've got a local refuse centre, so there's no real need to be burning waste in your garden".

Participants linked location to the potential impact of said fire on property or people. It was considered that, in the event of unforeseen escalation and/or loss of control of the fire, rural locations would fare better in harm-prevention due to more open spaces, less neighbouring property, and less concentrated numbers of people. Rob commented, *"If you're living in a tower block, a fire would undoubtedly spread to other people's flats and have a huge impact on those around you. There's not so much worry of that happening in the country".*

Lighting a fire indoors and within close proximity to other people was considered illegitimate, regardless of geographical location. Skyscrapers and tower blocks were thought to be among the most illegitimate locations for fires due to the restricted ability of surrounding residents to escape, should a fire escalate. Henry relayed how his experiences as a police officer attending large-scale fires in tower blocks had made him distinctly wary when staying in skyscraper hotels: *"I'm probably more conscious than most of where the exits are in tall buildings like hotels. I've seen how many people's lives can be so quickly changed by something going wrong in a building like that"*. It seems, therefore, that fires in locations where other people or property could potentially be damaged or harmed - regardless of whether or not this actually occurs - are considered to be illegitimate. Containment of the fire, its likelihood of spreading, and the ability for individuals to escape from the fire were all found to be indicators of legitimacy.

In 2017, the 24-storey Grenfell Tower in London was ravaged by an accidental fire (BBC News, 2017). This event, which led to at least 70 deaths, was repeatedly cited throughout interviews as evidence for why even small-scale fires in tower blocks were illegitimate. Agenda-setting theory (McCombs & Shaw, 1972) proposes that media coverage of certain news stories has the ability to determine public opinion on relevant topics. Those receiving

more frequent and detailed coverage will be viewed as more significant, whilst those with little coverage will be dismissed. Participants in this study frequently cited the Grenfell Tower tragedy in 2017, the New Cross house fire in 1981, and the Kings Cross Station fire in 1987 – all of which gained substantial media attention. This may be why participants deemed urban fires, indoor fires, and contained fires (such as within tower blocks) more likely to be illegitimate, following exposure to footage and details of the fires in the media.

Attribute 3: Scale of the fire. The term 'scale' refers to the physical size of a fire, including its height, width, power, and intensity. As mentioned above, some functions of fire use were deemed to be bordering on illegitimate, particularly using fire for leisure or aesthetic purposes. However, the legitimacy of this function was predominantly considered in relation to large-scale fires, such as bonfires. This is evidenced by Sophie's comment: *"I can't see what's wrong with lighting a candle for relaxation in the evening. Obviously if you're setting massive bonfires off in the back garden every night and claiming it's for fun, then maybe you've got a bit of a problem"*.

As consideration of a fire's scale was intertwined with participants' consideration of a fire's function, the relationship between the defining attributes of legitimate fire use is shown to be of an interlinked and interacting nature rather than comprised of mutually exclusive factors. This reflects a socially constructed reality whereby social representations are comprised of intersectional attributes with differential weightings dependent on context (Dahlbom, 1992). This offers some support for Horsley's continuum conceptualisation (2020, 2021) as it indicates that the process of conceptualising legitimacy of fire use is not algorithmic or categorical, but along a continuum with many intersections influencing a final outcome.

Attribute 4: Materials used in the fire. Fires involving accelerants were thought to be more illegitimate based on a belief that using unnatural materials indicates a lack of experience with fire and a need to use accelerants to achieve a desired effect. Participants with

experience of fire-performing were also firm in their beliefs that the use of accelerants in performances was strictly illegitimate due to the increased risk of physical harm. Dan reported, "*They take the accelerant in their mouths before finishing the performance, and while it's in there, any number of things can happen. If you hiccup or someone nudges you, that's fire accelerant in your lungs. One of our friends passed away from chemical pneumonia. To me, those performances should be banned*".

The use of accelerants has also featured considerably in research as a risk factor in arson recidivism. Dickens et al. (2012) suggest that use of unnatural fuels and oils in fire is indicative of an unhealthy and longstanding relationship with fire. According to them, using accelerants demonstrates a fascination with larger, more powerful fires that would otherwise be unlikely to occur naturally. With regards to participants' beliefs, it appears that the introduction of manmade or unnatural accelerants impacts upon their conceptualisation of fire as a natural element and increases the perceived likelihood of rapid escalation and risk of harm.

Attribute 5: Characteristics of the actor. Legitimacy of fire was also determined by characteristics of the person(s) who a) starts and b) supervises the fire. A predominant trait considered to play a role in legitimacy of a fire was an individual's previous exposure to and experiences with fire. Those more experienced with fire were perceived as more capable of anticipating risks associated with fire use. Henry explained, "*Even though I don't like bonfires and fireworks at the best of times, I would be a lot more willing to attend one organised by somebody I knew had the past experience of dealing with fire appropriately and safely. It's why people go to organised bonfires, because they've usually employed someone whose career involves fire to supervise it.*"

Participants felt strongly that fires set and supervised by adolescents and young adults were more likely to be illegitimate, regardless of location, function, or size. It was believed that

younger people are more likely to set fires without taking the appropriate precautions and that they were too inexperienced to adequately deal with any potential escalation of the fire. These findings have some support within the existing literature. Fessler (2006), for example, suggests that children and young people in Western societies have developed an unhealthy fascination with fire due to their unfamiliarity with it. He reports that children in Eastern communities master the use of fire as a tool by adolescence and their fascination with it subsequently dwindles. In Western society, however, children are not provided this opportunity, resulting in increased antisocial juvenile fire use. This was consistent with the perspectives of a number of participants.

As well as youth, old age also acted as an attribute of illegitimacy. Jane reported, *"Old people are often a lot clumsier than younger people, and if anything went wrong then they're probably not going to be able to escape and get help as quickly as they'd need to"*. Participants believed fire use by elderly people was more likely to be illegitimate than those set by middle-aged adults, linked to the ability of the actor to escape the fire should it escalate. This appears to link to a wider theme within the literature that compassionate stereotyping of the elderly results in people perceiving those in older age brackets to be more in need of help and support than they actually are (Revenson, 1989). According to Snyder and Miene (1994), this may serve an evolutionarily social function of identifying vulnerable members of our 'in-group' in order to most appropriately distribute energy and resources. This was evident for participants in this study, as they felt concerned for the welfare of older fire users should a fire become unmanageable for them.

One other characteristic of the actor that played a significant role in determining legitimacy of fire use was gender. Almost every participant noted a belief that men and women generally use fires for different purposes and in different ways, and that this had an impact on the perceived legitimacy of fire use. Men, it was suggested, use fire in more spontaneous,

sporadic, dangerous, and illegitimate ways than women. Their motivations were thought to include 'showing off' to love interests, demonstrating masculinity, and asserting dominance over peers. It was believed that women, on the other hand, use fires for aesthetic or leisure purposes on their own, such as scented candles. Sophie commented, "*I associate men with messing around with fire, out of curiosity and sensation-seeking, whereas women I associate with finding a safer outlet for fire. It's the calming, aesthetic quality of fire that would attract females*". According to Wrangham (2009), gender differences in fire use may have given us an evolutionary advantage- cooking takes time, so it became beneficial for women to use fire to cook whilst men guarded them with fire to ward off predators or other hunter-gatherers. As such, women developed an appreciation of the utility of fire whilst men associated it with asserting dominance and protecting those around them. In light of this, future research would benefit from exploring gender differences in legitimate and illegitimate fire-use cross-culturally.

      Attribute 6: Consequences of the fire. Analysing the consequences of fire use elucidated an interesting scale of legitimacy, whereby fires that are set in legitimate circumstances with appropriate risk assessments undertaken still hold the potential to *become* illegitimate with a change in circumstances, such as lack of supervision or injury to a person. This is reflective of the fluidity that Horsley (2020) proposes comprises the CoFU- legitimacy of fire use can 'move up and down' the continuum. John explained, "*A good example for me would be someone has a nice relaxing evening in the bath, and they've set up all their candles around the bath. That's a pretty legitimate reason to start a fire. Say, though, that they're so relaxed that they fall asleep. Well, what happens if the wind blows a candle over?*"

      Setting fires with adverse consequences for the environment by way of contributing toxins and pollutions to the atmosphere was seen as completely illegitimate. Dan detailed the lengths fire-performers go to in order to ensure that their performances do not contribute to

environmental issues: *"We try our best to not get any paraffin on the ground or the surfaces around us, so we use a syringe to inject paraffin to get the right amount and reduce any drops coming off into the ground"*. The consideration given to environmental implications is perhaps unsurprising given the current social focus global warming and sustainability (Kahlor, 2007). All main political parties in the United Kingdom have released agendas documenting their support of environmentalism, rendering it a largely apolitical movement accessible to most people (Boehmer-Christiansen, 2017). This highlights how the present milieu can impact conceptualisation of everyday phenomena, providing further support for a social constructivist process of conceptualisation as the CoFU would propose.

Harm to other people was found to be the most significantly illegitimate consequence of using fire. Given the emphasis participants placed upon risk assessment and supervision, for a fire to either escalate to the point of injuring another person or to be deliberately targeted towards injuring another person perfectly constituted illegitimate fire use. Injury to another person was only superseded as the most illegitimate consequence of fire by death of a person, regardless of whether the victim was the actor or a bystander. *"If you set a fire that becomes so out of control that you have that impact on another person, then I'm sorry, but there is no way you've done an adequate risk assessment. You should face prison time, in my opinion, regardless of whether or not it was an accident. It's the cost of a human life"*. Henry states that a fire which takes the life of another person should be punished, irrespective of the actor's intentions. Participants in this study placed significant weight on the outcome of a fire in determining its legitimacy, demonstrating advocacy of a consequentialist standpoint. Again, this reflects a fluidity in legitimacy of fire use that is best understood as 'moving up and down' a scale or continuum, providing support for a dimensional perspective rather than a binary model.

Attribute 7: Social acceptance of the fire. Participants felt there to be a social law concerning acceptability of fire that overruled their own personal beliefs on the matter. This perfectly exemplified social representations of fire use at play, with participants rarely demonstrating that their beliefs about what constitutes legitimate and illegitimate fire use were devised independently. Rather, messages ingrained by parents and peers during development were often cited as indicators of where ideas of legitimacy had arisen from.

Indeed, Bronfenbrenner's (1994) bioecological model of human development proposes that children interact with a number of key 'systems' in order to generate knowledge of the social realm – the first of which being the 'microsystem'. This microsystem is comprised of parents, siblings, and peers, and is particularly important at an early age. According to Bronfenbrenner (1994), children first interact with their 'microsystem' to learn what is socially acceptable and unacceptable in society, and this acts as a blueprint for later development. This is demonstrated by John, an older participant who grew up in a rural village and noted that, once a year, all the children in the village were required to collect firewood and help the adults supervise a large bonfire: "*We were taught how to supervise it and control it in a respectful manner, we knew the signs to look out for. Kids these days aren't afforded that luxury*".

Younger participants aged between 18 and 30 reported very little exposure to fire other than in extremely controlled and regulated contexts, such as organised bonfires. In these situations, the crowd is usually far enough removed to avoid potential harm or injury to spectators. Subsequently, younger participants such as George reported feeling uncomfortable with the prospect of people using fires in unregulated circumstances: "*We're not experienced with fire, we're never allowed to burn ourselves so it's not like you've actually learnt from experience, you've just been told*".

These differences in perceptions of fire use represent the cultural relativity of what is considered legitimate, with those in different generations and locations expressing different

beliefs on what is socially acceptable and what is not. Interestingly, participants were largely in agreement with participants in their own age and culture groups, further emphasising the significance of a social realm of knowledge across demographic groups. Once again, this supports the dimensional conceptualisation as it suggests that legitimacy of fire is conceptualised fluidly and flexibly dependent on contextual and situational factors, such as the current consensus within a social group that we prescribe to.

General Discussion

The above findings provide insight into how legitimacy of fire use is conceptualised. In keeping with our adopted interdisciplinary approach, theories from social constructionism and sociology are useful to reflect on here. They posit that knowledge is absorbed by most members of a society resulting in shared attitudes - a *"collective consciousness"* (Durkheim, 1893). As shown above, participants conceptualised legitimacy of fire use as existing along a continuum, ranging from 'always legitimate' to 'always illegitimate'. Where they each deemed different uses of fire to sit along this continuum appeared to be influenced by the social and organisational groups that participants prescribed to - culture, class, age, gender, etc. – and the collective consciousness of those groups. This is similar to the process of conceptualisation that both Goody (1970) and Botoeva (2019) reported,in their case studies, suggesting that conceptualisation of legitimacy of behaviour existing along a continuum may be universal. This provides support for Horsley's CoFUT, as participants did not consider legitimacy of fire use to exist as a binary and instead conceptualised it as a complex and nuanced phenomenon. Future research would benefit from exploring the cross-cultural relevance of these findings.

Through exploring the views of those whose fire use sits towards the legitimate or 'non-criminalised' (Horsley, 2020) pole of the CoFU, this study exposes the existence of a socially constructed reality which determines the legitimacy of fire use. This was particularly pronounced with participants' acknowledgement that Western societies have failed to

introduce and assimilate younger generations to the functional utility of fire, which would be consistent with the exposure hypothesis. As discussed earlier, Murray et al. (2015) provide evidence that positive perceptions of fire in young people are heavily related to culture and the context of exposure to fire in early life. Horsley (2020) suggests that the mystification of fire could be a contributing factor to arson, with younger generations being deprived of the opportunity to develop a healthy relationship with fire in non-criminalised settings. Horsley (2020) proposes that this could be overcome through early intervention programmes for young people that serve to support healthy interactions with fire and monitor how their fire use moves 'up and down' the CoFU; a notion also referred to by Foster (2019). The findings from this study support this proposal, given the impact that current social milieu appears to have on conceptualising legitimacy of fire.

Furthermore, findings from this study have important implications from an applied forensic psychological perspective. Practitioners working to assess and treat arsonists would benefit from adopting a continuum perspective that allows for consideration of offenders' non-criminalised fire use and their individualised trajectory 'up and down' the CoFU. In other areas of forensic practice, such as sexual offending, it is accepted that an offender's behaviour at the time of the index offence may have deviated from a social norm (i.e. consensual sex between two adults), but this does not preclude them from having adhered to that norm at another time in their life. In other words, committing a sexual offence does not mean that an individual has never had a healthy, non-criminalised sexual relationship (Baxter et al., 1984; Soothill et al., 2000). The trajectory of their sexual behaviour from non-criminalised to criminalised often forms part of an individual's formulation that serves to inform their treatment pathway(s). Addressing arsonists' history of fire use across the CoFU rather than simply the illegitimate/criminalised pole will provide clinicians further insight into offending trajectories and appropriate treatment programmes for arson offences. Future research would, therefore,

benefit from examining the extent to which arsonists' fire-use moves 'up and down' the CoFU over the lifespan and the impact of individual differences, such as gender, class, and culture, on their trajectories.

Limitations

As with most qualitative research, this study is subject to the constraints of a small sample size. Given the required time commitment, it was occasionally challenging to arrange meetings with full-time workers or those from dispersed geographical regions. However, we ensured to the best of our ability that the sample was diverse with regards to age, gender, race, class, religion, location, and occupation. This study aimed to and succeeded in providing rich, thick, dynamic data which would accurately reflect how the sample conceptualised legitimacy of fire use.

Conclusion

This study aimed to test whether individuals whose fire use is predominantly legitimate conceptualise legitimacy of fire use as existing along a continuum, as Horsley's (2020; 2021) CoFUT suggests.

Rigorous conceptual analysis revealed that conceptualisation of legitimacy of fire use is not a binary distinction but indeed exists along a continuum, ranging from 'always legitimate' (or non-criminalised) to 'always illegitimate' (or criminalised). To determine whether a use of fire lies on this continuum, participants considered seven defining attributes of legitimacy: function; scale; materials used; location; characteristics of the actor(s); consequences; and social acceptance. These attributes were shown to be semantically related to one another and culturally relative. All of the defining attributes were considered by each participant, but the extent to which they were found to influence conceptualisation differed dependent on the social groups to which participants prescribed.

These findings provide support for the CoFUT (Horsley, 2020; 2021) and offer an insight into how conceptualisation of legitimacy along the continuum is determined by social and cultural factors. As such, future research would benefit from exploring in more detail the impact of social construction on illegitimate/criminalised fire use across various cultural contexts. This may elucidate the role of specific cultural factors that contribute to an individual's risk of engaging in criminalised fire use, which would in turn inform early intervention strategies for young people.

DRAFT

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