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Young people who fireset in Western Australia: Peer group influences and impulsiveness trump consequences

Catherine Analise Timms
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**Young people who fireset in Western Australia: Peer group influences and
impulsiveness trump consequences.**

This thesis is presented for the degree of

Doctor of Philosophy

Catherine Analise Timms

Edith Cowan University

School of Arts and Humanities

2018

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Abstract

The paradoxical character of fire is perfectly captured by the juxtaposition between the initial ease and excitement of lighting fires, and fire's destructive and uncontrollable nature. Australia is fire prone with its hot, dry climate, volatile vegetation and urban sprawl surrounded by bushland. Since an estimated 50% of fires lit in Australia are deliberate (Stanley & Read, 2016) the problem of intentional firesetting cannot be overstated. This thesis argues that youth firesetting requires both macro- and micro-level approaches to appreciate the complexities of the problem, and aims to identify applicable and directed responses to minimise youth firesetting. Study one analysed data collected by the Western Australia Police to gain an understanding of characteristics associated with 20 medium to high-risk adult firesetters, such as proximal and developmental vulnerabilities. This study determined macro and micro-level theories are essential to explain firesetting. In study two, seven child and adolescent firesetters were interviewed to explore why they chose to light a fire. This qualitative research examined firesetting through the personal stories of young people who have set fires in Western Australia. Findings suggest that peer influence and impulsiveness outweigh a child's capacity to anticipate the consequences of their firesetting. Supported also is the relevance of fire-specific and antisocial activity in the development of firesetting behaviour. Family function presented as both an influencing factor, and as a moderating factor for firesetting behaviour. This thesis found that social factors contribute a proximal and antecedent role in firesetting behaviour. Consequently, findings confirmed the need for the development of a micro-level theory to explain youth firesetting.

Keywords: antisocial behaviour, consequences, family experiences, firesetting, impulsiveness, peer influence, youth.

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List of Abbreviations

| | |
|--------|---|
| ADHD | Attention deficit hyperactivity disorder |
| ASPD | Antisocial personality disorder |
| CL | Conventional-limited |
| DFES | Department of Fire and Emergency Services |
| DMAF | Descriptive model of adult male firesetting |
| DSM-IV | Diagnostic and Statistical Manual of Mental Disorders |
| ECA | Ethnographic content analysis |
| ECU | Edith Cowan University |
| FBI | Federal Bureau of Investigation |
| FAIP | Fire Awareness and Intervention Program (New Zealand) |
| FOC-MD | Firesetting offense chain for mentally disordered offenders |
| FPS | Fire Proclivity Scale |
| FSS | Fire Setting Scale |
| HM | Home-instability-moderate |
| MMPI-A | Minnesota Multiphasic Personality Assessment |
| MP | Multi-risk-persistent |
| M-TTAF | Multi-trajectory theory of adult firesetting |
| OIC | Officer in charge |
| PCL-YV | Psychopathy Checklist—Youth Version |
| POI | Person of interest |
| PPAO | Adult prolific priority arson offenders |
| SAFARI | St Andrew’s Fire and Arson Risk Instrument |
| TAPP-C | The Arson Prevention Program for Children |

| | |
|-------|--|
| USA | United States of America |
| VRO | Violence restraining order |
| WA | Western Australia |
| WAPAA | WA Police Academic Administration Unit |

Section One: Firesetting in Western Australia

Chapter One: Introduction

There are few forces more potentially destructive than fire and perhaps none that can be so easily created and released (Willis, 2004, p. 12).

Fire holds a particular fascination for many people. Fire interest has been described as a normal facet of behavioural development, which emerges early in life, and may continue well into adolescence (Chen, Arria, & Anthony, 2003; Gaynor, 1996, 2000). Experimenting with fire is a common developmental experience with most children voluntarily ceasing fire play by the age of ten with little or no intervention (MacKay, Feldberg, Ward, & Marton, 2012). Children who deliberately light fires rarely anticipate the potential for losing control of the fire, with the outcome not usually matching the child's initial motive for lighting the fire (MacKay, Paglia-Boak, Henderson, Marton, & Adlaf, 2009; MacKay, Ruttle, & Ward, 2012). Concerns mount, however, when a child's fascination with fire develops into an unhealthy interest and is not channelled appropriately. This is particularly relevant in a fire-prone country like Australia where the potential for injury, death, property damage, resident displacement and economic loss as the result of a deliberately lit fire is significant (Zipper & Wilcox, 2005) because most of Australia's urban sprawl borders bushland (Willis, 2004).

Damages incurred as the result of deliberate firesetting is estimated to cost Australia upward of \$1.62 billion annually (Watt, Geritz, Hasan, Harden, & Doley, 2015). Most deliberately lit fires and those who start fires remain undetected since much of the behaviour is covert, with between 60% and 89% of arson offences unreported or unresolved (Putnam & Kirkpatrick, 2005; Zipper & Wilcox, 2005). It is estimated that only 6% of bushfires in Australia are 'natural' events (Bryant, 2008), and that 50% of

ignitions can be attributed to deliberate actions (Stanley & Read, 2016), with the remainder classified as accidental.

Official statistics on firesetting are usually drawn from emergency services' databases. However, emergency responders become involved only once the fire has reached a certain level of severity. These statistics do not account for firesetters who control their fires; therefore, official statistics underestimate the true problem. For example, in the United Kingdom, police investigated 2,316 of a reported 19,306 arson offences (Barrowcliffe & Gannon, 2016). In Australia, only 46% of a research sample (adult serial firesetters) reported they had been convicted of a firesetting-related offence (Doley, 2009). Further, in the United States of America (USA), one in 100 adults self-reported a history of engaging in deliberate firesetting, with 38% of the firesetting incidents occurring after the participants had reached 15 years (Blanco et al., 2010b; Vaughn et al., 2010). This research suggests 62% of participants lit the majority of their fires under the age of 15 years, demonstrating that firesetting is predominantly engaged in by young people (Blanco et al., 2010b; Vaughn et al., 2010).

Meanwhile, in the United Kingdom, approximately 18% of respondents in community studies self-reported a lifetime involvement in firesetting that police services had not detected (Barrowcliffe & Gannon, 2016). Compounding this evidence, in the USA, a study of 1,241 youth firesetters determined that emergency services were aware of only 11% of the fires the sample had set (Zipper & Wilcox, 2005). International community samples estimated approximately 30% of adolescents engaged in deliberate firestarting throughout childhood (Del Bove, Caprara, Pastorelli, & Paciello, 2008; MacKay et al., 2009). MacKay et al. (2009) found that repeat firesetting rates were high, with almost 50% of respondents involved in three or more fires in the year preceding data collection.

Specific firesetting data for Western Australia (WA) are limited. WA Police Arson Squad statistics for the 2014–2015 bushfire season indicate that 533 suspicious fires were lit. Of these fires, the police made 42 arrests and charged 36 young people aged between eight and 17 years (O'Connor, 2015). This implies that WA fires are set predominantly by young people, aligning with international statistics that show there is an over-representation of young people in firelighting. For example, Lambie and Randell's (2011) extensive literature review established that between 40% and 73% of all arson arrests were of individuals aged 21 or below.

Considering a recent increase in arson-related arrests in WA (O'Connor, 2015), the lack of information on WA youth firesetters is problematic because it limits an agency's ability to target and prevent the behaviour. This increase is attributed to strategies aimed at targeting firesetting in WA.¹ The problem is similarly experienced in the USA, with the Federal Bureau of Investigation (FBI) reporting an increase in the incidence of fires being set, one-third of which were set by children under the age of 12 (Kolko, 2002; McCarty & McMahon, 2005). Thus, rates of youth firesetting are high, intensifying the need for effective intervention strategies. However, current treatment and risk assessments are based on international research aimed at firesetters who target structures (Del Bove et al., 2008; Dickens & Sugarman, 2012a; Doley, 2009; Doley, Fineman, Fritzon, Dolan, & McEwan, 2011; Gannon, 2010; Gannon & Barrowcliffe, 2012; Gannon et al., 2013; Gannon, Ó Ciardha et al, 2012). Australian firesetters are unique in that many deliberately target bushland (Doley, 2009; Ducat & Ogloff, 2011; Willis, 2004, 2005), but it has not yet been confirmed whether bush firesetters share

¹ Strikeforce Vulcan was introduced in the 2010–2011 bushfire season. It is a summer taskforce, directed by the WA Police. The project targets deliberate firesetting behaviour in both adults and young people, with the purpose of decreasing arson-related behaviour using proactive policing measures and strategies.

common characteristics with structure firesetters. Previous research has identified a broad range of factors that influence firesetting, which rarely manifest in the same way.

It is a misperception that firesetters share a common impulsive flaw that causes an uncontrollable need to set fires (Ducat, McEwan, & Ogloff, 2013). Youth and adult firesetters are a diverse group, whose motivations, needs and behaviour vary substantially. Thus, gaining a comprehensive theoretical and practical understanding of firesetting from childhood through to adulthood is vital to assist in disengagement from the behaviour. Theoretical knowledge of firesetters developed alongside psychological movements, such as that of Freud (1932) who attributed firesetting to a mania, enuresis or sexual deviance. This conceptualisation dominated research discourse until Yarnell (1940) established that 70% of incarcerated adult firesetters had firesetting histories beginning in childhood.

Firesetting research continued to develop theoretically until the early 1980s, when multifactorial approaches dominated discourse. Social learning theory and dynamic behavioural models began to influence clinician approaches to treatment and risk assessment, conceptualising firesetting as a complex interaction of environmental, developmental and individual variables (Fineman, 1980; Gannon, Ó Ciardha et al., 2012; Jackson, 1994; Jackson, Glass, & Hope, 1987). A plethora of typologies dominated the literature, categorising firesetters based on motivational factors, offence characteristics or a combination of the two (Icove & Estepp, 1987; Inciardi, 1970; Lambie & Randell, 2011; Lewis & Yarnell, 1951; Rix, 1994; Vreeland & Levin, 1980). These approaches failed to account for protective factors that influence desistance from firesetting, vital to prevention and treatment programmes. A recent move towards comprehensive multifactorial categorisations has occurred. For example, the multi-trajectory theory of adult firesetting (M-TTAF; Gannon, Ó Ciardha et al., 2012) and the

descriptive model of adult male firesetting (DMAF; Barnoux, Gannon, & Ó Ciardha, 2015) target adult firesetting, while Del Bove and MacKay's (2011) empirical typology is directed towards young people. These theories provide empirically-driven approaches that conceptualise firesetting behaviour; however, there are many components of firesetting that require further research.

Gaps in the Research Field

Research confirms three distinct groups of firesetters: children, adults and adults with a mental disorder (Dickens & Sugarman, 2012a). A large body of research uses samples drawn directly from psychiatric institutions; thus, adults with a mental disorder who set fires were not a focus of this research. Although deliberate firesetting is a serious societal issue, the current body of knowledge lacks consistent and comprehensive findings because of the diverse methods that researchers have used. The scope of research varies, directed by function, intent, motive, frequency, severity, damages, developmental stages and consequences (Kolko, 2002). A quantitative methodology is predominantly employed in available research, with most studies focusing on constructing motivational typologies into one cohesive theory (Del Bove, 2005). Because of difficulty in accessing the research population, most researchers rely on retrospective or secondary data sources. A comprehensive literature review asserted that these approaches have a linear focus, struggling to account for the complex layers of the firesetting decision process (Lambie & Randell, 2011); thus, research would benefit positively from primary data sources, such as in-depth interviews or case studies. Moreover, research often separates adult and young firesetters, limiting comparisons between the two populations.

Most of the previous research has an international bias: the USA, Canada, the United Kingdom and New Zealand. Australian research has focused primarily on adult firesetters, although recent statistics demonstrate the benefit of researching childhood firesetting. The Australian firesetting population comprises structure and bushfire firesetters, with the WA Police finding that most WA firesetters target bushland (O'Connor, 2015). To date, little research attention has been given to firesetters who choose to light bushfires, limiting understanding of risk factors, triggers and psychopathology (Willis, 2004). This gap affects both emergency agencies' and clinicians' ability to accurately identify, target, monitor and treat firesetters. By examining past research and theory, several gaps in knowledge have become apparent in both adult *and* youth research.

Gaps in the Adult Firesetting Research

Adult firesetting research is still in its infancy (Gannon, Ó Ciardha, et al., 2012). A comprehensive understanding of socio-demographic characteristics common to firesetters who light structural fires has emerged (Blanco et al., 2010b; Vaughn et al., 2010); however, the characteristics of adult firesetters who select bush as a target requires further attention. Adult firesetting literature generally uses samples drawn from incarcerated firesetting populations, with a small number of researchers recently targeting unapprehended and community populations (Barrowcliffe & Gannon, 2015, 2016; Blanco et al., 2010b; Vaughn et al., 2010). Further, samples often comprise mental health patients (Lambie & Randell, 2011). Consequently, research findings are limited to offenders with a diagnosed mental disorder. To bridge this gap, the current adult sample comprised medium to high-risk firesetters (as assessed by the WA Police

Arson Squad Officers²). Although a small number of the firesetters had previously been incarcerated for their firesetting, the majority had not. Additionally, no one in the sample were mental health patients at the time data were collected.

Validated assessment tools for adult firesetting are limited, with evidence-based treatment programmes and interventions only recently developed (Hollins et al., 2013). At the time of the police interviews, none of the adult participants had been involved in an evidence-based treatment programme. Although prospective longitudinal studies examining firesetting from childhood to adulthood have received little research attention (Dickens & Sugarman, 2012a), this methodology was outside the capabilities of this research, although this research demonstrated the utility in following child firesetters through their development. Research following the development of firesetting behaviour may provide insight into the behaviours, since short-term studies do not necessarily capture subtle developmental and behavioural changes. Research regarding the role of fire-specific factors is vital, particularly regarding the onset and maintenance of firesetting behaviour (Ó Ciardha et al., 2015; Gannon et al., 2013). Although unable to measure fire-specific factors because a qualitative methodology was used, this research considered offence and fire-specific factors of each participant, determining commonalities and patterns across their behaviours.

Several theoretical frameworks (including single factor, offence process and multifactorial theories) have been developed. At a macro-level, the M-TTAF (Gannon, Ó Ciardha et al., 2012) is the most promising in terms of its ability to understand firesetting, taking into consideration risk factors, developmental factors and

² The risk-assessment framework used by the WA Police was not disclosed to the author of this thesis. The parameters of the assessment are unknown, although it was communicated by the WA Police they have a specific risk assessment matrix they use to determine their ratings. In this instance, medium to high-risk refers to a matrix applied to the firesetters determining how likely the individual was to re-offend by firelighting.

vulnerabilities that contribute to firesetting. Further, the theory outlines five key trajectories, clustering firesetters centred on commonalities and patterns in their behaviours. To date, this theory requires further validation (Dalhuisen, Koenraadt & Liem, 2017); however, this research aimed to establish whether it is suitable to understand WA adult firesetters. Of further benefit is the use of micro-level theories, such as the DMAF (Barnoux et al., 2015) and the firesetting offense chain model for mentally disordered offenders (FOC-MD; Tyler et al., 2014). These theories, provide a detailed understanding of the firesetting offence process, accounting for the cognitive, affective, behavioural and contextual factors that influence firesetting and have previously been utilised for structure firesetters. Thus, using them within a broader contextual framework will determine their efficacy.

Gaps in the Youth Firesetting Research

Despite recent theoretical and empirical developments in youth firesetting research, gaps remain. Previous research has focused on individual, environmental and family characteristics associated with child firesetters; however, much of the research requires replication. Most youth research differentiates between child and adolescent firesetters, although evidence shows that severity of firesetting occurs across all ages and does not necessarily increase with age as earlier presumed (Del Bove, 2005). This limits the applicability of research between the two groups, restricting comparisons across ages. This research addressed this methodological difference, with no differentiation made between ages. A small number of studies have focused on understanding the complexity and interrelatedness of variables associated with youth firesetting (Lambie, Ioane, Randell, & Seymour, 2013; MacKay, Ruttle, & Ward, 2012; McCardle, Lambie, & Barker-Collo, 2004), although little research examining the influence of developmental factors is apparent (Lambie & Randell, 2011). Moreover,

most prior research used quantitative methodologies, with limited focus on gathering qualitative data focusing on young people who fireset.

A small number of studies using unapprehended firesetters have been conducted in the last 20 years (Becker, Stuewig, Herrera, & McCloskey, 2004; Dadds & Fraser, 2006; Del Bove et al., 2008; Martin, Bergen, Richardson, Roeger, & Allison, 2004). These researchers focused on ‘severe’ firesetting pathologies, often excluding young people considered non-pathological or less severe in their offences. This has limited the conceptualisation of firesetting because children motivated by ‘curiosity’ were determined as non-pathological; however, they are more likely to engage in repeat firesetting.

Youth firesetting research faces inconsistencies in quantitative constructs and measures. Since standardised measurements are limited, they are open to misinterpretation, influencing the efficacy of empirical theory construction. Moreover, youth theoretical explanations are noticeably underdeveloped in comparison with theories explaining adult behaviour. Youth theoretical approaches usually categorise offenders as ‘severe’ or ‘non-severe’, differentiating between firesetters based on age. This oversimplifies categorisations and creates difficulties for comparisons. A noteworthy theory was developed by Del Bove and MacKay (2011), providing a way of categorising young firesetters. This theory clusters young firesetters based on common risk factors associated with firesetting, and does not allow for a micro-level theory level of understanding in the same manner as offence process theories. It is beyond the scope of this research to construct a micro-level theory; however, by identifying commonalities across the offence process/es of the young people, the research can confirm whether a micro-level approach is of benefit to responding agencies.

Adult Firesetting in Western Australia: Study One

Aim and Scope of Study One

The WA Police have a dedicated arson squad employed to target and reduce fire-related offences. The arson squad identifies, assesses and incorporates strategies to target, manage and prevent firesetting, focusing on individuals assessed by police as medium to high-risk of repeat firesetting. From a practical perspective, knowledge regarding the firesetting population of WA has the potential to improve how the police target and prevent offending. Thus, this research examined personal characteristics, and developmental and proximal factors influencing adult firesetters. Two sources of data were used: a questionnaire administered by police to medium to high-risk firesetters, and police intelligence files. The aim of the first study of this research was to gain a broad contextual understanding of the medium- to high-risk firesetting population in WA. Research questions were guided by the available data:

- i. What firesetter characteristics were common across the sample?
- ii. What developmental experiences were common across the sample?
- iii. What proximal factors presented across the sample?

The data were conducive to a quantitative, descriptive analysis. Data were quantified using common codes, and subsequent themes extracted for analysis.

Significance of Study One

This research has both practical and theoretical implications. Practically, this research provides a descriptive recounting of the current medium to high-risk adult firesetting population within WA, with a focus on understanding factors that need to be targeted for future research, and for clinicians and emergency services. Theoretically,

this research provides information regarding the application of theory to firesetting populations, supporting the relevance of both macro- and micro-level theoretical approaches. Further, the findings emphasise the importance of a holistic and individualistic treatment and intervention programme that targets more than fire-specific behaviour, as findings showed that for some, fire-specific factors were the least influential facet of their behaviour and subsequent treatment. The research findings further demonstrate the value of examining childhood firesetting factors of adult firesetters and redirected the focus of this thesis to youth firesetting.

Young People and Firesetting in Western Australia: Study Two

Aim and Scope of Study Two

Study one found a prevalence of childhood fireplay and firesetting history in medium to high-risk adult firesetters. In conjunction with the statistical prevalence of young people who fireset in WA, this finding established the relevance of moving attention to a young firesetting population. Considering the previous dominance of quantitative approaches in youth firesetting research, study two selected a qualitative approach to research young people who fireset.

Study two used a phenomenological approach to frame one question that arose through a review of prior research: what thought and decision process did the child follow that resulted in firesetting? This problem informed the construction of the research question for this study:

- i. How do WA firesetting youths perceive and explain their deliberate firesetting?

A semi-structured interview technique was employed to gather responses to this question. Findings from these data answer the overarching aim of this research: to identify applicable and directed responses for practice to minimise firesetting behaviour in WA young people. The findings of this study provided several implications for practice, outlined in the final chapter of this thesis.

Significance of Study Two

Many quantitative studies examining youth firesetting have used samples involving people currently incarcerated, those involved exclusively with mental health facilities, and those considered high-risk. In contrast, the current sample used seven children and adolescents who had had contact with the police for a firesetting incident, ranging across both the age spectrum and risk level. By providing a voice to these young people and their parents, the research gained insights into the behavioural, cognitive and contextual factors that influenced and contributed to the child's decision to engage in firesetting, and their offence process/es. Further, this research was able to utilise a unique sample of bush firesetters, rarely examined in previous research. Descriptive patterns emerged across the sample, allowing for the collation of a figure that represents the self-reported descriptive offence process/es of the young firesetters. Findings acknowledge both the heterogeneity of firesetting behaviour, and account for the similarities reported by the sample.

Terminology

This thesis uses several terms unique to firesetting discourse. Mainstream media and researchers have multiple terms to describe someone who sets unsanctioned fire, such as arsonist, firesetter, firelighter, pyromaniac and firebug. Further, psychological phrases such as fireplay, lighter play, matchplay, fire fascination and firesetting are

commonly used to refer to developmental stages that encapsulate ‘fire involvement’ (MacKay, Ruttle, & Ward, 2012). The following paragraphs expand and define the key terminology used throughout this thesis.

Arson/arsonist

The phrase ‘arson’ or ‘arsonist’ is a legal term, with the definition changing across jurisdictions, and excluding individuals based on age of criminal responsibility (i.e. children under 10 years). The word refers to the criminal act of intentionally, or recklessly, setting fire to a target, such as bushland (Dickens & Sugarman, 2012b). Although recognised internationally, arson is not currently a word used in WA legislation. The American FBI (2005) defined arson as, “any wilful or malicious burning or attempt to burn, with or without intent to defraud a dwelling, house, public building, motor vehicle or aircraft, personal property of another” (p. 53). An arsonist must be criminally convicted of arson. The phrase fails to accurately describe and characterise all aspects of behaviour associated with firesetting. The phrase ‘arson’ should only be used within a legal context; however, the term is used in this thesis if the cited author has done so.

Firesetting/firesetter

The term ‘firesetting’ describes a behavioural phenotype. It is applicable to a wide range of individuals because it encompasses fires that are unprosecuted for various reasons: authorities may have insufficient evidence to prove intent, the fire may not have been reported to the authorities, or it may not have been designated as suspicious. The term firesetting does not exclude an individual based on age as does ‘arson’ (Dickens & Sugarman, 2012a). This thesis uses MacKay, Ruttle and Ward’s, (2012) firesetting definition: “an event where property or a person was targeted in a fire that

was ignited by a youth without the supervision or permission of an authority figure” (p. 85).

Bush firesetter

As part of a firesetting offence, an individual selects a target to set alight. In Australia, some firesetters may choose vegetation as their target. These fires are primarily lit in scrubland, grassland or forest areas, colloquially referred to as ‘bush.’ Individuals who select bush areas as their target are referred to throughout this thesis as ‘bush firesetters.’

Structure firesetter

An individual may deliberately target ‘structures’ as part of their firesetting offence. For the purpose of this thesis, a firesetter who has selected a structure, such as a house, shed or other property, to set on fire is referred to as a ‘structure firesetter.’

Fire interest

Fire interest is a crucial developmental stage usually experienced between the ages of three and five years (Gaynor, 2000). This interest is considered normal and healthy, and is conveyed in several ways. A child’s interest may be expressed through play including dressing up as a firefighter and playing with toy fire trucks. The child may ask questions about the physical property of fire. This stage is pivotal for the development of healthy fire behaviours. Parents and authority figures play a crucial role in educating children on fire safety (Gaynor, 2000).

Fireplay/firestarting/matchplay

Fireplay is a subtype of firesetting behaviour and is common in youth firesetting populations. Interest in fire generally begins in fireplay, with behaviours that include fascination with matches or lighters. Young people in a fireplay stage have no intent to

cause damage or inflict harm (Cole et al., 2006). Most boys between the ages of three and nine experiment at least once with firestarting materials (Gaynor, 2000), demonstrating its developmental importance. If a child successfully lights and controls a fire in an unsupervised setting, the likelihood of the child continuing to experiment with fire increases, as does the probability of the child lighting a significant fire (Gaynor, 2000).

Fire scripts

How a person interprets fire, and thinks about its applications and meanings in their life, is a ‘fire script.’ This phrase is used to theoretically (M-TTAF; Gannon, Ó Ciardha et al., 2012) understand a set of cognitive rules that a firesetter applies to their understandings of fire. Cognitive rules were defined by Tomkins (1991, as cited in Gannon, Ó Ciardha et al., 2012) as, “the interpretation, evaluation, prediction, production, or control of” (p. 84) circumstances. These rules are applied both indirectly and directly, with theorists positing that general aggressive scripts and coping scripts are both encompassed within fire scripts (Gannon, Ó Ciardha et al., 2012).

Pyromania

Colloquially, the term ‘pyromania’ is often an interchangeable reference to anyone who lights fires. Clinically, the term has a specific diagnosis, including a strict exclusionary criterion, outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013). For the diagnosis of pyromania, an individual must:

- i. Deliberate and purposeful fire setting on more than one occasion
- ii. Tension of affective arousal before the act

- iii. Fascination with, interest in, curiosity about, or attraction to fire and its situational contexts (e.g., paraphernalia, uses, consequences)
- iv. Pleasure, gratification, or relief when setting fires or when witnessing or participating in their aftermath
- v. The firesetting is not done for monetary gain, as an expression of socio-political ideology, to conceal criminal activity, to express anger or vengeance, to improve one's living circumstances, in response to a delusion or hallucination, or as a result of impaired judgement (e.g., in major neurocognitive disorder, intellectual disability [intellectual developmental disorder], substance intoxication).
- vi. The firesetting is not better explained by conduct disorder, a manic episode, or antisocial personality disorder.

The current DSM-5 classifies pyromania as an impulse disorder (American Psychiatric Association, 2013). The diagnosis of pyromania is rare (Palk, 2015) because of the broad exclusionary criteria. This definition does not consider the role of comorbidity in firesetting, limiting its relevancy and usefulness (Doley, 2003b; Palk, 2015). The clinical aspect of the term pyromania means the phrase is utilised within this thesis in the context of prior research, or when used in policing data.

Youth/Juvenile/Young Person

The minimum age of criminal responsibility in most Australian states and territories is 10 years (Seymour, 1996; Urbas, 2000), although Tasmania's legal system considers a child criminally responsible at seven years. In Queensland, a person is considered an adult at 17 years. All other states and territories including WA consider a person an adult at 18 years (Seymour, 1996; Urbas, 2000). It was outside the realm of this research to consider criminal culpability in relation to firesetting behaviour. As a

result, the research targeted a wider population, with ‘young person,’ ‘youth’ or ‘juvenile’ considered anyone under the age of 18 years. The thesis considered an adolescent to be over the age of 12 years, but under 18 years of age, and a child as a young person under the age of 12 years. This demarcation reflects the difference in cognition levels of the young participants.

Structure of the Thesis

The overall structure of this thesis comprises four sections, each composed of several chapters. The purpose of section one is to provide an analysis of previous research and theory relating to adult firesetting. Chapter one provides a brief introduction to the problem of firesetting, summarising study one and study two. This includes the aim, scope and significance of the research. Further, this chapter defines key terminology used throughout the thesis. Chapter two describes and analyses previous adult firesetting research. The chapter begins by highlighting the historical conceptualisations of firesetting. Further, chapter two contextualises the research by providing an analysis of the common characteristics of firesetting, detailing the relevance of motivation, recidivism and risk. The chapter concludes with an evaluation of the current firesetting theoretical approaches to understanding adult firesetting.

Section two of this thesis presents study one. This section begins with chapter three, overviewing the specific methods used to conduct study one. This chapter considers the data, participants, ethical considerations, and the research approach and data analysis. Following this, chapter four presents the findings of study one. The chapter contains four distinct subsections: (1) the characteristics of participants, (2) firesetting offence variables, (3) patterns of developmental risk factors and (4) patterns

of proximal factors. The chapter acknowledges limitations of the research, prior to providing a summary and conclusions of study one.

Section three commences with a brief introduction into youth firesetting, with chapter five examining and analysing available youth firesetting research and theories. Factors associated with the development and maintenance of firesetting, the role of motivation, and repeat firesetting factors are summarised. This chapter provides a direction for the fourth section of this thesis.

Section four begins by detailing and justifying the methodology used for study two. Chapter six describes ethical considerations, and details the research process and subsequent data collection, explaining the data analysis techniques used. A context to the findings of study two is provided in chapter seven. Chapter seven provides an in-depth account of each child's personal story, prior to commencing the discussion of findings in chapters eight, nine, ten and eleven. Each chapter focuses on one key theme that emerged during analysis: family and firesetting (chapter eight), antisocial and externalising behaviour (chapter nine), social experiences (chapter ten), and offence patterns and theoretical categorisations (chapter eleven). Section four concludes with chapter twelve. The purpose of chapter twelve is to integrate research findings, providing detailed conclusions from studies one and two.

Chapter Two: The Broader Context of Adult Firesetting

Arsonists are a particularly disadvantaged group with little or no effective means for influencing their environment and who find themselves in highly undesired situations. (Jackson, Glass, & Hope, 1987, p. 183)

The decision to light a fire is influenced by an array of factors that interact in a complex manner, varying among firesetters. This complexity is reflected in the progression of firesetting research and theory, evolving from biological theories driven by Lombroso's (1893, 1911) early understandings of criminal behaviour, through psychoanalytical theories that considered firesetting the result of misguided sexual arousal. Current complex multifactorial understandings encompass behavioural, social and environmental factors that co-exist, overlap and interact to influence firesetting (Gannon & Pina, 2010; Horley & Bowlby, 2011). The first attempts to understand the impetus behind firesetting behaviour emerged at the start of the nineteenth century. Theorists in Germany, France, England, and North America attributed firesetting to pre-pubescent mentally deficient girls who suffered from abnormal sexual fantasies and struggled with their menstrual cycles (Davis & Lauber, 1999; Geller, Erlen, & Pinkus, 1986; Horley & Bowlby, 2011). However, research has since determined that firesetting is predominantly perpetrated by Caucasian males between the ages of 12 and 25 years who display distinct psychopathologies associated with antisocial and externalising behaviour, and impulse and conduct disorders (Doley, 2009; Doley et al., 2011; Ducat, McEwan, & Ogloff, 2013; Fritzson, Lewis, & Doley, 2011).

This chapter analyses firesetting research, including methods of study and theoretical approaches, to create a foundation of knowledge and subsequently inform

the direction of study one. The chapter begins with an outline of historical approaches to categorising firesetting, moving from biological positivism through psychoanalytical approaches to current multifactorial conceptualisations. Further, an analysis of current characteristics and risk factors affecting the maintenance of and desistance from firesetting are examined, such as socio-demographic factors, general psychopathology, personality function and psychological traits, substance use, family factors and antisocial characteristics. Considering the prevalence of firesetters who select bush as their target in Australia, this review focuses on research examining the subtype of bush firesetters. This chapter progresses by exploring the role of motivation, recidivism and risk associated with firesetting prior to detailing available treatment and assessment options.

Historical Understandings of Firesetting

Early research into firesetting used an atavistic framework of biological positivism (Lombroso, 1884 as cited in Gibson & Rafter, 2006) to conceptualise the behaviour—that is, that hereditary flaws were the primal causality of criminal behaviour, and that people were born with criminal drives (White & Haines, 2011). Biological positivism influenced the earliest conception of pathological firesetting by Marc (1833), who described ‘*monamie incendiare*’, or pyromania. Marc credited the behaviour to sexually frustrated teenage girls and, to a lesser extent, elderly men, theorising that fire provided a way to achieve sexual gratification and fulfilment. Marc (1833) theorised the ‘bizarre’ behaviour was a distinct psychopathology, characterised by a repetitive and uncontrollable urge to burn. Building on this concept, Legrand du Saulle (1856, as cited in Lewis and Yarnell, 1951) proposed three categories: (1) accidental pyromania, the result of a feeble-minded person; (2) incomplete

pyromania, those who set fires because of nostalgia; and (3) complete pyromania, the result of depression or excitation of an individual's mental faculties. Consequently, firesetting was initially perceived as a psychological disorder, 'pyromania.'

In contrast, Prichard (1842) theorised that repeat firesetting behaviour was a singular mental disorder, although few people were pyromaniacs. Prichard (1842) posited that two factors had to be present for a diagnosis of pyromania: the person must be under the influence of a morbid propensity, and the behaviour and impulse must be irresistible to the individual (as cited in Horley & Bowlby, 2011, p. 242). This concept was controversial, with opposing theorists stating that pathological firesetting was an artificial contrivance that could not be the result of a singular mental disorder (Griesinger, 1867 as cited in Geller, 1992b). These theorists believed that categorising firesetting as a mental disorder allowed firesetters to escape justice for their choices (Taylor, 1861, as cited in Geller et al., 1986). The concept of pyromania as a mental disorder (which considered firesetters to be legally insane) temporarily ended with the movement against the insanity plea in 1881 (Del Bove, 2005; Horley & Bowlby, 2011). As Pilgram (1885, as cited in Del Bove, 2005, p. 4) stated, "we must therefore conclude that there is no such psychological entity as pyromania and that an incendiary act is either the crime of arson or the symptom of a diseased brain" (p. 465).

By the start of the 20th century, pyromania was understood as a disorder with an unexplained aetiology. Interest in firesetters refocused with the psychoanalytical movement. Stekel's (1925) work classified firelighting as a paraphilia, reverting to theorising that firesetting was the result of unfulfilled sexual tension. Stekel (1925) theorised that individuals had varying motivations for firelighting behaviour, but if a motivation appeared absent, the impulse to light a fire should be attributed to an uncontrollable sexual compulsion (as cited in Geller, 1992b). Sexual motivation as a

drive for firesetting was popularised by Sigmund Freud, who used the myth of Prometheus to support his conceptualisation. Pathological firesetting behaviour was of a cyclical nature: desire, conflict and renunciation of the instinct. Freud (1932) considered pathological firesetting to be the manifestation of psychosocial conflict during the phallic-urethral stage in defiance of internalised super-ego constraints. He theorised that a synergistic relationship between sexual arousal, urination and fire would result in firesetting, asserting the act was a homoerotic symbolic act of lust. Freud (1932) used examples of male offenders deriving satisfaction from watching fires to support his interpretations.

Freud's psychoanalytical theory directed clinicians' thinking and research for several decades, and persists as a perceived motivating factor for firesetting, thus establishing the theory's importance when framing research. Researchers who supported the psychoanalytic approach theorise that firesetting was a substitute for masturbation, and a firesetter's only means of achieving sexual release (Kaufman, Heins, & Reiser, 1961). However, little empirical evidence supports this theory as few firesetters report gaining sexual arousal or excitement from firelighting (Dickens & Sugarman, 2012b; Koson & Dvoskin, 1982; Quinsey, Chaplin, & Upfold, 1989; Rice & Harris, 1991). Rather, the experience of sexual arousal in firesetting occurs within a broader domain of excitement, and arousal comprises only one component. Any arousal experienced may mistakenly be classified as sexual, and not attributed to heightened physiological arousal (Fritzon, Doley, & Clark, 2013).

Like other movements in psychology, firesetting theorists moved away from a broader psychoanalytical approach, utilising ego psychology to anchor their research, allowing for multivariate conceptualisations. Researchers began to consider how primitive ego functioning influenced firesetters' choices. This signalled a shift towards

researching complex characteristics associated with firesetting, beginning with Yarnell's (1940) study. Using a sample of 60 child firesetters, associated psychological, demographic and familial factors of each child were examined. The study's sample consisted of 58 males and 2 females, ranging in age from 6 to 15 years, reflecting the gender imbalance common in current firesetting populations. This gender variance contrasts earlier theory work, which attributed firesetting to adolescent females. Although this research had a focus on young people who fireset, it shifted attention in adult firesetting research towards an empirically based approach.

Extending Yarnell's (1940) research, Lewis and Yarnell (1951) conducted one of the first large-scale empirical examinations of firesetting. Psychiatric and fire investigation reports of 1,145 adult male and 200 female arsonists were examined to determine firesetting risk factors. The authors used the findings to produce one of the first modern firelighting typologies, theorising that firesetting was driven by aggression, contrasting earlier approaches that viewed firesetting as being driven by libido. Lewis and Yarnell (1951) asserted that ego functioning was the main impetus for adult firesetting. The analysis of a subgroup of 200 young firesetters was also included within the sample, with motivation classified as either excitement or mischief.

Lewis and Yarnell's (1951) quantitative results were supported by qualitative interviews with 100 firesetters. Findings from the interviews led to a four-category motivational classification system: (1) unintentional firesetting, attributed to temporary confusion or poor judgment; (2) delusional firesetting, viewed as an individual's response to voices and delusional ideas; (3) erotic firesetting, ascribed to sexual fetishism or pyromania; and (4) revenge firesetting, caused by jealousy as the result of real or perceived slights. Lewis and Yarnell (1951) acknowledged these categorisations

were not mutually exclusive, with many firesetters exhibiting a duality of motivations, such as a mix of revenge and pyromania.

The psychoanalytical approach is useful for understanding individual cases of firesetting; however, it is unable to find empirical grounding and support for many of its suppositions. The approach accounts only for males having a sexual motivation to start fires (Horley & Bowlby, 2011). Further, research has been unable to support a link between enuresis and firesetting (Doley, 2009; Vreeland & Levin, 1980). Moving away from a psychoanalytic-driven approach, firesetting research shifted focus to developmental factors and characteristics associated with firesetting, aiming to understand influences on the firesetter's decision to light a fire. In the above discussion, historical approaches that directed research and theory have been detailed. Building on this, factors that interact to influence adult firesetting, beginning with socio-demographic characteristics, are now considered.

Adult Firesetting: Influencing Factors

Socio-demographic Characteristics

Upwards of 80% of self-reported American community firesetters are male (Blanco et al., 2010a; Vaughn et al., 2010), with apprehended firesetting populations also primarily male (Anwar, Langstrom, Grann, & Fazel, 2011; Devapriam, Raju, Singh, Collacott, & Bhaumik, 2007; Soothill, Ackerley, & Francis, 2004; Stewart, 1993). Gender ratios (male to female) range from 5:1 in community samples (Vaughn et al., 2010) to 9:1 in apprehended populations (Soothill et al., 2004). Causal factors for this gender imbalance have received little empirical examination because of the small number of females who fireset (Fritzon & Miller, 2016; Gannon, Tyler, Barnoux, & Pina, 2012). Approximately 51% of self-reported firesetters are aged between 18 and

35 years (Horley & Bowlby, 2011; Vaughn et al., 2010), with many reporting their first fire set at around the age of 10 years (Barrowcliffe & Gannon, 2015; Gallagher-Duffy, MacKay, Duffy, Sullivan-Thomas, & Peterson-Badali, 2009). A difference in mean age between the genders (at the time of offence) exists, with males significantly younger than females in both psychiatric and apprehended populations (Dickens et al., 2007; Enayati, Grann, Lubbe, & Fazel, 2008; Soothill et al., 2004). Ethnicity in firesetting samples is also predominantly Caucasian (Anwar et al., 2011; Barrowcliffe & Gannon, 2015, 2016; Vaughn et al., 2010).

Self-reported firesetting community samples demonstrate no significant difference in marital status, income or education levels (Barrowcliffe & Gannon, 2015; Blanco et al., 2010a). Convicted firesetters experience elevated levels of unemployment and low levels of income, with many being recipients of government benefits (Anwar et al., 2011; Barker, 1994; Moore, Thompson-Pope, & Whited, 1996). These disadvantages are compounded by low levels of general skills (Rice & Harris, 1991). Further, firesetters have extensive histories of poor academic achievement, with 63% of Anwar et al.'s (2011) sample not completing further than elementary school (up to ten years of age). Research shows that firesetters usually live alone and report never having been married (Dickens et al., 2009; Ritchie & Huff, 1999). Thus, firesetters experience several disadvantages that may negatively influence basic life functions. However, these socio-demographic characteristics, although common, do not necessarily contribute to the emergence of firesetting behaviour. Therefore, other factors that research has linked to the onset of firesetting behaviours must be considered, such as mental health adversities.

Mental Health and Firesetting

An assumption that repeat firesetting is a mental disorder became common with the inclusion of pyromania in the *Diagnostic and Statistical Manual of Mental Health Disorders*, despite the small number of diagnoses within firesetting populations (Ducat, Ogloff, & McEwan, 2013; Lindberg, Holi, Tani, & Virkkunen, 2005). In studies conducted when pyromania was a widespread diagnosis, such as that by Lewis and Yarnell (1951), a psychoanalytical approach was the prevalent theoretical framework. Subsequent analysis suggested the diagnosis of pyromania in 60% of the sample was realistically only present in 4% of the participants (Dickens & Sugarman, 2012a). Theorists posited that as the definition of pyromania gained additional exclusionary criteria, levels of pyromania subsequently diminished, supported by the near zero levels of current diagnoses (Dickens & Sugarman, 2012a). Discounting a diagnosis of pyromania, firesetters often experience mental health struggles, although not all firesetters have a mental health diagnosis (Tyler & Gannon, 2012).

Whereas mental health issues appear to be common across firesetting populations, studies into the presence, frequency and types of psychiatric disorders within firesetting samples revealed mixed findings (Anwar et al., 2011; Barnett, Richter, & Renneberg, 1999; Enayati et al., 2008; Geller, 1992a; Rice & Harris, 1991). Blanco et al., (2010a) and Vaughn et al. (2010), using data from the National Epidemiologic Survey on Alcohol and Related Conditions, examined mental health in American firesetters. To examine the prevalence of personality, mood and anxiety disorders, and experiences of substance use disorder, a sample of 43,093 community members (both firesetters and non-firesetters) completed a self-report survey (Blanco et al., 2010a;

Vaughn et al., 2010). Psychotic disorders with Axis I³ diagnosis were present in 91% of self-reported firesetters, compared with 51% of non-firesetters. Axis II⁴ diagnosis was present in 69% of firesetters, in contrast to 15% of non-firesetters. Further, alcohol use disorder was present in 72% of firesetters. Researchers found a diagnosis of antisocial personality disorder (ASPD) in 52% of the firesetting population, making it 22 times more prevalent in firesetters than in non-firesetters (Blanco et al., 2010a; Vaughn et al., 2010). A relationship between impulse control and firesetting was associated with conduct disorder, pathological gambling, substance use and bipolar disorder (Blanco et al., 2010a; Vaughn et al., 2010). The presence of ASPD, personality disorders and substance use disorders were more prevalent among the community firesetters in contrast to the control, confirming mental health issues as a risk factor for firesetting.

Consistent with community firesetting populations, apprehended and psychiatric firesetters demonstrate a relationship with mental health issues. Anwar et al. (2011) found 8.1% of convicted male firesetters had diagnosed psychiatric disorders in comparison with the 0.7% of non-offender control group. Further, 14% of convicted female firesetters were diagnosed with psychiatric disorders in comparison with 0.8% of the non-offending control group. Similarly, Ritchie and Huff (1999) accessed mental health records and prison files of 283 convicted arsonists (234 males, 49 female) to examine psychiatric and motivational aspects of firesetting. Their research determined that 90% of their sample had mental health histories, 36% had major disorders, and 64% misused drugs and alcohol at the time of their firesetting. Further, 71 respondents

³ Axis I refers to the top level of the DSM multi-axial system of diagnosis. It classifies acute symptoms for adjustment disorders, anxiety disorders, cognitive disorders, dissociative disorders, eating disorders, impulse control disorders, mood disorders, psychotic disorders, sexual and gender identity disorders, sleep and substance-related disorders (American Psychiatric Association, 2000).

⁴ Axis II is used to assess personality disorders and intellectual disabilities using the DSM-IV's multi-axial system for assessment. These arise in childhood and are lifelong problems (American Psychiatric Association, 2000).

(approximately 25%) experienced psychiatric symptoms (i.e., depression, psychosis, agitation, delusions and suicidal ideation) prior to their firesetting offence. A high proportion of the sample were on psychiatric medication, mainly antipsychotics and lithium, prior and post-offence, but were not compliant with medication at the time of their offence. Of those taking antipsychotics, 33.6% were compliant post-offence, although only 7.8% had taken their medication at the time of their offence. The findings have some limitations because most cases were not randomly selected and the sample consisted of high-risk firesetters who represented severe psychiatric pathology. However, these findings supported those of Koson and Dvoskin (1982), who found the majority (almost 81%) of their sample were receiving mental health treatment, or had recently desisted from treatment prior to their offence. Diagnoses within their sample included schizophrenia, alcoholism, affective disorders (mania and depression) and Antisocial Personality Disorder (ASPD).

ASPD is one of the most prevalent disorders in firesetting populations (Kolko & Kazdin, 1991; Sakheim & Osborn, 1999). Repo's (1998) sample consisted of three groups: single offence firesetters ($n = 59$), firesetters who had also committed non-violent offences ($n = 110$) and firesetters who had committed violent crimes ($n = 113$). ASPD was most common in the violent firesetting group, with 27% prevalence in comparison with the other groups. Supporting the presence of ASPD in more severe firesetters, Lindberg et al.'s (2005) research found 22% of repeat firesetters were also diagnosed with ASPD, making it the most common personality disorder in the sample of incarcerated male offenders. The authors concluded that impulsive characteristics were the best predictor of repeat firesetting. Although this sample consisted of a prison population, the findings support the value of replication studies to determine the prevalence of ASPD across other firesetting severity levels (Lindberg et al., 2005).

Therefore, mental health influences firesetting on a multitude of levels and should be investigated when accounting for firesetting behaviour.

Schizophrenia (Anwar et al., 2011; Ducat et al., 2013) is a common psychiatric diagnosis in firesetting populations. Anwar et al., (2011) used a sample of 1340 male and 349 female arson offenders, with 40,560 general population control subjects to examine whether schizophrenia and other psychoses were more common in convicted arsonists than comparison groups. Anwar et al., (2011) concluded that individuals diagnosed with schizophrenia and other psychoses were at a significantly higher risk of firesetting behaviour. A diagnoses of schizophrenia was higher in those convicted of arson in contrast to other reported violent crimes (e.g. homicide) (Anwar et al., 2011).

Personality disorders, particularly BPD, are more likely to be diagnosed in a firesetter, in comparison to non-firesetting offenders, and the general population (Ducat et al., 2013; Duggan & Shine, 2001; Ó Ciardha, Alleyne et al., 2015). Ducat et al., (2013) used a data-linkage design to examine 1328 firesetters from Victoria, Australia. Firesetters were compared with 421 non-firesetting offenders and 1328 general community individuals, with the authors concluding firesetters were 4.98% more likely to be diagnosed with BPD in comparison to non-firesetting offenders, and 27.82% more likely to be diagnosed with BPD in comparison to the general population controls. These results demonstrate the importance of examining impulsivity and executive functioning in firesetting populations, given the high rate of firesetters diagnosed with personality disorders such as BPD and schizophrenia (Anwar et al. 2011; Ducat et al., 2013; Duggan & Shine, 2001; Ó Ciardha, Alleyne et al., 2015).

Firesetting and the Role of Antisocial and Externalising Behaviour

As demonstrated, ASPD has a high prevalence in firesetting populations (Lindberg et al., 2005; MacKay, Ruttle, & Ward, 2012; Repo, 1998); however, antisocial behaviours can be exhibited without the person having a disorder. Deliberately lighting a fire is a recognised diagnostic criterion for antisocial or conduct disorder (MacKay et al., 2006). Hellman and Blackman (1966) were among the earliest researchers to view firesetting as a disorder. Their research examined whether enuresis, firesetting and cruelty to animals were present during the childhood of adult offenders. The research utilised a psychoanalytic framework, advocating that a replication of Hellman and Blackman's (1966) study using a multivariate approach would have value. Participants, who had one or more of the three elements (enuresis, firesetting and cruelty to animals), were found to have extensive criminal histories, usually involving violence (Hellman & Blackman, 1966). Findings were indicative of antisocial behaviour throughout childhood and signified attachment issues, reflected in current research (McCarty & McMahon, 2005). Consequently, to understand adult firesetting, the presence of antisocial and externalising behaviour must be considered.

Antisocial and externalising behaviour encompasses a broad range of behaviours including bullying, stealing, physical cruelty, fighting, repeated lying and manipulative behaviour (Moffitt, Caspi, & Rutter, 2001). These behaviours were often present in childhood, and may continue through adult life, with behaviour altering to suit the individual (Moffitt, 1993, 2003). Theorists proposed that firesetters who present with numerous antisocial and externalising behaviours and cognitions will use fire to alleviate boredom or achieve life goals (Gannon, Ó Ciardha et al. 2012). Notably, these firesetters generally show low levels of fire interest (Gannon, Ó Ciardha, et al., 2012). Their offending history is usually versatile and varied, and adult antisocial firesetters

will commonly be part of a wide antisocial peer network (Harris & Rice, 1996; Ritchie & Huff, 1999). Hypothetically, antisocial behaviours are more prevalent in repeat firesetters.

One of the most prominent risk factors relating to antisocial behaviour is a previous history of offending. Offending histories of firesetters are generally characterised by property crimes, with a low incidence of violence (Jackson, Hope, & Glass, 1987; Labree, Nijman, Van Marle, & Rassin, 2010). A comprehensive study examined the offending histories of arsonists in England and Wales between 1951 and 2001, finding an increase in prior offending across the 50-year span (Soothill et al., 2004). Of the 3,335 arsonists examined in 2001, 43% had a minimum of one prior conviction, with theft (28%) and criminal damage (23%) the most common charge. Comparisons between the 2001 sample and 74 arsonists in 1951 showed an increase in previous convictions for violence (8% in 1951 to 20% in 2001). Therefore, determining previous offending history has distinct treatment implications for firesetters. If a firesetter presents with a varied criminal history, treatment should target antisocial cognitions, rather than solely targeting firesetting behaviour (Gannon, Ó Ciardha, et al., 2012).

Personality Function and Psychological Traits

Personality function is another salient factor influencing firesetting, with previous research determining that it is a separating factor between general offending populations and firesetting populations (Dickens & Sugarman, 2012a). Firesetters report experiencing increased levels of anxiety and guilt (Dickens & Sugarman, 2012a), and feeling socially isolated and separated from peers (Uhnnoo, 2015). These factors co-exist in people with shy and unassertive personalities, exacerbating and amplifying solitary habits (Doley, 2009; Ducat & Ogloff, 2011). Poorly developed social skills

combine with underdeveloped interpersonal relationships, contributing to poor communication skills (Dickens & Sugarman, 2012a; Heath, Hardesty, Goldfine, & Walker, 1983; Sapp, Huff, Gary, Icove & Horbert, 1994; Swaffer & Hollin 1995). Firesetters exhibit low levels of self-confidence, creating difficulties when they need to respond to face-to-face confrontation (Ducat, McEwan, & Ogloff, 2015; Ducat & Ogloff, 2011). Vreeland and Levin (1980) posited that firesetting acts as an outlet for an individual who struggles with self-confidence and low assertiveness, providing a way to express aggressive impulses as an alternative to confrontation.

Problems with self-confidence were captured in Räsänen, Puumalainen, Janhonen and Väisänen's (1996) study. Using a self-report qualitative methodology, the authors examined a sample of 40 adult arsonists (36 males, 4 female), to provide insight into their lives. These researchers described self-destructive personalities in individuals who struggled to sustain relationships, experienced a lack of social support and reported high levels of suicidal ideation. The participants described themselves as unbalanced and inconsistent; they reported experiencing frequent mood swings and anxiety, and constantly struggled with self-control. Räsänen et al. (1996) attributed these descriptions to low levels of self-esteem. For instance, participants placed little value on themselves, and struggled to express their emotions to others. They mistrusted themselves and revealed high levels of dependence on other people. The authors used a self-report approach, which may have limitations regarding recall issues. Furthermore, respondents might change their answers to suit perceived societal norms and values. However, the benefit of gathering personal stories provides insights into firesetters' emotions and feelings, strengthening the value inherent in allowing individuals to communicate their own reflections and perceptions about a phenomenon.

These personality descriptions are supported through results from quantitative research. Jackson, Hope and Glass (1987) assessed psychological traits in a sample of 18 male arsonists and 18 male violent offenders, and a control group of 18 non-offending males (predominantly nursing staff). Using four psychometric rating scales, psychological variables between the two offending groups were compared. The authors found arsonists exhibited lower levels of aggression and were significantly less assertive. Further, the arsonists struggled with their communication skills in contrast to the other two groups (Jackson, Hope, & Glass, 1987), although both offending groups reported experiencing elevated levels of depression.

Considering these low levels of reported aggression, Koson and Dvoskin (1982) established that firesetters internalised their aggressive feelings, which subsequently increased their feelings of hostility and anger. These specific feelings were extended by Duggan and Shine (2001) using the Hostility and Direction of Hostility Questionnaire. The authors compared hostility levels between male arsonists ($n = 83$) and general offenders ($n = 498$). Supporting earlier findings, arsonists reported significantly higher levels of inwardly directed hostility and lower measures of self-esteem in comparison with the control group. The internalisation of anger, hostility and aggression may be the result of the firesetter's struggle with an unassertive and shy personality. When coupled with poor communication skills, the firesetter has little outlet for his or her hostility and aggression.

Further investigating differences in personality and psychological traits in firesetters and general offenders, Gannon et al. (2013) measured five variables—emotional/self-regulation, social competency, self-concept, impression management and boredom proneness—across their sample. Several statistical differences were found across the measures of fire variables of emotional/self-regulation and self-concept.

Firesetters presented with significantly lower levels of self-esteem and self-worth. Theoretically, self-esteem is hypothesised to act as a moderator⁵ for firesetting behaviour (Gannon, Ó Ciardha et al., 2012; Swaffer, Haggett, & Oxley, 2001). Therefore, examining a firesetter's sense of self-worth and self-esteem has significant value for future research. The authors found that anger-related cognition was the best determinant between firesetters and the general offending group, with firesetters being quick to anger when provoked. Although the use of self-report methods have previously affected the respondents' truthfulness, if future research utilises triangulation techniques, this limitation may be reduced.

Research regarding the presence of fire-specific risk factors in adult firesetters (e.g. fire interest, fire curiosity and fire normalisation) is still in its infancy, although available research has consistently demonstrated their validity, particularly in young people who fireset (MacKay et al., 2006). For example, Rice and Harris (1996) established fire-specific risk variables, including childhood firesetting, total number of fires set and motives, made the largest statistical contribution to the prediction of repeat firesetting in adults. Rice and Harris (1996) asserted fire-specific factors are vital in the assessment of firesetting recidivism, similar to those proposed by The Fire Interest Rating Scale (FIRS; Murphy & Clare, 1996) and the Fire Attitude Scale (FAS; Muckley, 1997).

Firesetting and Substance Use

The prior literature has established that alcohol and substance disorders may influence firesetting (Dickens, et al., 2007; Grant & Kim, 2007; Labree et al., 2010;

⁵ A moderating factor refers to a variable that affects the strength of the relation between a predictor or dependent variable. For example, mental health influences the severity of how a trigger is experienced, and will interact with vulnerabilities to produce risk factors (Gannon, Ciardha et al., 2012).

Ritchie & Huff, 1999). However, alcohol and substance use does not always necessitate the diagnosis of a disorder. Rather, alcohol and substances may act as an external influence for firesetting, affecting a firesetter's behaviour proximally and during their offence (Barnoux et al., 2015; Bourget & Bradford, 1989; Rautaheimo, 1989; Tyler et al., 2014). This influence was demonstrated in Jayaraman and Frazer's (2006) study, with all the sample ($N = 34$ firesetters) reporting they were intoxicated immediately prior and/or during their offence. Further, nearly half of the sample reported using cannabis, and a third of the sample used opioids, or detailed a poly-substance abuse problem. A prevalence of alcohol and substance use has been reported in other firesetting studies, with Dickens et al., (2007) reporting 62.8% ($n = 81/129$) of male firesetters in their sample were under the influence of a substance at the time of their offence. Similarly, Lindberg et al. (2005) found 68% ($n = 61$) of their sample had been under the influence of a substance at the time of their firesetting offence.

Alcohol misuse is often experienced concurrently with other disorders, such as personality disorders, psychosis, and learning disabilities (Lindberg et al., 2005; Repo & Virkkunen, 1997a; Repo & Virkkunen, 1997b), although this is not exclusive to a firesetting population (Andrews & Bonta, 2010; Enayati et al., 2008; Jackson, Hope, & Glass, 1987). The comorbidity of alcohol misuse and disorders was examined by Enayati et al. (2008), who compared the principal and comorbid DSM-IV (American Psychiatric Association, 2000) psychiatric diagnoses of 214 firesetters (155 males, 59 women) and 2,395 violent offenders. The most common diagnosis in the sample was a substance abuse disorder, presenting in 47% of males and 48% of females. Thus, alcohol and substances play a significant role in a firesetting offence process. However, it remains unclear to what extent firesetters feel these factors influence their behaviour, presenting a target area for future research.

The Function of Family and Firesetting

Both general offending and firesetting theory have emphasised the importance of family as a key influence on individual development in the onset and maintenance of firesetting behaviour (Fritzon & Miller, 2016; Kolko, Herschell, & Scharf, 2006; Kolko & Kazdin, 1990; Kolko, Kazdin, & Meyer, 1985; Pelcovitz, Kaplan, DeRosa, Mandel, & Salzinger, 2000; Pinsonneault, 2002). Family dysfunction is a commonly reported experience in both community and apprehended firesetting populations (Cunningham, Timms, Holloway, & Radford, 2011; Lambie, Ioane, & Randell, 2016; Patterson & Dishion, 1985; Showers & Pickrell, 1987). This has been illustrated in a community sample, where 60% self-reported family histories characterised by extensive antisocial behaviour (Blanco et al., 2010a). A recent study examined multiple factors influencing firesetting, with one section of the survey targeting the family background of each participant (Barrowcliffe & Gannon, 2015). An online survey was completed by 157 individuals (78 males, 79 females). The findings showed 38.9% of firesetters had seen a family member light a malicious fire during their childhood, compared with 3.6% of non-firesetters. This supports a link between the role of learned behaviour and firesetting. Further, 38.9% of firesetters reported a familial history characterised by a lack of money. A history of witnessing domestic violence was also apparent, with 27.8% of firesetters recalling incidents, in contrast to 15.8% of non-firesetters (Barrowcliffe & Gannon, 2015). Little research has focused solely on family function in adult firesetters. When targeted by research, family usually forms one component of the research, although this focus does not allow for a nuanced understanding. To date, research has struggled to adequately describe the many ways (developmental, proximal, trigger) that family may influence firesetting. Strengthening knowledge of family

function through a self-report descriptive approach would allow for a more thorough examination.

Firesetting and the Bush

Previous research and theory have determined a range of factors that interact and influence firesetting. This chapter will now discuss these factors in the Australian context. Australia's urban sprawl is surrounded by large areas of uninhabited bushland, easily accessible and unparalleled in its ability to burn. However, research examining bush firesetters' behaviour has only recently occurred (Doley, 2009; McEwan, Doley, & Dolan, 2012; Muller, 2008; Shea, 2002; Teague, McLeod, & Pascoe, 2010; Willis, 2004). Most early research was conducted in the USA and the United Kingdom, where samples were dominated by structure firesetters. Therefore, research has yet to determine whether individuals who light bushfires have differing psychopathologies when compared with structure arsonists (McEwan et al., 2012).

Current theorists often overlook bushfire arson. Willis (2004) devised additional motivation categories more relevant to bushfire firesetters: bushfires that are lit to create excitement or relieve boredom; bushfires lit for recognition or attention; bushfires lit for a specific purpose or gain; bushfires lit without motive (for instance, by children); and bushfires lit with mixed motives (Willis, 2004). Gannon and Pina (2010) challenged this typology as some categories overlap, although there is value in future research targeting differences between bush firesetters and more traditional samples.

Thus far, two Australian studies have examined bushfire arson. Muller (2008) studied quantifiable characteristics such as age, ethnic background, offences and court outcomes of 1,232 individuals who had appeared in courts on charges of arson in NSW (Muller, 2008). Of this sample, 133 (just over 10%) appeared on charges of bushfire

arson. Consistent with previous research, demographically, most offenders were male, although the two groups (structure arsonists and bushfire arsonists) differed significantly in terms of age, with bushfire arsonists 1.5 times more likely to be young offenders (Muller, 2008). Prior criminal convictions were present in the majority of the sample; however, the convictions differed across categories in terms of percentages, with 56% of structure arsonists and 37% of bushfire arsonists reporting previous convictions. Although this study was groundbreaking in terms of its delineation between the offenders' targets, findings would be strengthened and supported with replication. By only using offenders charged with an offence, the sample was not inclusive of those individuals who, for various reasons, did not reach court, or who remained unapprehended, providing a direction for reiterations of this method.

Doley (2009) utilised a mixed methods approach to analyse the police records of 187 offenders across Victoria and Queensland. Additionally, interviews took place with 140 incarcerated offenders across South Australia, Victoria and Queensland. Doley (2009) indirectly researched bushfires by establishing a subgroup of nine bushfire arsonists who related their experience of setting 20 bushfires. In comparison with Muller's (2008) sample, participants in Doley's (2009) sample were older and few had criminal records for fire-related offences, despite self-reported extensive fire history and play. The small sample size of the bush firesetters ($n = 9$) limits generalisability; however, the study confirms the value of determining differences between bush and structure firesetters.

Firesetting and Firefighters

Firefighters who deliberately light fires form a subset of firesetters that remains under-researched in the literature, and is mainly supported by anecdotal conjecture

(Willis, 2004). Little research has been directed towards this group, as its prevalence is purported to be rare (Willis, 2004). In his study, Huff (1994) found 75 firefighters had deliberately lit 182 fires across the United States. In NSW, Australia, 11 of the 50 people charged for deliberate firesetting were volunteer members of a rural fire service (Warne-Smith, 2004). Although this number may be proportionately low in comparison to other firesetting subgroups, a firefighter who deliberately firesets should be considered at a high level of risk, as their ability to light a 'successful' fire is significantly increased because of their background and education regarding fire (Stambaugh & Styron, 2003; Warne-Smith, 2004; Willis, 2004). The distinct gap in knowledge is concerning in a W.A. context, as the state relies on 26,000 volunteers to staff rural and urban firefighting brigades, with no consistent screening process in place (The Association of Volunteer Bush Fire Brigades WA, 2018).

Understanding Motive, Recidivism and Risk in the Offence Process

The Complex Role of Motive

Research provides a broad understanding of factors that influence and maintain firesetting behaviour; however, how and why the behaviour emerges is a critical aspect in understanding the offence process of a firesetter. Between 1970 and the early 2000s, firesetting research primarily focused on determining what motivated firesetters. The result was a surfeit number of motivational typologies. Icove and Estepp (1987) defined motive operationally as, "an inner drive or impulse that is the cause, reason, or incentive that induces or prompts a specific behaviour" (p. 17). Detecting an offender's motivation provides a framework of cognitive and affective processes, while providing an understanding of the environmental and individual factors influencing the behaviour (Lambie & Randell, 2011). Therefore, motivation is a significant issue that directly

influences this study. These typologies were constructed to categorise firesetters based on their shared motives; nevertheless, motivational typologies struggle to account for how both static and dynamic risk factors affect firesetting behaviour, hampering their effectiveness (Almond, Duggan, Shine, & Canter, 2005; Doley, 2003a; Doley, 2009; Doley, Ferguson, & Surette, 2013; Lambie & Randell, 2011).

Inductive Motive Typologies

One of the first classificatory motivational typologies was proposed by Lewis and Yarnell (1951). Using a sample group of 1,145 adult male firesetters, 200 female firesetters and 238 young firesetters, findings led to a four-category classification system (Lewis & Yarnell, 1951). The first, 'psychotic persons', stemmed from delusional concepts. Some firesetters were motivated by revenge or 'vengeance' because they felt slighted or wronged (both real and perceived). Another label, 'unintentional,' referenced those fires stemming from a general lack of comprehension, confusion or lack of judgment. The fourth category was termed 'erotic' and included firesetters who fit the definition of sexual fetishism or pyromaniac traits. The erotic category was noted as including the largest number of firesetters (60%). The erotic category has yet to be empirically supported by subsequent research and lacks empirical congruence (Dickens & Sugarman, 2012b; Koson & Dvoskin, 1982; Rice & Harris, 1991; Ritchie & Huff, 1999). Lewis and Yarnell (1951) examined a subgroup of children, attributing all child firesetting to excitement or mischief. Categories in this typology were not mutually exclusive, with many offenders naturally belonging to multiple categories (Lewis & Yarnell, 1951). The categorisations fail to provide a clear outline to ascribe offenders into groups. Further, a lack of figures provided by the authors ensures a subsequent lack of reliability or validation figures (Gannon, Ó Ciardha et al., 2012).

Inciardi (1970) examined the case reports of 138 convicted arsonists (97% male) in a New York state prison, leading to the development of a six-category behavioural typology: revenge (58%), excitement (18%), institutionalisation (6%), insurance claim (7%), vandalism (4%) and crime concealment (7%). The sample of convicted arsonists limited the categorisations' generalisability to a broader firesetting population; however, the high level of presentations in the 'revenge' category as a motive has been validated in subsequent studies (Koson & Dvoskin, 1982; Rix, 1994). In terms of risk, Inciardi (1970) asserted those firesetters motivated by revenge were the most dangerous; however, no supporting evidence was provided.

Denett (1980) furthered motivational typologies by constructing a 'hero' category. These firesetters feel a deep-seated need to create an opportunity to prove themselves by lighting fires. As they seek attention, their behaviour is reinforced through misguided praise from bystanders, often leading to repeat firesetting behaviour to recapture these positive feelings. Denett's (1980) typology was based on the author's experience as a fire investigator rather than on empirical research; however, the hero category has significant implications for understanding motivations. This categorisation is particularly relevant for investigating current and/or ex-firefighters who become firesetters.

Icove and Estepp (1987) retrospectively analysed qualitative records of interviews with 279 adult firesetters, and 737 youth arsonists, leading to several motivational categories. These included vandalism (49%), excitement (25%), revenge (14%), profit (1%), crime concealment (2%) and other motives (8%). The large sample size comprised a wide range of socio-demographic and offence-related variables, strengthening the author's findings. However, the categorisation assigns a singular

motive to firesetters, a method that fails to consider the nuances of multiple, complex motives.

Numerous typologies have been constructed that extend the aforementioned categorisations. For example, Prins (1994) offered a 10-category classification system based on earlier work with imprisoned arsonists. Building on Inciardi's six classifications, Prins proposed an additional four categories: political purposes, self-immolation, attention-seeking and mixed motives. Likewise, Rix (1994) used previous classifications as a foundation for his typology. Using the psychiatric referrals of 153 participants (84% male) following arson arrests, he created multiple new independent categories, despite many of them encompassing less than 5% of the total sample. Although these typologies are comprehensive, they fail to acknowledge that firesetters may have multiple motivations pertaining to a single firesetting incident, thus ascribing a singular motive to firesetters holds little value.

Deductive Typologies

An alternative approach to motivational typologies focuses on observable and measurable variables relating to firesetters (i.e., behaviour, intention and characteristics), instead of ascribed singular motives (Almond et al., 2005; Dickens & Sugarman, 2012a). Harris and Rice (1996) derived a typology from secondary data. Findings were extracted from 243 files of maximum security psychiatric patients admitted for firesetting over a period of 11 years. Data within these files included information from police, family, institutions and self-reports. Repeat firesetting was measured using criminal arrests, reconvictions and returns to institutions and 208 of the 243 participants had multiple firesetting incidents. Of the sample, 66% engaged in repeat general offending and 16% engaged in repeat firesetting.

Using cluster analysis, the authors created a four-subtype category based on the presence or absence of 11 variables: IQ, childhood aggression, separation from parents, school adjustment problems, employment history, childhood firesetting, numbers of fires set, recorded motivations, time in correctional facilities, criminal history and adult aggression. Resulting categorisations were psychotics (33%), unassertives (28%), multi-firesetters (23%) and criminals (16%). Statistically significant differences delineated categories. Although this typology targets mentally disordered firesetters, it illustrates the importance of repeat offending, both post and prior to the initial firesetting offence.

Canter and Fritzon (1998) excluded motivation as a variable in their analysis of 175 arson cases. Witness reports, crime scene documents and court documents were used to measure offence variables (such as target of fire, firesetting behaviour, fire outcome and evidence of intent) and 23 offender variables (socio-demographic, psychopathological). The variables were rated as either present or absent. Using smallest-space analysis, a matrix of observable relationships placed variables onto a continuum to create the arson action system model. Five variables re-occurred in 60% of the sample: offence within a mile of the offender's house, fire was set as opposed to incendiary device thrown, offender did not raise the alarm, offender knew the owner of the property, and offence occurred on a weekday. These variables were ascribed to pathological firesetting behaviour, often associated with an individual's intention to destroy the target.

The cluster analysis categorised targets for firesetting behaviour as either an object or a person. The second noticeable connection was that firesetting behaviour had an instrumental end or was an expressive act for the individual. These findings informed Canter and Fritzon's (1998) four categorisations: (1) instrumental person, (2)

expressive person, (3) instrumental object and (4) expressive object, each representing different levels of severity. Those firesetters driven by person-directed acts were labelled as the highest level of dangerousness by the authors.

Almond et al. (2005) replicated Canter and Fritzon's (1998) work, with a sample of 65 male incarcerated offenders, aged 22–46 years. Data were obtained directly from participants, strengthening results of the replication. The authors found that the original themes proposed by Canter and Fritzon (1998) were also present in their sample. This approach was unique in establishing risk and dangerousness without relying on motivation to determine severity of firesetting behaviour. Considering available research, evidence demonstrates identifying a firesetter's motives is critical for understanding why the behaviour manifested. However, a person's motive does not inform the researchers about why the behaviour is repeated or why it continues despite treatment.

Repeating and Maintaining Firesetting Behaviour

It is estimated that one-third of arsonists will engage in repeat firesetting behaviour (Brett, 2004; Ducat & Ogloff, 2011), although a history of arson offending is not a predictive or static risk factor for further offending (Brett, 2004; Doley et al., 2011; Doley, 2009). Firesetters who display signs of potential recidivism also report increased levels of hostility and carelessness, exhibit poorer judgment skills, have elevated levels of impulsiveness, experience unstable and chaotic home lives and display a greater knowledge of incendiary devices in comparison with non-recidivists (Dolan, McEwan, Doley, & Fritzon, 2011; Kolko, 2002; Sakheim & Osborn, 1994). An adult firesetter's fire history is a significant indicative risk factor when assessing repeat firesetting behaviour, and a history of interest in fire as a child is usually present in 'high-risk' firesetters (Rice & Harris, 1991).

Repeat arsonists are more likely to have a personality disorder and have previous contact with social services (Dickens & Sugarman, 2012b; Dickens et al., 2009). Further, they often report making several false alarm calls to emergency services (Canter & Fritzon, 1998). To determine differences in characteristics between repeat arsonists and serious/non-serious arsonists, Dickens et al. (2009) retrospectively examined 167 arson cases (129 males, 38 females) referred for assessment to a psychiatric unit. Almost half of the adult sample (81 participants) reported having set more than one fire, with 36% setting a fire that resulted in serious injury, loss of life or extensive damage to property. Repeat firesetters were younger, single and reported earlier onset age of general criminal offending (Dickens et al., 2009). Their offending histories were predominantly property oriented. A key finding of the study was that repeat firesetters did not necessarily set dangerous fires that caused the most harm (Dickens et al., 2009).

Firesetting theory (M-TTAF) posited that repeat behaviour is reinforced through positive affect and associated thinking patterns of firesetting (Gannon, Ó Ciardha, et al., 2012). Derived from social learning theory, these reinforcement principles are particularly relevant in the post-offence phase of firesetting. Positive reinforcement may be experienced through sensory stimulation, financial reward, attaining the goal initially motivating the fire, or power and acceptance (Fineman, 1995; Gannon, Ó Ciardha, et al., 2012; Jackson, Glass, & Hope, 1987), and it will affect whether firesetting behaviour is sustained. Doley's (2009) study examined the offence features of single episode firesetters in comparison with serial firesetters. The two samples reported few statistical differences, although feelings of excitement acted as a reinforcer for repeat firesetters. Repeat firesetters usually set fires alone, were emotion driven in their offence and did not have specific targets. Findings confirmed that emotions play a

critical role in repeat firesetting (Dickens et al., 2009; Doley et al., 2011). This strengthens the relevance of researching the offence process/es and thought process/es of a firesetter to understand their offence goals. If a firesetter is at risk of repeat firesetting, it will be reflected in their corresponding risk level (Dickens et al., 2009).

Understanding Risk and Firesetting

Determining the dangerousness and risk level of a firesetter is of paramount concern in treating and assessing firesetters' behaviour. The aim of assessing risk is to determine whether the offender will re-offend and to reduce or target harmful behaviours (Watt & Ong, 2016). Consequently, understanding a firesetter's risk level was a founding component of the current research. Previous research showed that socio-demographic factors, mental health variables and situational factors all affect risk level, particularly when compounded with offence severity (Dickens et al., 2009). Dangerousness is often measured by considering firesetters' histories, their intentions to endanger life, their attempts to extinguish fire and whether they alerted emergency services (Dickens et al., 2009; Sugarman & Dickens, 2009).

Fineman (1995) formulated a risk checklist for child firesetters based on the dynamic behavioural theory that accounts for developmental factors, psychopathology and behavioural factors, offence-related characteristics and cognitions, and affective states. This checklist supports the use of multiple resources to identify these factors in a firesetter's life, including interviews with the offender, family and professionals. The checklist was developed for child firesetters and has yet to be validated (Gannon & Pina, 2010); however, it is often utilised to assess adult firesetters, who have demonstrably different thinking patterns and offence formations (Gannon, Ó Ciardha, et al., 2012).

Three assessments are currently available for measuring risk within a firesetting population: the Pathological Fire-Setters Interview (Taylor, Thorne, & Slavkin, 2004), the Northgate Firesetter Risk Assessment (Taylor & Thorne, 2005) and the St Andrew's Fire and Arson Risk Instrument (SAFARI; Long, Banyard, Fulton, & Hollin, 2013). All three assessments have yet to be rigorously evaluated for reliability and validity (Watt & Ong, 2016). Further, these assessments fail to provide a comprehensive measure of factors that influence firesetting.

Because of the distinct lack of empirically validated risk assessments, other measures are employed by clinicians and emergency services to review risk levels in firesetters. These scales target firesetters' fire interest and fire scripts, and rarely consider the wider risk factors associated with firesetting. The Fire Interest Rating Scale (Murphy & Clare, 1996), Fire Attitude Scale (Muckley, 1997) and Firesetting Assessment Schedule (Murphy & Clare, 1996) are self-report measures developed in clinical settings (Watt & Ong, 2016). The Fire Setting Scale and Fire Proclivity Scale (FSS and FPS; Gannon & Barrowcliffe, 2012) were developed to measure firesetting behaviours in the wider community.

The FSS is a 20-item (seven-point Likert) scale that measures antisocial behaviours relating to firesetting and general fire interest (Gannon & Barrowcliffe, 2012). The FPS measures behavioural intentions of a person's inclination to engage in firesetting behaviour. Hypothetical scenarios and a five-point Likert scale measured five separate characteristics associated with firesetting. To validate these scales, Gannon and Barrowcliffe tested both the FSS and FPS using non-detected firesetters. The scales demonstrated internal consistency and test-retest reliability (Gannon & Barrowcliffe, 2012). Both scales reliably identified differences between firesetters and non-firesetters. Firesetters rated higher in fire fascination, fire arousal and behavioural

propensity index, with an overall success rate of 91% (Gannon & Barrowcliffe, 2012). These scales have distinct utility in assessing firesetting risk.

Summary of the Current Research

Historically, firesetting was theorised as a behaviour that affected adolescent females. Conceptualisations of the behaviour evolved from psychoanalytical approaches to current multifactorial approaches to adult firesetting. Demographically, firesetters tend to be young, white males. Adult firesetters report experiencing psychological vulnerabilities such as inappropriate fire interest, offence supportive attitudes, self-regulation issues and communication problems (Gannon, Ó Ciardha, et al., 2012). ASPD, conduct disorder, schizophrenia and substance use disorders are prevalent in firesetting samples; however, mental health and self-esteem act as moderators affecting the desistance from firesetting behaviour. Adult firesetting is influenced significantly by developmental experiences, particularly their caregiver environment, learned behaviours and cognitive functioning.

The majority of adult firesetting research relied on samples extracted from incarcerated or clinical samples. Some research used non-apprehended community samples (Barrowcliffe & Gannon, 2015, 2016; Blanco et al., 2010a; Vaughn et al., 2010), and the results confirmed the distinct value of utilising a diverse sample to examine firesetting. Much of the current valuable research has yet to be replicated or validated. Further, the distinct paucity of longitudinal studies is evident. Much adult firesetting research is directed at structure arsonists, with bushfire firesetters forced into one category (Willis, 2004, 2005).

A surfeit of research directed at understanding motive is available; however, recent research has confirmed motive should only comprise one component of

firesetting assessment. Available motivational typologies dismiss the complexities of motive and fail to consider that motivation is not mutually exclusive (Lambie & Randell, 2011). Research regarding risk and assessment of adult firesetters is still in its infancy, and the development of evidence-based and applicable programmes is still emerging. Available research has demonstrated that a multitude of factors, affected by motivations and offence cognitions, influence and sustain firesetting behaviour. However, to understand how these factors interact requires an examination of theoretical perspectives relating to the offence process.

Conceptual and Theoretical Underpinnings of Adult Firesetting Behaviour

A surfeit of typologies and theories have been constructed to reduce the diversity of firesetting to practicable categories (Gannon, Ó Ciardha, et al., 2012). A univariate approach to categorising firesetting is common (Del Bove, 2005), although recent theoretical developments highlight the value of employing a multivariate approach. Theories often classify firesetters into ‘types’ using one motive, or via offence characteristics, resulting in a one-dimensional conceptualisation of firesetting that dismisses its complexity. A small number of empirically derived theories are available (Almond et al., 2005; Canter & Fritzon, 1998; Del Bove & MacKay, 2011; Harris & Rice, 1996). The following subsections divide these conceptualisations into three categories: (1) single factor theories, (2) offence process theories and (3) multifactorial theories.

Single Factor Theories

Single factor theories focus on one solitary factor to explain firesetting behaviour (Gannon & Pina, 2010; Ward & Beech, 2006). A small number of single factor theories have been constructed: psychoanalytical, biological and social learning

theories. The psychoanalytical approach attributes firesetting behaviour to urethral or oral-fixated sexual drives (Freud, 1932; Gold, 1962). This approach is concise in the underlying factors affecting firesetting; however, it has yet to be supported by empirical research (Gannon, 2016). Further, the approach fails to account for other factors that influence firesetting, particularly developmental history; thus, it has poor external consistency (Gannon & Pina, 2010).

Biological theories explain repetitive firesetting behaviour through structural neurobiological impairment (Gannon, 2016). This perspective theorises that firesetters experience neurotransmitter defects because of decreased concentrations of cerebrospinal fluid monoamine metabolites (Gannon & Pina, 2010; Virkkunen, DeJong, Bartko, Goodwin, & Linnoila, 1989; Virkkunen et al., 1994; Virkkunen, Nuutila, Goodwin, & Linnoila, 1987). This theory best explains firesetting in impulsive offenders. Research has examined brain and chromosome abnormalities, including impoverished frontal lobe function, posterior abnormalities and epilepsy (Gannon & Pina, 2010).

The biological perspective has value in explaining why some firesetters offend. This biological perspective has clinical implications for treatment; however, firesetting has yet to be attributed solely to a biological component (Gannon & Pina, 2010). Further, this theory is neither able to account for why the behaviour is maintained, nor does it consider the multitude of risk and developmental factors that influence firesetting. Methodologically, many of the supporting studies rely on case-based methodologies, limiting its relevance to a wider population.

Social learning theory provides one of the most comprehensive and contemporary single factor theories of firesetting, and has been used as a foundation for

many firesetting theories. Firesetting is conceptualised as a product of learned behaviour (Gannon, Ó Ciardha, et al., 2012) and is the result of behavioural or cognitive-behavioural difficulty (Bandura, 1976; Gaynor & Hatcher, 1987; Kolko & Kazdin, 1986; Singer & Hensley, 2004; Vreeland & Levin, 1980). Learning principles are theorised to influence firesetting, including observation, modelling, and imitation and reinforcement contingencies. Social learning presumes individuals are not born with an innate repertoire of aggressive behaviour; rather, the behaviour is learned through observation, listening and direct experience (Bandura, 1976). Not all observed behaviours are learned or enacted; instead, an individual will exhibit aggressive behaviour as they react to social conditions. Behavioural patterns become entrenched through direct learning experiences and trial and error performances that may have both positive and negative outcomes (Bandura, 1976, 1986; Bartol & Bartol, 2011; Gannon, Ó Ciardha, et al., 2012; Vreeland & Levin, 1980).

Firesetting develops through a sequence of behaviours—oppositional behaviour leading to an increase in dangerous and aggressive behaviours, resulting in firelighting (Del Bove, 2005). Behaviour is strengthened through positive or negative reinforcement, with repeat firesetting dependent on the seeming level of reward that is unique to each individual's perception and expectation. Bandura (1976) asserted, “styles of aggression are largely learned through observation and refined through reinforced practice” (p. 211). Reinforcement occurs through direct external reinforcement, vicarious/observed reinforcement and self-reinforcement. Vreeland and Levin (1980) theorised that direct external reinforcers for firesetting include sensory stimulation achieved through crowds that gather at a fire, emergency response teams' actions and reactions, and noise derived from alarms and bells. Behaviour may be

reinforced through misplaced praise from bystanders who believe the firesetter played a role in extinguishing the fire or raising the alarm (Vreeland & Levin, 1980).

Reinforcement principles play a critical role in firesetting. Reinforcement, which develops with a child's first, second and third fires (Fineman, 1980), may occur through observation of modelling behaviour during formative years or it may be learned vicariously (Gannon & Pina, 2010). Learning opportunities may include early interest in fireplay and fire experiences, familial punishment for firesetting, ready access to incendiary devices and being in the company of parents or adults who smoke cigarettes (Barreto, Boekamp, Armstrong, & Gillen, 2004). Behaviour is entrenched prior to adulthood, and firesetters often spend their formative years in environments where exposure to fire is commonplace, including living near bushland (Macht & Mack, 1968). Additionally, families may have a history of firesetting (Rice & Harris, 1991), or the child may have been punished using fire (Haines, Lambie, & Seymour, 2006; Ritvo, Shanok, & Lewis, 1983).

Firesetting is a form of learned hostility and/or aggression (Gannon, Ó Ciardha et al., 2012). Hostility and aggression are internalised, whereby individuals struggle to express their emotions in 'normal' ways. Developmental experiences and cognitive perceptions influence an individual's trajectory towards firesetting, moderated by an individual's self-regulatory response that is directly shaped by environmental reinforcement contingencies (Baumeister, DeWall, Ciarocco, & Twenge, 2005). These contingencies encompass an antecedent-behaviour-consequence link; that is, the consequence of the behaviour is more likely to occur in the presence of the antecedent. For example, poor childhood socialisation may result in limited coping skills. When coupled with low assertiveness and a perceived sense of failure, an individual may try to regain control over their environment through firesetting (Gannon, Ó Ciardha et al.,

2012); Vreeland & Levin, 1980). Social learning theory provides a comprehensive account of how firesetting may emerge, demonstrating its usefulness in determining how the behaviour is sustained.

Offence Process Theories

Having established how behaviour may be maintained (social learning theory), it is essential to consider why and how the behaviour emerges. The purpose of micro-level theories is to determine how firesetters engage in offending, by recounting events and key factors that transpire prior, during and post-offence (Barnoux et al., 2015; Tyler et al., 2014; Ward & Beech, 2006). Micro-level theories provide in-depth accounts of the offence process through data obtained either qualitatively or quantitatively (Tyler et al., 2014), with data collection driven by the complexity of offending. Offence process theories are valuable in the assessment and treatment of offenders (Barnoux et al., 2015; Tyler et al., 2014; Ward & Beech, 2006; Ward & Stewart, 2003), and they rely on the individual stories of firesetters to identify individual factors that influence firesetting. Consequently, offenders are not ascribed thoughts, feelings and motivations by researchers, providing substantial value to research outcomes. Recently, two offence process theories have been developed for adult firesetting: the firesetting offense chain for mentally disordered offenders (FOC-MD; Tyler et al., 2014) and the DMAF (Barnoux et al., 2015).

Firesetting Offense Chain for Mentally Disordered Offenders

Developing an offence process theory was the focal point of Tyler et al.'s (2014) research. The sample comprised 23 mentally disordered offenders (16 males, 7 females) drawn from two medium security psychiatric hospitals and four prisons in the United Kingdom. Participants had set between one and eight fires, and had been diagnosed with a mental disorder prior to their firesetting offence. Semi-structured

interviews were conducted with 17 participants, and supplementary data were extracted from hospital reports and prison records. Despite a small sample size, the data provided a nuanced and detailed understanding of each offender's offence process, allowing for the development of a four-phase offence model using grounded theory: (1) background factors, (2) early adulthood, (3) pre-offence period and (4) offence and post-offence period. The sequence of factors relating to firesetting was outlined, with developmental, behavioural, cognitive, affective and contextual events all accounted for.

The first phase, background factors, found many offenders developed multiple risk factors that facilitated firesetting behaviour prior to turning 18 years. Risk factors included fire-related experiences (i.e., fire interest), antisocial activity, mental health problems and maladaptive coping mechanisms. Phase two highlighted the role of early adulthood experiences on firesetters. Maintenance of intimate relationships emerged as a struggle for firesetters, often interacting with their pre-existing vulnerabilities (such as mental health issues and substance abuse problems) to further influence firesetting behaviour. Goal formation occurred during the pre-offence period (phase three). The theory posited that motivation and poor problem-solving skills interacted, resulting in firesetting. The development of motive would occur prior to the selection of target, with the target either 'self-directed' or 'externally directed'. Subsequently, the planning of the offence would occur, influenced by thinking patterns and substances that firesetters were taking. The fourth phase, offence and post-offence factors, explored the offence and post-offence periods. This phase is outlined in Figure 1.0.

Three patterns of progression were noted: (1) fire interest—childhood mental health, (2) no fire interest—adult mental health and (3) fire interest—adult mental health. Firesetters in the first pathway developed fire-related risk factors in childhood

and had long-term mental health issues. Their firesetting offence had been planned extensively. A distinct absence of fire-related factors was present in the second pathway of firesetters. Further, mental health issues were experienced immediately prior to the incident.

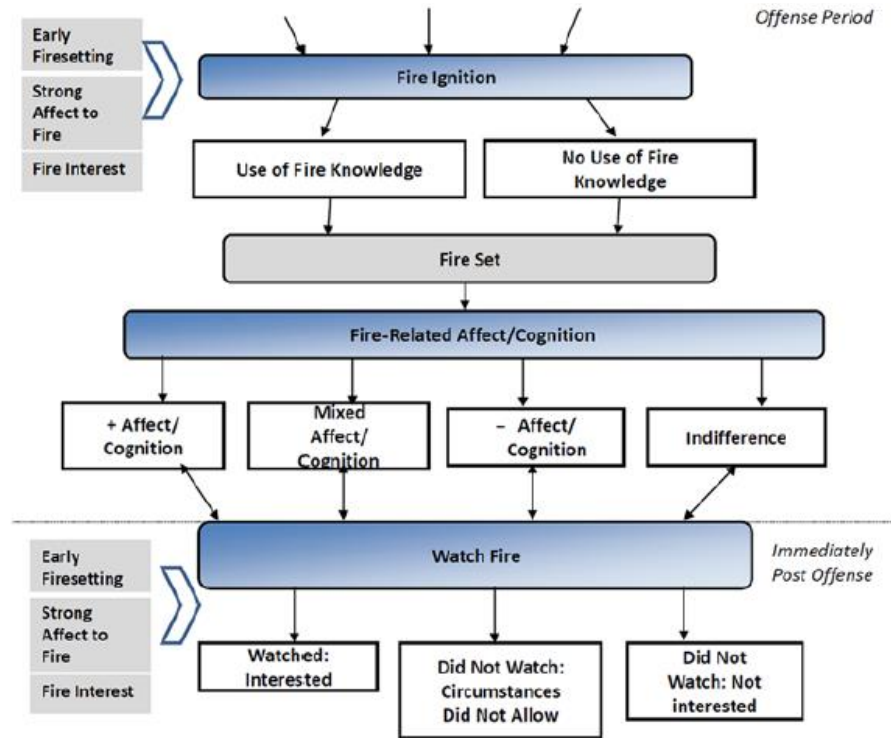


Figure 1.0 Phase four: Offense and post-offense period (sourced from Tyler et al., 2014).

In the third pathway, firesetters engaged in low-level planning of their offence and had developed mental health issues in adulthood. Their childhood histories were characterised by fire-related risk factors.

Tyler and Gannon (2017), who used their previous sample of 23 mentally disordered firesetters, and an additional 13 mentally disordered firesetters as illustrative case studies to determine whether the offence pathways withstood in-depth scrutiny, advanced the validity of the FOC-MD. Findings determined all three of the proposed preliminary pathways of the FOC-MD withstood analysis, and no new categories

emerged. Tyler and Gannon's (2017) examination has a small sample dominated by male firesetters, meaning further validation is required using wider populations of firesetters to confirm the validity of the FOC-MD. Despite this, the outcomes of the study provide strength and emphasis the validity of the FOC-MD offence pathways, providing further weight to the importance of offence-process theories (Tyler & Gannon, 2017).

Tyler et al.'s (2014) research employed a self-report methodology to obtain data. The limitations of self reported data were lessened by the inclusion of police information to verify data. This methodology may also be subject to issues with recall of childhood events; therefore, future research could potentially utilise multiple resources (i.e., parent reports) to provide an additional context. Overall, this theory can provide a powerful account of offence patterns, acknowledging the homogeneity of firesetting characteristics, while also distinguishing existing patterns that imply subtypes of arson behaviour. The utility of this approach would benefit a wider subtype of firesetters, including youth and community samples.

Descriptive Model of the Offence Chain for Imprisoned Adult Male

Firesetters

Barnoux et al. (2015) examined the offence process of firesetting conducting semi-structured interviews with 38 imprisoned males, sourced from seven prisons in the United Kingdom. Applying grounded theory, Barnoux et al. (2015) used findings to develop the DMAF. The model understands firesetting as the manifestation of contextual, behavioural, cognitive and affective events that occur in a sequence. Similar to Tyler et al.'s (2014) work, four phases were identified: (1) background factors, experienced under 18 years; (2) adulthood experiences; (3) pre-offence period; and (4)

offence and post-offence period. These phases act as overarching stages, with each participant experiencing sub-stages in each phase.

Barnoux et al. (2015) found that the participants developed a fire-related interest during childhood that continued into their adult lives. Vicarious fire experiences were particularly important in maintaining firesetting behaviour, previously understood through social learning theory (Bandura, 1976). The DMAF emphasised the role of contextual triggers and affective responses in the offence chain (Barnoux et al., 2015). Previously, some multifactor theorists (Fineman, 1980, 1995; Gannon, Ó Ciardha et al., 2012; Jackson, Glass, & Hope, 1987) have recognised the importance of triggers; however, the DMAF provides a detailed description of the chain of events that occur between triggers and affective responses. A significant outcome of this theory is that motive is best understood as offence goals, and the results provided several new motives. Consistent with previous research, eight offence goals were established: revenge, economic gain, thrill seeking, communication, crime concealment, vandalism, protest and protection. The authors identified three new fire-related goals: escape, murder and power (Barnoux et al., 2015). A third of the research participants stated revenge was their primary goal for their firesetting offence, and those motivated by revenge usually exhibited severe psychopathology (Barnoux et al., 2015). Offence goals were formed on two levels, detailing why offenders who have no fire interest choose fire to achieve their goals (Barnoux et al., 2015). Repeat firesetting occurred as a consequence of goal appraisal post-offence, when the firesetter assessed the relative success of their original goal.

The DMAF provides several valuable implications for clinicians and treatment programmes. Recall issues may have affected the self-report methodology by distorting reports. The sample of imprisoned firesetters emphasises the importance of cross-

validating this theory with a diverse range of firesetting samples (such as mentally disordered firesetters, youth firesetters and female firesetters) although these samples are difficult to obtain. This research provides valuable insights into an offender's thought processes, accounting for the interaction of factors that affect firesetting.

Multifactorial Theory

The purpose of multifactorial theories is to formulate and identify personality and individual characteristics, family and social circumstances, and immediate environmental conditions. These risk factors explain how and why a child will develop and display behaviour (i.e., firesetting) over time, with a focus on recidivism. These dimensions include factors such as demographical information, emotional style, family variables, peer relationships, school performance and potential stressors or life events (Kolko, 2002). Previously, firesetting multifactorial theories have been directed towards young people who set fires. However, the M-TTAF (Gannon, Ó Ciardha, et al., 2012) was recently developed as a means to close this gap regarding adult firesetting theory.

Multi-Trajectory Theory of Adult Firesetting

The M-TTAF is a multifactorial two-tier theoretical framework that predicts etiological trajectories of adult firesetters to guide clinical treatment for firesetting behaviour (Gannon, Ó Ciardha et al., 2012). The M-TTAF categorises offenders by their most prevalent criminogenic needs (Gannon, Ó Ciardha et al., 2012). Each individual falls onto a continuum, showing differing combinations of factors that facilitate their firesetting behaviour. For example, developmental factors, such as caregiver environment, interact with psychological vulnerabilities, such as inappropriate fire interest and self-emotional issues, combining with critical risk factors that result in firesetting. Proximal factors and triggers influence these categories. The outcome and

consequences of firesetting will reinforce the behaviour that influences the firesetter's likelihood of reoffending.

This theory considers mental health and self-esteem as moderators of firesetting. Good self-esteem and mental health act as protectors against some stressors and triggers. This differentiates the theory from others, explaining why an individual may not turn to firesetting when experiencing negative effects that affect their psychological vulnerabilities. The theory further delineates the role of social learning in offending (Gannon, Ó Ciardha et al., 2012). The first tier of the M-TTAF proposes four developmental areas; the second tier projects five trajectories for firesetters, as detailed in the following section.

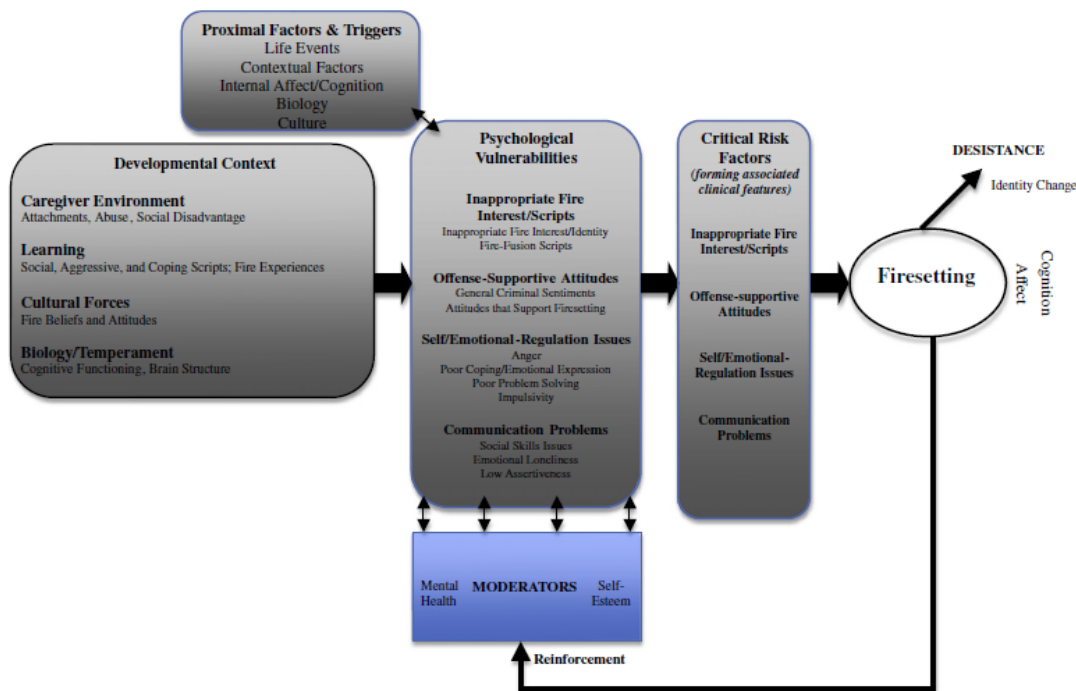
First Tier of the M-TTAF

The First Tier M-TTAF proposes four developmental areas that contribute to firesetting: caregiver environment, learned behaviour, cultural forces, and biology and temperament (Gannon, Ó Ciardha et al., 2012). Poor caregiver environment considers insecure attachments, abusive or neglectful parenting and social disadvantage. These aspects interfere with the development of healthy self-esteem, self-regulatory processes and general social adjustment. Caregivers provide the earliest learning experiences through social learning, where children learn social scripts, attitudes and values, communication skills, scripts for coping, form and functions of fire, and a sense of identity and worth. Cultural factors play a role in determining how an individual views fire. Gannon, Ó Ciardha et al., (2012) asserted that the Western world reveres fire, emphasising its destructive power. This reverence may result in a preference for using fire as a retaliatory tool. Biology and temperament also play a key role in a preference for firesetting behaviour since someone who may have an impoverished neurological development will struggle with their ability to learn self-regulatory responses, creating

difficulty in relating to others. Developmental context will interact with the hypothesised psychological vulnerabilities to facilitate firesetting behaviour.

The first tier of the M-TTAF (see Figure 2.0) is concerned predominantly with psychological and developmental factors relating to firesetting behaviours. This tier proposes factors and mechanisms that interact to facilitate and reinforce the firesetting behaviour. Four key psychological vulnerabilities for adult firesetters have been identified and represented in the M-TTAF: inappropriate fire interest/scripts, offence supportive cognition, self- and emotional regulation issues, and communication (Gannon, Ó Ciardha et al., 2012). These vulnerabilities represent an overarching categorisation of clinical issues, which need to be considered as they exist at differing levels. The issues need to be represented on a continuum. Each offender will have either deficits or excesses of these vulnerabilities. This enables the theory to explain why an individual who may appear to be relatively high functioning in one factor, such as have emotional regulation skills, may use these to justify their offence supportive attitudes to facilitate their firesetting behaviours.

Figure 2.0 Tier one of the M-TTAF (from Gannon, Ó Ciardha et al., 2012, p.113).



The M-TTAF defines a fire script as an individual's understanding and learned behaviour of the potential uses and meanings of fire (Gannon, Ó Ciardha et al., 2012). Several fire scripts exist, including indirect or emotionally detached aggression, with fire used as a messenger for repressed aggression. In the absence of aggression, fire-coping scripts become the preferred script, where the individual views fire as an outlet of coping with a problematic situation. Fire scripts directly relate to an individual's view of fire, therefore one of the most prominent risk factors for firesetting behaviour is an individual's interest or fascination with fire. Fire interest is not related to pyromania, since not all individuals who may have a fascination with fire will unilaterally fit the diagnosis for pyromania. An individual's fascination for fire is reinforced in both a positive and a negative manner. Positive reinforcement stems from both sensory stimulation and personal gain, including self-efficacy, power and the attention that may be gained. Negative consequences that occur because of firelighting behaviour (i.e.,

restriction to firelighting opportunities and punitiveness) may increase fire interest for some because of the forbidden element.

This theory operationally defines offence supportive attitudes as, “cognitive accounts that individuals build from their experiences with their social world to facilitate a swift and adaptive interpretation of social interactions” (Gannon, Ó Ciardha et al., 2012, p. 114). These cognitive accounts will vary and result in differing combinations of attitudes and beliefs. It is hypothesised that while these differences are diverse and underlying goals and motivations for firesetting are fundamentally varied, offence supportive attitudes result in firelighting behaviour, despite disparate motivations.

Self- and emotional regulation has a significant role in firesetting behaviour, particularly when predicting the etiological trajectory of an individual offender. Self- and emotional regulation is a person’s ability to effectively monitor both internal and external factors to comply with their perceived socially defined standards (Baumeister et al., 2005; Boekaerts, Pintrich, & Zeidner, 2005). Self-regulation processes include an individual’s ability to set goals, monitor and evaluate their levels of self-control (Gannon, Ó Ciardha et al., 2012). As a result, any deficiencies in emotional or behavioural control, ability to cope in the face of adversity and stress, or ability to set appropriate goals may result in inappropriate and problematic behaviour. A strong link between firesetting and self-regulation issues has been established (Jackson, 1994; Räsänen et al. 1996; Rix, 1994; Sapp, Gary, Huff & James, 1994). Poor self-regulation comprises issues with impulse control, anger and aggression problems, poor coping skills, inappropriate goals including arson for profit and low tolerance resulting in frustration (Gannon, Ó Ciardha et al., 2012).

The first tier of the M-TTAF considers the effect of proximal factors and triggers in the interaction between developmental factors and psychological vulnerabilities (Gannon, Ó Ciardha et al., 2012). These proximal factors and triggers include life events, contextual factors and internal affect/cognition and culture, and they interact with psychological vulnerabilities to create critical risk factors. The risk factors are moderated by a person's mental health and self-esteem. Moderating factors dictate how severely proximal factors and triggers will influence vulnerabilities. For instance, high self-esteem acts as a protective factor for adverse events; whereas, poor self-esteem is a greater risk because of difficulty in coping with severe triggers, resulting in an increased likelihood of firesetting behaviour.

Second Tier of the M-TTAF

The second tier of the M-TTAF provides five predicted offending trajectories based on clusters of risk factors from tier one of the theory (see Table 1.0). The five trajectories are (1) antisocial cognition, (2) grievance, (3) fire interest, (4) emotionally expressive and (5) multifaceted (Gannon, Ó Ciardha et al., 2012). Gannon, Ó Ciardha et al., (2012) asserted that these trajectories need to receive different treatment programmes to target critical risk factors. At the time of publication, the authors of the M-TTAF acknowledged the trajectories were provisional since the theory had yet to be validated or tested within a clinical setting.

Antisocial Cognition: Firesetters show high levels of antisocial cognitions and values (Gannon, Ó Ciardha, et al., 2012), including criminal offence supportive attitudes. Further, they show little interest in fire. Rather, fire is viewed as a tool, used to relieve boredom or achieve their criminal goals. People in this category usually engage in an antisocial lifestyle that emerged in childhood and continued into adulthood. They generally have extended antisocial peer networks and extensive

histories of criminal offending. Although individuals in this trajectory show low levels of fire fascination, other critical risk factors are exhibited, particularly those pertaining to impulse control and problem solving. Engaging in firesetting is usually instrumental (i.e., crime concealment). Treating only the fire behaviour will not alter their trajectory. Rather, treatment programmes need to consider targeting antisocial cognitions to restructure towards pro-social attitudes (Gannon, Ó Ciardha et al., 2012).

Grievance: Offenders within this category have significant issues with aggression, anger and hostility that stem from problems with self-regulation (Gannon, Ó Ciardha et al., 2012). Individuals exhibit poor communication skills and fire-aggression fusion scripts are utilised when they feel they have been slighted in some manner. Fire is used in an authoritative way, triggered by external provocation combined with internal anger. Social learning theory supports that aggressive scripts are normally learned vicariously through childhood, and that significant anger issues are experienced through adolescence. Key motivations within this group include revenge and retribution; offenders view fire as a tool of communication. Limited fire fascination is demonstrated in grievance individuals. Gannon, Ó Ciardha et al., (2012) posited that treatment programmes need to target problem-solving deficits and restructure fire-aggressive scripts to improve communication skills and assertiveness.

Fire Interest: The most prominent risk factor within this category is fire interest. Offenders exhibit intense levels of interest in fire and the consequences of fire, and they may collect fire paraphernalia. It is theorised that fire acts as a coping strategy, and when facing adverse life events or elevated stress, offenders may revert to utilising fire as a coping mechanism, which is attributed to deficits in impulse control. Fire may also provide physiological arousal: fire is pleasurable or exciting for the individual through sensory or affective stimulation. Offenders justify the use of fire through offence

supportive attitudes such as, “I can control the fires I make” but they may not present with antisocial or other offending patterns. Thus, the interaction of classical conditioning, social learning and cultural forces influence firesetting behaviour. Clinicians must target fire interest and associated scripts to adequately divert firesetters from engaging in repeat firesetting behaviour.

Table 1.0 *Summary of trajectories comprising tier two of the M-TTAF*

| Trajectory | Prominent Risk Factor | Other Risk Factors | Clinical Features | Motivators |
|------------------------|--|---|--|---|
| Antisocial | Offence supportive attitudes/values | Self-regulation Issues | Antisocial attitudes Impulsivity | Vandalism/boredom Crime concealment Profit Revenge/retribution |
| Grievance | Self-regulation issues | Communication problems Inappropriate fire scripts | Low assertiveness Poor communication Fire-aggression Anger (rumination) Hostility | Revenge/retribution |
| Fire interest | Inappropriate fire interests/scripts | Offence supportive attitudes (supporting firesetting) | Fire fascination Impulsivity Attitudes supporting fire | Fire interest/thrill Stress/boredom |
| Emotionally expressive | Communication problems | Self-regulation issues* | Poor communication Impulsivity Depression | Cry for help* Self-harm* Suicide* |
| Need for recognition | | | Fire-coping fusion script Personality traits/disorders | Need for recognition |
| Multifaceted | Offence supportive attitudes/values Inappropriate fire interest/scripts | Self-regulation issues Communication problems | Pervasive firesetting/general criminal behaviour Fire fascination/interest Antisocial values/attitudes Conduct disorder or ASPD | Various |

*Relevant to Emotionally Expressive subtype only. Sourced from Gannon, Ó Ciardha, et al., (2012).

Emotionally Expressive/Need for Recognition: Gannon, Ó Ciardha et al., (2012)

hypothesised that individuals in this trajectory struggle with communication, presenting

in social skills, personal relationships/intimacy or assertiveness. Two main subtypes exist: emotionally expressive offenders and need for recognition offenders. Those who are categorised as emotionally expressive show deficits in self-regulation (i.e., impulsiveness and poor problem-solving skills) and utilise firesetting as a coping mechanism when faced with adverse life events. These offenders may struggle to feel that they are heard and will use fire to send a message to draw attention. Female firesetters within this category may use fire to either self-harm or suicide. Those firesetters who follow the need for recognition trajectory also use fire to send a message, but use fire in a covert manner so they remain unidentifiable. Fire provides a person with the opportunity to act as a ‘hero’ or to gain social attention. It is theorised that these individuals may display personality problems (e.g., narcissism) and use fire as an inappropriate means to attract attention (Gannon, Ó Ciardha et al., 2012).

Multi-faceted: Offenders within this category present with multiple risk factors associated with firesetting, particularly inappropriate fire interest and offence supportive attitudes. Gannon, Ó Ciardha et al., (2012) hypothesised that these individuals will present with extensive developmental vulnerabilities exacerbated by a natural interest in fire increasing the likelihood of early onset of firesetting. Further, issues concerning communication and self-regulation are present. Often, these individuals will present with antisocial cognitions that accompany firesetting, meaning they are often more versatile in their offending patterns and will utilise fire to achieve any goal. Therefore, treatment must target both fire interest and antisocial cognitions to target the life course persistence of their firesetting.

The M-TTAF (Gannon, Ó Ciardha et al., 2012) currently provides the most comprehensive understanding of adult firesetters, and is able to account for the interaction of multiple risk factors and offence characteristics in contributing and

influencing adult firesetting behaviour. It is apparent however, that many of the proposed trajectories of the M-TTAF are broad in terms of offence characteristics. Further, the theory is unable to account for the emergence of firesetting behaviour, nor does it consider the ‘how’ of the firesetting offence process. Consideration should be given to whether the M-TTAF is applicable to all firesetters, or to specific sub-types (e.g. mentally disordered or structure firesetters). As the M-TTAF was developed exclusively for adult firesetters, it may be worth further research determining whether it is applicable to youth firesetters. If differences do emerge, it provides important questions regarding *why* firesetting factors differ between the two populations.

In 2017, Dalhuisen et al., analysed the M-TTAF with the purpose of validating the five trajectories. The authors used a sample of 389 adult firesetters referred for mental assessment to a Netherlands clinic between 1950 and 2012. The authors applied a cluster analysis technique to analyse variables identified by the M-TTAF, with Dalhuisen et al’s., (2017) results partially validating the M-TTAF. Dalhuisen et al. (2017) identified five sub-types of firesetters in their sample that were similar to those proposed by the M-TTAF: instrumental (antisocial cognition), reward (fire-interest), multi-problem (multi-faceted), disturbed relationship (grievance) and disordered (emotionally expressive/need for recognition). Dalhuisen et al., (2017) found differences in several offence characteristics across their subtypes in comparison to M-TTAF (Gannon, Ó Ciardha et al., 2012) categorisations; however, these differences may be attributed to the mentally disordered firesetting sample they have applied the M-TTAF to, and may not represent a wider firesetting population. Therefore, further validation of the M-TTAF is required (Dalhuisen et al., 2017).

Summary of Firesetting Theoretical Perspectives

This section has provided an overview of available theoretical perspectives of adult firesetting. Three categories of firesetting theory exist: single factor theories, offence process theories and multifactorial theories. Single factor theories attempt to explain firesetting through a distinct factor, such as psychoanalytical, biological and social learning. As evidenced, social learning provides the most comprehensive single factor framework for understanding firesetting. It is used through the majority of firesetting theories as a basis for explaining how behaviour develops, and how it may result in maintenance or desistance of firesetting.

Offence process theories are recently developed micro-level theories that provide an in-depth explanation of the offence process, examining events and factors prior, during and post-offence. These theories (Barnoux et al., 2015; Tyler et al., 2014) are valuable because they establish patterns of behaviour in firesetting that are relevant to treatment programmes. Further, these theories use personal recollections of firesetters rather than inductive assumptions, lending intricacies to the offending patterns that otherwise may not be considered. Although these theories require further validation with a more general firesetting population (e.g., young people, females and community firesetters), their conceptual underpinnings provide critical implications for clinicians aiming to prevent repeat behaviour. Moreover, in the context of the current research, this micro-level approach has value in understanding the thinking processes associated with the emergence and choice of engaging in firesetting in both adult and youth populations.

This section provided a summary of the M-TTAF (Gannon, Ó Ciardha et al., 2012). The strength of this theory lies in its ability to provide an overarching framework that accounts for risk factors, developmental factors and vulnerabilities that

contribute to firesetting while acknowledging the heterogeneity intrinsic in a firesetting population. Comparisons between theoretical approaches determined the M-TTAF demonstrated the most utility for clinicians because it provides five key trajectories for firesetting, based on influencing risk factors that need to be targeted to best treat a person to desist from firesetting. Further, it provides an explanation for the role of moderators (self-esteem and mental health) in firesetting. Although the theory has yet to attain empirical support, it provides a framework to determine risk factors that influence adult firesetters. As the M-TTAF was developed for adult firesetters, it has not yet been determined if the M-TTAF could be applicable within a youth firesetting context.

Section Two: Research into Adult Firesetting in Western Australia

Chapter Three: Study One Methodology

Study one used a mixed methods approach to explore adult firesetting in WA. In short, the research for study one was driven by a lack of research targeting adult firesetters in WA. The study sought to understand adult firesetters' characteristics, and proximal and developmental factors associated with offenders who were classified by the WA Police as medium to high-risk. The WA Police collected data that informed the direction of study one of this thesis. The following chapter details the methodology used for study one, describing the available data and participant characteristics. The chapter also considers the ethical obligations of the research, explaining the research process and the method of data analysis. As a foundation for the study, this chapter begins by positioning the research in relation to the available police data. In this section, 'this study' refers to study one of this thesis.

Positioning the Research

Police officers (from the WA arson squad) initially approached Edith Cowan University regarding research data they had collected from 'adult prolific priority arson offenders (PPAOs)'. Data were collected using a questionnaire (see Appendix I) developed in 2011 by officers from the arson squad in collaboration with the police intelligence division. The data had not previously been analysed by the agency. To develop strategies that they could incorporate into their current approaches, police needed to gain a better understanding of characteristics associated with WA firesetters. To inform the analysis the police provided a sample questionnaire to myself. The questionnaire was structured in a way that three key research questions naturally emerged to direct the analysis of the data:

- i. What firesetter characteristics were common across the sample?
- ii. What developmental experiences were common across the sample?
- iii. What proximal factors presented across the sample?

These questions were formulated to establish any patterns or commonalities that the participants experienced. The aim of study one was to gain a broad contextual understanding of medium to high-risk adult firesetters in WA. The influencing factors were restricted to those available through the police-designed questionnaire. The data were analysed using descriptive statistics and an ethnographic content analysis.

Understanding the Available Data

Basic statistics are collated by analysts for both the WA Police and the Department of Fire and Emergency Services (DFES), although little analysis of the data targeting factors relating to adult or youth firesetting has been conducted in WA. WA Police had collected data from offenders who had been implicated in a firesetting offence, and were subsequently assessed by police as a medium to high-risk of repeat offending. Police created a questionnaire, the 'Doorstop Questionnaire' (see Appendix I), to gather information on factors that influenced and affected the firesetters' lives and their offending. These factors included the individual's family history, their mental and physical health, previous offending history, firesetting variables and pre-existing psychological issues.

The questionnaire comprised 53 questions. The original survey was conducted as a structured interview, with the collected data both qualitative and quantitative. Different approaches were employed by interviewing officers: some wrote wordy responses and probed for further information, others obtained binary 'yes' or 'no'

responses and did little further prompting. As a result, answers and data varied substantially in quality. Further, officers recorded their personal observations such as housing environment, behaviour of the participant during the interview and the participant's overall appearance (e.g. unkempt). For the purpose of study one, the officer in charge (OIC) of the arson squad completed the collation of files for analysis. Files contained handwritten answers from the Doorstop Questionnaire, officers' notes and any police intelligence that had been collected on the firesetters. Participants were a mixture of both 'active'⁶ and 'inactive' firesetters, who were being monitored by police officers at the time of data analysis.

Ethical Considerations

As data provided by police were sensitive, several ethical obligations were considered. Prior to commencing data extraction and analysis, ethical approval was obtained from the Edith Cowan University Human Research Ethics Board and the WA Police Academic Administration Unit (WAPAA). The key concern was to protect participants' privacy and maintain their confidentiality. The WAPAA specified that participants were required to be over the age of 18 at the time of data analysis. WA Police officers had obtained consent for the officer to interview the participant verbally, prior to commencing face-to-face interviews.

The WAPAA placed restrictions on who could access data to maintain security, and ensure participants' confidentiality. Data were therefore accessed only at the secure headquarters of the WA arson squad. WA Police officers supervised the data extraction process. Prior to data being removed from headquarters, it was made non-identifiable

⁶ An active firesetter is someone who has offended within the current bushfire season (the season at time of data analysis). An inactive firesetter is someone with an extensive history of firesetting, who has not set any fires in the current bushfire season.

by myself. Each case file was assigned a randomised case number ensuring data were suitably non-identifiable. For ease of access, a computer was made available in an office at Curtin House⁷ for data extraction. Prior to the first data extraction and analysis by myself, the OIC allowed access to a de-identified completed questionnaire. As a result, a coding instrument was developed.

Sample Participants

Inclusion criteria for this research remained as broad as possible to allow for the most comprehensive picture of participants' lives. All participants had prior contact with police for their firesetting, and for inclusion within the data-set, the participant had admitted to having lit fires. Further, all participants were required to be over the age of 18 years at the time of data analysis. The police pre-selected participants based on available data in intelligence files. Initially, 29 prospective participants were provided for analysis. Nine files were omitted for various reasons. Four (of the nine) files were excluded because offenders were currently under 18 years of age, contravening ethical restrictions placed on the research by both ECU and WA Police. An additional five (of the nine) were excluded because the offenders had never been convicted or did not admit to setting fires; therefore, information on these offenders did not sufficiently meet inclusion criteria. The final sample consisted of 20 adult participants, ranging in age from 19 to 63 years ($M = 36$). Nineteen participants were male, one was female. Additional participant characteristics are presented in chapter four.

⁷ Curtin House, located at 60 Beaufort Street, Perth WA 6000, is the location of the WA arson squad office.

Completing the Research: The Process

In preparing to collect data, the arson squad and I met to establish the research parameters and expectations. Police confirmed to myself that no incentives or token of appreciation was offered to participants for participating in the research. All interviews took place at the participants' homes, with data and observations handwritten by the interviewing officer. These handwritten notes accompanied the criminal histories of participants, and included notes regarding any prior contact the participants had with police officers. Many interviews were observed by the participants' spouses, partners or other family members, including parents. The presence of family members at the time of interview, in conjunction with the administering interviewers being police officers, may have influenced the truthfulness of the data collected. To combat this issue, police reports and prior records have been used to triangulate the responses of participants. Where responses differed between the three sources of data, I highlighted the dissimilarity.

Analysing the Data

Prior to engaging in the analysis process, a qualitative methodology was identified as most appropriate to code the data. The purpose of coding using a qualitative method was to create order and categorise data that simultaneously summarised and classified into ordered groups (Liamputtong, 2013; Patton, 2002). This is a methodical way of making analytical interpretations, allowing patterns to emerge that are both descriptive and repetitive. These patterns subsequently become themes and subthemes. An ethnographic content analysis (ECA) approach was used to guide the qualitative coding of data (Liamputtong, 2013).

An ECA is a qualitative analysis that enables the researcher to quantify data in a consistent, reliable manner (Liamputtong, 2013). ECA is a derivative of traditional content analysis, and it can, “quantify content in terms of predetermined categories, and in a systematic and replicable manner” (Bryman, 2016, p. 290). This method allowed for flexible coding segments, permitting continual development of codes based on data, rather than fitting data into rigid pre-defined categories (Creswell, 2007). The method of ECA is simplified, as Altheide (1996) advised, “categories and variables initially guide the study, but others are allowed and expected to emerge during the study, including an orientation to *constant* discovery and *constant* comparison of relevant situations, settings, styles, images, meanings, and nuances” (p. 16). The method includes identifying potential codes prior to analysis (Daly, 2007; Elo & Kyngas, 2008; Liamputtong, 2013; Silverman, 2010); thus, a de-identified questionnaire was used to identify potential codes prior to the initial data analysis. Throughout analysis, these predetermined categories remained flexible, and were often revised throughout (Bryman, 2016).

To counteract missing data, two methods were used to present the findings. The first method used descriptive statistics to analyse simple data such as socio-demographical data and offending history. The use of descriptive statistics permitted data to be quantified and presented in a concise manner. The second process was identifying themes, patterns and commonalties across the remaining data. These themes were extracted for subsequent analysis. A focus on repeated themes enabled analysis of available data, without the analysis being stifled by the many gaps. Further, it allowed for equal reflection of data, rather than selecting segments depicting a singular individual’s story (Marks & Yardley, 2004). As a result, ECA guided the coding that captured each offender’s firesetting incident, their perspectives of firesetting,

relationships and social networks, offending patterns, and the conditions and constraints of their behaviour.

Chapter Four: Findings and Discussion of Adult Firesetters' Offences

Study one analysed both self-reported data extracted from questionnaires and police intelligence files provided by the WA Police. The aim was to examine factors that contributed to adult firesetting, with the purpose of contributing to a better understanding of adult firesetters in WA. Participants in study one had been classified as PPAOs by police, with all assessed at a medium to high-risk of engaging in repeat firesetting.

Data were analysed using two methods: descriptive statistics and coding of common themes and patterns. As a result of this process, the findings are presented in three groups, and are divided into subsequent sections for the purpose of this thesis. The following chapter begin with section one, providing a descriptive overview of the participant sample, describing characteristics, offending histories and self-reported firesetting variables, and self-reported mental health experiences. This section answers the first research question: (i) What firesetter characteristics were common across the sample? The second section answers the second question: (ii) What developmental experiences were common across the sample? Findings established the presence and importance of family environments and the presence of pro-social and antisocial lifestyles. The third section explores self-reported participant proximal vulnerabilities, answering the third research question: (iii) What proximal factors presented across the sample? These pre-offence vulnerabilities include pre-offence antisocial lifestyles, alcohol and substance abuse, and isolation. The chapter concludes with a summary of the limitations of the first study.

Profiling Adult Firesetting in Western Australia

Characteristics of the Participants

The sample for study one comprised 20 firesetters, whose behaviour and movements were being monitored by the arson squad. WA Police, complying with ethical guidelines set by the WAAPA, excluded an undisclosed number of monitored firesetters. Guidelines specified that data related to offenders under 18 years should be excluded to comply with privacy legislation. The final sample ranged in age from 19 to 63 years, and comprised 19 males and one female. All 20 participants had lit bushfires. Contrary to much of the previous research, these participants had a mean higher onset age of firesetting. This may be attributed to the small sample size; however, it is more likely in keeping with another Australian study, which determined bush firesetters present with a higher mean age of offending in comparison with structure firesetters (Doley, 2009). An over-representation of males in a firesetting population is consistent with previous research findings, supporting this ratio (Blanco et al., 2010a; Devapriam et al., 2007; Stewart, 1993). In congruence with previous research (Anwar et al., 2011; Barrowcliffe & Gannon, 2015, 2016), the sample had little ethnic diversity, with 19 participants identifying as Australian Caucasian, and one as Aboriginal Australian.

At the time of their interviews, the participants' living arrangements varied. Eight participants lived with their parents, four with a partner, three alone and one with a housemate. Two participants declined to answer and the remaining two participants had lost contact with police following their interview, since they no longer had a primary place of residence, one identifying himself as 'homeless' to police. The other participant, who had lived in a Department of Child Protection (DCP) share house through his teenage years, had lost contact with police when he turned 18 years old. All participants, according to the police, were at risk of committing further fire-related

offences. Previous research has consistently established structure firesetters are more likely to live alone and to have never married (Dickens & Sugarman, 2012a; Dickens et al., 2009; Ritchie & Huff, 1999). This assumption was not reflected in the current findings, since 13 of the 16 participants who provided responses lived with another person. This difference may potentially delineate a variance between firesetters who select bush as their target, in contrast to those who select structures. The implication of this difference is crucial, since it reinforces a need for altered treatment programmes regarding the communication and social skills of the firesetters.

Seven participants stated they were unemployed, which had been the norm for an extended period. One participant explained that although he was unemployed, he had been studying law on a part-time basis through an online university course. Three participants relied on a disability pension from Centrelink. Of the seven who were employed, one was employed in a casual position, one was self-employed and the remaining five were employed with non-government agencies. In total, of the participants who had worked in their current job for more than six months, none indicated they were unhappy with their current employment. More than half of the participants struggled with unemployment. These findings further support research that indicate firesetters are more likely to be unskilled or unemployed (Anwar et al., 2011; Dickens & Sugarman, 2012a), and have trouble finding and retaining employment (Barker, 1994; Doley, 2009; Rice & Harris, 1991). A lack of employment, or struggling to retain employment, is an antecedent variable for firesetting, and is a risk factor for repeat firesetting behaviour (Doley, 2009).

Data were limited regarding education levels, with only seven participants responding to questions concerning their highest level of education. Of these seven, not one had completed high school. One participant had reached year 11 but failed. One

had ‘dropped out’ of school in year 8, with the remaining participants all leaving high school for various reasons in year 10. In terms of other qualifications, three had not attempted further education beyond high school. Two participants attended TAFE⁸ but had not completed (for various reasons) their courses in construction and agriculture. Another two participants attended TAFE and received qualifications, one becoming a chef and the second continuing on to study law at university. The remaining two participants had apprenticeships, one completing his builders’ registration, and the second ceasing his painting apprenticeship. The prevalence of low educational achievement is common among firesetters, with 63% of males and 62% of females in Anwar et al.’s (2011) study completing primary school only. A lack of education is considered a social disadvantage, contributing to an individual’s ability to find and maintain employment. Although prevalent within a firesetting sample, firesetters’ lack of education does not appear to differ significantly from a general offending population (Dickens & Sugarman, 2012a).

When questioned on means of day-to-day transport, 16 participants provided responses (four had missing information). Of the 16 participants who provided responses, eight (40%) regularly drove a motor vehicle, with seven relying on public transport. One individual insisted he walked everywhere, with three preferring bicycles as a primary source of transport, despite having a vehicle license. A lack of accessible transport for the remaining eight participants affected their offending behaviour, for instance, most participants lit fires close to their homes. All participants lived in residences located within five kilometres of bushland, and all lived south of the Swan

⁸ In Australia, Technical and Further Education (TAFE) institutes are government run institutes, providing education following high school in vocational areas. The courses focus on teaching skills sets for specific workplaces, including childcare, accounting, beauty and trades areas.

River⁹. Similarly, Muller (2009) found most deliberately lit fires in Australia occurred within 10 kilometres of the urban sprawl, in urban bushland rather than remote areas. Extending this research, McEwan et al. (2012) attributed this to the easy access to local bushland, a pattern confirmed by the current sample's participants who reported a limited means of transport.

Generalised Offending Histories

Firesetters often have extensive and varied histories of offending (Dickens et al., 2009; Doley, 2009; Doley et al., 2011; Gannon & Pina, 2010; Harris & Rice, 1996). Firesetters' offending history is rarely characterised by interpersonal violence or sexual offending, and is predominantly property oriented (Gannon & Pina, 2010). Instead, firesetters who engage in repeated firesetting episodes usually have histories of varied offending and antisocial behaviour (Blanco et al., 2010a; Dickens & Sugarman, 2012a; Vaughn et al., 2010). Similarly, most participants in this study had long and diverse histories of offending behaviour. Of the 20 participants, 17 had previously been in contact with police in relation to criminal offending and antisocial behaviour. However, whereas histories were primarily property oriented, nine participants had histories of violence against family and intimate partners.

In accord with previous research (Blanco et al., 2010a; Jackson, Hope, & Glass, 1987; Soothill et al., 2004; Vaughn et al., 2010), 16 participants had previously been charged and convicted by police for damage offences unrelated to their firesetting convictions (see Table 2.0), common in most firesetting populations. Nine participants had a history of multiple stealing offences, with one participant listed as a person of

⁹ The Swan River runs east to west through the Perth metropolitan area. As a landmark, it is used to differentiate suburbs located to the 'North' of the Perth Central Business District, and those to the 'South' of the Perth Central Business District.

interest (POI) for stealing offences, although he had never actually been convicted of stealing. Other charges included, but were not limited to, burglary (4), trespass (3), drug offences, including possession of smoking utensils (2) and being in possession of illicit substances (5), with none of these charges related to the offenders' engagement in firesetting. This array of offending behaviour is consistent with Blanco et al.'s (2010a) research, which revealed that 76% of their sample commented they had been involved in, "anything that you could have been arrested for."

Firesetters' versatile offending history is not generally characterised by violent behaviour (Dickens & Sugarman, 2012a). Supporting this assumption, crimes against the person (see Table 3.0) showed lower levels of prevalence in the sample. Two offences were common assault, and six participants had previously been convicted of disorderly offences. Assault (5), threats to cause harm (3) and unlawful wounding (1) were also present. This relatively small number of violent offences may be attributed to firesetters' social ineptness and avoidance of face-to-face confrontation (Ducat et al., 2015). Firesetters tend to use firesetting as an outlet for aggression, preferring to release their aggression in a covert manner, more suited to their personal needs (Vreeland & Levin, 1980).

Table 2.0 *Number of participants who engaged in property-oriented offending*

| Offence | N (%) |
|--|----------|
| Damage | 10 (50) |
| Stealing | 9 (45) |
| Trespass | 3 (15) |
| Possession of a prohibited drug | 3 (15) |
| Burglary with intent | 1 (0. 5) |
| Burglary and commit with stealing | 1 (0. 5) |
| Burglary stealing of motor vehicle | 1 (0. 5) |
| Burglary and commit (aggravated) | 1 (0. 5) |
| Possession of stolen property | 1 (0. 5) |
| Graffiti | 1 (0. 5) |
| Possession of a smoking utensil | 1 (0. 5) |
| Fraud | 1 (0. 5) |
| Loitering | 1 (0. 5) |
| Stealing of motor vehicle | 1 (0. 5) |
| Smoking in an area that has signs marked otherwise | 1 (0. 5) |

Note. Table **does not depict total number of charges. Rather, it depicts the range of offences engaged in, with percentages reflective of total number of participants engaging in the offence.

Nine participants had been both protected and restrained by violence restraining orders (VROs), and five participants had multiple convictions for breaching VROs. One participant had recently moved to Victoria to be closer to his family, although three family members had taken out VROs within a few months of his arrival. Two participants had a history of reported domestic incidents at their premises; however, they had no convictions relating to family-related violence. A prevalence of family dysfunction and poor parental relationships are common in firesetting populations, discussed further in the chapter in section *Family and its Function in Adult Firesetting* (p. 98) and subsection *Family Relationships* (p. 109) (Dadds & Fraser, 2006; Kolko & Kazdin, 1990). However, family dysfunction is not necessarily a contributor to firesetting behaviour; rather, it should be viewed as a potential triggering factor (Lambie et al., 2016).

Table 3.0 *Number of participants who engaged in person-oriented offending*

| Offence | N (%) |
|---|--------|
| Disorderly behaviour | 6 (30) |
| Common assault | 5 (25) |
| Breach of VRO | 5 (25) |
| Assaulting a public officer | 4 (20) |
| Breach of bail | 3 (15) |
| Breach of court order | 3 (15) |
| Providing false details to police/Refusing to provide | 3 (15) |
| Move on notices | 2 (10) |
| Threaten violence/behaviour | 2 (10) |
| Obstructing a police officer | 2 (10) |
| Carrying an article with intent to injure or disable | 2 (10) |
| Using carriage service to harass/menace | 2 (10) |
| Threats to kill | 1 (5) |
| Consume alcohol in conveyance or facility | 1 (5) |
| Behave in violent manner on carriage service | 1 (5) |
| Obstructing railway officer | 1 (5) |
| Offensive behaviour on railway | 1 (5) |
| Improper use of telephone (hoax calls) | 1 (5) |
| Incidence dealing with a child under 14 y/o | 1 (5) |
| Unlawful wounding | 1 (5) |
| Wilful Exposure | 1 (5) |

Note. Table does not depict total number of charges. Rather, it depicts the range of offences engaged in.

Emergency Services and Firesetters

The sample's history of contact with emergency services varied. In terms of offences relating to police, three participants had been convicted of assaulting a police officer, another three had been charged with providing false or misleading information, and three more had been found guilty of obstructing a police officer in their duties. One offender had a prolific history of offences against police officers, including being charged with disorderly behaviour at a police station. When questioned during the interviews about their feelings towards police, five participants provided responses (the low response rate to this question is attributed to the police administering the interviews). One participant commented that, "they are just normal people, doing their

jobs.” Another participant, who the police recorded from personal observations as displaying signs of hero worship towards emergency services, responded that, “they are good because they help people.” Another participant stated he thought that the ambulance service and DFES were good, but he became extremely anxious around police and tended to avoid encountering them where possible. One participant, though not providing a response during the interview, had a long-recorded history of attention-seeking behaviour with police and fire services. This behaviour included, but was not limited to, riding a bicycle outfitted with police lights, carrying handcuffs with him always and claiming to want to join the police force. Intelligence reports of this participant concluded that he displayed ‘pseudo-hero’ illusions.

Canter and Fritzon (1998) asserted that repeat arsonists often make several false alarm phone calls to emergency services, a unique characteristic in comparison with a general offending population. Similarly, one participant had previously been convicted of making hoax and vexatious calls to emergency services on multiple occasions. However, when questioned by police, of the seven responses received, four individuals admitted to making multiple hoax calls to emergency services. These services included police (two participants), DFES (one participant) and all emergency lines (one participant). As participants were reporting to police, it may be assumed the prevalence of vexatiously calling emergency lines might be higher than reported.

Self-Reported Firesetting Offence Variables

Fire-related behaviour can be motivated by a complex mixture of factors, such as boredom, curiosity, impulsiveness, attention-seeking, maliciousness, emotional dysregulation, a pathological interest in fire, or a combination of these factors (MacKay, Ruttle, & Ward, 2012). A triggering event may culminate in firesetting as the result of offence-related goal development (Barnoux et al., 2015). There is a significant

difference in offending patterns and behaviours between firesetters who are ‘versatile’¹⁰ in their offending history and those who are categorised as ‘pure’¹¹ firesetters (Ducat et al., 2015; Gannon & Pina, 2010). Criminal versatility in firesetters is a prevalent risk factor for repeat firesetting and is generally accompanied by other antisocial and externalising behaviours (Ducat et al., 2015; Gannon & Pina, 2010). As Doley (2009) established, serial firesetters who show higher levels of criminal versatility, particularly in relation to property-oriented and drug-related crimes, usually begin offending at a younger age and experience an increased risk of alcohol misuse and diagnosed personality disorders. Of the participants, 16 of the 20 offenders had previous convictions of more than three non-fire-related offences, occurring in different developmental stages of their lives. The remaining four participants were categorised as pure firesetters, since none had previously come to the attention of police prior to their involvement in firesetting.

Self-Reported Motives and Triggering Factors

Motives and triggering factors for firesetting behaviour are best considered in the context of an individual’s affective response. The current sample self-reported feelings of boredom, anger, excitement and frustration prior to and during their firesetting offence. These emotions link to motivations such as power-seeking, attention-seeking and pseudo-hero illusions (Dickens & Sugarman, 2012b; MacKay, Ruttle, & Ward, 2012). Participants were rarely willing to examine or disclose their feelings towards fire. Six participants said they never had an interest in fire, with two commenting they hated fire. Nine participants explained they had not lit a fire since

¹⁰ A versatile offender, is an individual who has an extensive and varied history of offending behaviour, additional to their firesetting offences.

¹¹ A pure firesetter is an individual who has a limited offending history, usually characterised by only fire-related offences.

their initial offence. These comments challenged police intelligence, which identified several participants as POIs for firelighting offences within their geographical/preferred location, although they have not been convicted since their initial firesetting. This may be attributed to the participants' unwillingness to disclose to police their interest and further involvement in fire, and therefore the consequences of their firelighting behaviour cannot be examined in greater detail.

Most participants lit their fire unaccompanied; only two of the 20 lit fires in the company of others. One participant was a child when he lit his initial fires with three other males. Firesetting research has established that children prefer lighting fires in the company of peers (Lambie & Randell, 2011; Uhnnoo, 2015). The second participant lit fires while in the company of his young nephew (not a participant in the sample), over a period of five days. He had no preference for solo or group firesetting, stating that he did it out of boredom. The remaining 18 participants shared various motives for lighting their fires unaccompanied, such as attention-seeking behaviour and pseudo-hero illusions. These motives require a firesetter to light the fire by themselves to achieve their offence goal (Gannon, Ó Ciardha, et al., 2012).

The solitary firesetting habits influenced the firesetters' affective state, such as the anger and frustration they were experiencing. Firesetters generally have poor social and communication skills, in addition to exhibiting low levels of assertiveness (Dickens & Sugarman, 2012a). This lack of skill when combined with a passive personality and difficulty in confronting others face-to-face, can leave the individual with feelings of isolation and disconnection (Ducat et al., 2015; Ducat & Ogloff, 2011). This may lead the individual to search for ways to release the frustration caused by his or her struggle to connect with others (Duggan & Shine, 2001; Swaffer et al., 2001). These behaviours either directly or indirectly culminate in firelighting. Thus, difficulty forming close

friendships means most people over 18 years set fires alone. This choice did not appear to differ between bush and structure firesetters.

Self-Reported Fire Interest and Fire History

Fire interest and a history of fireplay are theoretically and clinically significant in the maintaining of and desisting from firesetting (Barrowcliffe & Gannon, 2015, 2016; Gallagher-Duffy et al., 2009). A community sample revealed a link between elevated levels of fire interest and fireplay in firesetters in comparison with non-firesetters (Barrowcliffe & Gannon, 2015, 2016; Gannon & Barrowcliffe, 2012). The emergence of fire interest and fireplay in childhood is common, with histories of child and adolescent fireplay and heightened fire interest a critical predictor for ongoing firesetting behaviour (MacKay et al., 2006). Rice and Harris (1991) found that childhood fire interest correlates considerably with adult firesetting, and was most prevalent in pathological firesetters.

Limited data were available from 12 participants in relation to childhood fire interest and fire history (unknown whether not provided, or not asked by interviewers). Of the eight who provided responses regarding their childhood fire history, all remembered fire interest and fireplay in childhood. This was reflected in one participant's recollection of setting his first fire at age six. He believed he used fire as a way of garnering attention from his family, prior to making hoax calls to emergency services to attract more attention. Three of the eight participants (who were also pure firesetters) displayed limited antisocial behaviours, self-reporting elevated levels of childhood fire interest and fireplay. These three males were at high-risk of repeat firesetting. Self-identified levels of fire interest were described, including watching YouTube videos of fires and a declared fascination with firefighters. Although only a

small number of participants were questioned, the dominance of fireplay and fire history in responses highlight how firesetting may progress from childhood to adulthood.

The Problem of Firesetters with Histories as Volunteer Firefighters

A compelling pattern that emerged was that four males had previously been members of various volunteer firefighter and bush brigades in WA. Three of the four males were part of a brigade at the time of their firesetting offences. Rarely has research targeted firefighters who commit arson (Willis, 2004). Consequently, firefighter arson statistics may be inaccurate (National Volunteer Fire Council, 2011). Huff (1994) researched 75 firefighters who lit 182 fires across the USA. Comparably, one initiative directed by the NSW police force (Australia) targeting firesetting, Strikeforce Tronto, investigated 1,600 suspicious fires across a three-year span. The investigations resulted in 50 individuals being charged, 11 of whom were volunteer firefighters in the Rural Fire Service (Warne-Smith, 2004). Statistically, the prevalence of firefighters who deliberately set fires has been relatively low; however, this population's firesetting behaviours are far more dangerous since they have extensive knowledge on how 'successful' fires are lit (Willis, 2004).

Earlier research asserted these firesetters fall across motivation categories (excitement, vandalism, revenge, profit, crime concealment and extremist), with the prevalence of excitement as a motivational factor being remarkably high (Huff, 1994; Stambaugh & Styron, 2003; Willis, 2004). Common offence goals include attention-seeking, recognition, wanting to create excitement for themselves and their brigade, and pseudo-hero illusions (Stambaugh & Styron, 2003). In this sample, all four males lit multiple fires and self-reported multiple motives. The most common motive was excitement; varying secondary motives were mostly attention, thrill seeking and hero status.

Data on the participants' involvement in their fire brigade were limited, providing an avenue for further research. Police intelligence on three of the males noted that their bush brigades had become suspicious of their behaviour prior to the firesetters' contact with police. All four males set multiple fires across an extended time span, with intensive escalation patterns. For instance, one male set seven fires across a two-month span, while another set 16 fires across a one-month span. All the fires grew as the firesetter lit more fires, corresponding with their increased confidence. One male commented that he enjoyed the adrenaline rush of attending and suppressing the fires he had lit. Further, he wanted to gain firefighting experience. Following his incarceration, he wrote a letter to his mother (obtained through police intelligence) that said, "when I get out, I intend to light heaps more fires." On his release from prison, several fires were lit in the geographical surrounds of his home. He was listed as the chief POI, although he was never charged for these fires.

Difficulty arises in both prevention and treatment regarding this firesetting subgroup, because experience with their volunteer brigade provides a high degree of exposure to education and prevention awareness of the dangers of fire. When coupled with possible physiological arousal to fire, this subgroup develops inappropriate fire scripts and attitudes towards fire. Thus, treatment becomes difficult because lifelong inappropriate fire scripts and attitudes are usually entrenched (Gannon, Ó Ciardha et al., 2012). For successful treatment, Gannon, Ó Ciardha et al., (2012) theorised that alternatives need to be proposed that counteract the thrill-seeking feelings associated with their behaviour. The prevalence of volunteer firefighters in this sample poses a significant problem for emergency services, particularly in light of their escalation patterns and associated high-risk level. This pattern warrants substantial attention within a WA context.

The Function of Mental Health in Adult Firesetting

Mental health acts as both a risk factor for firesetting (Tyler & Gannon, 2012) and a potential moderating factor (Gannon, Ó Ciardha et al., 2012). Firesetting is often used as a diagnostic criterion, although people who light fires are not deemed mentally ill by virtue of their behaviour (Tyler & Gannon, 2012; Tyler et al., 2014). The most prevalent psychiatric diagnoses in firesetting populations are conduct disorder or ASPD (Blanco et al., 2010a; Gannon & Pina, 2010; Kolko & Kazdin, 1991; MacKay et al., 2006; Martin et al., 2004; Repo & Virkkunen, 1997b; Sakheim & Osborn, 1999; Vaughn et al., 2010). In comparison, this sample differed, since no participant had been diagnosed with either ASPD or conduct disorder. However, this lack of diagnosis may be attributed to an incomplete response to questions, or a genuine lack of diagnosis in the sample as a consequence of limited access, or lack of presentation to mental health services.

Despite the lack of a formal conduct disorder diagnoses, a myriad of antisocial and externalising behaviours was self-reported by the sample, often described as experiences that began in childhood. These behaviours included a lack of empathy towards others, extensive histories of delinquent and versatile criminal behaviour, deceitfulness, impulsiveness, irritability and aggressiveness, disregard for the safety of others and a lack of remorse (Moffitt, 1993, 2003). For example, one male reported setting fire to a bed, which contained both himself and his partner, after they had argued. He described a disregard for the safety of others, and displayed high levels of impulsiveness, aggressiveness and lack of remorse. Consistent with earlier research, despite elevated levels of antisocial behaviour in the sample, there appeared to be poor diagnosis levels of associated disorders (Ritchie & Huff, 1999; Tyler & Gannon, 2012).

It is common to experience comorbid psychiatric disorders that interact with firesetting behaviours (Tyler & Gannon, 2012). Nine of the 11 participants who provided responses had been diagnosed with several disorders. These included schizophrenia (Anwar et al., 2011; Ritchie & Huff, 1999), substance abuse (Dickens et al., 2007; Grant & Kim, 2007; Räsänen et al., 1996; Ritchie & Huff, 1999) and affective disorders including depression and anxiety (Barnett et al., 1999; Geller, 1992b; Lindberg et al., 2005; Ritchie & Huff, 1999). Other diagnoses within the sample included attention deficit disorder and attention deficit hyperactivity disorder (ADHD), obsessive compulsive disorder, bipolar, epilepsy and borderline social behaviour dysfunction (Dolan, Millington, & Park, 2002; Geller et al., 1986; Grant & Kim, 2007; Lindberg et al., 2005; Rix, 1994). Four of the 11 participants (who provided responses) had been diagnosed with two or more mental health issues, including psychosis, paranoia and delusions (Dickens & Sugarman, 2012a; Ritchie & Huff, 1999). One male was diagnosed with pyromania by a psychologist following his arrest subsequent to his firesetting, despite previous research indicating that pyromania diagnoses are rare (Doley, 2003b; Ducat, Ogloff, & McEwan, 2013; Lindberg et al., 2005; Palk, 2015). Police intelligence and arson officers observationally disagreed with this diagnosis, based on their extensive professional experience working with firesetters. Seven of the 11 diagnosed participants (who provided responses) were taking regular medication, six on a daily basis. No data were available on whether they were taking medication at the time of the offence.

Histories of self-harm and suicidal ideation were present, with seven participants describing extensive histories of suicide attempts, similar to other firesetting samples: 50.9% of a sample studied by Repo, Virkkunen, Rawlings and Linnoila (1997) had a history of suicide attempts. Earlier research found that mentally disordered offenders

who attempt suicide are usually younger and display higher levels of antisocial behaviour in comparison with mentally disordered offenders who do not attempt suicide (Repo & Virkkunen, 1997b). However, age did not appear to play a critical role in suicidal ideation of the sample's participants. Offenders who had a history of suicide attempts also displayed significantly higher levels of versatility in their offending behaviour and antisocial characteristics. This lack of relationship in age may be attributed to the smaller sample size, in addition to the mean higher age of the participant sample. The prevalence of self-harm and suicidal ideation is unsurprising considering the relationship between suicide and impulsiveness, poor problem-solving skills, and poor coping and resilience levels (Tyler & Gannon, 2012), all previously determined to be considerable risk factors for firesetting behaviour (Barnoux et al., 2015; Del Bove et al., 2008; Gannon & Barrowcliffe, 2012; Kolko & Kazdin, 1991; Vreeland & Levin, 1980).

It was difficult to ascertain the role of mental health issues in participants' firesetting behaviour, particularly since no consistent psychometric testing occurred. Relying on participants' self-reported previous diagnoses provides a limited explanation of the role of psychopathology in firesetting, although it has some utility. Only one participant reported a relationship between alcohol abuse and his offending, although one other participant conceded his paranoia acted as a triggering factor for his firesetting. Previous research determined that firesetters who are diagnosed schizophrenics often set fires while experiencing psychiatric symptoms (Koson & Dvoskin, 1982; Tyler & Gannon, 2012). Although outside this study's capabilities, little other research has examined if a firesetter was experiencing psychiatric symptoms at the time of their offence, despite the high prevalence of mental health issues in firesetting populations.

Patterns of Developmental Risk Factors

Four developmental areas that affect firesetting have previously been identified: family environment, learned behaviour, cultural forces, and biology and temperament (Gannon, Ó Ciardha et al., 2012). These developmental factors inhibit the development of healthy self-esteem, self-regulatory processes and general social adjustment in an individual, influencing an individual's decision to use fire. Considering the importance of developmental factors, there was a noticeable gap of available information in the data. It is unclear whether the questions were not posed by officers, or whether the participant declined to answer them. Consequently, descriptive statistics are not accurately able to portray or represent developmental factors relating to each individual; however, the information that was gathered provides a limited understanding of how these factors contributed to the participants' firesetting behaviour. Two key developmental factors emerged: family and its function, and antisocial lifestyles.

Family and its Function in Adult Firesetting

A poor family environment, including abusive or neglectful parenting, may lead to insecure attachment styles and social disadvantage (Gannon, Ó Ciardha et al., 2012). Family provides an individual with their earliest learning experiences through social learning. Children learn social scripts, attitudes and values, communication skills, scripts for coping, the form and functions of fire, and their sense of identity and self-worth from their family (Kolko, Herschell, & Scharf, 2006; Kolko & Kazdin, 1990; Kolko, Kazdin, & Meyer, 1985; Pinsonneault, 2002). Thus, family history is a critical risk factor in the development of firesetting behaviours. Firesetters' childhoods are often characterised by large families who live in low socioeconomic areas (Gannon & Pina, 2010; Moore, et al., 1996). Some young people develop antisocial behaviour through learning and experience, beginning within a home environment (MacKay,

Ruttle, & Ward, 2012). This may be attributed to ineffective parenting styles, characterised by parental distance, limited monitoring and supervision, a lack of rules and expectations for the child, and a lack of involvement in a child's life (Gannon, Ó Ciardha et al., 2012; MacKay, Ruttle, & Ward, 2012; Patterson, 1982; Patterson & Dishion, 1985). Kolko et al. (1985) found that parents of firesetters demonstrate significant levels of parental psychopathology.

When asked about their families, 11 of the 20 participants in the current sample provided police with an understanding of their family dynamics, both past and present. One male described his happy childhood, sharing that he wanted to parent his future children in the same style. He told police that prior to his involvement in firesetting, he was often left to his own devices, since he was an only child of elderly parents. A lack of supervision and monitoring acts as a developmental factor for firesetting behaviour because a firesetter may seek to gain the attention of inattentive parents (MacKay, Ruttle, & Ward, 2012). Further, children who experience limited monitoring can engage in high-risk behaviours with little chance of detection, and therefore intervention by their parents. Police intelligence files recorded that the firesetter's parents were shocked at their child's firesetting, reporting he had never displayed interest or fascination with fire.

Five participants reported having no contact with different members of their family, with one describing his poor relationship with his mother, which he attributed to a number of his self-harming incidents. Another participant had a difficult relationship with his father, mother and brother. Police intelligence recorded his volatile family relationships, identifying them as a significant trigger for his firesetting, particularly when coupled with his diagnosed paranoia. During his interview, he continuously commented that his mother and brother were spreading rumours about him, acting

agitated whenever he spoke of them. At the time of interview, his brother was his full-time carer and lived with him, increasing his exposure to significant stressors and triggers.

Of the remaining 10 participants, four reported experiencing abuse as children. Abuse is considered neglectful parenting (Moore et al., 1996; Showers & Pickrell, 1987; Yarnell, 1940), whether physical, emotional or sexual abuse (Moore et al., 1996; Root, MacKay, Henderson, Del Bove, & Warling, 2008). One male described a childhood history of physical abuse meted out by his father, which left him with bad memories he continuously relived until his father's death. Another said foster parents raised him, stating he was physically and sexually abused throughout childhood; however, he was reluctant to discuss these experiences with police. Evidence suggested a correlation between abuse during childhood and ongoing firesetting behaviour (Root et al., 2008).

Longitudinal general offending studies support a connection between childhood maltreatment, higher rates of adult criminality and earlier mean age of first offence (Pelcovitz et al., 2000; Widom, 2000), although Root et al. (2008) found that an early age of onset of firesetting was more indicative of future antisocial behaviour issues and not recurrent firesetting. Although only limited data were available within the current first study, all four males who identified maltreatment and abuse in their childhood also acknowledged early onset of firesetting behaviour in childhood. Three of the four demonstrated significant criminal versatility consistent with antisocial behaviour in adulthood; however, the remaining participant had no history of criminal versatility other than firesetting. Further research regarding fire interest and maltreatment is needed, particularly when considering the increased risk of recidivism and firesetting.

Experiencing abuse during childhood significantly affects the development of appropriate social skills and effective self-regulatory behaviour, which may negatively affect a person's ability to form secure attachments with caregivers and peers (Gannon & Pina, 2010; McCarty & McMahon, 2005; Moore et al., 1996). When examining the current peer and romantic relationships of the four participants who experienced abuse in childhood, two stated they were currently in a relationship, although only one was in a long-term relationship. In terms of friends (one declined to answer), one male stated he did not have any close friends, but had a 'mentor' he looked up to. One stated he only 'hung out' with his parents, and the third male advised he had one close friend. Consistent with previous research (McCarty & McMahon, 2005), these four males had had difficulty establishing secure attachments with peer networks, which was also reflected in their romantic relationships. Those in a romantic relationship struggled with their peer relationships, whereas those with peer networks struggled in intimate partner relationships. This suggests deficits in different areas that should be considered when administering treatment programs. For instance, tailoring a treatment program to directly target peer relationships, rather than encompassing all relationships.

A small number of participants ($n = 4$) were parents. Of those that identified as parents, two participants shared that the DCP had removed their children from their care, and the third stated he no longer had contact with his children (18-year-old daughter and 12-year-old son). One participant stated that she had attempted to parent in a different way to her mother, but had lost her children to the DCP, because as a couple, they were constantly fighting and drinking. One participant stated that he would never have children because of his childhood. These issues are linked to participants' developmental experiences as children; insecure attachment styles affecting their current relationships and elevating the risk of familial upheaval as a trigger for

firesetting. Familial upheaval is a potential motivation or triggering factor for firesetting (Doley, 2009; Fritzson & Miller, 2016), particularly within female firesetting populations (Cunningham et al., 2011). However, no research appears to have examined whether and how a parent–child relationship might trigger the firesetting behaviour in the parent.

Pro-Social and Antisocial Lifestyles

A person's progression into firesetting is influenced by their lifestyle experiences. Using the DMAF, participants' lifestyles were categorised into either pro-social or antisocial lifestyles (Barnoux et al., 2015). Five lifestyle factors were observed: unemployment, unstable home lives, continued offending behaviour, presence of violence in interpersonal relationships, and alcohol and substance misuse (see Table 4.0). A pro-social lifestyle is characterised by relative stability throughout adulthood (Barnoux et al., 2015). For the purpose of this study, if a participant displayed two or less of the five factors, their lifestyle was classified as pro-social, as these factors were less likely to negatively impact their overall life beyond their coping and resilience skills.

An antisocial lifestyle is distinguished by high levels of these five factors. Categorising an offender's lifestyle is essential, since firesetting behaviours are commonly characterised by prior or concurrent antisocial behaviour (Harris & Rice, 1996; Kolko, 2002; MacKay, Ruttle, & Ward, 2012; Ritchie & Huff, 1999). Using my initial analysis of the dataset, I predicted that a higher proportion of participants would display more than three of the five characteristics associated with an antisocial lifestyle because there was a higher prevalence of versatile offenders ($n = 16$) compared with pure firesetters ($n = 4$). This hypothesis has been confirmed by the data in Table 4.0.

Table 4.0 *Variables associated with antisocial lifestyles*

| Antisocial Characteristics | Present | Absent | Unknown |
|-----------------------------------|----------------|---------------|----------------|
| Unemployment | 10 | 9 | 1 |
| Unstable home lives | 12 | 3 | 5 |
| Continued offending behaviour | 15 | 5 | 0 |
| Presence of violence | 17 | 2 | 1 |
| Alcohol/substance misuse | 10 | 5 | 5 |

Note. Table 4.0 depicts the total number of participants that had displayed the characteristics.

Five (25%) of the participants had pro-social lifestyles. Of these five, four were pure firesetters. Although these pure firesetters exhibited pro-social lifestyles, they were measured as high-risk of repeat firesetting behaviour. The other participant had previously led an antisocial lifestyle; however, his lifestyle trajectory had altered in the intervening years prior to his firesetting offence. Accordingly, antisocial behaviour is a dynamic factor and it is possible for an offender to transition away from an antisocial lifestyle (Moffitt, 2003; Moffitt et al., 2001).

Antisocial behaviour and firesetting are consistently linked with offence supportive attitudes (Gannon, Ó Ciardha et al., 2012). ASPD is 12 times more prevalent in firesetting populations in comparison with non-firesetters (Vaughn et al., 2010). Antisocial behaviour is often researched in a youth firesetting context, although a significant difference has been found in adults who use fire as a tool to achieve the criminal goals of their wider criminal career, compared with adults with less versatile offending histories (Del Bove & MacKay, 2011; Ducat, McEwan, & Ogloff, 2013; Ducat et al., 2015; Gannon, Ó Ciardha et al., 2012; Gannon & Pina, 2010). Participants revealed comparable patterns supporting this link. Those individuals with a pro-social

lifestyle were developmentally different, and had distinct personality factors dissimilar to their antisocial counterparts. Further, they experienced major life stressors differently (such as social isolation and relationship issues) compared with those with antisocial lifestyles.

Classifying offenders by their pro-social and antisocial lifestyles broadly supports the theoretical assumptions of the DMAF (Barnoux et al., 2015). The DMAF proposed two pathways followed by firesetters: approach firesetters and avoidant firesetters. Approach firesetters show high levels of aggression and antisocial characteristics, leading adult antisocial lifestyles with extensive criminal histories. In contrast, avoidant firesetters display a passive personality, struggle with assertiveness, and develop their pro-social lifestyles during adulthood. Further, this group often avoid expressing their feelings, allowing frustrations and annoyances to grow, resulting in over-reactions to seemingly small triggers. Comparably, these group differences were reflected in the available sample. However, this sample distinguished themselves from the DMAF's (Barnoux et al., 2015) findings because their fire-related patterns differed from those the theory proposed.

Approach firesetters display multiple fire factors that emerge during childhood, with two or more fire incidents reported (Barnoux et al., 2015). Avoidant firesetters are theorised to show lower levels of fire interest and fire involvement (Barnoux et al., 2015). In contrast, the current sample were discernible by their firesetting patterns. Versatile firesetters (similar to characteristics of approach firesetters) showed low levels of fire interest and fascination, often utilising fire to attain a criminal goal. Pure firesetters (similar to avoidant firesetters) demonstrated high levels of fire interest and fascination, severe escalation patterns and had multiple firesetting incidents. The motivations of this sample could not be examined to the in-depth extent of the DMAF,

and it is unclear whether the motivations of the current sample differed from those proposed. The variations in findings should be interpreted with caution, since distinct differences exist in the sample population utilised by the current study (medium to high-risk firesetters) compared with the DMAF (incarcerated firesetters). This divergence is significant because it shows the value in utilising an offence process approach to WA firesetters, with an in-depth examination of fire-specific variables, including motivations.

Patterns of Proximal Factors

Firesetting is the manifestation of multiple factors that interact to influence goal formation and the decision to act. These factors include offence-related vulnerabilities, and encompass psychological, proximal and distal and developmental vulnerabilities (Gannon, Ó Ciardha et al., 2012; Ward & Beech, 2006; Ward & Stewart, 2003).

Proximal factors are present preceding an offence, referring to an adverse ecological and habitat niche (Barnoux & Gannon, 2013; Barnoux et al., 2015; Gannon, Ó Ciardha et al., 2012; Ward & Beech, 2006). Proximal factors may be internal and external, and include life events, contextual factors, internal cognitions, biology and culture (Barnoux et al., 2015; Gannon, Ó Ciardha et al., 2012). A person presenting with increased levels of proximal factors, is more likely to engage in firesetting. The presence and prevalence of proximal factors in an offender's life are dynamic. In this sample, several proximal vulnerabilities were apparent, including alcohol and substance misuse, emotional regulation issues (primarily anger and frustration), isolation due to a lack of support (both family and peer networks), and the presence of and struggle with mental health issues. Most participants experienced multiple vulnerabilities, often concurrently.

The Relationship between Firesetting and Substance Misuse

The relationship between alcohol/substance misuse and offending behaviour is supported in general offending research (Andrews & Bonta, 2010). The use of alcohol and substances is often an avoidant coping strategy, with roots in learned behaviour stemming from childhood (Barnoux et al., 2015; Chen et al., 2003). Coupled with aggressive antisocial behaviour and poor impulse control, the likelihood that a person may use firesetting as an emotional outlet rises immeasurably (Doley, 2009). Half of the current sample ($n = 10$) shared a history of alcohol and substance misuse, both prior and during their offending. This may be an underestimation of the problem, as five participants' data were missing. This finding is consistent with that of Lindberg et al. (2005) who determined 68% of their sample were intoxicated at the time of their index offence. The contributing role that alcohol has regarding firesetting behaviour has previously been established (Bourget & Bradford, 1989; Rautahaimo, 1989).

Four participants commented they believed alcohol had a significant role in their life at the time of their offence. The data were static, disallowing further clarification regarding alcohol's role in the individual's lives; however, data were able to describe the interaction of alcohol and firesetting. For instance, this was illustrated with one male attributing his firesetting to his alcohol consumption, stating the fire he had lit was the result of a silly alcohol-fuelled accident. His criminal history detailed extensive violent offending, which police attributed to alcohol-fuelled anger regulation and management issues, particularly his extensive history of domestic violence issues. This history of violence corroborates research suggesting a strong link between alcohol dependence and repeat offending (Barnoux et al., 2015; Brett, 2004; Del Bove & MacKay, 2011; Dickens et al., 2007; Lindberg et al., 2005; Repo & Virkkunen, 1997a; Tyler et al., 2014). Participants who disclosed their alcohol use were also forthcoming

regarding their drug use. Three individuals, who regularly consumed alcohol, also smoked cannabis on a weekly basis.

The use of drugs and illicit substances during goal formation distorts rational thinking, increasing the likelihood of an impulsive response and the chance of firesetting occurring (Barnoux et al., 2015). Further, alcohol and drug dependence often occurs co-morbidly with an antisocial personality, and is linked to firesetters who display higher levels of violence (Doley et al., 2011; Repo & Virkkunen, 1997a). In line with these studies, of the ten participants who consumed alcohol or used drugs, six had extensive histories of antisocial offending, such as damage and stealing, and involvement in violent offences, such as aggravated burglary and domestic violence. Thus, study one supports the DMAF's (Barnoux et al., 2015) findings that alcohol and substance misuse influence firesetting in several ways: as an external influence for goal formation, as a trigger for the behaviour (removing inhibitions) or as a proximal vulnerability.

Isolation and Absence of Support

The interviewees reported they had experienced recurrent feelings of isolation, including an absence of support through their childhood and into adulthood. The resulting perceived isolation exacerbated their difficulty in coping with adverse life events in a positive manner. Isolation was particularly relevant as a triggering factor, reported as occurring immediately prior to their firesetting. The isolation and instability affected firesetters' three relationships: romantic, family and peer relationships. Conflict and adversity in relationships were most prevalent in the four pure firesetters' lives. Likewise, Canter and Fritzson (1998) asserted that a firesetter's intimacy difficulties are often experienced in sustaining relationships, rather than from the beginning of a relationship, with fires usually set as personal relationships dissolved.

The following section explores the experience of isolation and absence of support in the firesetters' lives, beginning with an analysis of intimate partner relationships, followed by familial relationships and finishing with an exploration of the participants' peer and social networks.

Intimate Partner Relationships

Intimate partner problems presented in two ways: first, isolation resulting from difficulty in maintaining attachments to a romantic partner, and second, emotional upheaval resulting from discord in a current romantic relationship. Participants who were involved in long-term relationships shared that their relationships were generally characterised by significant ongoing problems, both real and perceived. Of participants who answered ($n = 15$) when questioned about intimate partner relationships, 10 were single, with four of the remaining five living with their partner in long-term relationships. This is consistent with research asserting firesetters are more likely to live alone and to have never been married (Anwar et al., 2011; Dickens & Sugarman, 2012a; Rice & Harris, 1991; Ritchie & Huff, 1999). Sapp et al's., (1994) sample of 83 repeat firesetters showed commonalities in poor marital adjustment and relationship histories. This perceived failure in intimate partner relationships contributed to feelings of isolation and failure, with a lack of support being a potential trigger.

Of those participants who had been involved in long-term relationships, one participant's marriage had recently dissolved, coinciding with the onset of his firesetting behaviours. Another participant had a volatile relationship with his ex-partner and children, with his firesetting behaviour occurring in geographical areas that were close to his ex-partner's home rather than near his premises. The dates of his firesetting also coincided with significant arguments between himself and his ex-partner. Two other participants reported volatile relationships with their current long-term partners, which

was a factor in the DCP intervening and removing their children from their care. Evidence showed that the pure firesetters appeared particularly susceptible to adversity in relationships, which affected their ability to cope and consequently triggered their firesetting behaviour. Comparably, Swaffer and Hollin (1995) described their sample as experiencing anger and frustration towards their partner, with fire used as a means of emotional outlet when they were unable to successfully negotiate with their partner. The sample supports evidence that firesetters' lives are characterised by instability in their intimate partner relationships, contributing to feelings of social isolation.

Family Relationships

Recognising family relationships and function as both a developmental factor and a proximal vulnerability serves a dual purpose. Family environment refers to the offender's childhood experiences, and it has the potential to influence current cognitive processes. Familial relationships may also be a proximal vulnerability for a firesetter since family factors are dynamic and may trigger firesetter behaviour (Doley et al., 2011; Gannon, Ó Ciardha et al., 2012). At the time of interview, eight participants lived with their parents, and they had no plans to alter these circumstances. Previous research has established a relationship between younger firesetters, recidivism and living with parents or family (Rice & Harris, 1991; Willis, 2004); moreover, recent research has confirmed that family may act as a positive moderator of youth firesetting behaviour (Lambie et al., 2013). The participant sample showed a relationship between recidivism and living arrangements; however, age was not a factor. Three of the eight commented on their volatile relationships with their immediate family. One had an extensive history of domestic violence incidents with his mother, with whom he lived. One male shared that his mother had believed that he had an undiagnosed mental illness, and inferred this had adversely affected their relationship.

Other participants believed they had close relationships with their parents, with one explaining that he preferred interacting with his parents and not his peers. This served to intensify his social and romantic isolation. Others said they had close relationships with one parent, or one sibling, but did not interact positively with other members of their family. One male detailed that his relationship with his mother and brother was volatile, which he reported often influenced his engagement in attention-seeking behaviour, such as firesetting. At the time of data collection, his father was suffering from a terminal cardiovascular disease. Police intelligence had flagged this as a potential source for triggering repeat firesetting behaviour. This story is consistent with earlier research that emphasised attention-seeking behaviour such as firesetting is often used as a tool to gain the approval of a neglectful or disinterested parent (Barrowcliffe & Gannon, 2015; Canter & Fritzson, 1998; Dickens et al., 2009; Ducat, McEwan, & Ogloff, 2013). Fire may be used as an outlet to indirectly express frustration (Gannon, Ó Ciardha et al., 2012), since firesetters who experience a need for attention or struggle to express emotion show issues with communication, such as social skills, intimacy and assertiveness (Gannon et al., 2012a). These issues amplify feelings of isolation and an absence of support, creating a cyclical offence process.

Peer Relationships and Social Engagement

Firesetters who exhibit inadequate social skills find it difficult to maintain interpersonal relationships (Chen et al., 2003; Ducat & Ogloff, 2011; Räsänen et al., 1996; Wicks-Nelson & Israel, 1997). Many firesetters struggle with shyness, may display difficulty in expressing anger verbally and are generally unassertive, contributing to feelings of social isolation and inadequacy (Ducat & Ogloff, 2011; Lambie, McCardle, & Coleman, 2002; Lambie & Randell, 2011; Lewis & Yarnell, 1951; Rix, 1994). These personal characteristics are linked to limited or no peer

support networks, reinforcing a propensity for solitary personal habits and interests. Of the current sample (12 responses), when questioned about their social circle, only one individual indicated he believed he had a wide circle of close friends. Three explained they had an extensive network of associates (the majority of them criminal), with the remaining eight having limited social networks, indicating a lack of support when they faced adversity. When asked who comprised their support networks, only two participants reported that their parents were included in the list.

Peer relationships may have a positive, negative or absent influence (Barnoux et al., 2015). Of the current sample, no participants reported positive peer influences. Positive peers would usually provide constructive support when required, particularly when confronted with adverse life events. Two trends in social networks were identified: negative peer influences or antisocial peer networks, and absent social networks. Absent social networks were most consistent with those participants with a minimal history of contact with the criminal justice system. In contrast, individuals who displayed antisocial behaviour and had extensive criminal histories usually had strong ties to negative or antisocial peer networks. These trends coincide with current theory (M-TTAF; Gannon, Ó Ciardha et al., 2012) emphasising that of the potential five trajectories for firesetters, three are influenced by their social interactions and peer networks.

The antisocial cognition trajectory is associated with individuals who hold antisocial cognitions and values (Gannon, Ó Ciardha et al., 2012). These firesetters lack an interest in fire; rather they display general criminal behaviours focused on achieving personal or criminal gain. Antisocial behaviour usually begins in childhood (Blanco et al., 2010a; Fineman, 1995; Moffitt, 1993, 2003; Vaughn et al., 2010) and develops into a life course persistent trajectory (Moffitt, 1993, 2003). These individuals are usually

involved in adult antisocial peer networks from an early age and historically have socialised within a pro-criminal environment (Gannon, Ó Ciardha et al., 2012; Harris & Rice, 1996; Ritchie & Huff, 1999), continuing their involvement in antisocial networks. Of the current sample, three males followed an antisocial cognition trajectory, consistent with their extensive criminal history, antisocial variables present in their life, and their continued and past association with their extensive antisocial peer networks. These antisocial networks supported and reinforced participants' antisocial behaviour. However, these networks had no apparent influence on the adult participants' decision to light a fire. These individuals tend to be influenced towards delinquency and antisocial behaviour by their pro-criminal peer network in childhood, reinforcing their involvement in crime to attain their goals. Thus, the participants used fire to attain a goal, but were not influenced to do so by their peers. This suggests a lack of emotionality in their firesetting.

Social isolation is amplified by a firesetter's absence of social engagements and hobbies, active disengagement from social situations and propensity for involvement in solitary hobbies, further restricting opportunities to interact with others (Heath et al., 1983; Quinsey, Harris, Rice, & Cormier, 1998). As a result, firesetters struggle to meet their social needs (Jackson, Glass, & Hope, 1987), increasing their feelings of social isolation. Of the current sample, when questioned about hobbies in which they were involved, 10 participants responded. Of those 10 participants, one male engaged in hobbies that placed him into a social situation with others, with the remaining nine preferring solitary hobbies, including gardening, fishing and reading.

Limitations of the Study

Study one has several limitations that must be acknowledged. The small sample size of 20 participants limits its applicability and generalisability because it does not reflect the characteristics of all firesetters. The sample was not randomly selected and only included firesetters who had had contact with police and were measured to be at a medium to high-risk of reoffending; thus, they did not accurately represent other categories of firesetters, including low-risk and community firesetters. The severity of firesetting behaviour within the sample makes it difficult to explore the extent of environmental and individual factors that affect firesetting. The data utilised were flawed because of the secondary method of its collection and the lack of uniformity in how the questionnaire had been administered to participants. This resulted in significant gaps in data and large variances in the quality of recorded answers. In addition, the questionnaire utilised for collection had not been validated at the time of its application, and several key fire-specific factors were not covered in the questions. Additionally, police officers as the administering researchers may have affected participants' responses since participants may have altered information to appear socially desirable or acceptable, or to hide criminal activities. Despite these limitations, the data highlighted several important findings and directions for further research.

Summary and Conclusions

The current study explored three key research questions to provide an understanding of the adult firesetting population within WA by examining factors that contribute to firesetting behaviour. These three research questions were:

- i. What firesetter characteristics were common across the sample?
- ii. What developmental experiences were common across the sample?

iii. What proximal factors presented across the sample?

Participant characteristics within the sample were consistent with previous research, since deliberate firesetters tend to be male, single and Caucasian, and live in low socioeconomic areas. Generally, they have a history of low academic achievement, display poor social skills, and a family history characterised by abuse, neglect or instability. Additionally, firesetters tend to struggle with unemployment and have a lower level of general skills, all factors experienced and reported by the study's sample.

When examining the offending history of the participants, distinct differences were observed between those offenders who were considered versatile in their offending patterns, in contrast to pure firesetters. Other differences were identified, distinguishing versatile and pure firesetters, similar to those proposed by the DMAF (Barnoux et al., 2015). Pure and versatile firesetters diverged from the two pathways proposed by the DMAF regarding their firesetting offence characteristics, which may be attributed to the differences in population between the two studies. The emergence of these variances shows a direction for future research because, theoretically, the formulation and application of risk assessments and treatments would subsequently vary (Gannon, Ó Ciardha et al., 2012).

Participants' psychopathologies varied across the sample, but were descriptive rather than explanatory because of the limitations of the data set. Although the recounting of mental health issues was descriptive and reliant on the truthfulness of respondents, some utility for future research emerged. Current research is still in its infancy (Tyler et al., 2014) regarding role of mental health issues as a proximal factor for a firesetting offence. Larger samples, with a focus on any psychiatric symptoms the offender was experiencing at the time should be considered for further research.

Commonalities in the sample arose concerning the presence and role of social isolation in the offenders' lives, in addition to a current and childhood history of family difficulties. This lends support to treatment programmes and early interventions targeting more than the individual's firesetting behaviour. Rather, treatment should be approached holistically and target a number of psychological, proximal and distal factors that contribute to the individual's firesetting. Although data were limited, theoretically the proximal and developmental factors present were consistent with current understandings provided by the M-TAAF. Further empirical research utilising standardised assessment tools that target the role of family, both distal and proximal influences, will provide a better understanding of how these factors interact to result in firesetting.

Although limited, the exploration of fire interest and fire history among the sample demonstrated patterns. The involvement of several participants in volunteer bush brigades warrants further research, particularly considering that, historically, participants with a firefighting history tend to report setting more fires than those without a history. It was beyond the scope of this research to administer a fire interest or proclivity scale to participants; however, this analysis confirms that measuring fire interest among the sample would benefit the assessment of both risk and potential recidivism. Perhaps one of the most critical findings was the emergence of a pattern of involvement with fire as a child, particularly in light of the medium to high-risk level of the sample. Of the eight males who provided responses for questions concerning childhood involvement with fire, every single one recalled a history of matchplay and fireplay, and intense fire interest. Thus, further work is required to target young people who fireset, since early intervention may prevent transition into adult firesetting (Gaynor, 2000).

Section Three: The Problem of Young People and Firesetting

Chapter Five: Young People and Firesetting

“Firesetting is a ‘symptom’ to be viewed in the context of the whole child.” (Del Bove & MacKay, 2011, p. 798)

Findings from study one confirmed two main pathways into firesetting: (1) firesetting resulting from antisocial thinking patterns, or a versatile firesetter (Becker et al., 2004; Kolko & Kazdin, 1991; Lindberg et al., 2005) and (2) firesetting associated with inappropriate fire interest and scripts, or a pure firesetter (Dickens et al., 2009; Gannon & Barrowcliffe, 2012; Gannon, Ó Ciardha et al., 2012; MacKay et al., 2006). Findings also supported previous research, identifying that a critical historical risk factor for both pathways was the emergence of fireplay and firesetting in childhood (Gannon & Barrowcliffe, 2012; MacKay, Ruttle, & Ward, 2012; Quinsey et al., 1998). All participants who responded to questions regarding childhood fire interest or play recalled several incidents of engaging in firesetting. Children and adolescents who engage in firesetting are at high-risk of engaging in further antisocial and delinquent acts, with behaviour often persisting into adulthood (Lambie et al., 2013; Martin et al., 2004).

The following section shifts the focus of this thesis from adults to young firesetters (those under the age of 18 years) in WA, providing an overview and analysis of significant prior research in youth firesetting. This chapter outlines firesetting developmental phases, and provides a framework of factors contributing to the behaviour. These factors include age and gender, psychopathology and personality function, anger, hostility and aggression, antisocial behaviour, family function, maltreatment and abuse, fire interest and associated variables, and the role of motivation. Further, repeat youth firesetting is explored, prior to examining theories

relating to young people and firesetting, before the chapter concludes with identified gaps and limitations of the research body, providing a foundation for study two of this thesis.

The Problem of Young People and Firesetting

Many children and adolescents find fire fascinating—an interest that begins around the age of three years. Understanding fire and its function develops continuously throughout childhood (Gaynor, 1996; Martin et al., 2004). For the average adult, interest and involvement with an object differ. However, when a child is interested in an object such as fire, play is the primary means of investigating and appeasing their interest (Kolko, 2002). When a child engages in fireplay the act is dangerous, although maliciousness is often not the intent. By the age of 10 years, it is presumed that children understand and think through consequences, and can thus be dissuaded from firesetting. However, young people account for an estimated 40–50% of firesetting arrests in the USA, United Kingdom, New Zealand and Australia. Figures show that intentional fire starts by young people are increasing (Fritzon et al., 2013; Kolko, 2002; Lambie et al., 2013).

In the USA, arson is the only felony offence committed more often by young offenders than adults (Hall, 2010; Lambie et al., 2013; Lambie & Randell, 2011). Young firesetters are four times more likely to be arrested for a violent crime in comparison with other young offenders. For example, in New Zealand (2007–08) offenders under the age of 21 years accounted for 73% of arson apprehensions, with those under 17 years accounting for 55.6% (Lambie & Randell, 2011). Similarly, in the USA (2009), 45% of arson arrests involved young people under 18 years of age (Department of Justice, 2011). During the WA bushfire season (2014–2015), 533

suspicious fires were lit, and a subsequent 42 arrests made, 36 of which were young people between 8 and 17 years of age (O'Connor, 2015). Young firesetters are of particular interest, as they are at increased risk of engaging in versatile offending, or transitioning into other antisocial and delinquent acts that continue into adulthood (Becker et al., 2004; MacKay et al., 2006).

Repeat firesetting rates are difficult to measure because firesetting behaviour is covert, resulting in the true significance of youth firesetting remaining unrepresented in official statistics. A considerable number of young firesetters engage in repeat behaviour, with figures varying from 15% of offenders (Del Bove et al., 2008) up to 59% (Kolko, 2002; MacKay, Ruttle, & Ward, 2012). Putnam and Kirkpatrick (2005) asserted that only 40% of youth firesetting incidents are reported to authorities, whereas Zipper and Wilcox (2005) found in their sample of 1,241 young people (USA) that only 11% of intentionally lit fires were documented in official records. Further compounding this problem, parents often remain unaware of their child's firesetting and are unable to address the behaviour. Faranda, Kasikas and Lim (2001) estimated that only two-thirds of parents are conscious of their child's firesetting behaviours, and parents have limited awareness of how a child develops an 'unhealthy' interest in fire.

Young People and Firesetting Developmental Phases

Unhealthy firesetting behaviour develops sequentially, progressing over three phases, culminating in repeat firelighting: fire interest, fireplay and firesetting. These stages are the result of a complex interaction of individual, social and environmental factors and represent increasing levels of interest in fire (Gaynor, 1996, 2000; Kafry, 1980; Lambie et al., 2013; Lambie et al., 2002; Lambie & Randell, 2011). The emergence of problematic firesetting behaviour is attributed to psychosocial

determinants, such as dysfunctional family environment or deficits in emotional functioning (Gaynor, 1996; Gillespie, Mitchell, Fisher, & Beech, 2012; Lambie et al., 2013; MacKay et al., 2006; MacKay, Ruttle, & Ward, 2012; Walsh & Lambie, 2013).

The first stage of ‘fire interest’ emerges for most children between the ages of three and seven years (Beale & Jones, 2011; Gaynor, 2000; Lambie et al., 2002; Muller & Stebbins, 2007). Fire interest is considered a normal part of a child’s psychosocial development (Kafry, 1980; Lambie & Randell, 2011), and coincides with a child’s curiosity about their physical surroundings. A child exhibits the behaviour through his or her questions and play, and may include dressing up as a fireperson by wearing a fire hat, playing with toy fire trucks, using a toy stove to emulate cooking food or exploring what happens when a hot object is touched (Gaynor, 1996, 2000; Lambie et al., 2002). This type of play is healthy and a productive way of developing a respect of fire (Gaynor, 2000).

Young people between the ages of five and nine years usually experience the second phase, ‘fireplay.’ Children in this phase experiment with fire sources and subsequent ignition, displaying fascination with lighters and matches (Gaynor, 1996). During this phase, the child develops an understanding of cause and effect through experimentation (Bartol & Bartol, 2011). This stage is a critical pathway for movement towards either healthy or unhealthy fire interest as children begin to participate in age-appropriate firelighting behaviours, such as helping to light a family barbeque. If this takes place under supervision, such as lighting candles on a birthday cake, favourable fire safety behaviours are developed. However, often experimentation occurs unsupervised (Gaynor, 2000). Thus, fire interest is reinforced through unsupervised fire starts and may lead to re-engagement in firesetting and the development of inappropriate fire scripts and cognitions.

An estimated 60% of children engage in a minimum of one unsupervised fireplay experiment, and they are reluctant to admit to their involvement when questioned (Gaynor, 1996; Kafry, 1980). Unsupervised fire starts are generally motivated by curiosity and will not be repeated, as they were lit accidentally or unintentionally (Gaynor, 1996). Ignition sources are selected by chance, through opportunity or availability, with little planning. Usually, no typical target for the fires is selected; if the child loses control of the fire, most children will attempt to extinguish the fire or go for help (Gaynor, 2000; Lambie et al., 2002; Walsh & Lambie, 2013). Experimenting with fire does not necessarily represent underlying psychological or social problems, despite children's deliberate intention to light a fire (Gaynor, 2000).

The third developmental phase, 'firesetting' encompasses children over the age of 10 years, who light fires to destroy something or gain excitement from the act, or as a form of communication (Gaynor, 2000). These incidents are usually the result of a psychological or social problem (Bartol & Bartol, 2011). Differences between the fireplay stage and firesetting stage are subtle, yet important (as illustrated in Table 5.0).

Table 5.0 *Differences between firestarting and firesetting*

| Factor | Firestarting | Firesetting |
|-----------------|---------------------|--------------------|
| History | Single episode | Repeated |
| Method | Unplanned | Planned |
| Motive | Curious | Conscious |
| Intent | Accidental | Purposeful |
| Ignition source | Available | Collected |
| Materials | At-hand | Flammable |
| Target | Nonspecific | Specific |
| Behaviour | Extinguish fire | Run away |

(Adapted from Gaynor, 2000, p. 3).

In the third stage, motivation for the child's behaviour varies, although stimuli may include anger, revenge, malicious mischief, crime concealment, attention-seeking and intention to destroy property and/or people (Gaynor, 2000). Children in the firesetting phase tend to plan the source of ignition, and will actively search for incendiary devices, concealing them until required. They select a target usually within a 'comfort zone' located near their house, which allows them to remain undetected. Furthermore, the selected target usually holds some meaning for the child. The child will usually gather flammable materials to accelerate the spread of the fire. It is usual for the child to leave the scene immediately following ignition; however, often, they will watch the fire from a safe distance. The progression of unhealthy fire interest occurs through either positive or negative reinforcement (Gaynor, 2000). Reinforcement is usually experienced when the child watches the fire burn, observing the emergency services response, or returns following the fire to view the destruction (Gaynor, 1996). Moreover, firesetting is further reinforced if authorities and/or caregivers remain unaware of the fire. Thus, unhealthy fire interest is developed, reinforced and potentially maintained. However, the pathway is not linear. There is evidence to suggest that particular factors will predispose and/or act to facilitate the emergence of firesetting in children.

Factors that Influence Youth Firesetting

Prior to the 1940s, firesetting was approached by theorists and clinicians (Freud, 1932; Marc, 1833) non-empirically, resulting in several misconceptions regarding firesetting. The first empirical analyses of young firesetters began with Yarnell's (1940) study, examining data on demographic, psychological and familial factors. Yarnell divided a sample of 60 firesetting children (58 male) into two groups: 35

between six and eight years of age, 25 between 11 and 15 years. Her seminal study was groundbreaking as males, not females, dominated the sample. Previously, theorists presumed firesetting was the province of adolescent females (Horley & Bowlby, 2011; Kolko, 2002). Yarnell (1940) found the younger group usually set fires at home, whereas the adolescent group set fires away from home. Almost half of the younger group presented with either learning or physical disabilities. Familial history showed significant levels of abuse and deprivation of food and instability, coinciding with antisocial behaviours such as stealing, truancy and aggression. This study challenged the psychoanalytical theories that clinicians supported, altering how research was theoretically framed.

Kaufman et al. (1961) used a sample of 30 adolescents, aged between six and 15 years, to examine youth firesetters. A mixed method approach was employed, with data sourced from direct and indirect observation testing, coupled with psychometric testing and case histories. The young people exhibited primitive ego functioning, passive oral stage fixation, highly conflictual object relations and concomitant annihilation anxiety. Two-thirds of the participants experienced a schizophrenic episode that coincided with their firesetting and reported high levels of anxiety. Retrospectively, this finding may be attributed to the authors' interpretation of disturbed behaviour, rather than a diagnostic assessment of schizophrenia. The authors proposed that many of the children used firesetting to control life experiences through externalisation. Participants shared childhood experiences such as abandonment, and authors theorised that fire was used to exact restitution and gain parental attention. Further, participants communicated they desired a close relationship with their parents, but felt they only attained this through firesetting. Kaufman et al., (1961) concluded that firesetting was a result of an infantile personality structure. These two studies determined the importance of examining

multiple risk factors that underlie and contribute to firesetting, underpinning current research approaches.

The last 20 years have signalled a shift in youth firesetting research methodology. Focus has moved to identifying patterns in youth firesetting behaviour, studying risk factors, developmental factors and psychological vulnerabilities. Although there is no universally accepted definition of a 'typical' firesetter, key characteristics and factors are common (Davis & Lauber, 1999). These factors are discussed in the following section and comprise age and gender, psychopathology and personality function, anger, hostility and aggression, antisocial behaviour, family function, maltreatment and abuse, fire interest and variables, and motivation.

Age and Gender

Firesetting may occur at any age; however, the peak of arson offending occurs between 12 and 25 years (Martin et al., 2004; Snyder, 2008). Progression from child into adult firesetting is not uncommon, and Harris and Rice (1996) established that the age a child lights their first fire, and a history of firesetting, influences involvement in continued firesetting. Both adult and young males are more likely to be involved in firesetting, with a ratio of between 6:1 and 9:1 (Devapriam et al., 2007; Stewart, 1993), a rate that is at minimum, two to three times that of girls (Chen et al., 2003; Del Bove et al., 2008; Martin et al., 2004). Female firesetters are a largely under-researched group because of the low prevalence rate, although research shows females have different treatment needs in comparison with their male equivalents (Martin et al., 2004).

Theorists previously hypothesised that child (up to 12 years) and adolescent (12 - 18 years) firesetters vary in behaviour, asserting that adolescent firesetters display higher levels of severe psychopathology and antisocial behaviour than younger

firesetters, and they are consequently more dangerous (Gaynor, 1996, 2000). However, recent samples show that firesetting severity does not necessarily increase with age but presents across all ages (Del Bove, 2005; Del Bove & MacKay, 2011; MacKay, Ruttle, & Ward, 2012). Further, children are just as likely to engage in repeat firesetting as are adolescents (Del Bove, 2005). Cognitive differences between children and adolescent firesetters highlight the importance of researchers approaching youth samples with caution. Dadds and Fraser (2006) in their unapprehended youth firesetting sample found that fire interest and fireplay involvement increased with age, determining a relationship between age and rates of firesetting.

Psychopathology and Personality Function in Young Firesetters

From a clinical perspective, firesetting behaviours in both adults and young people are closely linked to conduct disorder, oppositional defiant disorder, depression and suicidal ideation, and ADHD (Becker et al., 2004; Dadds & Fraser, 2006; Del Bove et al., 2008; Dolan et al., 2011; Forehand, Wierson, Frame, Kemptom, & Armistead, 1991; Geller, 1992b; Kolko, 2002; MacKay, Ruttle, & Ward, 2012; Pollinger, Samuels, & Stadolnik, 2005). Firesetting is included as a criterion for the diagnoses of conduct disorder in the *DSM-5-TR* (American Psychiatric Association, 2013). Within the framework of conduct disorder, setting a fire is one of 15 antisocial behaviours considered to disregard societal norms (MacKay et al., 2006).

Conduct problems, hyperactivity and impulse control issues are similarly experienced over both clinical and non-clinical samples of firesetters (Bechtold, Cavanagh, Shulman, & Cauffman, 2014; Del Bove et al., 2008; Kafry, 1980). However, not all firesetters are conduct disordered, nor do all individuals with a diagnosis of conduct disorder set fires (Lambie & Randell, 2011). Kolko and Kazdin (1991) were unable to determine a link between conduct disorder and the firesetting behaviour of

their participants. Accordingly, the presence of a conduct disorder was not sufficient to explain the emergence of firesetting behaviour. Contrary to current *DSM-5* criteria, MacKay, Feldberg et al. (2012) asserted that logic dictates, “fire-specific pathology can and does occur concurrently with antisocial behaviour” (p. 850). The potential for comorbidity shows that clinicians need to account for and evaluate for the presence of both conduct disorder and fire-specific variables in the evaluation of firesetters.

Firesetters receive a diagnosis of conduct disorder more frequently than any other clinical diagnosis. Further, they measure towards the more pathological end of the continuum (Dolan et al., 2011; Moore et al., 1996). Kolko and Kazdin (1990) examined the relationship between conduct disorder and youth firesetting, finding higher levels of externalising behaviours such as aggression and covert behaviour patterns in their sample. Firesetters presented with higher levels of hostility and difficult temperaments than non-firesetters. In addition, a significant increase of depression levels has been recorded in repeat firesetters with depression and anxiety linked to female firesetting (Dadds & Fraser, 2006; McCardle et al., 2004). Sakheim and Osborn (1999) and Del Bove (2005) established that a lack of remorse and empathy is prevalent in higher risk firesetters.

Only a small number of studies have examined personality pathology in young firesetters. Of the limited studies available, Moore et al. (1996) studied a sample of males ($N = 124$), between 14 and 17 years, admitted to an adolescent inpatient psychiatric hospital. A 10-question semi-structured interview, in conjunction with the Minnesota Multiphasic Personality Assessment (MMPI-A) were employed to evaluate symptoms and behaviours in both firesetters and non-firesetters. In comparison with the non-firesetters, firesetters were significantly more pathological in their behaviours. They presented with elevated conduct scores, and feelings of distress and alienation.

Additionally, they reported significantly higher scores in relation to schizophrenia, mania and psychasthenia in comparison with non-firesetters. Although this research has poor external validity, the findings demonstrate the value of using psychometric assessments on a wider firesetting population sample to measure psychopathology in firesetters.

McCardle et al. (2004) used the basic Personality Inventory to examine the personality patterns of their sample ($N = 50$) of adolescent firesetters. Their participants reported increased levels of hypochondria, depression, interpersonal problems, alienation, persecutory ideas and thinking disorders compared with their non-firesetting control group (33 with behavioural issues, 34 without, $n = 67$). Similarly, other research demonstrates that psychological factors such as impulsiveness, low assertion skills and difficulty resolving interpersonal conflict are reported by young firesetters (Dolan et al., 2011; Harris & Rice, 1984; Lambie et al., 2002; Lawrence & Stanford, 1999; McCardle et al., 2004; Stockburger & Omar, 2014; Vreeland & Levin, 1980). High measures of moral disengagement, irritability and hostility were common in a sample of non-apprehended youth firesetters (Del Bove et al., 2008).

Lewis and Yarnell (1951) asserted that firesetting in people with intellectual disabilities (ID) is most likely to occur in young boys and adolescents, with many unable to articulate a motive for their behaviour. Recently, the recognition of ID in young and adult firesetters has become of concern to researchers because of the subgroup's increased vulnerability (Devapriam et al., 2007; Tranah & Nicholas, 2013). Limited statistics are available detailing the prevalence of firesetters with ID, although it is suggested firesetting behaviours are over-represented in people with ID (Day, 1993; Devapriam et al., 2007; Räsänen et al., 1996). Firesetters with ID are more likely to be arrested following a firesetting incident, as they have a decreased ability to conceal their

actions and exhibit increased susceptibility to coercion from authority figures because of an innate desire to please (Devapriam et al., 2007), demonstrating that researchers should be aware of the possibility of ID presenting in research samples. It is evident that young people who fireset experience a wide range of maladaptive behaviours affecting their personality function, combined with increased levels of general psychopathology. Therefore, there is value in determining patterns in personality function and psychopathology in young firesetters.

Anger, Hostility and Aggression

Similar to behaviour of adult firesetters, research shows that anger and hostility play a critical role in determining the severity of youth firesetting behaviours (Ge, Donnellan, & Wenk, 2003; Kolko & Kazdin, 1991; McCardle et al., 2004). Using parent and carer reports, Kolko and Kazdin (1991) found that matchplayers (young people who experiment with firesetting materials) and firesetters displayed higher levels of direct and indirect aggression, and elevated levels of hostility compared with non-firesetters. Further, firesetters engaged in fighting and arguing with family and peers more often than did non-firesetters. Young people motivated by anger exhibited greater deviant behaviour prior to their firesetting incident. A motivation of anger correlates with higher levels of fire-related activities and greater exposure to models of fire interest. After their firesetting, some participants in Kolko and Kazdin's (1991) study experienced milder punishments and less family attention than did non-firesetters. Further, they faced increased levels of peer rejection, which influenced their continuing covert antisocial behaviours. These findings highlight how "attention" and perceived success in achievement of offence-goals acts to reinforce repeat firesetting behaviour. Sakheim and Osborn (1999) asserted that a history of physical violence, cruelty to children, peers or animals, and power struggles with adults (i.e., oppositional or defiant

behaviour) characterise high-risk firesetting in young people. When offence goals (Kolko & Kazdin, 1991) combine with developmental characteristics (Sakheim & Osborne, 1999), risk level for recidivism increases substantially. These findings highlight the value in determining how a child firesetter experiences anger and hostility, and what coping mechanisms and outlets they employ when experiencing these emotions to assist with assessment and treatment.

Antisocial Behaviour and Firesetting

A considerable focus throughout both adult and youth firesetting research is on the relationship between antisocial and externalising behaviour, and firesetting. Parallels manifest intellectually, behaviourally and neuropsychiatrically (Martin et al., 2004; Stickle & Blechman, 2002). For example, Dadds and Fraser's (2006) sample demonstrated that young people who fireset exhibited higher levels of antisocial behaviour in comparison with their non-firesetting counterparts. Despite these similarities, an influential literature review questioned whether firesetting is a unique syndrome, or whether it is one behaviour in a complex pattern of antisocial behaviours (Lambie & Randell, 2011).

Firesetting is an indicator of severe antisocial behaviour, and a potential predictor for both violent and non-violent offending behaviour in later life (Carroll et al., 2006; Frick et al., 2003; Frick & Ellis, 1999; Higgins, Kirchner, Ricketts, & Marcum, 2013; Lambie & Randell, 2013; Loeber, 1990; Moffitt, 1993; Moffitt et al., 2001; Wileman, Gullone, & Moss, 2008). Often, firesetting precedes the early onset of antisocial behaviour in young people. Critically, this relationship coincides with a rise in severity of antisocial disorder (Stickle & Blechman, 2002). Antisocial and externalising behaviour manifests in the form of aggressiveness, hostility, inappropriate or problem behaviour, covert antisocial behaviour and substance abuse (Martin et al.,

2004). Young firesetters are more likely to be considered 'extreme' in their antisocial behaviour in comparison with non-firesetting children. The relationship between firesetting and antisocial behaviour was confirmed by MacKay et al. (2006), who classified 48% of their young firesetting sample within the clinical range of externalising behaviour. Further, firesetters were categorised as the most extreme 2% of the clinical range for their age group.

Although the act of firesetting is an antisocial behaviour, Forehand et al. (1991) established that firesetting in young people differs in emergence, development and aetiology compared with other antisocial behaviours. This is particularly relevant when considering how the behaviour is exhibited. For example, Kolko and Kazdin (1991) found that firesetters favoured covert antisocial behaviour (such as lying and deceitfulness), in contrast to non-firesetters who preferred destructive behaviours (such as damaging property). These findings support the research outlined previously in this chapter (p. 127) in relation to personality function; that is, young firesetters tend to internalise and hide behaviours, which can be attributed to their shy and unassertive personalities.

Stickle and Blechman (2002) studied surveys and structured interviews conducted with a sample of 219 adolescents (85 firesetters, 134 non-firesetting offenders) between 11 and 18 years to examine the interaction between firesetting and antisocial behaviour. The authors' data supported a three-factor antisocial model, comprising aggressive, nonaggressive and oppositional behaviour, with firesetters showing elevated levels and frequencies of aggression and antisocial behaviour in comparison to the non-firesetters. Further, firesetters recorded an earlier index offence age (under 10 years) compared with non-firesetters (over 10 years). Stickle and Blechman (2002) concluded that firesetting is associated with serious antisocial

behaviour. The findings could have been enhanced by determining fire-specific information to determine risk levels of the firesetters. Further, including children under the age of 10 would augment these findings, since research shows that firesetting often precedes severe antisocial behaviour (MacKay et al., 2009).

Young people who fireset may engage in other antisocial acts such as substance use, binge drinking, delinquent behaviour, and truancy. MacKay et al. (2009) examined mental health and substance use variables in a sample of 3,965 students (11–19 years of age). Using multinomial analyses of self-report measures, the authors categorised young people who had firesetting incidents into four groups for comparison: non-firesetters, those who desisted from firesetting (no incidents in the last year), low frequency firesetters (1–2 incidents in 12 months) and high frequency firesetters (3 or more in the last 12 months). The number of risk factors associated with antisocial behaviour (illicit drug use, binge drinking, delinquent behaviour and sensation seeking) increased according to firesetting severity. A critical finding of the research was that adolescents who had set fires prior to the age of 10 were more likely to be high frequency repeat firesetters. Although the method of self-report may result in over or under-reporting, these findings are valuable for informing treatment programmes for children.

Antisocial behaviours also present and affect a young firesetter's experience in social situations, including peer interactions and their educational experiences (Bowling & Omar, 2014; Chen et al., 2003; McCardle et al., 2004; Sakheim & Osborn, 1999). A lack of social competence amplifies a young firesetter's feelings of inadequacy, isolation and anger (Chen et al., 2003; Moore et al., 1996). Approximately 80% of antisocial acts are committed by young people in groups of three or more, with reports demonstrating the young people are seeking acceptance and approval from their peers

(Osgood & Anderson, 2004; Snyder & Sickmund, 2006; Steinberg, 2008, 2010; Steinberg & Scott, 2003; Warr, 2002). As shown, the interaction between antisocial behaviour and firesetting is complex, with engagement in firesetting indicating a potential pathway into more severe antisocial behaviour (Farrington, 1995; Moffitt, 1993; Stattin & Magnusson, 1991).

Family Function and Youth Firesetting

The family environment and how it functions has a profound influence on the development and maintenance of firesetting (Bukatko & Daehler, 2004; Snyder & Patterson, 1987). Adult firesetting theory (M-TTAF; Gannon, Ó Ciardha et al., 2012) and general offending theory (Baumrind 1966, 1971, 1991; Bukatko & Daehler, 2004) has shown that familial relationships affect the development of self-esteem, self-regulatory processes and a firesetter's social adjustment. Experiencing family dysfunction in childhood, such as abusive or neglectful parenting, may lead a child to develop insecure attachment styles (Browning & Loeber, 1999). Young firesetters who experience behavioural and emotional regulation issues often have family histories characterised by parental psychopathology and maladaptive child–parent relationships (Bailey, Smith, & Dolan, 2001; Gruber, Heck, & Mintzer, 1981; Kolko, 1985; Lambie, Seymour, & Popaduk, 2012; Root et al., 2008).

The importance of family dysfunction and child maltreatment history for firesetters has consistently been established, with Yarnell (1940) first finding parental neglect was a common family characteristic of firesetters. Her findings suggested that parents of firesetters often exhibited disinterest in parental supervision, expressing lower rates of affection and unavailability to their children, a higher prevalence of parental depression, and higher rates of alcohol abuse (Kolko, 1985; Kolko, 2002; Kolko & Kazdin, 1986, 1990; Kolko et al., 1985). Inconsistency in parenting styles has

been found, and when punishment is meted out, it is often harsh, and reinforced by ineffective execution of consequences (Kolko, 2002). An increase in experiences of parental marital violence, paternal alcohol use, and paternal abuse has been associated with higher risk firesetters (Becker et al., 2004), emphasising that developmental family experiences play a critical role in firesetting.

One of the most influential studies of family and firesetting was conducted by Kolko and Kazdin (1990), who examined the relationship between firesetting in children and their parental, marital and family dysfunction. A total of 477 young people were sourced from public schools and a psychiatric unit (both outpatient and inpatient). The sample was divided into three groups: firesetters ($n = 198$), matchplayers ($n = 40$) and non-firesetters ($n = 239$), with participants ranging in age between six and 13 years.

Kolko and Kazdin (1990) found distinct differences between the firesetting and non-firesetting groups, with matchplayers falling on a continuum between the two. Parents of firesetters self-reported high levels of psychological distress, marital disagreement and exposure to adverse life events. Firesetters reported experiencing lower levels of acceptance, monitoring and discipline, culminating in low family cohesion. Parents were less likely to engage in activities designed to enrich their child's personal development. Firesetting children reported parenting styles characterised by lax discipline, and non-enforcement of rules, which were anxiety inducing (Kolko & Kazdin, 1990). Currently, this quantitative research is one of the only studies that considers the relationship of family and firesetting at a micro-level, rather than as one variable of many.

In other research, Sakheim and Osborn (1999) studied firesetters and non-firesetters ($N = 180$) in residential treatment between the ages of 5 and 33 years to

determine potential predictors of severe firesetting. Using correlational and regression analysis, differences between minor or non-severe firesetters and severe or high-risk firesetters were examined. Sakheim and Osborn (1994) determined high-risk firesetters were more likely to express strong feelings of anger towards abandonment, neglect, maternal rejection and paternal absence. Similarly, Dadds and Fraser (2006) examined 1,359 children aged between four and nine years, from a range of differing socioeconomic backgrounds, to explore the prevalence of firesetting variables. Negative parental stress was associated with firesetting for boys; female participants indicated they experienced higher levels of parental stress, both positive *and* negative in origin. Dadds and Fraser (2006) acknowledged they had expected a relationship between negative parenting and firesetting, although they had difficulty interpreting the presence of positive parenting as a variable associated with firesetting.

Martin et al. (2004) surveyed 2,596 high school students ($M=13$ years), who completed self-report questionnaires to measure variables associated with firesetting and fireplay. Measures included family functioning and parenting style. Substantial differences in family were found when comparing the dynamics of firesetters with non-firesetters. Family dysfunction and lack of “mother care” and “father care” were strongly associated with firesetters; however, family functioning and parental care were not related to firesetting status when discounting the presence of antisocial behaviour (Martin et al., 2004, p.152). The self-report method of data collection limits validity because individuals may respond in a ‘socially desirable’ manner, which is particularly relevant for measures relating to family. Future research may consider the collection of multiple sources, including parents and teachers, to triangulate the data, reducing this limitation. Further, family functioning was one of many variables measured within this study, disregarding a micro-level understanding of family function.

Research has emphasised the influential role that family function plays in firesetting. However, other than Kolko and Kazdin's (1990) study, research has not focused on the role and function of family. Rather, family is researched as one among many other variables associated with firesetting. The majority of previous studies have used a quantitative approach, providing limited opportunity to gain descriptive and nuanced insights into the complex family relationships and interactions, and supporting the value of a qualitative approach when researching family.

Maltreatment and Abuse

A critical contributing factor connected to family functioning is the presence of maltreatment and abuse in firesetting populations. Children who experience maltreatment and abuse often display heightened verbal and physical aggression, with externalising behaviours such as violating rules and opposing authority figures (Root et al., 2008). This affects children developmentally, as they struggle with regulating their emotional and behavioural responses (Root et al., 2008). Despite the strong link between maltreatment, abuse and firesetting (MacKay et al., 2006; Martin et al., 2004; Moore et al., 1996), little research has focused on how maltreatment in childhood operates as a risk factor for firesetters (Root et al., 2008).

Experiencing abuse during childhood significantly influences a child's ability to develop appropriate social skills and effective self-regulatory behaviour, negatively affecting their ability to form secure attachments with both caregivers and peers (Gannon, 2010; Gannon & Pina, 2010; McCarty & McMahon, 2005; Moore et al., 1996; Tyler et al., 2014). Studies have established a link between maltreatment, abuse and increased rates of conduct disorder in both adult and young firesetters (Pelcovitz et al., 2000; Root et al., 2008). Further, an earlier onset of first criminal offence, increased risk of recidivism, and greater frequency of offences are apparent (MacKay et al.,

2006). Martin et al.'s (2004) sample showed firesetting boys were significantly more likely to have experienced physical or sexual abuse in comparison with the non-firesetting control group. Fineman (1995) theorised that immediate environmental stressors result in maladaptive responses, manifesting in behaviours such as firesetting. To alleviate his or her emotional distress, a child may react to an adverse life-event such as abuse or neglect by firelighting (Fineman, 1995).

Root et al.'s (2008) comprehensive study explored the prevalence and type of maltreatment within a sample of firesetters, examining fire-specific behaviours, emotional and behaviour difficulties, and the moderating influence of maltreatment on firesetting. The study participants included 205 caregivers and their children ($n = 178$ boys and girls) between the ages of four and 17 years. All participants had been referred to The Arson Prevention Program for Children (TAPP-C) in Toronto. Of the sample, 48% ($n = 98$) of primary caregivers reported their child had experienced some form of maltreatment. Of these, 62% experienced physical abuse, 45% physical neglect, and 15% sexual abuse (Root et al., 2008). Significantly, young firesetters who had experienced maltreatment identified triggers motivated by anger or an immediate family stressor in comparison with firesetters without a history of maltreatment. Engaging both caregivers and children in the research has significant value, allowing for concordance between the two populations recountings to be explored.

Fire Interest and Variables

The presence of fire interest and associated fire-specific risk factors in young people is crucial when assessing potential recidivism. Theoretically, understanding curiosity as a fire-specific risk factor is a vital distinction for the prediction of criminal pathways (Harris & Rice, 1996; Kolko & Kazdin, 1991; MacKay, Feldberg et al., 2012; MacKay et al., 2006; Rice & Harris, 1991). This assumption was confirmed when

Harris and Rice (1996) examined variables associated with predictors of reoffending. Using multivariate predictions, the authors found the variables with the largest statistical prediction for engaging in future firesetting were fire-specific factors, such as childhood firesetting. Additional fire-specific factors were identified by Sakheim and Osborn (1999), who determined severe firesetters were significantly more likely to display excitement at the mention of fires, and have a history of fireplay. Fire interest is positively associated with the risk level of firesetting, with fire interest a greater contributor to firesetting recidivism than involvement or presence of other antisocial behaviours (MacKay et al., 2006). Moreover, young firesetters with a history of firesetting are at increased risk of repeat behaviour as it has previously been reinforced and maintained as an effective outlet (Del Bove et al., 2008; Kennedy, Vale, Khan, & McAnaney, 2006).

The origin of fire interest within children is relatively under-researched (MacKay et al., 2006). Del Bove and MacKay (2011) found that fire interest may be used to determine severity of firesetting behaviour, categorising young firesetters into three clusters, discussed later in the chapter (see p. 145). Those individuals who presented with the least severe firesetting behaviour displayed the lowest levels of firesetting interest. The cluster who exhibited the highest levels of severity, also displayed the highest levels of fire interest. This finding has implications for assessing firesetter behaviour, affirming fire-specific factors may determine risk level and predict recidivism.

Building on this concept, Kolko and Kazdin (1991) established that firesetters who showed high levels of curiosity and interest were more likely to exhibit heightened overt and covert antisocial behaviours and aggression, and be involved in multiple firesetting incidents. Later, Kolko and Kazdin (1994) used parents' reports to examine

levels of curiosity in a firesetting sample. Children who exhibited high levels of curiosity were generally involved in repeat firesetting incidents. Relying on parents to assess their child's interest limits the reliability of the finding as recent research has found that a parent and child's recollection of fire interest, curiosity and involvement in firesetting often do not match (Walsh & Lambie, 2013). However, Kolko and Kazdin's (1994) findings contribute to the debate as they question theoretical assumptions that 'curious' firesetters show no pathology and are considered at low-risk of reoffending.

A comprehensive study by Del Bove et al. (2008) used self-report measures to determine differences in the psychopathology, personal characteristics and aggression of firesetters and non-offending firesetters. A community sample of 567 participants (311 males, 256 females) between the ages of 11 and 18 years was divided into four groups: firesetters ($n = 92$), aggressive firesetters ($n = 95$), aggressive non-firesetters ($n = 130$) and a control group ($n = 250$). The researchers found significant levels of antisocial behaviour and psychopathology in the firesetting sample. Fire involvement was determined to be the greatest indicator of behavioural difficulties and externalising behaviour (Del Bove et al., 2008). The researchers did not examine the full range of the young persons' fire involvement (i.e., frequency, versatility, age of onset), circumscribing the results of the study, nor examine those 10 years and under, thus limiting the range of child firesetters. Therefore, replication of the research using children under the age of 11 years would be beneficial to measure these patterns across a broader age spectrum.

Young People and Motives

Motive establishes the intent of a firesetting incident, subsequently informing treatment direction for firesetters (Kolko, 2002; Lambie & Randell, 2011). An offender's motivation provides an understanding of thinking processes and offence

patterns, further detailing environmental and individual factors (Lambie & Randell, 2011). A valuable aspect of motivation is the insight it provides into both fire interest and psychopathology of the firesetters. Past motivation research has used both inductive and deductive approaches that usually use a quantitative methodology. These approaches overlook the static factors associated with both adult and youth firesetting, dismissing the complexity of the behaviour (Almond et al., 2005; Doley, 2003a; Doley et al., 2013; Doley, 2009; Lambie & Randell, 2011; Van Mastrigt & Farrington, 2009). To combat these limitations, recently, Walsh and Lambie (2013) utilised a qualitative approach to examine motivation in a youth firesetting sample, providing a valuable insight into the impetus of firesetting not yet achieved.

Walsh and Lambie (2013) examined a sample of adolescent New Zealand firesetters to study self-reported motivation. The sample consisted of 18 male firesetters (between 10 to 16 years) and 13 caregivers who consented to be interviewed. Interviews included a 10-question questionnaire (each question using a three-point Likert scale) to measure how each participant felt motivated by each factor. Scales were supplemented with open-ended questions designed to extract additional detail from participants.

Adolescent firesetters were influenced by multiple motivations, which were supplemented by secondary motivations such as experimentation, anger and peer pressure. Further, the caregivers cited differing motivations for their child's behaviour, with primary reasons identified as family historical factors and fire fascination (Walsh & Lambie, 2013). A key finding was the lack of concordance between the caregivers and children, with similarities only evident in 'anger' as a motivator. The findings support the advantage of a qualitative approach in examining motivation and, by extension, the offence process/es of a young firesetter, because the complexity of

contributing motivations was usually only revealed following prompting from researchers. The initial scales depicted one motivation per adolescent, confirming the one-dimensionality of previous quantitative research. Minor methodological constraints included the small sample size of convicted firesetters, who were not randomly selected, although the significance of the authors' findings demonstrate that future research should consider adopting a qualitative methodology. Walsh and Lambie (2013) were able to find multiple motivation differences not identified in previous quantitative approaches.

Repeat Firesetting

Having examined the factors that influence the onset of firesetting, a common focus of previous research was the identification of variables that increased the risk of a child engaging in repeat firesetting. Statistics have estimated up to 60% of young people apprehended for firesetting will set more than one fire (Kolko, Day, Bridge, & Kazdin, 2001; MacKay et al., 2006). Approximately 50% of non-apprehended youth firesetters report engaging in multiple firesetting incidents (Del Bove et al., 2008; MacKay et al., 2009). Identifying why repeat firesetting behaviour occurs and the factors influencing it are vital to understand how to divert potential firesetting behaviour.

The maintenance of and desistance from firesetting are purported to be influenced by individual, behavioural and environmental factors (Kennedy et al., 2006; Kolko, 2001), with fire-specific factors the greatest predictor of repeat firesetting. A critical relationship exists between repeat firesetting and a history of matchplay and firesetting (Kennedy et al., 2006; Kolko et al., 2001; Sakheim, Osborn, & Abrams, 1991). High-risk firesetters report increased levels of attraction to fire (Sakheim et al.,

1991), and repeat firesetters engage in fire-related activities, such as pulling fire alarms (Kolko & Kazdin, 1992). Research has yet to confirm that fire-based interventions have a positive effect in desistance from repeat firesetting (Lambie et al., 2013; Lambie et al., 2012).

Kolko et al. (2006) studied a sample of 46 young males (between five and 13 years of age), to examine predictors of repeat firesetting. Children and parents completed self-report instruments and interviews at intake, post-treatment (13 weeks) and at a 12-month follow-up. Findings established that several fire-specific variables predicted repeat firesetting: number of matchplay and fireplay incidents, presence of fire curiosity and involvement in fire-related acts. Only one clinical variable was found to predict repeat behaviour: the level of externalising behavioural problems experienced by the firesetter (Kolko et al., 2006). These findings confirmed the crucial role that inappropriate fire scripts and cognitions play in repeat firesetting. Several variables had no influence on repeat firesetting, including age, hostility levels, family dysfunction and exposure to, or opportunity to access, incendiary devices (Kolko et al., 2006; Patterson, DeBaryshe, & Ramsey, 1989). The statistical differences in this research were exploratory and not definitive as the sample size was small. The research omitted to measure moderators (such as self-esteem) to supplement findings. Instead, the authors employed a follow-up methodology to measure repeat firesetting over an extended period post-treatment.

Building on this research, Lambie et al. (2013) examined offending behaviours and firesetting recidivism post-intervention in a sample of 182 young people recruited from the New Zealand Awareness and Intervention Program (FAIP). The authors advised that at the time of the research, the FAIP questionnaire had not been subjected to reliability analysis (Lambie et al., 2013). Over a follow-up period of 10 years,

researchers investigated predictors of offending, offending severity and variables associated with firesetting. Data were analysed using descriptive and inferential statistics. Similar to Kolko et al.'s (2006) findings, antisocial behaviour presented as a predictor for future offending. Repeat firesetting rates were low in the sample (2%); however, 59% of participants transitioned to other general offending, 15% of whom were categorised as high-risk offenders. A critical finding was that family acted as a moderator for offending, since those offenders who lived with both parents during intervention were less likely to re-engage in offending. Although findings relied on police data to ascertain repeat firesetting, which previous research has shown struggles to accurately capture all firestarts by offenders, the study provides a crucial contribution to knowledge with the finding that family acts as a moderating factor for young firesetters.

Theoretical Constructs

Notwithstanding the variety of methodological approaches in youth firesetting research, thus far, this chapter has distinguished risk factors, and characteristics affecting and influencing firesetting behaviour. These factors have been used in both univariate and multivariate research approaches to support theoretical typologies that attempt to interpret the behaviour. As demonstrated, young firesetters vary in their behavioural and developmental histories, and show significant differences in offence process/es, motivations and psychopathologies. Despite this, researchers have identified similarities and patterns among firesetting young people, allowing practitioners and clinicians to divide and group firesetters based on these shared characteristics, developing several theoretical conceptualisations that aim to categorise young firesetters. The following section analyses theory regarding young people who

fireset, including the Dynamic Behavioural Theory (Fineman, 1990), the Functional Analysis Theory (Jackson, Glass & Hope, 1987), Kolko and Kazdin's (1990) theory and Del Bove and MacKay's (2011) Typology.

Dynamic Behavioural Theory

As detailed in chapter two, social learning theory can be used to consider the environmental factors that develop firesetting, such as modelling and imitation, while also emphasising the role parenting plays in the onset of firesetting. Building on this theory, Fineman's (1995) dynamic behavioural theory understands young people's firesetting through a combination of societal, environmental and personality characteristics formed through social learning experiences. This theory placed importance on non-emotional contributory aspects of criminogenic factors, such as family history, school functioning and behavioural patterns (Horley & Bowlby, 2011). Dynamic historical factors may predispose a child towards maladaptive and antisocial acts, with firesetting affected by their immediate environmental contingencies. This theory was developed for young firesetters; however, it has been used to support adult firesetting as it can be applied to the offence process.

Fineman (1980) proposed two main categories of arsonists: pathological and non-pathological. The non-pathological grouping comprises individuals classified as curious or accidental, generally depicting young arsonists under 10 years of age (Fineman, 1995; Willis, 2004). The pathological group encompasses numerous types of firesetters, including cry for help, delinquent or antisocial, severely disturbed, cognitively impaired, socio-cultural and wild land firesetting (Willis, 2004). Considering these variations, Fineman (1995) theorised that dynamic behaviours of the arsonists were the product of three elements: dynamic historical factors of the offender, historical environmental factors that reinforce offending behaviour and immediate

environmental contingencies that encourage offending behaviour. The central component of dynamic behaviour theory is the utilisation of observable characteristics of three classes of psychological determinants: personality and individual characteristics, family and social circumstances, and immediate environmental conditions (Fineman, 1995).

Fineman (1995) considered the interaction between the internal, external, sensory and cognitive aspects of reinforcement, depicting the relationship between proximal factors and firesetting. The following equation shows how behaviour results in firesetting:

$$\text{Firesetting} = G1 + G2 + E$$

$$\text{Where } E = C + CF + D1 + D2 + D3 + F1 + F2 + F3 + \text{Rex} + \text{Rin}$$

Firesetting is considered the dependent variable, with (G1), (G2) and (E) independent variables (Fineman, 1995). Firesetting is the product of (G1) antisocial actions, historical factors and (G2) existing environmental reinforcers, including fire fascination and fire experience, in conjunction with (E) instant environmental reinforcers, particularly external, internal and sensory reinforcement. This equation accounts for factors that predict firesetting behaviour. Fineman (1995) delineated that proximal variables must be taken into consideration, with (E) referring to instant environmental reinforcers. Consideration of (C) impulsivity triggers (CF) crime scene characteristics, (D1), (D2) and (D3) the individual's cognitions before, during and after the offence, (F1), (F2) and (F3) the individual's emotions before, during and after the offence and (Rex) and (Rin) external and internal reinforcers for firesetting behaviour. Fineman (1995) utilised current psychological theoretical perspectives to account for recidivism within the context of firesetting offenders.

Fineman (1995) used previous research to theoretically devise two general types of child firesetters: *pathological* and *non-pathological*. Within these two overarching categories were subtypes founded on common motivations. Non-pathological motivation categories included curiosity and accidental firesetters, while pathological types subtyped into a cry for help, antisocial or delinquent, severely disturbed, cognitively impaired, socio-cultural firesetters and wildland firesetters (bushfire). Fineman (1995) noted that wildland firesetters fall into several other categories; however, he separated these firesetters from others based on their choice of target. Thus, the wildland category is superficial and requires further research to justify its separation. Since its creation, Fineman's (1995) theoretical categories have been altered, expanded and reduced by numerous researchers, many with little empirical justification.

Dynamic behavioural theory has been substantiated in relation to youth firesetting, but has yet to be validated for adult firesetting. Gannon, Ó Ciardha, et al., (2012) concluded that dynamic behavioural theory lacks a comprehensive understanding of dynamic risk factors and criminogenic needs that affect firesetting. Acknowledgement of factors and moderators that affect and support desistance are not considered in this theory (Gannon, Ó Ciardha, et al., 2012). Further, the theory focuses on repeat firesetting behaviour and it fails to recognise or acknowledge that only certain adolescents and children use firesetting to cope, although others with similar risk factors may not (Horley & Bowlby, 2011).

Functional Analysis Theory

Kolko and Kazdin (1986) examined risk factors associated with young people and firesetting, creating three categories: (1) learning experiences and cues, (2) personal repertoire and (3) parent and family factors. Kolko and Kazdin (1986) asserted these

risk factors predisposed a young person to firesetting. Learning experiences and cues include early modelling and interests (such as fire), incendiary device availability and the presence of adult role models. An individual's personal repertoire comprises cognitive abilities, such as fire safety and awareness, behavioural and interpersonal skills, and antisocial behaviour. The third category, parent and family factors, includes elements such as external stressors, parental involvement in a child's life, supervision and parental psychopathology as risk factors for childhood firesetting. This framework of risk factors presented firesetting from an environmental view and was a precursor to the functional analysis theory, developed by Jackson, Glass and Hope (1987).

Jackson, Glass and Hope (1987) integrated existing knowledge, hypotheses and theories to formulate the functional analysis theory, attempting to explain fire-related behaviour among adolescents. Firesetting is the interaction of antecedents and behavioural consequences that predispose individuals towards firesetting. A decision to firestart provides both mastery and control over an otherwise uncontrollable environment (Jackson, Glass, & Hope, 1987). Behaviour is reinforced, whether positively or negatively, and reinforcement contingencies are the catalyst for the facilitation and maintenance of firesetting behaviour (Gaynor, 1996). The firesetter will deem lighting a fire beneficial, normalise their involvement and begin to view a fire start as the only solution to difficult circumstances that they believe would be impossible to solve in an alternative manner. The theory itself draws on empirical research but is largely speculative and requires validation within a research or clinical context. Thus, both dynamic behavioural theory and functional analysis theory may account for some elements for the majority of firesetters; however, they struggle to incorporate the multitude of factors that influence firesetting.

Kolko and Kazdin (1990)

One of the first attempts to construct a cohesive motive-based theory was completed by Kolko and Kazdin (1990). The authors divided firesetters by two primary motives: curiosity and anger. Measures of firesetting behaviour and clinical dysfunction were compared to determine severity of behaviour. Findings established that firesetters who exhibited heightened curiosity also showed increased psychopathology, including external and internal behavioural problems, hostility, inappropriate social behaviour, and increased levels of firesetting risk and fire involvement. Some participants struggled to moderate their anger, which coincided with an increased risk level of firesetting. However, these participants did not display increased behavioural or emotional difficulties. Extending Kolko and Kazdin's (1990) initial categories, Kolko (2002) created a four-category classification, commonly used to inform clinical practice (see Table 6.0).

Table 6.0 *Motivations for youth firesetting*

| Category | Associated Behaviours |
|-------------------------|---|
| Curiosity firesetter | Usually quite young, tends to be experimental, and has a distinct lack of psychopathology or family dysfunction |
| Cry-for-help firesetter | History of early behavioural problems, tends to engage in firesetting for attention, behaviour is linked to environmental dysfunction and stressors |

| | |
|-------------------------------|--|
| Delinquent firesetter | Behaviour usually presents in adolescence, and will have high levels of deviance and behavioural dysfunction |
| Severely disturbed firesetter | Firesetting is comorbid with a wide range of pathologies. Has shown early signs of behaviour from individual pathology |

(Sourced from Lambie & Randell, 2011, p. 309).

Despite its widespread use, this categorisation has several limitations. It assigns severity based on age (Kolko, 2002); however, severe psychopathology may occur at any age, and is not limited to adolescent or older firesetters. Further, this approach assumes that non-pathological firesetters require little intervention to be diverted from repeat firesetting (Walsh & Lambie, 2013). In contrast, extensive research has supported that if ‘curiosity’ is a primary motivation, it should not be considered benign, but rather may potentially predict severe and frequent future firesetting behaviour (Del Bove, 2005; Del Bove & MacKay, 2011; Kolko & Kazdin, 1990; Lambie & Randell, 2011; MacKay et al., 2006).

Analysing the Dynamic Behavioural Theory (Fineman, 1995), The Functional Analysis Theory (Jackson, Glass, & Hope, 1987) and Kolko and Kazdin’s (1990) theory, it becomes apparent that dividing firesetters based on ascribed motivations or on the dangerousness of their fires does not accurately represent their risk levels. More recently, research has moved towards using a multivariate approach when categorising firesetters. This approach was utilised by Del Bove and MacKay (2011) who created a typology directed at young firesetters, by developing ‘clusters’ of prominent risk and developmental factors. The theory provides a cohesive understanding of risk levels of youth firesetters, based on the clustering of these factors.

Del Bove and MacKay's (2011) Typology

Del Bove and MacKay (2011) conceptualised firesetting behaviour as a complex interaction of risk factors, where firesetting is a symptom that cannot be understood unless viewed within the context of the child's life. The theory was framed with a biopsychosocial method; that is, subtypes share patterns in behavioural, environmental and individual characteristics. This approach enabled the authors to identify patterns in how factors interact to influence repeat firesetting in young people.

Del Bove and MacKay (2011) used cluster analysis techniques to examine fire-specific, general, individual and environmental variables associated with firesetting. The sample consisted of 240 firesetters ($N = 215$ boys, 25 girls) aged between four and 17 years. These researchers utilised quantitative questionnaires, supplemented with semi-structured interviews to obtain data. The diversity in age range strengthened the resulting study, allowing ages to be compared, rather than arbitrarily dividing between 'children' and 'adolescents' as in previous research. Data were supplemented by quantitative surveys and interviews from the primary caregivers of the firesetters. Participants were sourced through referral to TAPP-C in Toronto, Canada.

The authors theorised that although there is heterogeneity in youth firesetting behaviour, clustering techniques would conceptualise patterns to categorise participants. Results determined three distinct groupings of firesetters: conventional-limited (CL), home-instability-moderate (HM) and multi-risk-persistent (MP) firesetters. These clusters differed in the presence of fire-specific characteristics, individual and environmental variables, and firesetting recidivism. The authors acknowledged that 'curiosity' firesetters were not included in the final three categories, which limits the application of the theory to a wider population of young firesetters. The following sections detail the three categories as outlined by Del Bove and MacKay (2011).

Conventional-Limited (CL)

This group were the least severe in their firesetting psychopathology, with the lowest number of firesetting incidents and oldest age of firesetting onset. Other fire-specific measurements showed they presented with the lowest levels of fire interest and curiosity, and used fewer ignition sources and targets. Less than one-fifth of the cluster had an ‘antisocial’ motivation, with three-quarters expressing remorse for their actions. Family cohesion was high, and firesetters in this cluster reported the strongest family connections. Measures showed the highest level of socioeconomic status, academic achievements and social skills. Clinically, children presented with the lowest levels of attention issues and externalising behaviour problems (Del Bove & MacKay, 2011). In contrast to earlier research, this cluster tended not to be ‘one-off’ firesetters, but rather reported three to four separate occasions of fire involvement (Del Bove & MacKay, 2011).

Home-Instability-Moderate (HM)

This group presented as the middle cluster for firesetting severity, but were still classified as high-risk. Firesetters described an increase in fire episodes, interest and curiosity, ignition sources and targets. Over a third of the group (41%) reported an antisocial motivation for their fire involvement, with a third of the group (33%) expressing remorse. A critical differentiation for these young people were the high levels of family dysfunction they experienced, describing the lowest levels of parental involvement in comparison with other clusters. HM firesetters reported the highest rates of abuse (75%). All participants had been, or were, in the care of a welfare agency, with firesetting usually occurring immediately following a stressor in their lives. This group reported elevated levels of difficulty with social relationships,

externalising behaviours and attention problems in comparison with the CL cluster (Del Bove & MacKay, 2011).

Multi-risk Persistent (MP)

This cluster was measured as the most severe in their firesetting; they had the highest number of firesetting episodes, and the youngest age of firelighting onset. Other fire-specific variables exhibited the highest levels of fire interest, ignition sources, firesetting targets and fire curiosity. This cluster had the highest rates of recidivism in comparison with the other groups. An antisocial motivation was reported by 41% of the MP cluster, with less than half (41%) expressing remorse for their behaviour. Abuse and trauma were commonly reported, but were experienced at a lower frequency compared with the HM firesetters. A majority of the group (97%) had contact with welfare agencies during their childhood, though none had been placed into care. On par with the HM cluster, firesetters struggled academically, with the highest levels of social skill deficits, externalising behaviours and attention difficulties. All these measures fell into the clinically significant range (Del Bove & MacKay, 2011).

At the time of publication, Del Bove and MacKay's (2011) typology was the most comprehensive means of categorising youth firesetting. Selection bias is apparent since the young people were selected from a fire intervention programme; however, further research using a wider firesetting population is likely to counteract this limitation. Future research may benefit by including 'accidental' firesetters in the sample, to determine if these firesetters also show distinct clusters of factors. Findings confirm that risk level of firesetting occurs on a continuum, coinciding with a potential for recidivism. Understanding the motive of firesetting provides insight into the cognitive and affective processes of the individuals, although classifying young people by clustering of risk factors shows greater effectiveness. Thus, it is imperative to not

oversimplify categorisations but to acknowledge the interaction of the myriad of factors that influence firesetting.

Summary of Chapter

This chapter provided an overview of previous research regarding youth firesetting, establishing that a child's decision to light a fire is influenced by a combination of individual, environmental and behavioural factors (MacKay, Ruttle, & Ward, 2012). Since playing with an object is a child's means of investigating their world, fireplay is part of a normal developmental phase for many children (Kolko, 2002). Three main development phases were outlined, each representing increasing levels of risk. The final phase, firesetting, is hypothesised to occur after the age of 10 years, when a child has sufficient knowledge and cognitive awareness to understand the significance and potential consequences of firesetting (Gaynor, 1996, 2000). Severe firesetting behaviour may occur at any age, although deliberate firesetting rates increase with age (Del Bove & MacKay, 2011; Lambie & Randell, 2011).

The prevalence of conduct disorder, oppositional defiance disorder, depression and ADHD in youth firesetting populations was highlighted. Young firesetters demonstrate elevated levels of hostility and aggression, often combined with impulsiveness, moral disengagement and irritability (Del Bove et al., 2008). These behaviours are consistent with externalisation issues, such as physical aggression, disobeying rules and destruction of property. The critical role of family dysfunction, maltreatment and abuse in the development of youth firesetting was demonstrated, although these factors do not necessarily influence a child's decision to light a fire (MacKay et al., 2006; Root et al., 2008). Examining the complex relationship of antisocial behaviour and firesetting, the review found the literature has yet to account

for the emergence of firesetting, and why the child selects fire, rather than engaging in an alternative antisocial behaviour. Fire-specific factors were identified as the greatest predictor of repeat firesetting behaviour.

Framing these factors, theoretical constructs aiming to categorise young firesetters into groups were described. Recent research established that categorising young firesetters solely by motivation has limited utility, since motivations are complex and dynamic (Walsh & Lambie, 2013). This chapter confirmed that categorising young firesetters is difficult because their behaviour is heterogeneous; however, utilising a cluster technique, Del Bove and MacKay's (2011) theory has established patterns in risk factors. This theory has yet to be validated in a clinical setting. Analysis of available theories has highlighted a lack of micro-level theories that target youth firesetting.

Several limitations and gaps were identified in the available research. Much of the youth firesetting research samples use psychiatric or apprehended firesetting populations, resulting in a focus on high-risk firesetters. The knowledge regarding firesetters considered non-pathological or low-risk, including 'curiosity and accidental' firesetters is limited. The current research seeks to address this limitation by inviting the young firesetters that police encounter to participate, including those classified as curiosity and accidental. Many samples distinguish between firesetters under and over the age of 10 years. This disallows for the consideration that severity of firesetting behaviour occurs across all age ranges. Study two addresses this limitation by targeting any young person that has lit a fire under the age of 18 years. Significantly, the majority of research has been approached in a quantitative manner, with only a small number of qualitative studies available. This study acknowledges the value of gathering information from those who have directly experienced the behaviour, and allows for an in-depth exploration of the complexity of firesetting.

Section Four: Researching Young People and Firesetting in WA

Chapter Six: Study Two Methodology

Study two explored the factors that influence a young person's decision to light a fire, considering the multitude of alternative ways they may have selected to 'act out'. The study explores the offence process/es as reported by children who set fires, including their self-identified motivations that drove their behaviour, with the aim of providing directed and applicable strategies to minimise firesetting behaviour in WA youths. A phenomenological methodology was used, providing insight into the experience of firesetting. To add dimension and triangulation to the study, parents of the children were interviewed, with police observations, data and intelligence sourced from case files and referral notes providing additional context. A thematic coding process was used to analyse these data, and to identify commonalities and patterns in the participants' reports.

This chapter sets out the research methodology of study two, focusing on the conceptualisation and implementation of research design. The chapter begins by outlining the selection of a qualitative phenomenological approach, providing context to the methodological minutiae that follows. The chapter describes the youth-focused approach used, and details of participants. The ethical obligations that guided the research are considered, with a summary of the data analysis process concluding the chapter.

Employing a Qualitative Methodology

The choice to light a fire is multi-layered and complex, requiring an in-depth exploration to capture its intricacies. Both qualitative and quantitative approaches were considered a potential research methodology. Quantitative research statistically

examines relationships between variables to understand cause and effect, and to measure frequencies of an occurrence (Bryman, 2016; Liamputtong, 2013). However, this was not deemed the most effective methodology as the purpose of study two was not to predict outcomes or measure frequencies of behaviour, but rather to illustrate the individual experiences of young firesetters. Gathering personal stories about young firesetters from their parents and from self-reports was considered the best approach to gain a comprehensive understanding of these nuances. Moreover, quantitative research relies on a large number of participants; however, obtaining access was difficult, because of the niche population of young people who light fires in WA. Therefore, a qualitative approach was selected to capture the complexities of youth firesetting.

Qualitative research is inductive, allowing a phenomenon to be examined by collecting the stories of those who have lived the experience (Cooper & Schindler, 2008). As Munhall (2006) described, “qualitative research is known for giving voice to people, to hearing people’s own personal narrative and using the language of our participants in research” (p. 4). Using a qualitative approach allows researchers to examine human behaviour in an in-depth and descriptive manner (Patton, 2002), with participants able to express their personal experiences and perspectives (Creswell, 2007), thereby adding strength to the research. A qualitative method empowers those who may have felt powerless, particularly when framed with a phenomenological approach (Creswell, 2007).

Framing the Research: A Phenomenological Approach

Phenomenology moves away from traditionally favoured clinical empirical methods towards a participant-centred focus (Bryman, 2016; Creswell, 2007). Phenomenology explores the thought processes, feelings and behaviours of participants,

presenting and sharing commonalities in experiences in their social reality (Creswell, 2007; Patton, 2002). Differences between intended and actual consequences are considered (Creswell, 2007; Liamputtong, 2013), an approach particularly relevant in youth firesetting research. Central to the method is a removal or suspension of all presuppositions by the researcher (Liamputtong, 2013).

Phenomenology is philosophically grounded in the works of Edmund Husserl (1913, translated in 1931), Martin Heidegger (1962, as cited in Macann, 1993), and Alfred Schutz (1972). Husserl (1913) was concerned with understanding *how* consciousness is experienced within the framework of social reality. Consciousness is intentional, and only through exploring its function will social reality be understood (Liamputtong, 2013). Husserl focused on how an individual ‘thinks’ about their own experience. Heidegger extended Husserl’s (1913) work. Heidegger (1962, as cited in Macann, 1993) broadened the view of phenomenology as an interpretation of the context of the phenomenon. In contrast, Schutz’s (1972) work theorised that each social reality has a specific meaning and relevance for every individual who lives, acts or thinks within it. Daily lives are influenced by pre-selected and pre-interpreted worldviews, which determine an individual’s behaviour and consequently motivate it. This approach complements the purpose of this study, allowing for the thought processes behind each young person’s firesetting choice and offence process/es to be thoroughly examined.

Husserl, Heidegger and Schutz’s philosophical approaches were formed into methodological frameworks by van Manen (1990) and Moustakas (1994). Van Manen’s (1990) approach, ‘hermeneutic phenomenology’, is used within a human science orientation and did not support the aims of this study. In contrast, Moustakas’s (1994) approach offers an empirical psychological framework, named ‘transcendental

phenomenology.’ This method gathers descriptive experiences of participants, seeking to identify commonalities in their stories (Creswell, 2007). Prior to beginning the research, the researcher must achieve *epoche*, otherwise known as ‘bracketing’ (Moustakas, 1994, p. 34); all existing prejudgments must be suspended for the reality of the participant to be truly understood (Creswell, 2007; Liamputtong, 2013).

Phenomenological studies use two broad general questions to guide data collection: “What have you experienced in terms of the phenomenon?” and “What contexts or situations have typically influenced or affected your experiences of the phenomenon?” (Creswell, 2007, p. 81). These general questions informed the construction of study two’s research question:

- i. How do WA firesetting youths perceive and explain their deliberate firesetting?

This question complemented the aim of the research, capturing both textual and structural descriptions of the participants’ stories, revealing the unique experiences and vulnerabilities of the young boys. These vulnerabilities were a critical consideration, amplifying the need for a youth-centred research design.

A Youth-Focused Research Design

Children and adolescents experience power imbalances daily and in a multitude of ways because of their age. This makes them a particularly vulnerable and sensitive research population. This vulnerability is most evident in child–adult interactions (Bryman, 2016; Heath, Brooks, Cleaver, & Ireland, 2009; Liamputtong, 2013). The age of the children in this research was between eight and 16 years. Levels of cognitive awareness and understanding varied across the sample. Further, they had all been in contact with police because they had been involved in a firesetting offence. This

criminal behaviour adds a layer of vulnerability when the young people are labelled as an offender (Liamputtong, 2007).

The parent sample generated an added triangulation to study two. The firesetting incident was the first contact with police for many parents, and they were still coming to terms with the suddenness of their child's involvement in 'criminal activity.' Moreover, this time in their life had been stressful, with many volatile emotions tied to the incident. These emotions arose when parents were discussing the firesetting incident, with many becoming teary, or needing to take a moment to compose themselves. Several said they still shouldered blame for the incident. This vulnerability required a sensitive approach to data collection. Sensitive topics, particularly those that are emotive or volatile, are challenging for researchers because they discuss behaviour that may be stressful, distressing or uncomfortable. All researchers (myself and supervisors) were mindful of participants' vulnerabilities and sought to avoid increasing any distress or harm.

Children's cognitive and social development differ significantly depending on their age and socio-cultural environment (Tinson, 2009). Historically, research commonly relied on adults as proxies to express their child's perceptions, experiences or viewpoints (Tinson, 2009), ignoring that children are a unique group, who express views, experiences and perceptions differently to adults (Dockett & Perry, 2007). Children are competent witnesses who should be provided with the opportunity to communicate their stories in their own words (Coad, 2007; Tinson, 2009). Although children may be like adults in some ways, they possess different competencies (Punch, 2002). Mauthner (1997) asserted a researcher must ensure child-centric research is conducted *with* the child, not *on* the child. Therefore, this study used a

phenomenological framework, allowing the children to express their own thoughts and perceptions, without ideas being imposed on them by an adult.

Ethically, research with children shares some similarities to adult research: informed consent must be obtained, confidentiality must be ensured, and risk and harm minimisation must be taken into account (Liamputtong, 2013). The children's vulnerability amplified the inherent risks of the research because there is an unconscious power imbalance between a child and an adult, affecting consent and how a child interacts with an adult (Liamputtong, 2013; Tinson, 2009). This imbalance may present through the child's lack of life experiences, a shorter attention span and limited cognitive understanding of words, influencing their ability to communicate and understand (Boyden & Ennew, 1997). These vulnerabilities present in developmental areas, including the power dynamic between researcher and participant, and participants' ability to comprehend what is occurring (Tinson, 2009; Tisdall, Davis, & Gallagher, 2009). Younger children may provide responses the researcher may not require, or they may be anxious about the research and provide answers they think the researcher wants to hear (Tinson, 2009). To combat these issues, study two used a youth-centric approach, including the structure of interviews, the process used to obtain consent and the methods of confidentiality.

Youth-Focused Ethical Considerations

Ethics approval was obtained from the Edith Cowan University Human Research Ethics Board and the WA Police Academic Research Unit prior to commencement of data collection. The following sections outline the ethical considerations of the research, describe the semi-structured interview format, and outline consent and confidentiality methods.

Semi-Structured Interviews

Direct contact, such as face-to-face interviews, allows a researcher to read nuances and adjust techniques (Johnson & Clarke, 2003). Consequently, a semi-structured interview format was used. Numerous researchers (Denzin & Lincoln, 2005; Flick, 2006; Hagan, 2006; Liamputtong, 2013) advocate the use of semi-structured interviews in both qualitative and phenomenological research because the format provides guidance through structured questions to ensure direction, flow and targeting of research questions. The fluidity of the format allows participants to communicate and direct their own stories (Denzin & Lincoln, 2005; Flick, 2006; Hagan, 2006).

As there were two target samples in study two (young people and parents), two separate interview schedules were developed. The youth schedule (see Appendix VIII) was designed to capture dynamic and static risk factors, and developmental and proximal factors affecting the offence process/es. The parent schedule (see Appendix VII) captured parents' self-reports of their child's activities, and their perceptions of the child's developmental history, including their thoughts and perceptions of the firesetting incident. The interview schedules (parents and young people) complemented each other, providing triangulation to these data. The majority of questions were open-ended to establish offence process factors including 'how' and 'why.'

A chief focus of the schedule's development was the language used. The boys had distinct cognitive and vocabulary differences, often apparent in participants under 11 years in comparison to those over the age of 12 years (Tinson, 2009; Tisdall et al., 2009). Prior to the interview, several alternative ways to phrase questions, such as simplified language, were written (as seen in Appendix VIII). A clinical psychologist and a school psychologist were consulted to ensure questions were appropriate and would be understood by the children.

The youth interview schedule began with demographic questions. In most interviews, these questions helped create rapport between interviewer and child. Rapport was built using reflective listening skills and finding commonalities in answers, drawing the boys into a more open discussion. This in turn, allowed for recognition of any signs of distress in the child. The schedule flowed from question to question, and was ordered in sub-categories. These sub-categories included family background, social and medical history, and education experiences of each child. The structure of the interview established a chronological understanding of their firesetting, with questions targeting their pre-offence period, the incident itself and the post-offence period. Interspersed through these categories were questions examining factors associated with fire fascination. The interview concluded with the boys expressing their own opinions about what should happen to people who light fires.

The parent interview schedule followed a similar pattern. Initial demographic questions were posed to build rapport. The schedule comprised 12 questions that were supported by pre-scripted prompts. Parents were asked about their understandings of the incident, including opinions about their child's fire fascination, and events that occurred both pre- and post-offence. The schedule posed questions examining their child's education history, peer and social networks, and psychological history. The interview concluded by exploring the parents' thoughts on their experiences. Parents preferred to discuss the firesetting incident, and would often redirect the conversation to it. Non-directive questioning techniques were used, allowing for continuous flow through stories that the participants' directed, but could be controlled by the interviewers (Heath et al., 2009).

Consent and Confidentiality

Informed consent is both a legal and moral obligation, and additional considerations were needed to research the experiences of young people (Tisdall et al., 2009). Considerable attention was directed to the ages of the children, with processes surrounding consent and confidentiality rigorously examined and implemented. Vulnerable individuals such as children are, “likely to be susceptible to coercive or undue influence” (Stone, 2003, p. 149). Ethically, informed consent from both the young boys and their parents was required. The age of the children was significant, as all information relating to their offending behaviour was required to be kept confidential, and made non-identifiable to protect the young people’s privacy.

To gain access to a youth population in an ethical and responsible manner, an ‘adult gatekeeper’ was vital (Punch, 2002; Tinson, 2009; Tisdall et al., 2009). An adult gatekeeper is an individual whose focus is maintaining the best interests of the child. Further, they may limit access to the child (Punch, 2002). In this research, adult gatekeepers were the parents of each child. Undue coercion for children to participate was lessened by first approaching the parents for permission. This approach served a dual purpose: first, it established that the interviewer, a stranger, did not place pressure on the child to participate. Rather, a parent who had responsibility for the child broached the subject. Secondly, approaching the parent first allowed the parent to refuse participation before the child became involved. I took the opportunity to confirm with the parent that the child was cognitively developed enough to understand and consent to their participation in the interview.

Research Sample

WA Police collaborated with myself to provide access to young people who had been involved in a firesetting incident. Arson squad officers extended an invitation to

60 young people who had set fires during the 2014–2015 bushfire season. This invitation was extended via phone to the young person's parent, to protect the privacy and confidential data of the young people. A total of six young people (and parents) agreed to take part in an interview, one of whom withdrew prior to the interview. A variety of reasons was provided by parents to the police for the low acceptance rate. Some did not wish to revisit the offence that occurred approximately eight to 10 months prior to the phone call. Further, an undefined number of young people had been charged with criminal offences not related to firesetting, and were currently either incarcerated or serving on community-based orders.

Following this invitation, a secondary process was implemented to supplement the number of participants for the 2015–2016 bushfire season. A meeting was conducted between researchers, the WA Police and the WA DFES Juvenile and Family Fire Awareness Program co-ordinators to develop and implement a new recruitment and diversionary process for young people involved in firesetting. After initial police contact, parents and children were informed they would be contacted by researchers from Edith Cowan University (ECU) and DFES to schedule two separate interviews. The intention of involving ECU researchers in the diversionary process was to normalise the interview, emphasising that their voluntary participation would help other parents and themselves to understand firesetting. If the potential participants declined to participate in the research, no information was passed on to researchers. If consent was provided, a referral form (see Appendix II) was completed by a police officer from the arson squad, and emailed directly to the primary researcher. To help answer any questions from prospective participants, officers were supplied with a frequently asked questions prompt (see Appendix III).

Once the researcher received a referral form, a parent was contacted via a telephone call within three days. During the call, a brief outline and aim of the research was provided, including any potential benefits or risks associated with involvement, and again, they were reminded that participation was voluntary. Where possible, the interview was scheduled with both parent and child. It was often necessary to make several follow-up phone calls before an interview was scheduled, or once an interview *had* been scheduled, it was often rescheduled by the parent for many reasons, such as the boy being ‘in a bad mood’ or the parent did not know where the child was. In some cases, when researchers arrived at the interview, the parent would reschedule. Parents were provided with contact details for the researcher, should they have any issues or queries prior to, or following the interview. This process saw a further four invitations extended, two of which were declined following initial acceptance by parents.

In total, seven young people participated in the interviews (an overview of participant characteristics is provided in chapter seven), with a total of nine parents agreeing to be interviewed. Parent interviews ran concurrently to the young persons’ interviews, conducted by my PhD supervisors. The participation of the parents served a dual purpose. Initially, it provided a way for parents to have their experiences and voices heard, since many of the parents involved in the research had negative experiences with the justice system prior to contact from researchers, or they had never had any direct contact with police. Many were struggling with the suddenness of the experience, and others felt as if they had been ignored in the process. By inviting them to voice their experiences, a pseudo-therapeutic environment was created where they came to terms with what had occurred. Additionally, it added a dimension of triangulation, providing insight into the history of the young person that was otherwise not divulged or reflected on by the young participants.

The Research Process

At the beginning of the interview, written and/or verbal informed consent from both child and parent were obtained. Emanuel, Wendler and Grady (2000) summarised informed consent as, “the provision of information to participants, about the purpose of the research, its procedures, potential risks, benefits, and alternatives, so that the individual understands this information and can make a voluntary decision” (p. 2703). Each parent was provided with a written information letter and consent form (see Appendix IV and V, respectively). These forms were briefly confirmed and verbalised at the start of the interview. The child was provided with a written consent form and information letter (see Appendix IV and VI). To account for the varied cognitive and reading abilities, both the letter and consent form were read aloud to ensure the participants understood the purpose and outcome of the interview. Emphasis was placed on voluntary participation. The participants were reassured that they did not have to answer questions or could stop the interview without any consequences and that any information given would not be used if they stopped the interview. This consent was obtained both verbally and in written form. In the case of the younger children, I ensured to gently question them to confirm they understood consent and what the interview would comprise, prior to commencing the interview.

A mutual meeting place was discussed with parents prior to the interview. Participants were offered the opportunity for the interview to occur at either their home address (provided to the researcher following agreement for the interview), to visit the university for the interview, or alternatively at another meeting place, such as a café. All participants, except one, chose for the researchers to attend their home. The ninth parent selected a nearby café. To ensure the safety of the researchers, all interviews took place in pairs. Prior to entering the interview, a mutual acquaintance was provided

with the time and address the researchers were attending. If the researchers had not made contact, the acquaintance was to attempt to call the researchers. If, after a certain time, contact was not established, a call would be placed to the police.

Interviews of the parents and the child occurred simultaneously. Throughout the interview, myself and my fellow researchers were careful to observe and adjust to any feelings of distress (e.g. crying) from participants, and signs of elevated discomfort. None of the young participants demonstrated signs of distress. In comparison, several parents became emotional when speaking of the firesetting incident; however, both researchers interviewing the parents are clinical psychologists and were able to employ techniques to calm the emotions prior to them escalating to distress.

Generally, the young person was interviewed in a room separate to the parents; however, two parents sat in the same room while the interviews took place. A supervisor accompanied me to each interview, ensuring ethical safety precautions were met. Interviews ranged between 25 and 60 minutes in length and were recorded using an mp3 device. Interviews were transcribed verbatim, with anonymity preserved through the removal of identifiable information from the transcripts. All transcripts, consent forms and audio recordings were kept secured in a locked cabinet at ECU. Following transcription, audio recordings were immediately deleted, to comply with ethical requirements. A phone call was conducted approximately a week following the interview to ensure each child and parent were not experiencing adverse emotions because of their participation.

Data Analysis

Qualitative data are diverse, complex and nuanced (Braun & Clarke, 2006). Subsequently, the analysis process required a flexible approach tailored to suit the data.

Thematic analysis is an approach that provides a detailed account of the data, and captures the rich complexities inherent within phenomenology (Braun & Clarke, 2006; Bryman, 2016; Marks & Yardley, 2004). Thematic analysis identifies, analyses and reports patterns, commonalities and subthemes in the data (Braun & Clarke, 2006; Bryman, 2016; Liamputtong, 2013). Themes and subthemes are recurring categories and codes that emerge throughout analysis (Liamputtong, 2013). The process of thematic analysis was described by Ritchie, Spencer and O'Connor (2003) as a “matrix based method for ordering and synthesising data” (p. 219). Essentially, key themes and subthemes are recorded into a question-ordered matrix, enabling the researcher to understand the overarching narrative (Bryman, 2016).

Current approaches to thematic analysis vary because there is no recognisable heritage, nor has a cohesive analysis process been developed (Attride-Stirling, 2001; Braun & Clarke, 2006; Liamputtong, 2013). Bryman (2016) recently conceptualised an approach with six key stages to thematically analyse data. The first step was to read field notes and transcripts of interviews multiple times to become thoroughly acquainted with the material. This is a crucial step because it creates familiarity with the dataset, establishing an initial understanding of the narrative. The second phase of analysis began with initial open-coding of the materials. Open-coding is the comparison between events, actions and interactions. These comparisons are grouped into categories and tentatively named (Creswell, 2007; Liamputtong, 2013). Codes reflect small portions of text, resulting in a large number of codes. A question-ordered matrix was used to collate and examine the large amount of data provided by participants. This created order in the data, allowing for comparisons across the codes.

The third phase involved the researcher seeking to reduce codes into common themes (Bryman, 2016). These ‘higher-order themes’ capture common elements of

codes. Data were evaluated for higher-order themes in the fourth stage of analysis. The results were subthemes that supported the initial themes. Expanding on the higher-order themes directed the analysis into the fifth phase of interpreting the data. The purpose of this phase was to establish links and connections throughout the data, and between participants' stories. Key concepts were examined for differences between each participant. These connections were vital when creating the story representing the collective narratives.

Representing these collective stories in a cohesive narrative represented the transition into the sixth and final stage of analysis (Bryman, 2016). During this stage, themes were tied to the original research questions and connected with current literature. It was vital that each theme that emerged was justified; that is, the importance and significance of each theme in the context of the research was established. Themes were ordered into four main categories: (1) offence variables, (2) family variables, (3) antisocial variables and (4) social variables. Each subtheme value was appraised to ensure it advanced the research. Further, each theme's relevance to the proposed research questions were assessed. The final and sixth stage of thematic analysis provided structure to the patterns and commonalities, resulting in a cohesive and comprehensive analysis detailing the young peoples' stories of firesetting.

Study Two: Introduction

Why a child chooses to light a fire has rarely been considered through the firesetter's personal story. This research provides insight into the decision to light a fire, with a focus on the thought and offence process/es of the child that culminated in firesetting, with the aim of informing applicable and directed strategies to minimise youth firesetting. Two participant samples were used: the primary source was young firesetters under the age of 18 years. Their parents formed the second participant group. Interview data were compared with intelligence reports provided by WA Police. The seven young participants ranged in age from eight to 15 years. All participants were male from a range of socioeconomic backgrounds. Family structures differed across the sample, with a mixture of single parent headed mother and father households, and two parent family structures. At the time of interview, none of the boys had been in the care of welfare agencies. The young boys had a diverse range of offending histories, with several reporting involvements in delinquent behaviour of which neither the police, nor their parents were aware. At the time of interview, all children were attending school regularly, and several were engaged in alternative educational programmes to divert them away from their previous antisocial and externalising behaviours.

Demographic variables of the boys are detailed in chapter seven, supported by a comprehensive outline of each young boy's story. Although there were several variances in demographic information, firesetting experiences and post-offence trajectories, several shared themes and subthemes emerged through analysis. Four primary themes were identified and have been formed into four chapters. Findings have been supported using quotations extracted verbatim from transcripts of interviews, with themes reinforced using previous research and theory.

The young boys shared similarities with general youth offending populations, particularly those who displayed antisocial and externalising behaviour additional to their firesetting. To draw the shared variables into a cohesive understanding, theory and categorisations were used throughout analysis, including Gaynor's (2000) firestart and firesetting classification, social learning theory, Fineman's (1980; 1995) dynamic behaviour theory and Moffitt's (1993) taxonomy in relation to antisocial behaviour. These theories had limited utility in explaining youth firesetting; however, Del Bove and MacKay's (2011) multivariate theory showed distinct promise in categorising participants based on clustering of risk factors. Analysis demonstrated the benefit of developing youth firesetting micro-level theories, similar to adult offence process theories (Barnoux et al., 2015; Tyler et al., 2014), to determine patterns or commonalities in firesetting.

The bushfire component of this research provides a unique dimension to firesetting. To date, previous research and theory have rarely considered differences and similarities between young offenders who target bush rather than structures. Three participants had previously set objects on fire; however, all the boys had selected bush as their target for their current offence. The uniqueness of this sample in terms of target choice is unparalleled in comparison with earlier research.

The following section is composed of five themed chapters. These chapters are: (chapter seven) sample characteristics, (chapter eight) family variables, (chapter nine) antisocial variables, (chapter ten) social variables and (chapter eleven) offence patterns. As per the analysis process, subthemes emerged from overarching themes and comprise four of these chapters, beginning with chapter eight: (8a) parental conflict, (8b) family instability, (8c) family violence and volatility, (8d) parental substance abuse, (8e) parental styles/monitoring and (8f) post-offence parenting; (9a) self-control and

impulsiveness and (9b) emotional regulation; (10a) isolation and impoverished social networks, (10b) antisocial peer networks, (10c) academic performance, (10d) behavioural difficulties and (10e) bullying; (11a) motivation, (11b) fire interest and (11c) post-offence experiences. To provide context to these themes, chapter seven introduces each of the boys, providing sample characteristics and their stories.

Chapter Seven: Sample Characteristics

This chapter provides a synopsis of each boy's life. Interviews commenced with a discussion that gathered basic demographic information, including age, family structure, pets and hobbies. This built easy rapport with the children and parents, and provided insight into their everyday lives. This chapter provides context to each child's story, detailing the offence that made them eligible to take part in the research, basic demographic information, and observations and impressions of each child gathered from interviews. Each young person (and any other referenced person) was assigned a pseudonym for confidentiality purposes. The chapter is prefaced with a summary of the sample characteristics.

Youth Sample Characteristics

Aligned to findings in the current literature, the study population was dominated by male firesetters (Dadds & Fraser, 2006; Del Bove & MacKay, 2011; Lambie & Randell, 2011) aged between nine and 15 years of age. Fireplay between the ages of 12 and 17 and three and five years is consistent with developmental stages fuelled by curiosity, experimentation and a need for growing independence (Martin et al., 2004; Snyder, 2008; Stadolnik, 2000). A history of fireplay was reported across the sample, attributed to the sourcing of participants from police referrals. All participants were of non-Indigenous Australian ethnicity and from varying socioeconomic backgrounds (based on occupation, postcode and education). A summary of characteristics is provided in Table 7.0.

Considering family structure, two children lived in two-parent households, and the remaining five children lived in single parent households. Four of these five households comprised a single mother and her family, with one child living in a single

father household. At the time of interview, no participants had been removed from their parent's care. The lack of young people in care is contrary to previous research showing medium to high-risk firesetters tend to have a history of contact with welfare agencies, or were in care at the time of research (Del Bove & MacKay, 2011; Sakheim et al., 1991; Walsh & Lambie, 2013).

Table 7.0 *Sample characteristics*

| | Gender | Age | Ethnicity | Parent(s) | Medical/Psych | Risk Level |
|--------|---------------|------------|------------------|------------------|--|-------------------|
| Jack | Male | 11 | Caucasian | Parents | None | Low |
| Peter | Male | 14 | Caucasian | Single father | ADHD, Learning difficulties | Medium |
| Luke | Male | 15 | Caucasian | Parents | None | Low |
| Kyle | Male | 9 | Caucasian | Single mother | Learning difficulties, Speech difficulties, Attention difficulties | High |
| John | Male | 14 | Caucasian | Single mother | Conduct disorder, Attention difficulties | High |
| Connor | Male | 13 | Caucasian | Single mother | None | Medium |
| Joe | Male | 11 | Caucasian | Single mother | Speech difficulties | Medium |

The participant sample comprised varying levels of repeat firesetting risk, predetermined by police records. Two participants were reported as low-risk, three classed as medium-risk and two categorised as a high-risk of reoffending. The medical and psychiatric history of the sample was also varied, with two boys having no reported significant medical or psychiatric histories. Three of the participants had officially been diagnosed with a variety of psychiatric issues, including ADHD, learning difficulties, speech difficulties and conduct disorder. Four parents explained they struggled to have their child diagnosed, attributed to a lack of services, but described that their child

displayed significant behavioural and attentional difficulties. For example, one parent recalled that it was only on her child's third incarceration that she had been able to have him psychiatrically assessed. These behaviours are explored further throughout chapter 10.

Personal Narratives

Jack's Story

Jack, a 12-year-old boy, was spending time with a friend, Josh, on a Saturday, after Josh had slept over at his house the previous evening. Bored, and waiting for more friends to join them at a nearby park, Jack and Josh were 'messaging around' in the bush, and found a discarded magnifying glass on the ground. He reported that this provided the pair with something to do; they decided to see if they could set a leaf on fire by using the magnifying glass. They succeeded. The leaf caught fire quickly in the dry heat of summer. Surprised, Jack dropped the leaf onto a pile of dry leaves. Jack and Josh panicked, attempting to extinguish the resulting blaze using a water bottle they had been carrying; however, their attempts were unsuccessful and they lost control of the fire. Scared and panicked, they ran to the nearby park, where their friends were waiting. Their friends, seeing the firefighters, fire engines and helicopters, urged Jack and Josh to go and see what has happening. They returned to the ignition site with a group of friends and observed how out of control the fire had become. Scared, they returned home, where Jack's parents recall jokingly asking if they had anything to do with the fire, to which they answered no. It was not until Monday that police confirmed Jack's involvement.

Jack attended the local school with Josh. During the interview, Jack was shy and nervous; however, he opened up when talking about football. He remained engaged

throughout the interview and was polite towards the interviewer. He lived with his mother, father and older sister in a house located within two kilometres of the initial ignition site. According to his parents, Jack achieved average results at school, and Jack stated several times that he enjoys his language lessons. Following the firesetting incident, Jack's mother and father shared that they enrolled him in a different high school to his primary school friends, and advised that Jack no longer sees Josh. Jack's parents believed that Jack received much of the blame for the incident, which in their estimation was unfair. Jack's parents stated that he had no history of either physical or mental health issues. As a child, Jack's father confided he received significant burns to his body, which had been discussed with Jack on a recent camping trip. Jack had no previous contact with police; however, his father shared his negative experiences with police that influenced the way he dealt with arson squad members when they came to the house to speak to Jack.

Peter's Story

Peter is a 14-year-old boy, who said he was accompanied by two other boys from school, Justin and Tim, when they lit a fire in the local bush area. His father shared that Peter was rarely without parental monitoring; however, he had been invited over to Justin's house to play on the day of the fire. While there, in a fire pit (a pre-existing pit dug into the ground to light fires) at the front of the house, the three adolescents took turns lighting fires with a lighter taken from Justin's parents, who were asleep inside the house with Justin's baby sister. Lighting the fires gave the boys an idea; there was an area nearby that was dry, and if they each had a lighter, it would be an ideal place to set a fire. Once the idea had been formed, it was a matter of minutes before Justin produced another two lighters, one for each of the boys. At this point, Peter told the boys that they should bring a bucket of water in case something went

wrong. The other two boys dismissed this idea, and they all set off into the local bush. Peter indicated several times that Justin came up with the idea, and he only went along because it made him feel “cool.”

The boys walked into the bush to not be seen from the road and chose the perfect spot: “the best place to light it ...because it’s dry grass, and there’s a tree right above it and the tree was just hanging down next to the grass.” As soon as the three boys had used the lighter, the fire flared up, catching the tree on fire. The boys, who had travelled to the bush on their scooters, started running from the bush, crying, and headed to Tim’s house to escape the fire. Eventually, Tim’s mother realised that something was wrong and returned Peter home to his father. At first, Peter was reluctant to tell his father what had happened. As soon as Peter confessed that he and his friends had lit the fire, his father stated he had called Tim’s mother and they agreed to meet at the local police station with their children.

Peter lives in his house with his older brother, his father, and his father’s girlfriend. Peter’s father reported that Peter had hearing and speech difficulties as a child, and had attended six years of speech therapy. When Peter reached kindergarten, the teacher noticed that he was presenting with additional issues and subsequently sent him to the school psychologist and several specialists. His IQ was measured below 70 and he was diagnosed with an intellectual disability. Later, he was diagnosed with ADHD, and was taking medication. During the interview, Peter expressed his frustrations several times at the medication, commenting that he felt he did not need it. His father indicated that though Peter hated the medication, he needed to take it. The school contacted him regularly to ask if Peter had taken the daily medication when they struggled to control him. On these occasions, his father went to the school to collect him.

Although he attended the local school with the other two boys involved in the fire, Peter participated in the special education stream at school, while the other two boys attended the mainstream section of the school. By his own admission, Peter struggled to make friends, and has been bullied several times, including an incident where he was hospitalised after being pushed into a water fountain. During the interview, Peter was unreserved and wanted to talk. He tended to scratch his arms when he did not like a question, and would lose track of the question posed halfway through his answer. Peter admitted he was lonely, and his social isolation seemed to be reflected in his chattiness with me.

Luke's Story

Luke is a 15-year-old boy living with his mother, father and two older brothers. He also had an older brother who lived away from home, and with whom he stated he had the closest relationship. When Luke was seven years old, his intimate family emigrated from England to Perth, leaving other family and friendship networks behind. As a result, Luke said that his family has a close bond because, for a while, they only had each other. Recently however, Luke stated that his parents had started to argue all the time, about little things. Consequently, he tended to get away from the conflict by isolating himself in his room.

Luke stated that on the day of the fire, his parents had been fighting, and none of his friends were around to spend time with because it was around Christmas and they were spending time with their families. Luke had been fascinated with camping for a while, and had been researching survival tactics and videos on YouTube with a friend, making notes from the videos in a little notebook. These notes included how to light a campfire. Prior to the fire, Luke had not been allowed to light candles at home, and he does not recall receiving fire safety education from either family or school. On the day

of the fire, Luke had packed a survival kit, including a can of beans, a pocketknife, zip ties, rope and an incendiary device (not specified). He walked to the bush that was directly opposite his house and proceeded to find the perfect camp spot. His research on camping videos indicated that he needed to dig a small hole to start the fire. He dug the hole and placed some dried debris, including leaves, inside, which he then set alight. The fire spread, but then seemed to die. Luke placed additional dried leaves into the fire to restart it.

Luke recalled that it was a hot, dry, windy day, and a gust of wind blew several dried leaves that had sparked onto a nearby bush, which caught fire. Luke attempted to extinguish the fire using a water bottle that he had carried with him, but the fire had grown too large. Luke stated that he sprinted from the bush to his house, not stopping to talk to his parents and dialled 000 while screaming that there was a fire. Luke remembers the response to the fire; the multiple air bombers, the four fire stations that responded and the police and arson squad that had patrolled the area. One of the repercussions that Luke remembers most vividly was a responding firefighter who had a heart attack fighting the fire. Luke stated several times that 95% of the firefighter's body had shut down. Luke made the decision to write an apology letter to the firefighter, which he re-drafted several times.

When asked by a police officer as to whether he had observed anything, Luke said he had seen two boys running from the bush. At this point, he was joined by his mother, and he states that he just:

Froze, and I looked at my mum, and I looked her in the eyes, and I said, "I can't do this," and I took the guy to one side, and I just broke down. I was like, "it was me that lit the fire. I did it all." It was a complete accident.

The fire had burned approximately two hectares of bush. Luke was taken to the police station to be questioned. Luke recalls that at the time of the interview, he had not spoken to his parents about the fire. Since the fire, Luke was encouraged by a close friend to join the volunteer fire brigade, as he had developed negative and scared feelings towards all fire.

Throughout the interview, Luke remained softly spoken and articulate. As the interview continued, Luke became more open, relaxed and chatty and he began to guide the narrative. Luke indicated several times that numerous negative outcomes had occurred from the firestart. Although he experienced several triggering factors leading to the firestart, the fire in and of itself was accidental. Luke was a quiet, introspective boy who showed joy in discussing his future.

Kyle's Story

Kyle is a nine-year-old boy who had lit three fires prior to the interview, and had additionally been in trouble for damaging property throughout the neighbourhood. Kyle stated that for two of his firestarts, he was accompanied by other young people, and for his third, he was alone. Kyle appeared to mix the three fire incidents when he was describing events. The incident that brought Kyle to the attention of the police occurred while Sean, a younger child he had befriended at a nearby skate park, accompanied him. The two boys found a lighter, and walked down to and through nearby scrub. They located a large, dry, grass pile and used the lighter to set it alight. The two boys then watched the fire for approximately 10 minutes before the smoke became overpowering and they left the scene of the fire.

This interview was particularly challenging. Details were inconsistent in terms of how Kyle came to the attention of the police for the firestart. Difficulty interviewing

Kyle arose because of the presence of his older brother (11 years of age) and his brother's friend (also 11 years of age). The interview was conducted in Kyle's house, at the kitchen table. His mother was interviewed at the same time in the attached garage. His mother nominated the interview time, and stated that Kyle was going to eat his dinner during the interview. Kyle's brother and friend were eating in the nearby living room; however, they were determined to be involved in the interviewing process. As a result, the two boys kept running into the room to provide their comments on the questions asked. Each time this occurred, Kyle found it inordinately distracting, and tended to withdraw into himself, particularly in the presence of his brother. Approximately halfway through the interview, the brother and friend became bored, and left Kyle and the interviewer alone for approximately ten minutes. During this time, a large amount of information was extracted. Kyle struggled to read the consent form and information letter provided. He additionally showed difficulty in writing his name. He became bored quite easily and continuously played with the recording device, a nearby pen, and the information letter, on which he drew several pictures. He had difficulty maintaining eye contact and confused facts and storylines.

John's Story

John is a 14-year-old boy who lived with his single mother, older sister, younger brother and nephew. The family home was utilised as a 'hang-out' for John and his friends. At the time of the interview, John was attending an alternative education programme for two days a week, for which his duty officer collected him and dropped him off to ensure attendance. On the other three days, he was left to his own devices because the nearby high school refused to allow him back to the school. His mother advises the teachers struggled to control him, which frustrated her.

John spoke candidly about his extensive history of fire fascination and fireplay. He had spoken to the police three times prior to the latest incident in relation to fires he had set, in addition to numerous interactions because of other high-volume offences that he had committed. On the day of the fire, he was with friends at his house. He said he located a box of matches and placed it into his pocket, before suggesting to his three friends that they should go for a walk. The group walked over to the nearby national park, and were caught on camera entering the bush. John recalls that he was showing off in front of his friends, and that he wanted to look “cool,” so he used the matchbox. He flicked three matches, one after the other into the scrub, and the fire lit instantaneously. The group then left the area quickly, running out of the bush. John did not attempt to extinguish the fire, nor did he wait to see the emergency services operate, behaviours that indicated he had achieved his original offence goal.

John’s mother recalls that when she saw the fire that day, she had her suspicions that it might have been him; however, she was loath to question him (for undisclosed reasons). John repeated several times that the fire was a “big one” that he was proud of, stating that the police and DFES had arrived on the scene very quickly. John admitted that he did not think he was going to get into trouble for the fire, and was shocked when officers from the arson squad arrived on his doorstep the following day.

In addition to his extensive history of fireplay and firesetting, John reported he had been involved in the criminal justice system several times for various high-volume offences, including stealing and burglary. He had been detained three times in the local juvenile detention centre for incidents unrelated to firesetting. Because of the fire, however, he breached a good behaviour bond, and was admitted to the juvenile detention centre for five and a half months before he was released. John’s mother recalled that she refused to post his bail until the criminal justice system had conducted

a psychiatric evaluation on John. She had previously requested psychiatric tests without success. John was subsequently diagnosed with ADHD, although she believed there were additional undiagnosed issues.

At the time of the interview, John was initially uninterested and reluctant to speak with me. As a result, he displayed a short attention span for questions that did not interest him, and was quick to anger if he felt he was repeating an answer. However, when the interview had progressed to speaking about fire, John became quite engaged with the story. His voice gained energy and he sat forward in his chair any time that fire was mentioned. He displayed low comprehension levels for several questions, but was talkative anytime he discussed fire. When other questions were posed, he became withdrawn and tended to communicate in one-syllable single sentences, such as, “yeah,” “nah” and “cool.” It was difficult to encourage John to expound on any subject other than fire.

Connor’s Story

Connor is a 13-year-old male, who lived at home with his mother and younger brother. He advised that he never saw his father except when he accidentally “bumps” into him. Connor was a reserved yet articulate child who showed maturity when reflecting on his circumstances. Connor had come to the attention of the police for lighting a fire in a 30 x 30 metre area of bushland near the local fast food restaurant. Prior to the fire, Connor had had contact with police for a burglary. He attributed his involvement in the burglary to having been coerced by several older boys. He stated that he liked to hang around with a large group of approximately 24 children, who tended to “get into trouble” for loitering around the local shops.

On the day of the fire, Connor and about 10 of his friends decided to build a cubby house in the local bushland near a friend's house. Connor said they became bored, and one of the boys produced some matches, which the group promptly used to experiment with. Connor remembers flicking the match and experiencing disappointment when it did not light until it had touched the ground. Once it hit the ground, it landed in a pile of dry leaves and ignited. The group of boys panicked; eight of them ran from the scene immediately. Connor and a fellow friend, Tom, stayed at the fire scene for approximately five minutes, trying to extinguish the fire. Connor recalled that his shoes melted and his leg hairs were burnt as he tried to stamp the fire out. When these actions did not work, Tom decided to try to put the fire out using his skateboard. The skateboard fuelled the fire, spreading out of control. Connor and Tom fled on foot to the nearby road and tried to flag down cars to ask them to ring the fire brigade. Once it had been ensured that someone was on the way, both Connor and Tom split up and headed to their respective houses.

Connor recalls that he lied to his mother about his involvement in the fire. Connor's friend, Mark, who is well known in the area for lighting fires, had encountered police multiple times for his firesetting. Connor states that Mark, who had been visited by police, informed them that Connor had lit the fire. As a result, the police arrived at Connor's house, and he confessed immediately about the fire to the officers. Connor refused to tell the officers who else had been involved, and repeated several times that this had gained him the respect of several people. Connor showed remorse for his previous behaviour, but also indicated some resentment that he had been in trouble for setting the fire, because it was an accident. Contrary to these expressions, he showed significant previous interest in fire (such as research on how to light them), and his mother reported he kept numerous incendiary devices.

Joe's Story

Joe, an 11-year-old boy, had been involved in two separate firesetting incidents. Police knew about one of these, and the other (disclosed to me) followed his original firesetting incident. During the interview, Joe responded largely with yes, no or just head movements. He struggled to maintain eye contact, relying on single-syllable words and short sentences. He had a stutter (confirmed by his mother) and speech delays, and struggled to comprehend questions. Joe also had a short attention span, shown by his constant fidgeting and wavering attention to any movements. Additionally, when he felt that he had already answered the question, he was quick to become irritated. Joe lived at home with his mother, and older brother and sister. He saw his father every Friday through to Sunday, and stated that his favourite hobby was to play video games.

When he discussed the firesetting incident, it was evident that he harboured resentment towards his friends, who he stated had informed the police about it. Joe stated that he and two friends had been walking home from school and were on the school oval when he found a box of matches. Joe picked up the matches, and he and his friends continued walking. Once on the oval, police reports suggest Joe began 'showing off' in front of his friends. He said that he was flicking matches all over the oval. He flicked three matches at once, burned his hand, and was forced to drop it. At first, Joe did not realise that the flames had caught the grass and scrub. By the time he realised what had happened, the fire had spread. He tried to step on it, but became scared because there was a large amount of smoke, so he and his two friends fled the scene, leaving the fire burning. Joe's report of events contradicted police intelligence and recorded reports collected from both peers and teachers. Joe said he did not lie to the

police about lighting the fire because he had burned his hand, meaning he was unable to deny lighting the fire. He had also told his mother.

Chapter Eight: Family and Its Role in Firesetting

Family dynamics and function is an identified key criminogenic factor that amplifies the entrenchment of behaviours in young offenders. Yarnell (1940) first examined the effect of family on firesetting, finding parental neglect was a significant factor in the developmental histories of firesetting youths. Young firesetters, particularly those who display pathological behaviours, often have histories of familial dysfunction, parent psychopathology and maladaptive parent–child relationships (Lambie & Randell, 2011). Family variables encompass factors ranging from maltreatment, physical, sexual or emotional abuse, to family conflict including increased marital violence and marital discord (Becker et al., 2004), and they have a crucial role in both the severity and maintenance of firesetting.

Discussing family life with both parents and young boys involved using both direct and indirect questioning, to draw out these complexities. The young boys were questioned about the ‘good things’ and ‘bad things’ concerning their families. They were reluctant to identify problems, other than annoyance at their siblings, often becoming defensive when responding to direct questioning. Issues with parents began to emerge when discussing frustrations about other aspects of their lives, particularly regarding parental restrictions the child deemed unfair. The boys’ families are discussed and detailed throughout this chapter, beginning by providing an outline of the family structure and dynamic of each family. The chapter subsequently discusses subthemes. These are (1) parental conflict, (2) family instability, (3) the presence of volatility and family violence, (4) parental substance abuse, and (5) parenting styles and monitoring.

Family Structure and Dynamics

Jack described his immediate family as comprising his father, mother and his older sister. Jack commented that he and his sister were, “not really that close,” which appeared to be a typical reaction to a sibling in this age group, apparent when Jack began to discuss his family in its entirety. He liked his family because, “they’re like, understanding and yeah, they’re funny.” He did not wish to share something he did not enjoy about his family. Jack’s father and mother provided further context of family history and structure, stating that his father had previously been married and had a son from that relationship. The son had been in trouble with police before, which Jack’s father admitted affected his reaction when police arrived to speak to Jack. Jack’s family did not self-report a history of marital violence, abuse, alcohol misuse or parental psychopathology.

Luke’s family displayed a similar structure and dynamic to Jack’s, with slightly elevated levels of parental conflict. Luke was the youngest of four boys and lived with two brothers (the third had moved out), his mother and his father. Luke said that he “got on” with his brother who had left the home, but not the two brothers that remained. When describing one of his brothers, Luke stated, “he’s just like, generally, he’s just so stuck up and just can’t get through to him.” When discussing his parents, Luke said he was closer to his father than his mother, and they regularly took part in bonding activities, such as “four-wheel driving and stuff.” When asked what he thought the best things about his family were, Luke replied:

We just get on, because it was just us when we moved over here. It was just the six of us ... we did a lot when we moved over here ... we’re kind of close so [brother] always comes around on Sunday for dinner. We share together, put girlfriends and friends aside and it’s just all of us together.

Luke placed high importance on family, often relying on it as a support network. Luke's family believed he was particularly family oriented, sharing he felt "glum" prior to the fire, because he was missing his extended UK family around Christmas time. Family function and its effect on young firesetters was similarly reflected in Dadds and Fraser's (2006) study, showing children are vulnerable to changes in family and parent dynamics, particularly when parents are stressed. These were the only two boys living in two parent families.

A growing body of research shows that firesetters, both children (up to 12 years) and adolescents (12 years and over), commonly come from single parent households, or households where one parent is absent for extended periods of time (Del Bove & MacKay, 2011; Gaynor, 1996; Gruber et al., 1981). There is a distinct link between absent parents and child firesetting, as illustrated by Gruber et al.'s (1981) sample, which showed a prolonged absence of a parent, especially fathers, was common within families of firesetters. Comparatively, five of the seven boys were from families with an absent/uninvolved parental figure, four of whom were paternal. Parents simplified their relationship breakdowns when questioned, attributing them to ineffective parenting from absent parents, and prolonged and extensive histories of domestic violence and substance abuse.

Kyle, John, Connor and Joe lived in households run by a single mother. Connor's and Joe's mothers appeared to be providing a routine family life for their children. Parents were mindful of their extended histories of family conflict and domestic violence with their children's fathers. At the time of the interview, three of the four single-parented children had no contact with their fathers, with Joe the only child who saw his father on a semi-regular basis. Kyle described his family as comprising himself, his mother and three older brothers. Only with prompting did Kyle

disclose he did not know his father, stating, “I never see my dad.” Kyle elaborated, “he doesn’t want me in his life.” Kyle appeared dejected as he said this, mentioning several times that his brothers knew their fathers (different to his) but he did not. Kyle’s mother commented, “Nah, [Kyle] hasn’t seen his dad since he was 18 months old.” She said Kyle’s father was not in his life because he had substance use issues and addiction.

John had a comparable family experience to Kyle. He described his family as comprising himself and two younger siblings. His mother expanded, explaining that John’s childhood was characterised by unstable father figures, the latest of whom was in prison. Both John and his mother reported that his father lives in another Australian city, and John occasionally speaks to him on the phone. He visits his father rarely: “uh, I go to [Australian City] once every year, or once every two years to see him.” John said his father had not lived with them, “ever since I was like three, three years old.” John’s mother provided further context regarding the lack of visitations, confiding that when John last visited his father, he became involved in a break and enter. The police advised John to leave the state, because they would criminally charge him if he did not. John has not returned to visit his father. He described personality clashes with his siblings, which appeared to be the result of a large difference in age (approximately 10 years), although he tried hard to maintain a relationship with his little brother: “sometimes he just annoys me, I tell him to go away, I try and get along with him because he’s my brother.” John regularly argued with both his sister and mother. He frequently became angry with them, responding by leaving the house. On these occasions, his mother did not know when he would return. When asked what he liked best about his family, he said, “the best thing? Um, it’s my family.”

Connor described his immediate family as consisting of himself, his mother and his younger brother. He included his aunt in his description of immediate family;

however, she was not mentioned again. He did not have a close relationship with his brother, “he just gets irritating that’s all, what he does, everything,” which appears consistent with clashes that might be experienced by children close to each other in age. When asked about his father, Connor replied, “I’m not really sure, I don’t see him a lot, I seen him a couple of times.” When talking about his father, he tended to withdraw into himself, becoming uncertain, tentative and uncomfortable in his responses. It was only when his mother explained the family history that his response could be understood. His mother shared that there was an extensive history of domestic violence and instability, summarised with her statement: “he’s [John’s father] got head problems.”

Joe’s family dynamic had recently undergone a massive shift because his parents had recently separated. His mother attributed the separation to experiencing severe domestic violence at the hands of Joe’s father. Joe described his family as, “my mum, my dad, my brother, my other brother, my sister,” with Joe the youngest child in the family. Joe’s mother disclosed that her relationship with her ex-husband was volatile, and there were constant control issues between them. Joe lived with his mother; the three other children lived with their father (against her wishes). Joe visited his father every week, Friday through Sunday.

The seventh participant, Peter, had a different family dynamic compared with the other young boys. Peter lived with his father, his father’s new partner and his older brother. Peter defined his family as comprising himself, his father and his older brother, but he did not include his father’s partner in this description. Peter expressed some anger and resentment towards his older brother, describing a discordant relationship several times: “sometimes we just hate each other” and “sometimes he’s OK, sometimes he’s an asshole”. Peter discussed physical struggles between himself and his brother, particularly when his brother became “annoyed” with him: “if I annoy him, it’s mainly

when I annoy him, he will hit me on the arm, or in the head, and I don't really like it."

It was only through prompting that Peter remembered his mother. He spoke positively about her saying, "my mum's the best," despite rarely seeing her. Peter's father had a vastly different view of the mother-son relationship, disclosing he believed Peter's mother deliberately moved two hours away because she struggled to handle Peter and his "issues." Peter's father confided he found it both difficult and challenging to parent Peter, particularly since he received no support from Peter's mother, an issue that he chose to hide from Peter.

The Influence of Parental Conflict

Previous evidence supports that parents of young firesetters display elevated levels of both personal and interpersonal difficulties (Del Bove, 2005; Del Bove & MacKay, 2011; Gaynor, 1996; Gruber et al., 1981; Kolko & Kazdin, 1986, 1990; Root et al., 2008). For example, Kolko and Kazdin (1986) found parental relationships were fraught with marital discord and parental conflict in 'intact' families of firesetters. Similarly, in this research, participants from intact families reported marital conflict, and one child, Luke, mentioned several times the marital discord between his parents. He expressed how upsetting this conflict was for him: "parents don't really get on that well ... they argue a little bit, like every couple does, but like they argue about silly things, and it just gets out of hand, and it goes on for a week or two."

Luke's parents, who were interviewed together, did not mention any marital discord. Luke's perception is noteworthy when considered in the context of his firesetting. Luke recalled his parents fighting at the time of his firesetting. He said that he had decided to go camping (earlier than originally planned) to escape the conflict at home. Accordingly, parental discord may be interpreted as an antecedent stressor for

Luke. Luke did not directly identify levels of conflict at home as a motivating or triggering factor for his behaviour, but repeated several times that he “needed to get away.” Consistent with findings in the literature, Luke’s experience with his parents’ fighting may act as both an antecedent stressor, and a potential risk factor for firesetting behaviour (Bailey et al., 2001; Gaynor, 1996; Kolko & Kazdin, 1986).

Family Instability as a Foundation for Firesetting

One of the most common developmental experiences across the sample was family instability that manifested in several ways. It surfaced principally as frequent isolation and prolonged parental absences. This was particularly evident with the fathers of the boys, in accordance with earlier studies (Becker et al., 2004; Kolko & Kazdin, 1990; Root et al., 2008). Four of the seven boys reported a lack of a consistent father figure, with the fifth visiting his father on a semi-regular basis. This child’s father (Joe) was not interested in the boy’s everyday life, including his involvement in the firesetting incident. This is a common experience, with Becker et al., (2004) finding a lack of paternal involvement a common risk factor for young people who fireset. Similarly, Peter’s biological mother was frequently absent, for extended periods. His father’s girlfriends, who indirectly and unintentionally contributed to family instability, compounded these absences:

I was and I wasn’t by myself, after their mum took off. I was on my own for four or five years, and I met another girl, got married to her, but she died of cancer, so I wound up with her kids and my kids on my own, ’cos her ex-husband was like their [Peter’s] mum, honest to god, didn’t want nothing to do with them. (Peter’s father)

The boys reported family instability in other ways. For example, Kyle, who was living with his three older brothers and his mother, had a different father to his

older brothers (three of the four children had different fathers). Kyle's mother discussed several different partners who acted as a 'father' to Kyle throughout his childhood, generally for less than two years at a time. One ex-partner parented Kyle during the school holidays to provide her with a break, although Kyle's mother commented that he was a violent and mentally abusive drunk. Kyle's mother said that many of her ex-partners had brought their children into her house, discussing the amount of times they had lived on and off with her, and the resulting custody battles and inherent instability. Kyle's mother said Kyle always sought a father figure in her partners. His lifestyle interests changed according to the interests of her partner. For example, when discussing Kyle's talents, she explained he had decided to be a shearer: "the guy I split up with two years ago, he was a shearer, so Kyle wants to be a shearer. It's really hard to say, whose Kyle's dad is ... he loves [ex-partner]."

Connor had experienced significant instability throughout childhood, largely because of a volatile marriage between his parents, and their subsequent divorce. Connor recalled he had not seen his father since his mother moved them away from the family home. Connor's mother expanded, sharing that she was struggling to instil a consistent routine in her children's lives, finding it difficult following the separation. Connor had changed school three times in the several years following the marital split, contributing to instability. Recent family upheavals further compounded the instability, for instance, Connor's mother shared that his grandfather had recently been diagnosed with schizophrenia and, "then I found out my mum was my sister ... my Nan and Grandad I thought were my mum and dad until I was 30 (Connor's mother)."

Consistent with the current sample, previous studies show fathers of firesetters tend to have less interaction with their children (Vreeland & Waller, 1980, as cited in Kolko & Kazdin, 1990), and mothers and siblings of firesetters show higher levels of

negative behaviours in the child's life, in comparison with non-firesetters (Kolko & Kazdin, 1990). Firesetters who tend towards pathological behaviour are significantly more likely to experience strong anger at an absent father (Sakheim & Osborn, 1999), illustrated in both Kyle's and John's experiences with their absent fathers. Further, a distinct relationship is evident between instability, family dysfunction and repeat offending behaviour, particularly concerning those children who report a limited family affiliation (Kolko et al., 2001; Kolko & Kazdin, 1990).

The common experience of family instability demonstrates the significant role that family plays in firesetting behaviour. All but two children experienced significant instability. The most common experience of instability was the lack of a consistent parental figure (five of the seven participants). A pattern began to emerge across the sample: as fire risk increased, so too did the number of instability factors in the child's life. Further, instability appeared to be counteracted, to a small degree, by the way the child was parented by their stable parental figure. Parenting may act as both a risk factor (instability), and a potential moderator (stability) for re-engagement in firesetting. This presumption is developed further in this chapter (see the section on parenting styles and monitoring).

Experiences of Family Violence and Volatility

Family violence and volatility were common experiences for those boys deemed a high-risk by police. This theme did not emerge through the children's stories; rather it was a consistently reported theme by parents. Three of the seven parents were forthright in their discussion regarding their experience of volatility and family violence, with all three mentioning that their child had witnessed the violence. Two relationship breakdowns were attributed to family violence, and parents remarked that

police had become involved on multiple occasions. When sharing their stories, parents were short and succinct, emphasising that their history continued to affect both their lives and their child's:

We had lots of domestic violence, a lot of domestic violence, is not only one, two-year domestic violence, when [Joe] was not born, so I had lots and lots of domestic violence in that house ... so there was lots of police involved before, lots of DCP [Department of Child Protection] was involved.

I was the one that was always beat, you know, so I just want to ... I can look after them. I want them living with me, but they are with the father.

According to his mother, Joe was adversely affected by incidents of domestic violence. She attributed his difficulty with making friends and fitting in at school to his history: "There was no father, lots of domestic violence, you know, so kids, they become a little bit different, you know?"

Connor's mother recounted her experience with her ex-partner, admitting that Connor had witnessed some of the violence between herself and her ex-partner:

Because it was such a violent, like, we lived in a beautiful house in [suburb] and no one knew what was going on inside the house, and it was really bad. Connor's witnessed all that, he's seen everything, you know ... and he knows that.

In contrast to the other two parents, Kyle's mother was both perpetrator and victim of family violence and volatility. Kyle's mother described many volatile incidents that had occurred between her and her partner when visiting her stepfather: "I walked over there, and I just let him have it and he was, that much shorter than me, but I picked him up and threw him through my stepdad's wall."

These volatile and violent incidents had occurred in both present and past relationships. Kyle's mother discussed an ex-partner, whom she likened to the closest thing to a father figure for Kyle. She stated that Kyle stays with him during the school holidays, despite his issues with alcohol and violence. She recalled one fight they had:

The reason I'm not with him anymore is that when he drinks, he's violent, not violent as physical, but mentally ... [discussing an argument], he just kept going and going and going and I said if you don't shut up I'm going to shut you up, next minute I've snapped my remote control over his head.

All three boys had either been involved in multiple firestarts or antisocial and delinquent behaviour. This finding is supported by evidence from previous work, which established firesetting youth are 2.4 times more likely to come from a home characterised by marital violence and volatility (Becker et al., 2004). Root et al. (2008) found nearly 50% of their sample had experienced some form of maltreatment (such as domestic abuse) throughout childhood. Further, children are more likely to set fires following a familial stressor, because of anger, or to gain attention from neglectful parents (Fineman, 1995; Jackson, Glass, & Hope, 1987; Root et al., 2008). The boys in study two did not report these motivations; however, the developmental aspect of family violence was apparent. Consistent with current theory (Del Bove & MacKay, 2011), severity of firesetting was related to the experience of abuse through childhood. For two of the participants (Connor and Joe), their family experience appeared to be a developmental factor that was still affecting their behaviour.

Parental Substance Abuse

In contrast to earlier research (Becker et al., 2004), the presence of substance abuse did not feature highly in participants' stories; however, one parent said the males

in her family, both partners and relatives, had an extensive history of substance abuse. This history ranged from her grandfather's addiction to marijuana, to her own personal alcohol use, and to Kyle's father's addiction to painkillers:

We were going to the footy, and I didn't realise that he had popped 110 Panadeine Forte in two days ... he had a massive seizure, went into hospital.

I lived across the road from my [parent participant's] stepdad, my stepdad is known for popping pills, he went into a coma for it, and [he] smoked marijuana ... he gave that up because he knew I didn't like it ... but he went popping pills.

His father's substance abuse directly affected Kyle's life. It was a chief reason, according to Kyle's mother, for his father's lack of involvement. She had told Kyle's father to leave the state:

You need to get out of Perth, otherwise you're not going to get out alive. You're not ruining my son's life. I said, "go and ruin your other son's life," and you know what, he has, [name] is the biggest druggie there is.

Although current research confirmed the prevalence of substance use by firesetting youths (MacKay et al., 2009), little direct reference is made to the role of substance abuse in parents of firesetting children. It can be presumed that parents' substance abuse contributes to instability, poor family cohesion, volatility and family violence in a child's developmental history. The presence of these dysfunctions has previously been determined in both the current sample and the literature (Del Bove & MacKay, 2011; Kolko & Kazdin, 1990; MacKay, Ruttle, & Ward, 2012; Root et al., 2008). Further, the low rate of parental substance misuse in the sample may be attributed to both the small sample size and the face-to-face style of interview. Without face-to-face contact, the

desire to please the researchers is likely to decrease. Further, as the interview was deliberately focused on the child, recountings of substance misuse were incidental, rather than a primary outcome.

Parenting Styles and Monitoring

A child's relationship with his or her parents plays a critical role in behavioural development (Bukatko & Daehler, 2004; Snyder & Patterson, 1987), and has the potential to act as both a risk factor and a moderating factor for youth firesetting. Interactions between a child and parent are affected by emotional climate and parental attitudes; in turn, this is attributed to parenting styles (Bartol & Bartol, 2011; Bukatko & Daehler, 2004). Theory proposes four common parenting styles: (1) authoritarian, (2) permissive, (3) authoritative and (4) neglecting/uninvolved (see Figure 3.0) (Baumrind 1966, 1971, 1991; Bukatko & Daehler, 2004). Of the four theoretical styles, three presented in the sample. Moreover, four of the seven participants described a change in parenting styles as a reaction to the firesetting incident. The most noteworthy change was in the monitoring¹² of their child's activities.

The two boys categorised as a low-risk of reoffending shared similarities in their families' approach to parenting styles and monitoring. Both parents lived together, and described an authoritative style of parenting. This style is characterised by parents instilling reasonable restrictions in their child's life and is considered a rational approach to parenting (Bukatko & Daehler, 2004). Consistent with this style, both Jack and Luke had an open-style of communication with their parents.

¹² Parental monitoring refers to, "parents' awareness of their child's peer associates, free-time activities, and physical whereabouts when outside the home" (Snyder & Patterson, 1987, p. 225).

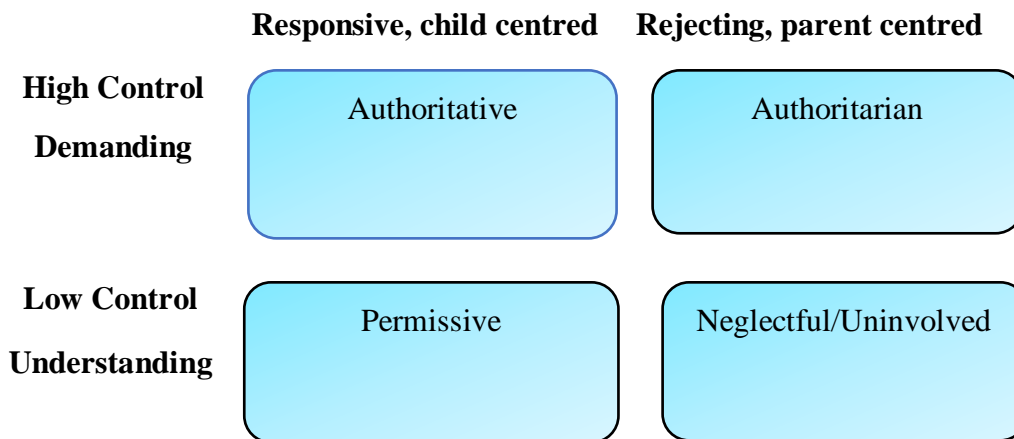


Figure 3.0 *Parenting and nurture styles (adapted from Bukatko & Daehler, 2004)*

Communication between the parents and their children emphasised social controls and morals. For example, Jack initially hid that he had lit the fire; however, he told the truth when asked directly by his father:

I took him over to the corner of the garage and I said, “now listen mate, have you really done it?” ... and that’s when he uh, confessed. I was a bit disappointed because he wasn’t the lying kid that we know.

Jack’s parents related several past instances where they had invited Jack to discuss antisocial behaviour and potential consequences in an open manner. Considering past openness, his initial lying was particularly distressing to them. In hindsight, Jack’s lying may be attributed to fear of retribution; however, his almost instant admission of guilt may be a product of a family who shares open communication, and the importance they had placed on honesty, consistent with social controls.

Luke and his parents communicated openly. His parents discussed how they had approached the firesetting incident with Luke post-offence:

Oh look, we all make mistakes. We did say to [Luke] didn't we, "everybody makes mistakes in life. It's whether you learn from it. If you learn from it and you move forward, that's a good thing. If you don't learn from it and you carry on doing it, then that's when you've got issues."

Both Luke and Jack could clearly recall the punishment and consequences their parents imposed following their firesetting, affirming a clear set of restrictions should they violate social controls. Further, linking punishment for a misdeed to a rational outcome aligns these two families with an authoritative, child-centred approach to parenting and nurture styles (Bukatko & Daehler, 2004).

Peter's and Joe's parents displayed an authoritarian style of parenting, and attempted to shape and control their child's life in a rigid and strict manner (Bartol & Bartol, 2011; Bukatko & Daehler, 2004). Joe's mother described an authoritarian approach to parenting, but believed her ex-partner used a permissive style of parenting. She stated several times that this counteracted what she was trying to instil in her child. Snyder and Patterson (1987) theorised that youth delinquency and offending were most closely associated with either an authoritarian or a permissive parenting style, with both styles linked to antisocial or aggressive behaviour in children (Bartol & Bartol, 2011; Snyder & Patterson, 1987). Neither Peter nor Joe engaged in significant antisocial behaviour while at home, although Peter described difficulty regulating his anger at home.

Their parents, in reaction to different facets of their child's life, adopted authoritarian parenting styles. For example, Joe's mother believed her parenting was influenced by her experiences with her ex-partner. In contrast, Peter's father adopted his monitoring style because of Peter's personality, explaining, "he's one of those kids, you know, you've gotta have really firm boundaries, because he's really headstrong and

stubborn. Unfortunately, he gets that from his mother.” Both Peter and his father mentioned this rigid and strict monitoring style several times, with Peter recalling his annoyance at what he felt were unnecessary restrictions:

When I get up to, um, mischief or something when I’m bored, I say to my dad, “can I go and see the bush or something, or go into the park, or go and see my friends”, and he will say “no” because I’m not responsible enough ...it’s mainly recent.

The firesetting reinforced Peter’s father’s belief in strict monitoring: “Yeah, it was the third time I had ever let him out of my sight. I haven’t let him out of my sight since.” Peter’s father had become stricter post-offence.

In contrast, Joe’s mother attributed her authoritarian style of parenting to the domestic violence she had experienced. She tended to over-control aspects of Joe’s life, prior and post-offence; however, her level of concern and monitoring had increased post-offence because she “didn’t want all this trouble with the police and the kids.” Joe’s mother had difficulty enforcing the strict monitoring:

And I keep him home alone, and when he is alone, there is no role model. There is no men in the house, and he is very bored. Yes, so he tells me, “mum I want to go to some friend’s house.”

Because of the strict monitoring style, Joe’s mother was inadvertently contributing to Joe’s boredom, and increasing Joe’s social isolation. Further, Joe had re-engaged in a firesetting incident with other children post-offence, when his mother was unable to monitor him. This monitoring style may have added to Joe’s frustration, prompting a need for excitement, or inclusion with his peers. Both boredom and social isolation are potential factors that influence formation of firesetting goals because of a need for ‘excitement’ or to ‘rebel.’

Unpredictability in parenting styles may also have created confusion for Joe. Joe's mother believed his father used a vastly different monitoring and parenting style (consistent with a permissive style):

When he goes to his father's place, when he comes back, so he [Joe] will have [return from father's] saying, because his father's [household rules] is totally different and that, that environment is totally different. It's just, there is no rules in the house. When he comes back to me, he will try to play it, but he get off it quickly [gets used to routine]. I understand that it takes face time.

Other parents in the sample also used a permissive style of parenting. This style is reflective of parents who have low levels of restrictions and little control over their children (Bartol & Bartol, 2011; Bukatko & Daehler, 2004; Kolko & Kazdin, 1990). These parents tend to be tolerant and hold a non-punitive attitude towards their children, displaying low levels of child monitoring. The children themselves often set their own routines and schedules. Two mothers consistently used a permissive style of parenting, altering when administering punishment, often administered inconsistently. However, changing parenting styles creates confusion for the child and contributes to instability (Bukatko & Daehler, 2004). Their children were assessed as high-risk firesetters. Moreover, two of the three participants displayed increased levels of externalising behaviour and involvement in general offending behaviour.

Kyle's mother used a permissive style of parenting, but was authoritative when administering punishment. A lack of consistent routine and low levels of restrictions were observed prior to the interview. Kyle's mother had selected 19:00 as the start time for the interview. When researchers arrived for the interview, Kyle (9 years) was playing outside on his scooter in the winter darkness, with his friends, and he was on his way (unsupervised) to the shop to buy fish and chips for dinner. When the

researchers knocked on the door, his mother did not know where Kyle was, or what time he would return. Children who are raised under a permissive style of parenting have difficulty with impulse control, attributed to a lack of close supervision and reasonable restrictions (Bartol & Bartol, 2011). When discussing Kyle's punishment for previous antisocial behaviour, Kyle's mother said:

And I said, "alright mate, we're going home, you've lost your scooter, your bike, you've lost your skateboard". He did not cope. I don't need to smack my kids. I don't need to ground them for months on end. I take their scooters and that ... kills them more than anything ... but he still had to go straight to school, straight home, not allowed to go anywhere ... so yeah, he was grounded, because he lost everything for a month.

When she discovered Kyle had been involved in firesetting, her initial response was to lock him in his room. She laughed when she recalled when he needed to use the bathroom; she had provided him with a bucket. In contrast, Kyle was unable to recall details of the punishment he had received, saying when he gets into trouble, his mother puts him, "in my room" or he is told, "off and ... grounded for a couple of months."

John's mother also used a permissive parenting style. When researchers arrived at the house, John (15 years) and his mother were smoking cigarettes together outside the front of the house, with several of John's friends. John's mother said she felt she was unable to prevent John from smoking, since she herself smoked. John explained what happened when he got into trouble: "Uh, mum just I don't know, she just yells at me and tells me to go to my room or something." When discussing the fire, he said his punishment was, "I got grounded for like a month."

In terms of restrictions and routine, John often spent time away from the house with his mates, and his mother was unaware whom he was with or where he was. Like

Kyle's mother, John's mother also vacillated between two parenting styles: authoritarian and permissive. John's mother repeated several times that she felt people were judging her for her parenting, and she felt blamed for John's antisocial behaviour. She was adamant that his behaviour was independent of her parenting.

Inconsistency in parenting and monitoring styles affects the ability of a family to forge a cohesive unit. It elevates levels of instability and creates confusion for the child, because they lack consistency in punishment (Bukatko & Daehler, 2004), an outcome reflected in both John's and Kyle's experiences. The importance of parental monitoring and supervision (Kolko & Kazdin, 1990, 1991; Root et al., 2008) was reinforced by the boys' histories in this study. Moreover, firesetting theory posits that dysfunctional family processes will interact with other risk factors affecting firesetting (Del Bove & MacKay, 2011). As evidenced, the severity of firesetting corresponded to the level of parental involvement and to the lack of monitoring and inconsistent parenting styles. Further, similar to previous findings (Lambie et al., 2013; Lambie et al., 2012), children appeared less likely to re-engage in firesetting when they were part of a cohesive and strong family unit. Consequently, cohesive and consistent family ties are a moderating factor for firesetting behaviour in young people.

Post-offence Parenting

A change in parenting style was commented on by several boys and their parents. It was common to identify elevated levels of strictness in monitoring and punishments post-offence:

A bit more guarded, aren't we. We ask more questions. We are a bit more wary of what he's doing and where he is going, um, which I suppose is a good thing, or not, Luke probably doesn't think it's a good thing. *(Luke's mother)*

Luke's father continued, "we have only just really started letting him go out on his own." This change was explained as a direct reaction to Luke's firesetting, demonstrating a significant increase in parental monitoring post-offence. Joe's mother explained that Joe's firesetting was opportunistic, attributing his involvement to a lack of supervision. This account did not coincide with Joe's story, or his peer, teacher or police reports (sourced from police intelligence records). Joe's mother said that she increased monitoring to ensure he would not be alone again:

So yesterday, he wanted to walk with some friends. I followed him [to] the car, and I made him come home, because I don't want him to be on the street, not even day time, because what happens when they are with friends, problems happen.

Peter's father acknowledged that he too had increased monitoring of Peter's activities. However, this seemed to be because he was unsure how else to parent Peter, since he felt he had no control, demonstrated by this comment: "or you can just point them in the right direction. After a while, they're on their own. You really don't have any control." There appeared to be no pattern across parenting styles, the increase of monitoring post-offence or the severity levels of firesetters; however, the parents of those children reporting high levels of antisocial and externalising behaviour did not appear to alter their parental monitoring post-offence.

Previous research for general offending behaviour has found that a lack of change in parenting styles (i.e., moving away from poor parental monitoring and supervision) increases the risk of antisocial behaviour and delinquency by 250% in comparison with those children who experience better supervision (Browning & Loeber, 1999). The extent of parental monitoring is reflective of the parent-child relationship. Theoretically, children and adolescents who are involved in a secure, open

and responsive relationship with parents reveal a willingness to accept an increase in parental monitoring (Bartol & Bartol, 2011). The boys appeared to support this proposition, with those children involved in a more secure and open relationship (Luke and Jack) responding acceptingly to an increase in parental monitoring. In contrast, those in a more fraught relationship (Kyle, Peter, Joe and John) responded poorly to any perceived change in their parents' monitoring style, with three of the four boys becoming involved in additional antisocial and delinquent behaviour post-offence. John and Kyle had transitioned into generalised offending, while Joe had become involved in another firesetting incident.

Summary of Chapter

This chapter has reviewed five separate themes that emerged in relation to family. Family structure and dynamics revealed a distinct pattern. Low-risk firesetters lived with both parents and reported strong family cohesion and ties. Further, there was little report of family stress at the time of these boys' firesetting incidents. Firesetters who measured as high-risk, emerged from families characterised by prolonged parental absences and reported fraught relationships with siblings and their parents.

Parental conflict and family instability were a consistent theme across most of the young boys' family lives. Family instability presented as prolonged parental absences (chiefly paternal) and frequent sudden changes in routines. High-risk firesetters described the highest levels of family instability, with instability decreasing to match risk level. Although parental conflict and family instability was common, it did not appear as a risk factor specific to firesetters; rather its influence was developmental. This finding is supported by current research, suggesting family dysfunction does not necessarily relate to firesetting; rather, it should be viewed in the

context of a wider antisocial framework (Lambie & Randell, 2011). The presence of family violence and volatility were apparent in the medium to high-risk firesetters' childhoods, similar to results established in Del Bove and MacKay's (2011) theory. Stories of family violence were communicated solely by parents of the children; none of the boys chose to share these details. Parents believed the firesetting experience affected their children in a few ways, particularly in the child's social adjustment, observing changes in behaviour at school and with their peer networks. Previous research emphasises that firesetters tend to struggle socially (Gannon, Ó Ciardha et al., 2012); thus, family acting as a developmental factor that affects social skills provides a direction for potential treatment programmes.

Parenting styles and the importance of monitoring emerged as key themes. These styles were particularly relevant in acting as a moderator for firesetting. Parenting styles and monitoring appeared to change for all but high-risk or antisocial firesetters post-offence. Children who presented with the highest levels of antisocial behaviour and firesetting recidivism risk emerged from families with the lowest levels of parental monitoring, coupled with permissive parenting or inconsistent parenting styles (Kolko & Kazdin, 1990). The parents of these boys were also the only parents who did not alter their parenting styles post-offence. Their children had subsequently engaged in a number of antisocial acts and behaviours following their firesetting. These changes, or lack thereof, highlight how family acted to moderate the boys' behaviour. That is, an increase in family cohesion, stability and parenting consistency acted as a moderator to influence desistance from both firesetting and antisocial activity. Family function plays a significant developmental role in firesetting youths' lives. As risk levels increase, so too does family life that is characterised by conflict, instability, violence, and lax parenting styles and monitoring. Although family function does not

necessarily present as a risk factor for firesetting, it plays a critical role as part of a wider antisocial framework. The most crucial finding was that family may act as a moderator for firesetting.

Chapter Nine: Antisocial and Externalising Behaviour

The complex relationship between firesetting and antisocial behaviour has been consistently demonstrated in firesetting research (Dadds & Fraser, 2006; Forehand et al., 1991; MacKay et al., 2006; Martin et al., 2004; Sakheim & Osborn, 1999) and general youth offending literature (Carroll et al., 2006; Higgins et al., 2013; Lambie & Randell, 2013; Loeber, 1990; Moffitt, 1993; Moffitt et al., 2001; Wileman et al., 2008). Firesetting is one of 15 criteria of antisocial behaviours required for a diagnosis of conduct disorder; yet, firesetting is also a singular, isolated behaviour in which a young person may engage (Lambie & Randell, 2011). Moreover, not all children who are antisocial will choose to be involved in firesetting. Martin et al. (2004) found antisocial behaviour was the best predictor for firesetting, whereas Becker et al. (2004) established that firesetting, coupled with externalising behaviour, acts as a predictor for future offending (violent or non-violent). Stickle and Blechman (2002) reported the variety and frequency of aggressive and antisocial acts significantly increased when coupled with an earlier onset age of offending. Therefore, the relationship between antisocial and externalising behaviour and firesetting requires consideration for a rounded understanding of the nexus. The functions of self-regulation, including impulsiveness, self-control and emotional regulation, were particularly relevant among the young boys in this study. This chapter explores how the descriptive theme of antisocial and externalising behaviour arose throughout the boys' stories.

Antisocial behaviour refers to acts that violate societal norms, but are not necessarily criminal (Bartol & Bartol, 2009). The most cohesive antisocial theory available is Moffitt's (1993) taxonomy. This taxonomy considers how antisocial behaviours develop and are maintained through childhood. These behaviours manifest

in a variety of ways that alter throughout a person's life (Moffitt, 1993). Antisocial behaviour is stable for a small number of individuals and will remain so over their life; however, most people display temporary or situational antisocial behaviour (Farrington, 1995; Moffitt, 1993; Stattin & Magnusson, 1991). Using a combination of The Rutter Child Scale (Rutter, Tizard, and Whitmore, 1970), an 11-item 'antisocial scale', the DSM-IV criteria for conduct disorder, the Psychopathy Checklist—Youth Version (PCL-YV; Forth, Hart, & Hare, 1990) and the Child and Adolescent Taxon Scale (Quinsey, et al., 1998), antisocial behaviours were identified, as reported by both parents and children (as seen in Table 8.0).

Table 8.0 *Antisocial variables in the sample*

| Antisocial Behaviour | Jack | Peter | Luke | Kyle | John | Connor | Joe |
|--------------------------|------|-------|------|------|------|--------|-----|
| Fight | × | ✓ | × | ✓ | ✓ | ✓ | U/K |
| Bully | × | × | × | × | ✓ | × | × |
| Steal | × | × | × | ✓ | ✓ | ✓ | × |
| Truancy | × | × | × | ✓ | ✓ | ✓ | U/K |
| Irritable temper | × | ✓ | × | U/K | ✓ | × | × |
| Damage | × | × | × | ✓ | ✓ | ✓ | ✓ |
| Manipulative | × | × | × | × | ✓ | × | × |
| Fearlessness/risk-taking | × | ✓ | × | × | ✓ | × | ✓ |
| Antisocial peers | × | ✓ | × | ✓ | ✓ | ✓ | ✓ |
| Drug taking | × | × | × | × | ✓ | ✓ | × |
| Physically cruel | × | × | × | × | U/K | × | × |

Note. **U/K refers to unknown variable

Antisocial and externalising behaviour may manifest in childhood, and include behaviours such as frequent fighting, bullying, lying or threatening, disobeying, stealing, engaging in truancy, exhibiting irritable tempers and wilfully destroying others' property. Often, children are physically cruel to other people and animals,

display manipulative behaviour (i.e., conning and selfishness), exhibit fearlessness and risk-taking behaviours, are irresponsible with poor behavioural controls, and associate with antisocial peers (Moffitt et al., 2001). These variables are amplified in the presence of low self-control, impulsiveness and a struggle to delay gratification (Moffitt, 1993).

Antisocial and Externalising Behaviour

The boys' and parents' reports of antisocial behaviours are summarised in Table 8.0. These behaviours came to light through general discussion rather than through targeted questioning. Similar to findings of previous research (Lambie et al., 2016; Lambie & Randell, 2011; MacKay, Ruttle, & Ward, 2012; Martin et al., 2004), Jack and Luke, whose motivation falls within a non-pathological, low-risk category, had not engaged in antisocial or externalising behaviours other than lighting fires. Peter, Connor and Joe were evaluated by police to be at an increased risk of reoffending. These boys exhibited minimal antisocial behaviours that varied from individual to individual. The most common behaviour among these three boys was their associations with antisocial peer networks, with Connor previously engaging in offending in the company of these peers. Peter and Connor reported fighting with their peers, and Peter displayed an irritable temper and was quick to act when angered. Of the three boys, Connor had been involved in drug taking (marijuana and aerosol sniffing); however, both Peter and Joe engaged in risk-taking behaviours and described increased levels of fearlessness, whereas Connor did not.

Of the participants, Kyle and John reported the greatest manifestation of antisocial and externalising behaviours, with Kyle exhibiting five antisocial behaviours (one variable unknown), and John exhibiting 10 of the 11, with one variable unknown.

These two boys also reported involvement in the highest number of criminal and general offending behaviour, and extensive previous histories with police. A discernible difference between Kyle and John was their age (9 years and 14 years, respectively). Theorists posit that antisocial behaviour occurs on an age–crime curve, inclining rapidly between the ages of seven and 17 years (Higgins et al., 2013; Loeber, 1990; Moffitt, 1993). Accordingly, the lower number of factors Kyle reported at the time of the interview may predict increased future antisocial behaviour if he is not appropriately diverted.

Antisocial Factors and Firesetting

Moffitt's (1993) developmental antisocial behaviour taxonomy specifies two types of offenders: life course persistent offenders and adolescence-limited offenders. Life course persistent offenders are a small group comprising individuals who engage in antisocial behaviour, such as biting and hitting, from an early age (Moffitt et al., 2001). The theory posits that behaviours develop throughout childhood and adolescence, and antisocial behaviours gradually progress to stealing, truancy and other violent behaviours. These remain consistent throughout individuals' lives, regardless of age. In contrast, adolescent offenders whose behaviour is delimited, and therefore temporary, follow an age–crime curve where antisocial behaviour increases between the ages of seven and 17 years, reaching a peak in late-adolescence (Moffitt, 1993; Moffitt et al., 2001). According to this theory, Kyle and John potentially present as life course persistent offenders, while Connor, Joe and Peter present as adolescence-limited offenders.

Kyle and John displayed low constraint in behaviour, an incapability of restraining their anger and difficulty in reasoning out perceived consequences. These variables were expressed in many ways throughout their stories; for example, John's

mother when discussing John's peers, recognised he was quick to anger, and that his peers often used this as a form of entertainment. John's difficulty in delaying gratification was evident, since he explained he lit fires whenever he wanted, despite recognising and understanding the potentially disastrous consequences of his behaviour. For instance, he set the lounge room carpet on fire while the house was filled with people because it excited him. John's need for instantaneous gratification was also reflected in his mother's description of her current struggles with him—John had recently resorted to stealing designer clothes that his mother would not buy him. Persistent offenders often experience problems with parenting throughout childhood (as described in chapter eight regarding both John and Kyle), coupled with personality function issues that contribute to offending across their life course (Higgins et al., 2013). Children show high levels of impulsiveness, display aggressive behaviour with greater frequency than other firelighters, are stress reactive, and tend to be both disagreeable and display high levels of negative emotions (Ge et al., 2003; Kolko & Kazdin, 1991; McCardle et al., 2004; Moffitt et al., 2001; White et al., 1994). Both John and Kyle reported having exhibited these behaviours to varying degrees, with some behaviours such as aggression and impulsiveness observed during interviews.

It is common for young firesetters to light fires in a group (Del Bove & MacKay, 2011; Kolko, 2002; Slavkin, 2001; Uhnnoo, 2015; Van Mastrigt & Farrington, 2009). A susceptibility to social influences, particularly peer influence, has the greatest effect on an adolescent-limited individual's offending behaviour. Similarly, Connor, Joe and Peter engaged in their firesetting in a group of three or more, with Peter reflecting that he had participated because it made him feel "cool." Police reported that both school staff and the peers present at the time of Joe's offence advised he had been showing off to friends. All of Connor's reported antisocial behaviours including drug

taking, and offending took place with his peer group. Moffitt (1993) theorised the decision to offend is a balance between influence and rewards, and is caused by ‘social mimicry,’ or wanting to prove both maturity and autonomy. Peter commented several times on the need to be considered mature. However, he intimated that his father’s opinion differed: “he will say no because I’m not responsible enough, and I’m like, ‘dad I’m trying to be responsible.’”

The high prevalence of antisocial behaviours and cognitions displayed by the young boys has utility in risk assessment and treatment of firesetters. Patterns of onset and behavioural co-variation potentially act as a predictor of life and offending trajectory for antisocial young people (Frick et al., 2003; Frick & Ellis, 1999; Stickle & Blechman, 2002). The presence and severity of antisocial behaviours correlates significantly with firesetting behaviours. For instance, Stickle and Blechman (2002) found that firesetters, particularly adolescents, consistently demonstrated advanced levels of antisocial behaviours in comparison with their non-firesetter peers. When individuals are involved in firesetting, it is vital for assessment and risk analyses to identify antisocial patterns in their behaviour so that treatment can be individualised. If only their firesetting behaviours are targeted, recidivism may not be decreased; rather, different antisocial behaviour may emerge and offenders may transition into other offending. MacKay et al. (2006) found the presence of antisocial factors was linked to early involvement in a firesetting offence; however, fire-specific factors and individual differences helped to sustain the behaviour. Thus, fire-specific factors and antisocial behaviours must be measured and targeted in a holistic approach.

Although most of the participants engaged in antisocial behaviours in other aspects of their lives, two of the seven did not demonstrate any antisocial behaviour outside of firesetting. Previous firesetting research focused on high-risk or pathological

firesetting populations, excluding firesetters motivated by curiosity (MacKay et al., 2006; Stickle & Blechman, 2002). The relationship between antisocial behaviour and firesetting has been established, yet fails to account for those individuals whose single isolated behaviour is firesetting. The study participants fell on a continuum of antisocial behaviour, with some exhibiting none and others displaying numerous attributable behaviours. Antisocial behaviours were not present in individuals who were low-risk, or non-pathological firesetters. Thus, antisocial variables are an important determinant of firesetting risk level, particularly relevant in relation to reoffending. Martin et al. (2004) found firesetters who present with higher levels of antisocial behaviour are seven times more likely to re-offend than are their general offending peers. This finding resembled the association between antisocial behaviours and the boys' risk level in this study.

The Self-Reported Role of Self-Regulation

Effective self-regulation allows an individual to, “control and alter their behaviour so as to resist temptations, stifle socially undesirable impulses, follow rules, pursue enlightened self-interest despite short-term costs, and make positive contributions to society” (Baumeister et al., 2005, p. 603). Self-regulation refers to an ability to evaluate, control and adjust behaviour to achieve personal goals (Boekaerts et al., 2005). Problems with self-regulation including impulsiveness, self-control and emotional control are associated with firesetting, as an individual's ability to maintain control and suppress behaviours such as anger is affected (Barnoux et al., 2015; Del Bove et al., 2008; Gannon et al., 2013; Gannon, Ó Ciardha et al., 2012; Lewis & Yarnell, 1951; Stinson, Becker, & Sales, 2008). For the young boys, impulsive

behaviour, self-control and emotional regulation issues were frequently observed across the sample through both child and adult anecdotes.

An individual's self-control relies on the availability of self-regulation resources however, they become depleted through repeated use (Baumeister, Forgas, & Tice, 2011; Baumeister & Heatherton, 1996). Low levels of self-control result in high levels of impulsiveness (Baumeister et al., 2011) that may culminate in aggressive, antisocial or criminal behaviour (Stinson et al., 2008). Impulsiveness, or struggling to impose self-control, plays a critical role in sustaining firesetting behaviour (Carroll et al., 2006; Del Bove et al., 2008; Gannon, Ó Ciardha et al., 2012; Kafry, 1980; Kolko & Kazdin, 1991), and impulsiveness presented differently for each boy. Impulsiveness was identified exclusively by parents of the boys, although none of the boys considered impulsiveness a characteristic of their firesetting. Luke's mother placed impulsiveness in the context of self-control:

Sometimes he can take things too far, and I think that puts a lot of people off with Luke, he doesn't know when to cut things off, yeah, so that can put people off of Luke.

It was further described that Luke "engages his mouth, but not his brain sometimes." Peter's father commented, "he [Peter] is very impulsive, lives in the moment you know," elaborating, "the whole, everything, like I said he lives in the moment. He just doesn't think that few seconds ahead, that keeps you out of trouble. He doesn't do that bit."

The construct of impulsiveness covers a broad range of behaviours, including cognitive, behavioural and personality factors (Carroll et al., 2006), and has been defined as a repetitive or compulsive engagement in a behaviour despite adverse outcomes (Stockburger & Omar, 2014). Impulsiveness manifests differently and may

include behaviours such as making quick decisions and acting before thinking and reasoning through consequences (Lawrence & Stanford, 1999), increasing the likelihood of engagement in risk-taking behaviours (Bechtold et al., 2014; Farrington, 1995). Supporting this, the young boys in the sample showed a distinct lack of planning skills. Gottfredson and Hirschi's (1990) general theory of crime posits that young people who show deficits in self-control and seek immediate gratification (all features of impulsiveness) engage in antisocial behaviour such as firesetting. This theory appears applicable to general offending, and does not account for those children who engage only in firesetting.

Impulsiveness in a firesetting population often occurs co-morbidly. Pyromania is classified as an impulse control disorder (DSM-5, American Psychiatric Association, 2013) and is linked to pathological, persistent and severe firesetters. Rarely has earlier research considered impulsiveness as its own construct, despite general offending literature determining impulsiveness presents as a key factor for maintaining antisocial behaviour (Higgins et al., 2013; Loeber, 1990; Moffitt, 1993). Impulsiveness presented in differing ways in the boys and was not exclusive to those firesetters deemed a high-risk. Limited functionality may be derived from the descriptive stories of the current sample; however, the reports emphasise the value in quantitatively measuring impulsiveness in young firesetters.

Parents of the boys reported increased impulsiveness in their child, equal to their risk level; the children who presented as high-risk firesetters provided multiple examples of various situations when they exhibited impulsive behaviour. In contrast, children who were low-risk engaged in impulsive behaviour, but were able to control their behaviours to a certain extent, and in differing conditions. Impulsiveness was linked to emotions the children were experiencing. That is, if the child was

experiencing high emotions, their ability to control their impulsiveness decreased significantly, particularly during high stress situations (including their firesetting incidents). This relationship is supported by previous research. As risk levels increase, so too do levels of impulsiveness and emotional dysregulation (Del Bove et al., 2008; Kolko & Kazdin, 1991; Sakheim et al., 1991).

Emotional regulation and associated deficiencies in a person's ability to control or suppress emotions have been theorised as a key psychological vulnerability for adult firesetters (Gannon, Ó Ciardha et al., 2012) and for the broader youth offending population (Gillespie et al., 2012). Emotional regulation and social connectedness are essential characteristics needed to achieve positive personal goals over a person's life (Ford & Blaustein, 2013; Goldsmith, Pollak, & Davidson, 2008; Lyons-Ruth, Dutra, Schuder, & Bianchi, 2006). Deficiency in these characteristics may result in problematic behaviours such as firesetting. Labile emotions, including anger outbursts (Kolko & Kazdin, 1991; Rix, 1994) and low frustration tolerance (Jackson, 1994), are indicative of emotional regulation issues, particularly when a person experiences stressful circumstances. Most parents described their children as demonstrating emotional regulation issues, particularly regarding anger.

Peter said that when he is angry his response is to, "hit the wall." When asked if this made him feel any better, he explained, "not really, it just makes me angrier." He elaborated on his coping styles when angry, "sometimes I just go to sleep when I am really angry, I just feel like punching someone. I just like run out the house and go somewhere else and I come back maybe three hours later." His self-regulation issues were apparent when discussing peer interactions, explaining he often got angry at others, "sometimes I do like it, because sometimes I swear when I get angry, and people are like, piss[ing] me off, I do swear at them." Difficulty controlling anger seemed to

link to a difficulty in maintaining social relationships. Impoverished social networks resulting from emotional regulation issues are directly linked to repeat firesetting (Rice & Harris, 1991), particularly if the child is not taught appropriate coping skills.

It was common for the boys in study two to struggle with face-to-face confrontation, displaying low tolerance levels when they became angry or challenged. For example, Luke said when he was frustrated he tended to isolate himself, “just go into my bedroom, put music on” to avoid resulting conflict. Describing one situation where his father was angry, Luke recounted, “I just ignored him and went into my bedroom.” Connor’s mother explained Connor had a low tolerance level when he became frustrated, such as when he found schoolwork challenging, and would often detach from the situation. Low tolerance levels were also reflected in other boys’ explanations regarding school, family and friends. John recounted that school, “gets on my nerves,” also expressing this feeling when describing interactions with his family. His mother, who advised that John had a short temper and was easily angered, confirmed these tendencies. Consistent with the current sample, it is common for young firesetters to experience issues surrounding both direct and indirect aggression, including hostility and confrontation (Del Bove et al., 2008; Kolko & Kazdin, 1991, 1992).

Summary of Chapter

This chapter presented findings in relation to the relationship between firesetting, externalising behaviour and antisocial behaviour. Consistent with current research, as a child’s firesetting risk level increased, so too did the presence of other antisocial factors. The children’s behaviour operated on a continuum. Those measured at low-risk levels presented with firesetting as their singular antisocial act. Their

motivations also differed from those who were at increased risk levels. The adolescent who engaged in multiple firestarts presented with the highest level of antisocial and externalising behaviours, supporting a relationship between antisocial behaviour and firesetting. Previous theories asserted that increased levels of antisocial factors presented solely in adolescent firesetters. However, this research strengthens more recent findings that show increased antisocial and externalising behaviours present across all ages.

Every child within the sample reported difficulties with self-regulation. These difficulties included impulsiveness, self-control issues and emotional dysregulation, illustrated when the children recounted situations that were high in emotionality, such as during their firesetting incident (i.e., high levels of excitement/fear). Since these issues were self-reported, the research supports the utility of quantitatively measuring externalising behaviours in young firesetters in WA. This would be particularly useful in relation to impulsiveness because this behaviour was common across all the children in the sample.

Chapter Ten: Social Experiences and Firesetting

Young firesetters struggle significantly in social circumstances (such as school) and in basic social interactions with their peers (Bowling & Omar, 2014; Chen et al., 2003; McCardle et al., 2004; Sakheim & Osborn, 1999). These difficulties may result in perceived rejection, enhancing their feelings of isolation, anger and depression. A relationship between these feelings and a child's engagement in firesetting has been established in previous research (Chen et al., 2003; Moore et al., 1996). In this study, many of the boys described a lack of social competence that presented in their self-reported peer and social interactions and difficulties at school. Common reported experiences included: (1) engagement in antisocial peer networks, (2) social isolation and a desire for acceptance, (3) academic performance, (4) behavioural challenges and (5) bullying. These themes are described in this chapter.

Peer and Social Interactions

Peer and social interactions play a critical role in young peoples' behavioural development. Peer influences may be positive, negative or absent (Barnoux et al., 2015), with each influence associated with differing risk levels of adult firesetting. Positive peer association is experienced by non-pathological, low-risk firesetters, while negative or absent influences are common in high-risk, pathological firesetters (Barnoux et al., 2015). Negative or absent peer influences are linked to deficits in communication skills, and are commonly reported as influencing a child's decision to engage in offending with their delinquent or antisocial peer networks (Baumeister et al., 2005; Chen et al., 2003; Lambie & Randell, 2013; Patterson & Dishion, 1985; Walsh & Lambie, 2013).

Throughout the sample, two themes relating to peer networks and firesetting were described: (1) the role of antisocial peer networks, and (2) the absence of peer networks or the social isolation of adolescents resulting in them being susceptible to negative peer influence because they need to be accepted. Additionally, most of the children had experienced bullying throughout their school lives. At least one peer accompanied six of the seven boys during their offence. The seventh adolescent (Luke) explained he had planned to light the fire in the company of a friend, but circumstances had resulted in only him being present. One adolescent (John) acknowledged he had formulated the idea to light the fire himself, and detailed a long history of fire fascination and fireplay. Previously, John had lit fires by himself and in the company of others, but he stated he did not prefer either, which is indicative of a high level of fire fascination and interest. All other boys said their firesetting incident was a spontaneous decision that had formed when accompanied by their peers. The origins of the idea were difficult to ascertain, and only one boy openly admitted the idea was his.

Membership of Antisocial Peer Networks

Adolescents are susceptible to the influence of their peers, particularly when faced with stressful situations or provocation when they tend towards impulsive behaviour (Lambie et al., 2013; Lambie & Randell, 2013). Seeking social rewards influences an adolescent's responses and choices, and their susceptibility is amplified by a desire for approval from their peers. A desire for acceptance from peers will influence an adolescent's drive to engage in risky behaviour, and research has found that approximately 80% of antisocial acts are committed in groups of three or more (Osgood & Anderson, 2004; Snyder & Sickmund, 2006; Warr, 2002). Thus, engagement with antisocial peer networks significantly increases the chance of an adolescent engaging in offending behaviour. Consistent with prior research, a theme

that emerged in this research was the boys' engagement and membership in antisocial peer networks, evident in John's, Connor's and Kyle's stories. This engagement was a reported high-level risk factor for their continued involvement in antisocial behaviour, and their involvement in firesetting.

John had an extensive history of lighting fires, lit both by himself and while in the company of his peers. He also reported a long history of general offending behaviour, characterised by property-oriented offences, such as stealing and damage. John had recently been incarcerated for a third time because he had breached a court order; however, he explained the incarceration had made him question his life choices, including the individuals he was friends with. John's change was initially attributed to maturation; however, this hypothesis was discounted as his assertion of change was contradicted when he described his current friendships.

Prior to his imprisonment, John was friends with people he claimed did not steer him in the right direction, leading him to change his friendship group following his incarceration. John discussed what he thought made a good friend, "[a] person who will lead me in the right direction, helps me ... yeah they don't do crime, they don't do any of that, so." He said his friendship group had changed significantly following imprisonment; although, this was contradicted when asked to describe his current close friends, many of whom he had been friends with since childhood. Further, when describing the friends gathered at the front of his property during the interview, he said they had all been friends since they were young boys. His mother recalled the majority of these friends were antisocial peers. This contradiction implies that perhaps John was reporting what he felt the interviewer wished to hear, or what was socially acceptable, as opposed to truth. This may also reflect 'learning the right words' to appease authority figures, indicating potential manipulativeness. Both his mother and John said

he tended to light fires and offend as part of a group, as he believed it was “cool”: “why did I? Because back then I thought I was cool ... thought it was cool getting in trouble with the police.”

Antisocial peer networks played a critical role in John’s offending. Following his third firesetting offence, John described transitioning into other criminal offences as a direct result of a friendship group change, “I just picked a different crime to be honest ... I was just hanging out with different mates and then got into stealing.” His mother believed John to be a “ringleader” who showed a tendency to bully others. She described John’s struggle with impulsiveness, anger and aggression, and felt many of his peers took advantage of his short temper, sharing that in primary school classmates would deliberately annoy John for entertainment. John’s behaviour is consistent with research asserting young firesetters show significant deficits in anger expressiveness, resulting in overly controlled aggressive responses (Del Bove, 2005). John’s mother felt his peers were a negative influence on his life, since he befriended those who displayed significant antisocial behaviours, and the majority of offences he committed occurred in the company of different groups of friends. Thus, John’s experience demonstrates the critical role antisocial peer networks played in both the maintenance, and in the persistence of his firesetting and wider antisocial behaviours.

Connor’s experience with firesetting in a peer group affirmed the strong relationship between antisocial peer networks, and the propensity for young people to engage in risk-taking behaviour when in the company of friends. Connor had experience with police for two offences: a burglary offence and a firesetting offence, both committed in the company of friends. Connor and his mother indicated his company with antisocial and delinquent peers led to him becoming involved in these criminal offences. Connor explained his first stealing offence:

Uh, I was with some other kids, they're older than me and, um, I broke into a school and took a laptop and they showed me how to get in there and everything, and then they just left.

When discussing his friendship group, Connor reflected several times that his social network tended to engage in antisocial acts together, "they're fun to hang out with, and sometimes we don't think about doing things, and we just do it and then we get in trouble." Connor also described his friends' volatility: "like some of my friends, when someone makes them angry they get really angry and then they end up doing something really bad." This statement shows the role of Connor's antisocial network in his life. This was substantiated by Connor's mother explaining several times that she knew that Connor's friends tended to be involved in antisocial behaviour:

He goes uh, [name] and [name], which are the two, [name] is a really, really bad nut, like a really bad nut, I do feel sorry for him because I know the sort of lifestyle he come from, but I said to him, I said ... and he goes, oh they got picked up by the cops today.

Connor's mother attributed his involvement in antisocial behaviour, such as the marijuana smoking, aerosol sniffing and criminal offences to, "a few times now where he has been in the wrong place at the wrong time." She continued, stating that, "he's not generally a bad kid, he's not, he's not, but they are being influenced." Her assumption is supported by previous research, with delinquency and antisocial behaviour found to be influenced significantly by a child's peer network (Uhnnoo, 2015). The influence of a child's antisocial peer network is consistent with general offending literature, which highlighted the susceptibility of adolescents to peer influence (Lambie & Randell, 2013; Steinberg, 2008, 2010; Steinberg & Scott, 2003), demonstrating that adolescents are influenced greatly by peer approval, particularly

when accompanied by the characteristics of impulsiveness and poor conceptual skills (Steinberg & Scott, 2003).

This pattern of involvement in antisocial peer networks by three high-risk firesetters in the sample is a substantial finding. It suggests that perhaps one of the defining differences between children who ‘fireset’ and those who start fires as part of a broader range of antisocial behaviours may be their connection to antisocial peer networks. Although not a fire-specific factor, it may be of assistance in delineating a key treatment and prevention pathway; that is, by targeting their immersion in the antisocial peer networks, diversion from further firesetting *and* antisocial engagement may occur.

The Shared Experience of Social Isolation and a Need for Acceptance

Adult and youth firesetters are often isolated, lonely individuals with limited networks of social support (Lambie & Randell, 2011; Rice & Harris, 1991; Ritchie & Huff, 1999; Sakheim & Osborn, 1999). It is common for young firesetters to experience deficits in social skills, including difficulties relating to peers, weak social anticipation and poor social judgment (Sakheim & Osborn, 1999), resulting in a need for social and peer acceptance (Chen et al., 2003). Youth firesetting may be perceived as a way to gain acceptance or impress peers, particularly when no other form of communication seems viable (Slavkin, 2001; Uhnnoo, 2015). A shared experience of social isolation and a need for acceptance was common in the current sample, with both parents and children reporting varying levels of social issues.

Jack, Peter, Luke, Kyle and Joe reported struggling to initiate and maintain friendships. They had difficulty sustaining friendships, particularly when faced with confrontation, preferring to avoid conflict. The five boys had small social circles,

demonstrated through their descriptions of their friendship circles and supported through parents' perceptions. Peter reflected he had maintained two friendships for approximately a year. He did not 'hang out' with his friends outside of school, and commented that he fought with them regularly: "like what I do is stupid sometimes ... and then we have like an argument." Peter was particularly open about experiencing loneliness, advising that when his friend was "not around, I get lonely." These accounts are consistent with reports that young firesetters struggle significantly in social interactions (Kolko, 2002; Vreeland & Levin, 1980; Warr, 2002). Moreover, firesetters exhibit noticeable social immaturity, display feelings of inadequacy in social situations, and feel isolated or excluded, leading them to seek peer approval despite the consequences, as Peter's firesetting experience illustrates.

Peter's story demonstrates how susceptible he was to the influence of those from whom he sought approval, whether the influence was positive or negative. Peter reflected that he was seeking peer approval when he became involved in firesetting: "like I was, I just felt like I was cool at the start." His father also referred to Peter's susceptibility:

I think his problem is when he gets kids that are up here, they suck him in to doing stuff, you know. He's a bit of a, he gets a bit of a rush of being a clown a bit. They're the kind of people that would invite him to a party to laugh at him, because of what he's like.

Peter's father explained occasionally he felt that, "it's just better if he stays away from people." Peter's struggle with social acceptance and peer rejection is consistent with Chen et al.'s (2003) assertion that peer rejection results in maladaptive outcomes for an adolescent, including delinquency such as firesetting. This appears particularly relevant in Peter's story, because weak social anticipation coupled with poor judgment (such as

Peter taking part in firesetting despite his reservations) will increase the risk of firesetting (Sakheim & Osborn, 1999).

Parents were forthright when discussing their child's isolation. Jack's mother said, "he was a bit of a loner kid as far as, that, you know, he has a couple of mates ... only confide in a few of them, or play with a few of them at a time." Joe's mother was the only parent who asserted, "he makes friends easily," although she contradicted this statement several times, saying he was always at home with her and rarely went to play with other children or had children visit. It was unclear whether this contradiction was attributable to a 'socially desirable' answer, or to parents remaining unaware of their child's social activities. However, the boys' stories map the link between social isolation, and increased susceptibility to peer influence and firesetting.

Another form of social isolation in the sample was a noticeable deficiency in social engagements and hobbies. Six of the seven boys were not involved in any extracurricular activities outside of school. This may have contributed to their feelings of social isolation, influencing their desire for peer interactions, in addition to increasing feelings of boredom, and leading them to seek excitement. Research shows firesetters are involved in considerably fewer extracurricular activities and hobbies than are their non-firesetting peers (Heath et al., 1983), reflected in Connor's mother's explanation: "and they all do this scootering and skateboarding and that's all that it's about. And they get so bored. Because there is nothing to do here." Questions were asked about the use of social media (i.e., Facebook, Instagram) of all participants, with the majority of the boys reporting that they either did not have social media accounts because they were "not allowed" or they used them infrequently. No distinct patterns or themes emerged in relation to how these social media platforms could or did contribute to their peer and social interactions.

The Role of Educational Experiences in Firesetting

In comparison with their non-firesetting peers, no parent reported notable differences in cognitive functioning and academic performance of child and adolescent firesetters. A history of grade failure and subsequent reports of truancy are common in adolescent firesetting samples, but this situation is similar to that of their delinquent peers (Showers & Pickrell, 1987). School and education experiences were examined, and parents and boys were questioned regarding general attitudes towards school, any issues, including social issues, that the children were experiencing, and their academic performance. Three themes emerged: (1) academic performance and attitude (2) behavioural difficulties and (3) the experience of bullying.

Of the seven young people, five experienced varying levels of difficulty at school, which parents attributed to both attentional and academic performance, with the remaining two classed as average by their parents in relation to academic performance (these two were the low-risk firesetters). In comparison, the boys' general attitudes towards school varied and did not appear to influence their academic performance. Several children reported behavioural difficulties at school, most noticeably affecting John, Kyle and Peter. These difficulties included disobedience, attentional problems and disengagement from academic work. Both Kyle and Peter had previously been diagnosed with learning and speech difficulties, and Peter and Kyle had been placed into a specialist educational programme at school. Involvement in a diversionary programme at school was common, with five of the seven boys historically participating in one during their academic career.

Education and Academic Performance

Academic performance and a child's attitude towards school are strong predictors of firesetting behaviour (Bowling & Omar, 2014). Children who report

struggling or failing in main academic areas such as English and mathematics, have a higher propensity for setting fires after controlling for race and gender (Bowling & Omar, 2014). Research within this area is limited; however, empirical evidence suggests the strongest academic predictor for firesetting is a child's general attitude towards school. Two of the seven boys showed a generally positive attitude towards school. These two children were deemed to have the lowest risk of reoffending. The remaining five boys shared a dislike of school. John explained, "um, to be honest, I don't really like school ... sometimes the subjects, sometimes the kids." Across the sample, this dislike was characterised by truancy, disobedience towards teachers, poor academic performance and disengagement from school. Several parents expressed their children's disinterest in school should be attributed to the teachers at the school, not their child's general attitude towards education.

A pattern emerged around favourite and least favourite subjects at school, with all participants explaining their least favourite subject was one of the four main academic areas (English, mathematics, society and environment, and science) with a preference for non-academic subjects, such as woodwork, art and mechanics. This preference is consistent with previous research that found firesetters are at an increased likelihood of disengagement from traditional subjects (Bowling & Omar, 2014). This disengagement was expressed as a response to low tolerance levels and difficulties in working through frustration in the face of challenges: "math, I used to be good at it but not anymore ... it just got harder and I was like, nah I can't do it and just gave up" (Connor). Low tolerance levels and becoming frustrated easily are consistent with emotional regulation issues, resulting in a tendency to give up easily. The child disengages from school, shifting focus to their friendship groups, who often share antisocial behaviours, thus creating a reliance on antisocial peer networks and

increasing exposure to delinquent behaviours. The firesetting boys' academic performance and attitude towards school did not appear to differentiate them from a wider network of antisocial young offenders (Bowling & Omar, 2014). This suggests that measuring academic performance has utility in identifying young people at a higher risk of antisocial behaviour, rather than only young people who fireset. However, it is possible to speculate that when coupled with high levels of fire interest, academic performance may be used to identify a young person at increased risk of firesetting recidivism.

Descriptions of Behavioural Difficulties

There is a strong link between firesetting and behavioural problems, including attention problems, ADHD, hyperactivity and impulsiveness (Becker et al., 2004; Bowling & Omar, 2014; Dadds & Fraser, 2006; Del Bove et al., 2008; Forehand et al., 1991; Kolko & Kazdin, 1991; Pollinger et al., 2005; Showers & Pickrell, 1987). Of the current sample, one boy had been diagnosed with ADHD and was subsequently medicated, and he had been tested as having an IQ lower than 70. Further, three other boys displayed indications of hyperactivity and attentional issues, observed throughout interviews and reported by the parents of the children. Behaviours displayed during interviews included substantial difficulty sustaining attention, being easily distracted by external stimuli, and constant shifting and moving. Parents recalled their children's difficulty in following instructions, failure to pay close attention to details, not listening, struggling to plan and an avoidance of any activity that would require sustained mental effort: "if he chooses not to learn something, and he struggles with it, he gets very impatient very quickly, and will walk away" (Connor's mother). Some of the boys also noted their difficulty in concentrating, with one stating:

Yeah, I mainly daydream and when I am doing math, I am [sic] mainly just daydream about the exact same question for at least half an hour, by then the time is gone for doing maths and then I am on to the next subject. (Peter)

The majority of participants displayed varying levels of behaviour indicative of difficulties. Research has established a relationship between hyperactivity, impulsiveness and poor decision-making in firesetting populations (Bowling & Omar, 2014; Sakheim & Osborn, 1994). This poor planning and decision-making was reflected in Connor's explanation of his schooling approach in the context of his friends:

I usually spend time with them more than school, and I mostly concentrate on them and school, that's when I start to lose my grades and that, but, when I stop hanging out with them, I start to get my grades a bit higher. (Connor)

Behavioural difficulties are often understood in an antisocial framework of youth behaviours. Therefore, behavioural difficulties show little promise in the prediction of firesetting specifically as these characteristics are relevant to the vast majority of young offenders. However, when behavioural difficulties are coupled with poor academic performance and a poor attitude towards school, academic characteristics have some utility in identifying those children at a higher risk of firesetting and subsequent recidivism.

Experiences of Bullying

Firesetting children and adolescents who experience bullying throughout childhood and adolescence face an increased risk of psychosocial adjustment dysfunctions (Espelage & Swearer, 2003; Nansel et al., 2001), interpersonal deficits (McCardle et al., 2004) and school problems (Vaughn et al., 2011). Chen et al. (2003)

found young people who had experienced a moderate to high level of peer rejection were more likely to be firesetters, with Barnoux et al. (2015) finding a high prevalence of firesetters experience bullying throughout childhood. The experience of bullying arose in two ways: one individual (John) shared he was the main perpetrator in bullying situations, while five boys reported they had experienced bullying, both in the past and currently, to varying degrees. These experiences were also commented on by multiple parents.

When asked about his bullying experiences, Luke responded, “you know, kids do make comments here and there, but you just, I’m not really that person who gets emotional about it, you just make one back and you just get on with it.” Luke’s mother did not recall any particular incident of bullying, but indicated that Luke had experienced bullying at school around the time of the firesetting incident:

What came out in a conversation with him, was one of the reasons why he did what he did, he said that he went over ... he said he was doing it so that he could go back to school after summer break and say to the boys that were pushing him around, oh I’ve done this over the holidays, I’m a tough man, so yeah.

When Peter was asked about bullying, he recalled one incident that had resulted in hospitalisation:

This bully, pushed me, and I was having a drink and my head went like, and I went to get up and my head went smack, because he pushed me, like an idiot, and yeah, um and my head was bleeding, like a trail of blood on my head, and I was putting my head that way, but it just kept coming out onto my face and all over, so I just had to go to hospital and they put me to sleep um, and they glued my head together.

When Peter's father was questioned about Peter's bullying experiences, he said, "a couple of times, but I was on it straight away, down to the school, because I won't put up with it myself." Peter's father said the children who had been bullying Peter were known at the school for causing trouble, but that the school separated the children rather than dealing with it. Connor had also previously experienced physical bullying. Connor was insistent that he had never been bullied; however, Connor's mother shared that Connor had been bullied many times, attributed to lax supervision:

Yeah, he got his hands stood on by a particular boy up the road, who was 16. He lost his whole fingernail and everything, broke his middle finger, while eating lunch up at the school, and they didn't do anything.

Connor's mother said he had been moved between schools and youth clubs in the area as a consequence of bullying: "the drop in that's here is full of bullying and the people that work in it, they don't really care about the kids."

As stated earlier in this chapter, Connor's mother expressed she believed the criminal behaviour Connor had been involved in was due in large part to bullying and associated negative peer influences of his antisocial network. Connor's mother attributed Connor's firesetting to another child that had continuously bullied Connor: "and there is one particular kid that has bullied him and bullied him all the way through that started the fire."

The boys' stories of bullying and subsequent involvement in firesetting and criminal activity display similarities with previous research. Bullying contributes to poor social skills, shyness with peers and peer rejection (Chen et al., 2003). Negative peer interactions and rejections may result in a child participating in firesetting in an attempt to engage with their peer groups. A history of peer rejection influences maladaptive and antisocial behaviours as the child grows through adolescence and into

adulthood (Barnoux et al., 2015; Wicks-Nelson & Israel, 1997). Bullying amplifies feelings of loneliness and inadequacy (Sakheim & Osborn, 1999), with repeat firesetters displaying increased levels of interpersonal problems and alienation from peer networks in contrast to single episode firesetters (McCardle et al., 2004). This finding is reflected in the current sample, with low-risk firesetters reporting stronger ties to their peers than higher risk firesetters.

Summary of Chapter

This chapter discussed shared patterns across the sample relating to the boys' social interactions. These commonalities presented in two overarching themes: (1) peer networks and (2) education. The chapter began with an analysis of how peer networks appeared to influence the boys' decision to engage in firesetting behaviour. Consistent with current literature, all but one of the boys engaged in their firesetting as part of a group (Osgood & Anderson, 2004). The influence of this group emerged in two different ways: inclusion in antisocial peer networks and as a reaction to social isolation. The boys involved in antisocial networks tended to fall on a more severe level of firesetting, and had been involved in further antisocial behaviours both prior and post-offence. This pattern has important implications for targeted prevention and treatment programmes, and targeted strategies to divert the boys from these networks are necessary to support desistance.

Social isolation was particularly common in the children's social lives, with five of the seven boys reporting isolation. This had a negative influence on their desire for peer acceptance and inclusion. Engaging in firesetting made these children feel as if they would be accepted and look 'cool' to their peers. Although firesetters tend to struggle socially and be particularly susceptible to peer influence (Rice & Harris, 1991;

Sakheim & Osborn, 1999), this does not appear to be a firesetting risk factor; rather, it is consistent with findings from general offending literature (Lambie & Randell, 2013; Steinberg, 2008; Steinberg & Scott, 2003). Social isolation and a lack of peer networks is a risk factor, but shows some utility for treatment. These children may benefit from intervention in building social skills (Del Bove, 2005; Gannon, Ó Ciardha et al., 2012). Many boys experienced bullying. This increased their need to be accepted by their peers, with reports suggesting it influenced their decision to engage in firesetting with their peers.

The education theme showed two distinct sub-categories: academic performance and behavioural difficulties. Parallels emerged between academic performance and the boys' risk levels; as a child's firesetting risk level increased, so too did difficulties at school. Children presented with low tolerance levels and difficulty in working through their frustrations in the face of adversity. Further, behavioural difficulties and attention issues were prevalent across the sample, demonstrated through increasing disengagement from school. This provides some utility in identifying children who are at a higher risk of offending; however, difficulties at school is not necessarily a fire-specific risk factor.

Chapter Eleven: Young Firesetters and Conceptual Underpinnings of Their Offence Patterns

Understanding Risk Using Offence Variables

Firesetting theory in general informs risk assessments and subsequent treatment of youth firesetters, although the development of an inclusive evidence-based firesetting theory is still in its infancy (Barnoux et al., 2015). Clinicians and emergency services rely on classifications which have limited explanatory utility. Categorising young firesetters is particularly challenging because their behaviours are varied and complex, as demonstrated by the young people's stories in study two. Offence variables are utilised to assess increasing risk levels of firesetting behaviour, seen in Gaynor's (2000) three-stage classification of firesetting. These three stages (fire interest, fireplay and firesetting), reflect the different developmental or risk stages of firesetting (Dolan et al., 2011).

An interest in fire emerges naturally during a child's psychosocial development (Gaynor, 1996), demonstrated throughout this thesis. By the age of 10 years, most children can understand the risks and consequences of deliberate firesetting (Gaynor, 2000). If a child experiments with an ignition source in an unsupervised environment with a primary motive of curiosity, the resulting accidental or unintentional fire is labelled a 'firestart' (Gaynor, 2000). A child who engages in a planned 'firesetting' incident usually does so in an unsupervised environment, close to home, and motivated by attention-seeking, anger or malicious mischief (Gaynor, 2000). Established offence patterns and variables show differences between children who firestart and fireset. Previously in this thesis, the boys' risk level was detailed (see Table 7.0). However, using Gaynor's theory, study two participants have been categorised by offence

variables (see Table 9.0 below). Young people in the ‘fireplay’ stage are at low- risk of repeat firesetting, in contrast to those categorised as firesetters, who are classified at a high-risk level (Gaynor, 2000). Pathological firesetters are categorised as severe when they have deliberately set three or more fires (Dolan et al., 2011), although recent research suggested that low-risk firesetters may set between three and five fires (Del Bove, 2005; Del Bove & MacKay, 2011).

Table 9.0 *Offence variables*

| Factor | Jack | Peter | Luke | Kyle | John | Connor | Joe |
|---------------|-------------|--------------|-------------|-------------|-------------|---------------|------------|
| History | Single | Repeat | Single | Repeat | Repeat | Single | Repeat |
| Method | No plan | Planned | Planned | Planned | Planned | No plan | No plan |
| Motive | Curious | Conscious | Conscious | Curious | Conscious | Curious | Conscious |
| Intent | Accident | Accident | Accident | Purpose | Purpose | Accident | Accident |
| Ignition | Available | Collected | Collected | Collected | Collected | Collected | Available |
| Materials | At-hand | At-hand | At-hand | At-hand | At-hand | At-hand | At-hand |
| Target | No | No | No | No | No | No | No |
| Behaviour | Extinguish | Extinguish | Extinguish | Run away | Run away | Extinguish | Run away |

Several differences between offence variables described by Gaynor (2000) and the young people’s offence patterns were noted: the choice of ignition, materials selected by the boys, and the ‘target’ of the fire. Gaynor’s (2000) classification presumed that firesetters will search for, acquire and conceal ignition sources, such as matches and lighters until they are required. Five of the seven boys had collected ignition sources immediately prior to the fire. One of these five boys explained he

planned the collection of his ignition source. The remaining four had located and utilised their ignition source within an hour of their incident each time they set a fire.

Gaynor (2000) theorised firesetters gather flammable materials to hasten the spread of fire. In contrast, no child within this study collected additional materials to increase the spread of their initial fire. This variance between samples may be attributed to the flammable choice of their targets. Without exception, every child had lit either a scrub fire or a bushfire. Two boys had previously experimented on non-bush targets, such as a couch and carpets, with their targets growing to match their confidence level. The boys reported that selecting a target was easy because the vegetation was readily accessible. The vegetation was also chosen because they perceived their behaviour would remain covert, hidden by the dense vegetation. They knew the bush was flammable but other targets were not. As Peter described, “we found a place where it was just dry grass. It was just the best place to light a fire ... it’s pretty.”

Gaynor (2000) theorised the target of a firesetter is specific to the individual, since it holds emotional significance. This was not reflected in the boys’ choice of target (demonstrated in Table 9.0). The majority of boys said they chose their target primarily for its convenience and they attached no emotional significance to their choice. Others said they selected the target because it was the perfect place to light a fire. All targets were located within five kilometres of the boys’ homes or schools. A distinct lack of emotionality establishes a unique difference in offence variables between individuals who are structure firesetters and those who are bushfire firesetters. Gaynor’s (2000) work targeted an American perspective and focused on youth firesetters who targeted structures and other objects. Little consideration was provided to bush firesetters because they account for a limited subset in international firesetting

populations. This limitation is consistent across most firesetting theories, and no distinction has been drawn between bush and structure firesetters, other than Fineman's (1995) 'wildfire' categorisation. In this categorisation, differences between individuals who fireset were not accounted for outside of their choice in target. Consequently, the lack of variance between firestarters and firesetters in these three offence variables supports a need for further qualitative and quantitative research to determine the relevance of these factors when categorising and measuring risk in bush firesetters.

The Complexity of Motivation

A young person's motivation for lighting fires provides a basis for understanding the offence process/es of a firesetter. An individual's motivation remains the most prevalent criteria for categorising and predicting the future potential trajectory of an offender (Doley, 2003a; Kolko, 2002). Across previous research, Fineman's (1980, 1995) six-category system has been utilised consistently as a basis for theory and to categorise firesetters. Fineman (1980, 1995) conceptualised six main motivations for categorising firesetters: two non-pathological categories of 'curiosity' and 'accidental', and four pathological/severe categories of 'cry for help', 'antisocial', 'severely disturbed' and 'cognitively impaired.' This approach used a single motivation to determine risk level and severity of firesetting pathology (Fineman, 1995; Slavkin, 2001). In the instance of multiple firestarts, motivations may vary or alter depending on time, place and circumstance. All seven boys identified a primary motivation that was supported and influenced by multiple secondary motivations, and which were not mutually exclusive. Geller (1992b) stated that motivations vary for individuals who set multiple fires throughout their firesetting history. Although this co-occurrence has been

noted (Fineman, 1995), little direction has been provided regarding the categorisation of a young person who presents with multiple motivations.

One young male, Peter (14 years), identified his primary motive as peer influence, which remained constant throughout his story. Peter lit a fire accompanied by two of his peers. Peter reported the initial firestart was suggested by one of the boys, who also supplied an incendiary device. Peter commented on the feeling of inclusion when he was involved in both the practice of firestarts and the offence: “and like I was, I just felt like I was cool.” Secondary to feelings of acceptance, Peter alluded to feelings of excitement and rebelliousness. He also mentioned feelings of trepidation leading up to the offence. At the time, he suggested several ways to minimise harm should the group lose control of the fire, including bringing a bucket of water to extinguish the blaze. Although Peter was reluctant to light the fire, his motivations for finding acceptance with his peers, combined with the excitement and rebelliousness he was feeling, outweighed his feelings of trepidation. Peter’s need for acceptance was commented on by his father, “they suck him in to doing stuff you know.” This connection between motivation and peer influence aligns to Walsh and Lambie’s (2013) findings; 50% of their participants stated that peer influence was a motivating factor for their firesetting. Contrary to previous research (Gaynor & Hatcher, 1987; Stadolnik, 2000; Wooden & Berkey, 1984) that posited peer pressure and influence is relevant to older firesetters, the current sample illustrated that it was prevalent across ages *and* risk levels.

Jack (11 years) identified his initial motivation as curiosity: “Well, we just find it there ... we should just do it and see what happens.” Likewise, Jack’s parents attributed his involvement to an, “experimenting type thing.” The primary motivation for Jack was consistent with curiosity; however, he mentioned that boredom was always

a motivator for his offence. Jack said several times, he was “hanging with” his friend, waiting for other friends to arrive. He said they were bored, and that setting a fire was a way to gain some form of excitement. The idea was formulated when they located an incendiary device. It was unclear whether the behaviour was opportunistic, or alternatively had they not been bored and looking for excitement, it is likely a fire would not have been lit. This goal formation supports prior evidence that boredom as a secondary motivation is linked to ‘accidental firestarts’ or those children who were playing with matches at the time of their firestart (Stadolnik, 2000; Walsh & Lambie, 2013).

Luke’s fire experience illustrates the multi-dimensionality of motivation. Luke initially described his firestart in terms that ascribed his behaviour to an “accidental” motivation, since it includes teenagers who are “playing scientist” (Fineman, 1995, p. 39). Luke commented several times that he felt “excited” about his wilderness experience and lighting the fire. Discussing the sequence of events, Luke described how he formulated his plans, “uh, like, just everywhere you know, seeing stuff and I just got really interested in it.” Emotional regulation problems affected Luke’s goal formation and subsequent motivation; he was struggling with feelings of loneliness and isolation from friends, and frustration at his family for fighting on a holiday. Luke recalled that on the day of the fire, he decided to leave the house following a fight between his mother and father. Drawing on Fineman’s (1995) theory, this potentially places Luke as a ‘cry for help’ firesetter; a category that includes individuals who may subconsciously set fires to bring attention to interpersonal dysfunction. Luke exemplified how a young person may cross the motivational boundaries of theoretical firesetting motivational typologies, showing the limitations of this approach. As a

consequence of the multiple influencing factors affecting their behaviour, Jack, Peter and Luke's experiences demonstrate how complex motivation is.

For some boys', motivation varied depending on time, circumstance and triggering factors for their fires. John (14 years) had lit multiple fires, ranging from a carpet in the family home to the local bushland. When discussing his previous firestarts and his matchplay history, he stated, "me, I'm attracted to fires, get excited when I light 'em, you know." John identified multiple motivations for the six fires he had set (unknown to police). Targets for these fires varied, and were often lit when he was alone. Referencing his motivation for the fires he lit while accompanied by his peers, John explained, "why did I? Because back then I thought it was cool." John referred to the 'coolness' factor several times, whether it was in the context of other offences he had committed (such as stealing) or in relation to firesetting. When faced with adversity, such as an argument with his mother or friends, John's firesetting increased, highlighting the role of interpersonal dysfunction, or 'cry for help,' as a motivation. John's motivations often co-occurred, sustaining his behaviour and affecting him on a continuum, depending on the changing circumstances of his personal life.

Parents in the sample identified multiple motivations for their child's behaviour. For example, when discussing Joe's motivation for lighting fires, his mother rationalised his behaviour, explaining that Joe had become involved because, "he is never interested in fire, just did it for excitement you know," and "he has seen the matches [and] he was maybe trying to show off to his friend, with the matches." Excitement and peer pressure were common motivations among the boys. These motivations co-occurred and contributed to their firesetting. Comparably, Walsh and Lambie (2013) found the presence of multiple antecedents influenced adolescent firesetting, often in a cumulative manner. Most of the boys experienced motivating

factors of a personal antecedent nature (i.e., prior events and circumstances) such as peer influence, boredom and interpersonal dysfunction. In both samples, the participants reported similar antecedents, including anger, experimentation, peer pressure and boredom—all concurrent motivating factors.

As demonstrated, motives occur concurrently, raising questions regarding the efficacy of current single level motive understandings. Recently, Barnoux et al. (DMAF; 2015) conceptualised that motive is better perceived as “offence goals” (the result the firesetter intended), rather than the reason for the behaviour (p.64). This method allows for a greater acknowledgement of both the complexities and concurrence of motives reported by the children in this study. Two pathways to goal formation have been theorised: “offenders either form a non-fire-related goal first and then a fire-related goal; or they form a fire-related goal directly” (Barnoux et al., 2015, p. 64). This approach is key to explaining why fire is selected, and accounts for both the decision-making process and the planning stages of the offence. Further, this approach explains the dual levels of motive the current sample described, substantiating the value of this conceptualisation.

Multivariate Categorisation: Del Bove & MacKay’s (2011) Typology

Del Bove and MacKay (2011) provided one of the only empirically based multivariate youth classifications. The theory derived three subtypes of youth firesetters: (1) Conventional-Limited (CL), (2) Home-Instability-Moderate (HM), and (3) Multi-Risk-Persistent (MP). These subtypes define levels of firesetting risk level and severity, and categorise young people using fire-specific, individual and environmental variables. This theory uses a biopsychosocial approach to conceptualise firesetting. The current sample was categorised into three subtypes using the clusters of

factors. Jack and Luke were CL firesetters (Table 10.0); Peter, Connor and Joe were HM firesetters (Table 11.0); and Kyle and John were MP firesetters (Table 12.0).

Significant similarities in proposed theoretical clusters and the participants' behaviours were noted, with only several minor differences apparent. This section discusses the clusters of factors and behaviours in the different categories, identifying differences between the theory clusters and the young boys' experiences.

Table 10.0 *Cluster variables present in Conventional-Limited young people*

| CL Cluster Variables | Jack | Luke |
|--|-------------|-------------|
| Low levels of firesetting incidents | ✓ | ✓ |
| Oldest age firesetting onset | ✓ | ✓ |
| Low levels of curiosity | ✓ | × |
| Demonstrates remorse | ✓ | ✓ |
| Motivation not antisocial | ✓ | ✓ |
| High levels of parental involvement/cohesion | ✓ | ✓ |
| Low levels of exposure to welfare | ✓ | ✓ |
| Academic performance | ✓ | ✓ |
| Mental health contact | ✓ | × |
| Low levels of exposure to abuse | ✓ | ✓ |
| Low levels of social skills deficits | ✓ | ✓ |
| Low levels of attention difficulties | ✓ | ✓ |
| Low levels of externalising behaviour problems | ✓ | ✓ |

Del Bove and MacKay (2011) theorised that CL firesetters present with the lowest level of risk factors associated with firesetting. They display low levels of fire interest; however, this does not preclude them from being curious about fire. They also present with the fewest individual and environmental risk factors. The two CL youths may be perceived as “accidental or unintentional” (Fineman, 1995, p.39) firesetters, based on their motivations; however, the two boys compare with similar behavioural characteristics as CL firesetters. Del Bove and MacKay's (2011) sample excluded accidental firesetters, limiting this thesis' ability to draw comparisons between these two groups. However, the only distinguishable difference between the multivariate

theory and the current sample was the number of firestarts in which the boys engaged. At the time of interview, the boys had been involved in one firestart each. This separated them from the theory that posited CL firesetters are usually involved in three or four previous firestarts. A lack of recorded firestarts in the current sample may be attributed to the method of data collection, or alternatively that the fire they were involved in lost control, thus bringing them to the attention of authorities quickly and before they could re-engage in the behaviour.

Table 11.0 depicts characteristics that presented in the three HM youths in the study. There were several characteristics that were dissimilar in these children, in contrast to the CL cluster; however, the majority of cluster characteristics was comparable to those the theory proposed. All three participants shared similar fire-specific behaviours. They had histories of matchplay/fireplay/firesetting, with an earlier age of onset compared with the CL firesetters. Only one child (Peter) showed remorse for his behaviour. Two of the three children described poor academic histories. The third child (Connor) had low levels of tolerance for school; however, both he and his mother acknowledged that he did well academically when he applied himself. Similar to theory (Del Bove & MacKay, 2011), two of the boys (Connor and Joe) experienced the highest levels of abuse in their childhood history, with parents reporting mid-levels of social skills deficits, attention difficulties and externalising behaviours. Peter was dissimilar to the others in this cluster because he showed elevated levels of social skills deficits, attention difficulties and externalising behaviours, yet reported no experience of abuse through his childhood. The implications of these differences are discussed below (p. 250).

Table 11.0 *Cluster variables present in Home-Instability-Moderate young people*

| HM Cluster Variables | Peter | Connor | Joe |
|------------------------------------|--------------|---------------|------------|
| Mid-level of firesetting incidents | ✓ | ✓ | ✓ |
| Middle age firesetting onset | ✓ | ✓ | ✓ |
| Fire interest/curiosity | ✓ | ✓ | × |
| Demonstrates remorse | ✓ | × | × |
| Mid-level antisocial motivation | × | × | × |
| Low levels of parental involvement | - | - | - |
| In welfare care | × | × | × |
| Poor school performance | ✓ | × | ✓ |
| Mental health contact | ✓ | × | ✓ |
| High levels of exposure to abuse | × | ✓ | ✓ |
| Social skills deficits | × | ✓ | ✓ |
| Attention difficulties | × | ✓ | ✓ |
| Externalising behaviours | × | ✓ | ✓ |

The MP cluster characteristics have been detailed in Table 12.0. Most characteristics presented in Kyle and John's behaviour reflected those proposed by Del Bove and MacKay's (2011) theory. Factors relating to parental involvement have not been detailed in the table (as previously identified), as it was difficult to identify the parameters of these factors. Kyle (who was substantially younger than John) showed fewer behaviours associated with this cluster in comparison with John. This may be attributed to their different developmental stages.

Table 12.0 *Cluster variables present in Multi-Risk-Persistent young people*

| MP Cluster Variables | Kyle | John |
|---|-------------|-------------|
| Highest levels of firesetting incidents | ✓ | ✓ |
| Youngest age of onset | ✓ | ✓ |
| Fire interest/curiosity | ✓ | ✓ |
| Low levels of remorse | × | ✓ |
| Motivation predominantly antisocial | × | ✓ |
| Mid-levels of parental involvement | - | - |
| Contact with welfare (not in care) | U/K | × |
| Poor school performance | ✓ | ✓ |
| Mental health contact | × | ✓ |
| Mid-levels of exposure to abuse | ✓ | × |
| High levels of social skills deficits | ✓ | ✓ |
| High levels of attention difficulties | ✓ | ✓ |
| High levels of externalising behaviour problems | ✓ | ✓ |

Two differences were identified between the sample and Del Bove and MacKay's (2011) HM cluster. Previously, this thesis discussed the salient role that family function and history plays in firesetting (see chapter eight). This thesis' findings are supported by the current theory, and family characteristics are particularly relevant in the HM cluster of youths. In accord with the theory, the HM cluster experienced elevated levels of exposure to abuse; however, difficulty was experienced during analysis of data in determining 'parental involvement' as detailed by the theory. The theory (Del Bove & MacKay, 2011) does not specify if low levels of parental involvement refers to absent/uninvolved parental figures (each child had one absent/uninvolved parental figure in their lives), low levels of parental monitoring, a lax parenting style, or a combination of a number of these factors. Family factors are particularly complex, with several factors relevant in a family or firesetting context (conflict, instability, violence/abuse/maltreatment, substance abuse, monitoring and parenting styles, and absent parental figures). The boys in the HM cluster had absent

parental figures and their primary parent applied an authoritarian, rigid style of parenting, with corresponding mid to high levels of monitoring. Similarly, family issues were identified by the MP cluster; however, levels of parental involvement could not be classified because of the broadness of the phrase. Further delineation or research of these family factors would contribute to this theory's formulation.

Del Bove and MacKay's (2011) theory posited that HM firesetters could be differentiated from other clusters by involvement with a child welfare agency. In the theory's HM cluster, all the studied participants had previously, or were currently, in the care of a child welfare agency. In the three young boys in the sample for this current study two, a child welfare agency had been in contact with one child (Joe) but at no time had any of the boys been placed into welfare care, with all three boys living with their biological parent. No other reported contact had been made with welfare agencies across the sample (including CL and MP clusters). This may be influenced by differing welfare policies and intervention strategies in Australia (current sample) and Canada (Del Bove and MacKay's [2011] sample). This assumption is supported by the adult sample in study one, in which only one firesetter was placed into a welfare agency's care. Although both studies' sample sizes are small, this suggests that welfare agencies may not be a relevant factor within an Australian firesetting context.

Del Bove and MacKay (2011) considered repeat firesetting contributors, including total fire episodes, age of onset, fire interest or curiosity, ignition sources, targets and remorse levels. The theory posited that clusters differ on several factors, with the HM and MP clusters showing increased physiological arousal to fire, continued fire involvement despite receiving punishment and increased duration of participation in firesetting, with increased accessibility to incendiary devices. The current sample supports these differences, and parallels are consistent across clusters and severity. The

relevance of this theory has been further established in the similarity that exists between the current sample and Del Bove and MacKay's (2011) assumption that severity level is not related to age: younger children showed similar pathologies and risk levels to their adolescent counterparts. This opposes early theoretical assumptions (Fineman, 1995; Sakheim & Osborn, 1999) that considered younger children as less severe founded solely on their age.

Both the current sample and Del Bove and MacKay's (2011) theory support the limited usefulness of categorising a firesetter based solely on motivation; however, Del Bove and MacKay (2011) found the determination of an 'antisocial' motive demarcated severity in their clusters. Antisocial motives included anger, revenge, vandalism or defiance. It was uncommon among the young boys to be antisocially motivated in all but the MP firesetters. Rather, the current sample revealed an added dimension of influence from their peer networks in their motivation. The role of peer networks and social relationships was discussed in the clusters of individual characteristics of the theory, but the theory did not appear to consider them within the context of fire-specific variables. This supports the need for a more nuanced understanding of the offence process, as would be found in a micro-level approach.

Del Bove and MacKay's (2011) theory shows significant utility in the categorisation of young firesetters. Only a small number of differences were distinguished between the youth sample and clusters. These differences may be attributed to the small sample size of the research; however, findings show the potential direction for further quantitative examination. Theoretically, high-risk or repeating firesetting is consistent with both MP and HM firesetters; however, their motivating and contributing factors differ significantly. Thus, the theory is able to portray how disparate characteristics may manifest in firesetting. Nevertheless, the theory has yet to

define how the decision to light a fire emerges. Additionally, the relevance of antisocial behaviour in delineating between the MP and HM clusters requires further research.

Study two determined the role of peer networks in the offence process/es of youth firesetting. These process/es are not acknowledged in Del Bove and MacKay's (2011) theoretical approach, and the theory does not examine the offence process of each individual. Rather, the focus is on the collective characteristics of each group. The creation of micro-level theories in a youth context is vital, as with those already developed for adult firesetters (Barnoux et al., 2015; Tyler et al., 2014). Micro-level theories have the potential to capture patterns and relationships relating to impulsiveness, a lack of foresight to predict the outcome of firesetting and the roles of peer influence that have not be explained by Del Bove and MacKay's (2011) macro-level theory. That is, these offence process approaches may provide an understanding of the how and why firesetting initially emerged.

How the Boys Perceived and Experienced Fire

A heightened interest in fire and a history of fireplay are theoretically and clinically significant in understanding the development and maintenance of firesetting behaviour (Barrowcliffe & Gannon, 2015, 2016; Doley et al., 2011; Fineman, 1995; Harris & Rice, 1996; Kolko et al., 2006; Lambie & Randell, 2011; MacKay, Feldburg et al., 2012; MacKay et al., 2006). Pathological youth firesetters demonstrate fire interest in the earliest developmental stages of their childhood, usually between three and five years, that has not been appropriately diverted into healthy behaviours (Beale & Jones, 2011; Gaynor, 2000; Muller & Stebbins, 2007). Variables most relevant when predicting recidivistic behaviour are fire-specific factors, such as childhood firesetting, and the total numbers of fires set (Barrowcliffe & Gannon, 2015, 2016; Harris & Rice,

1996). Interest presents in matchplay, interest and involvement in fire-related acts (Kolko et al., 2006). Fire-specific factors are empirically more valuable in predicting firesetting behaviour than are criminogenic factors linked to offending behaviour (MacKay et al., 2006).

A shared commonality of the young boys was a lack of knowledge regarding the practical application of fire. Four of the seven boys said they had little to no experience with matches and other incendiary devices prior to their firesetting. Of these four, two boys researched or sought out information on fires prior to their offence, such as watching YouTube videos on how to light them, although their research had not progressed to fire experimentation. The three remaining children (Peter, Kyle and John), shared varying histories of fireplay, ranging from deliberate and repetitive matchplay and fire history (John) to playing with fire when bored and in the company of others (Peter), and wanting to observe fires and watch fires whenever possible (Kyle). Often the boys' recollection of their history with fire and fire interest did not correspond with their parents' memories.

Fire Interest

Unhealthy fire interest is expressed in fireplay that holds no constructive purpose, or is intentionally destructive (Lambie et al., 2002; Watt et al., 2015). The identification of this behaviour is crucial to determining risk level. Luke and Jack reported they had no history with fire, and their parents did not recall any attraction or interest in fire through childhood. They also had little or no practical experience of lighting fires prior to the current offence. For example, Luke could not recall lighting a fire, but he recalled his parents handling fire: "I wasn't allowed to light anything when I was younger, and leading up to the fire, like me and my dad would go camping and he used to light the fires, so like, I didn't do anything."

Luke's mother stated that Luke was familiar with fire because he grew up around bonfire nights in the United Kingdom and had previous camping experiences in Australia. Prior to his index offence, his mother said she had not noticed any overt interest in fire:

Being brought up in the UK, we never really, you have bonfires in the back garden like you do in winter, he was always around it, you know as you do as a group, but there was no fascination with it as such ... he would just hang around the fire you know, nothing that you would think in the back of your mind you know, why are you doing that?

Luke's experience was similar to Jack's, who recalled going camping with his father and his father lighting campfires, but having little personal experience lighting fires. Conversely, Jack's mother reported that Jack had shown a healthy interest around fire as a young child, but had no history of playing with matches: "Yeah, I've always got candles, and he will say, 'can I blow them out and light 'em?', 'yeah, you can but, and they're dangerous, but.'"

Jack's father recalled on a recent camping trip, he had discussed fire with Jack:

Well the thing is, prior to all of this, we stressed, we went away to Ledge Point, and it came up as far as my burns and you know, how fire, and don't stress, look if the house catches fire, you, [sister], me and mum will get out.

Corresponding with an increase in risk level, Connor showed a slightly elevated interest in fire prior to his offence. Connor remembered several occasions where seeing fire on social media had captured and held his attention: "like how to light fires, dangerous, burning, and even like the sun and that, like fires are dangerous, I've seen it all over the news and everything." Connor said he had also observed several fires around the local area where he lived, and would try to position himself to view them,

watching them for prolonged periods. Further, Connor had sought out and watched instructional videos on YouTube regarding how best to light fires and how to extinguish them:

Uh like, simple steps and yeah, I don't really remember them, but I remember going through the steps ... like matches, lighters everything ... came up on my computer ... light a fire and all of that and I was like ok, might as well just watch it.

Despite experiencing fire fascination, Connor did not recall a time when he had experimented with matches. In contrast to Connor's memories, Connor's mother was adamant that he had never shown interest in fire as a child, saying emphatically: "never, and this whole house is full of candles." She recalled that she used to experiment with fire as a child, but she had not seen this behaviour reflected in Connor: "it was never something that he ever did; it wasn't in his personality."

In contrast, Peter had an extensive history of practical experience with fire through bonfires that had been lit on his grandparent's farm: "I lit fires at my nan's house, but that was because she's got property and it's just a big bush of acres, so she's allowed to." Peter explained he played with matches in the past, a direct result of boredom: "when I was younger ... with my brother when we were bored." Peter did not appear to derive pleasure from lighting the fire itself; rather he experienced a sense of excitement associated with fire. Peter said he believed it was normal for people to want to light fires: "there's grass I'm going to light it, because that's what people do." Peter's father repeated several times that Peter exhibited signs of fascination with the sensory stimulation that surrounded fires, such as the firebombers, the fire engines and the emergency services' responses. Peter's father commented that he did not believe the sensory stimulation was enough for Peter to want to light the fire to achieve the results:

“he likes the fire engines and the helicopters, but I don’t know if that would be a motivational factor for him to go and light a fire just for him to see that happen.” Peter’s father was not aware of Peter engaging in any matchplay prior to his offence, despite Peter recounting episodes of matchplay when bored.

In contrast to other participants’, Kyle’s interest in fire was difficult to ascertain. He stated several times that he had lit more than one fire, which usually had varying motivations, but struggled to understand when asked if he had played with matches in the past. His mother would not directly answer the question when asked, but commented that she knew he purchased lighters from the local delicatessen. She did not answer whether she knew the intended purposes of the lighters. Kyle’s fire interest emerged when he discussed why he had accompanied his friend to the bush on the day of the firesetting incident—because, “I wanted to see him light the fire.”

MacKay et al. (2006) found heightened fire interest is a significant predictor of both frequency and versatility of a child’s firesetting behaviour. Comparatively, this was demonstrated with three young people identified by their parents and themselves as showing an unusual fascination with fire throughout childhood. All three boys shared a history of matchplay, all occurring prior to their offence. None of the children’s parents were aware of this matchplay history. Further, these three boys showed versatility in antisocial behaviour and criminal history (unrelated to firesetting offences). Of the remaining sample, one boy had not shown an elevated level of fire interest; however, he had lit fires following his initial contact with police for firesetting. The remaining three boys exhibited no overt fire interest or fascination throughout childhood, and were subsequently classified as ‘non-pathological’ firesetters (Fineman, 1995), with two of the three identifying their motivation as curiosity or accidental (Lambie & Randell, 2011). This similarity provides support for the importance of matchplay and fireplay in

repeat firesetting, categorically demonstrating its importance in assessment and treatment programmes.

The young boys' distinct lack of experience regarding fire knowledge and safety supports incorporating a fire education component in firesetting intervention and treatment programs. Similarly, several researchers have determined the most successful youth firesetting intervention programs are those that use a 'combined' approach to treatment that includes a fire safety element (Barreto et al., 2004; Haines et al. 2006; Kolko, 2001). This finding is best supported by Haines et al., (2006) who concluded in their examination of fire intervention programs, that educating young people in fire safety empowered the young firesetters to make future responsible decisions (p.92), and diverted them from re-engagement in firesetting. Therefore, it is reasonable to presume that youth firesetting rates may decline if fire education programs are applied consistently as part of a child's education (whether at home or school).

Fire History

A history of firesetting has been consistently established as a predictor of repeat firesetting behaviour (Gaynor, 2000; Kennedy et al., 2006), with the first firestart playing a critical role in determining whether a young person will repeat the behaviour (Gaynor, 1996). Three of the seven boys admitted they had lit fires following their initial offence. Kyle and John, who had been assessed at a high-risk level of firesetting by police, reported lighting fires before their current offence.

John had an extensive history of firesetting, recalling he had set, "I don't know, like 10" fires in the past, three of which the police were aware of. When questioned on whether he remembered the first fire he had lit, he recounted, "I was about five or six years old, I lit the carpet on fire ... in the lounge room." What stands out in his

explanation was that he had not suffered any consequences or punishment for the initial firesetting: “she can’t do anything because I’m little ya know, I didn’t get in trouble for it.” John’s experience with his first firesetting incident supports the relevance of social learning theory in sustaining firesetting behaviour.

Social learning theory postulates if there are no significant behavioural consequences for firesetting, the behaviour is heightened and reinforced (Gaynor, 1996). A lack of consequences prohibiting or punishing the behaviour is particularly relevant if cognitively supportive scripts such as sensory stimulation or fire interest is present (Fineman, 1995; Gaynor, 1996; Vreeland & Levin, 1980). John’s history reflects how positive reinforcement (lack of negative outcome for the original fire coupled with positive attention from his mother), as well as the excitement of the sensory stimulation of the fire, supports firesetting. John recalled his first firestart with clarity, emphasising the importance the outcome of a first firestart potentially holds for future firesetting.

John’s mother recalled his extensive history of firesetting, stating he initially started with small fires, lighting objects on fire that included her carpet, bins and couch. She reflected that once John realised he was not getting what he wanted from lighting objects, he began to light fires outside of the house, often covertly. She was unable to indicate what she believed John’s motivation and offence goal were, but did not believe his firesetting was a need for attention; rather, she felt his firesetting history was the result of him genuinely, “really liking fire” because he gets excited by them. As previous studies have evidenced, parents of children with a comprehensive firesetting history are more likely to be aware of their child’s firesetting behaviours (Del Bove & MacKay, 2011; Walsh & Lambie, 2013). John’s mother’s knowledge of her son’s history and level of fascination was evident when she discussed her son’s offence. She

recalled seeing the fire on the television news and feeling upset by her initial reaction because she had immediately suspected that John had lit the fire. This reaction was the result of her knowledge of both his firesetting history coupled with his fascination of fire.

Exploring Kyle's history of firesetting was challenging. His lack of interest in the interview, coupled with him feeling he was in trouble, may have affected his recollection of his firesetting history. Observationally, Kyle appeared to maintain a fascination with fire, evident in how he discussed his previous firesetting incidents. Throughout the interview, Kyle appeared reluctant to talk to the interviewer and did not want to discuss his typical everyday life; however, whenever fire was mentioned, he became alert and communicative. He became irritated when his older brother accused him of lighting more fires than he was admitting to. Kyle appeared to gain sensory stimulation from the fires, apparent when he explained he liked to watch fires burn, and admitted he, "stayed there" to watch the bush burn for, "oh like ten minutes." Although Kyle said he did get in trouble for lighting fires, it was apparent his mother was not aware of many fires that he had previously set. The covert aspect of firesetting lends itself to remaining undetected, acting as a reinforcement for the firelighting, particularly if there are no socially applied sanctions to the firesetter's behaviour (Patterson et al., 1989).

Gaining an understanding of the firesetting histories of the young boys was challenging. Firelighting, although conducted in groups for many youth firesetters, is inherently a covert behaviour that remains undetected by parents and authorities. Recollection was also reliant on the participants' memory. Kyle's memory lacked consistency in his sequencing of events; however, what emerged during the interviews was that those firesetters who had been measured at risk of repeat firesetting had

previously been involved in firesetting incidents undetected by police. Both Kyle's and John's mothers commented they were aware of their child's interest in fire, with John's mother appearing resigned to her son's continued involvement with fire. In contrast, participants who had been measured at a low-risk of reoffending, such as Jack and Luke, had no history of firesetting. Thus, a history of firesetting shows utility for measurement of recidivistic risk, although it fails to account for why the firesetting behaviour originally emerged (Kennedy et al., 2006).

Maintaining and Desisting from Firesetting

Social learning and operant conditioning provide a behavioural understanding for the maintenance of or desistance from firesetting behaviour (Lambie & Randell, 2011), with reinforcement principles playing a particularly critical role (Fineman, 1980, 1995; Gannon et al., 2012a; Jackson, Glass, & Hope, 1987; Vreeland & Levin, 1980). Rewards and punishments will affect continuation of firesetting, particularly when combined with a heightened interest in fire and fire-supportive attitudes (Ducat et al., 2015; Gannon & Barrowcliffe, 2012). Reinforcement principles are critical following an individual's first firesetting incident, since the perceived rewards and/or punishment will act in a manner that will strengthen the use of fire to achieve their desired goal. This section examines the post-offence experience of participants, beginning with their parents' reaction to the incident. Following this, observable changes in the boys' behaviour are explored, highlighting the importance of perceived consequences for firesetting. This section concludes with the boys' perceptions of fire post-offence.

Parents' Reaction to the Incident

Some parents' feelings concerning the event were raw, despite six months having passed. The mothers of Jack and Luke became emotional when recalling the

events surrounding the fire. Disbelief and shock were commonly reported across the parent sample, with some parents initially denying their child was involved. Jack's father explained, "as a kid growing up, he was so perfect. I mean I had an argument with the police officers ... I thought it's not my kid." Jack's mother repeated several times that she was, "sickened" by what had happened. Luke's mother reflected similar feelings of initial disbelief, "I couldn't believe it; I was in total shock. It was like, why? Why did you do it? It was just kind of a numb feeling to start with, yeah." These initial feelings of disbelief and shock were common among parents who also shared that their child had never shown any interest in fire, with the boys showing low levels, if any, of antisocial or delinquent behaviour.

Anger was another primary emotion experienced by some parents. This anger was generally expressed by parents who did not immediately disbelieve their child was involved. Connor's mother explained:

And I have just looked at him, and kept looking at him, and I was more shocked than anything, and I started sweating and they could see my blood pressure had risen to a point where I had to actually get up and walk away and calm myself down before I was going to kill him.

John's mother explained that her initial gut reaction to the fire made her feel guilty and upset because she immediately suspected John of lighting the fire. When the police officers who arrived at her house confirmed her suspicions, her lack of surprise increased her feelings of guilt. John's mother appeared resigned to his involvement in delinquent acts, and was matter-of-fact when discussing John's history of antisocial behaviour.

Following initial feelings of shock, several parents expressed they struggled with feelings of responsibility. As Luke's mother clarified:

But yeah, it is a hard thing to talk about, because as a parent, you're responsible. It comes, you feel a bit of shame, and like ... I thought I had taught him a different way so yeah, you kind of blame yourself.

These feelings of judgment were reflected in Jack's mother's response: "I just felt so sick ... it was tough you know. I work at the school. I did business, and all these people knew you know, and it was just horrible." These feelings of responsibility appear to relate to feelings of apparent 'failure' for their child's behaviour, in combination with either real or perceived societal judgments. The added pressure of societal judgment and blame amplified parents' feelings of stress and responsibility, as Joe's mother detailed: "when this has happened, I was just so upset, so stressed ... I'm trying my best with him." The general public associate youth offending with parental responsibility (Brank, Hays, & Weisz, 2006; Brank & Lane, 2008), with nearly 70% of respondents to a USA national survey attributing blame for youth offending to the parents of the child who commits the crime (Brank & Weisz, 2004). These feelings amplify the emotional stress of the event, destabilising an already highly volatile situation.

Observable Changes in Behaviour Post-Offence

Distinct behavioural changes post-offence were a common theme for the young boys, as detailed by their parents. These changes manifested in withdrawal from social networks and familial networks, and an increased level of covert behaviour. Luke's mother explained he, "went really quiet within himself, spent a lot of time in his room, not sleeping, because I was very concerned because he wasn't talking to anybody. He wouldn't let us help." Prior to Luke's firesetting incident, he had been involved in a variety of school activities, and was an outgoing child. Post-offence, a marked change in behaviour at school occurred, such as a withdrawal from a number of activities:

Probably I would say since the firelighting, from then onwards, he has lost quite a few privileges at school. So yeah, I don't know if that's connected or yeah, he hasn't really talked about it.

Jack's mother and father also noted a change in behaviour post-offence. Jack's father explained, "only since this, he's become quieter, but everything is a yes, no answer, what are you doing? Nothing! You know." Following the firesetting offence, Jack's parents admitted to increasing parental monitoring. Jack reacted negatively and defensively to the change. Connor's mother experienced a similar reaction when she attempted to discuss the fire with him: "when I brought it up, he goes: can we just forget about it, can we just forget that it ever happened? He goes, 'seriously mum, you keep on and on and on', he goes, 'it's not gonna happen again.'" Joe's mother explained he had changed significantly following the fire, sharing that, "after he changed yes, yes, but like now, he doesn't go out anymore." Withdrawal from social and familial networks is a concerning behavioural trend, with repeat firesetters leading lives characterised by isolation, loneliness and detachment from society (Gannon, Ó Ciardha et al., 2012; Vreeland & Levin, 1980). An increase in covert behaviour appears to correspond with parents increasing their monitoring of their child's whereabouts and behaviour. This suggests that responses from parents may act as a moderating factor for influencing and reinforcing antisocial and firesetting behaviour.

Prior to their firesetting offence, both Kyle and John had extensive histories of antisocial behaviour, although both mothers explained that Kyle and John appeared to show an increase in antisocial behaviour following their firesetting incident. Kyle's mother said following the fire, his antisocial behaviour increased mostly within the school environment: "he has been getting into a bit of trouble. He has just come off a suspension from last week ... he didn't want to go back to this school." Kyle admitted

that since the fire he had engaged in several antisocial activities, including deliberately damaging others' property. John changed his group of friends and moved into a different antisocial peer network. He became involved in other offences, such as stealing, eventually resulting in him breaching a court order and being incarcerated. This extensive and continued involvement in antisocial behaviour is reflected in current knowledge, and externalising behaviour has been established as a significant predictor for frequency, severity, versatility and persistence of firesetting (MacKay et al., 2006; MacKay, Ruttle, & Ward, 2012), particularly when coupled with elevated levels of fire interest.

A typical feeling described by both parents and children in the study was remorse. Remorse was experienced on a continuum that matched their risk level. Previous research demonstrated that youth firesetters who show little remorse or empathy post-offence tend to be persistent firesetters. In comparison, children who express high levels of remorse are more likely to desist from firesetting post-offence (Del Bove & MacKay, 2011). In line with this assertion, Luke's and Jack's parents said their child (low-risk) felt high levels of remorse following their firesetting: "he was more remorseful than anything, he didn't think it would be like that" (Jack's mother). In contrast, Peter and Kyle did not express remorse towards the act of lighting the fire. Rather, they regretted the outcome (or the consequences) of their firesetting, particularly as it pertained to animals that may have been hurt or injured. These feelings were corroborated by their parents, with Peter's father stating, "he felt bad about the animals, so hopefully that is enough of a deterrent there." Kyle was upset with the punishment he received for lighting the fire, but was concerned with neither the resulting damage, nor the outcome with the police. His mother correspondingly reported this, saying:

He came home, um, and we actually got in my car and went and had a look and it was starting to get pretty big, like nothing out of control, like, and I said, “alright mate, we’re going home, you’ve lost your scooter, your bike, you’ve lost your skateboard.” He did not cope.

A lack of remorse regarding lighting the fire suggests the boys may have achieved their initial fire-goal, but reveals their poor planning skills in foreseeing the far-reaching consequences of their firesetting. The consequences of their fire acted to reinforce the behaviour negatively, encouraging the boys to alter their behaviour. For example, at the time of interview, Peter had not re-engaged in firesetting. Kyle had not lit another fire; however, he had transitioned into other antisocial behaviour. This transition suggests that, as a result of the consequences of his behaviour, he judged the outcome of firesetting as not worth the risk of re-engagement.

Patterns of behaviour fell into clusters. Responses to the incident affected re-engagement in repeat firesetting, with feelings of remorse revealed as a factor in determining recidivism. Accordingly, Del Bove and MacKay (2011) theorised that youths measured as pathological reveal lower levels of remorse and the highest levels of antisocial motivations and academic issues (i.e., truancy and poor academic performance), replicated in John’s and Kyle’s behaviour. In contrast, those measured at lower levels of risk and severity revealed higher levels of remorse (Jack and Luke), had the strongest family connections (Jack and Luke) and showed elevated difficulty with social relationships and externalising behaviours (Peter, Connor and Joe).

The Importance of Consequences in Repeat Firesetting

Many parents recognised that their child required punishment supplementary to the consequences instilled by police. Further, several parents aimed to deter their child through a number of different methods. For instance, many parents described

attempting to divert behaviour by revealing the damage the children had caused with their fire. Many parents used the example of animals that had been killed as a deterrent: “Look [Kyle], you see, you love frogs. If you start a fire, frogs can die and you know all these birds lose their homes and, yeah.” Many parents made similar attempts to deter their child. Connor shared he had walked down to the site of the fire by himself to see the damage and had been shocked: “I was like whoa. I did this, and I just left.” At the time of interview, the efficacy of these strategies was not evident; however, social learning theory determines that the behaviour may be diverted through a child’s reinforcement experiences.

Social learning theory postulates that firesetting behaviour is sustained through reinforcement experiences (Dickens & Sugarman, 2012b; Ó Ciardha & Gannon, 2012). For example, Luke experienced both consequences and punishment that negatively reinforced his experience. Luke’s original offence goal was not achieved. This negative result was compounded by the experience of a firefighter having a heart attack while fighting the fire he lit. This outcome was particularly devastating for both Luke and his parents. Luke’s father and mother explained:

Father: Because originally, they just, you know, they had someone come in and talk to him about it and then they came back and said, ‘look we’re really sorry, uh, a fireman’s been taken to hospital, we feel that we need to...’

Mother: They had to arrest him, so they read him his rights and walked him off. I couldn’t go because I was in too much of a mess.

Luke described the emotions he felt when he discovered what happened to the firefighter:

Yeah well, my dad told me that a guy had been rushed to hospital. I thought he had died and I just couldn't handle it. I just like walked into my room and I just pretty much collapsed ... yeah, I just felt so weak. I was like what have I done? I was like this is probably something that I will never do in my life.

Luke's mother asked him to apologise to the firefighter. Luke shared: "I cried while I was writing it, obviously, it made me feel bad like, for what I had done, so I was remorseful ... I wrote it about four times because I kept stuffing up." Luke's case illustrates the significant role that negative consequences (i.e., arrest, coupled with the firefighter's heart attack and parental punishment) plays in preventing repeat firesetting. The police assessed Luke at a low-risk of reoffending, although he displayed risk factors, including increased levels of impulsiveness, family conflict, social isolation and educational difficulties. Further, his identified motive of curiosity was associated with frequent and persistent firesetting, dependent on externalising behaviours (Kolko & Kazdin, 1991; Lambie & Randell, 2011) and reinforcement principles affecting the maintenance of firesetting behaviour (Gannon, Ó Ciardha et al., 2012). However, Luke's behaviour was influenced significantly by his negative experiences. Luke's story demonstrates how negative consequences (the firefighter's heart attack), negative reinforcement (arrest, parental punishment and increased parental monitoring), and a lack of achieving desired outcome for the fire (peer acceptance) may result in a lack of repeat firesetting.

Several of the boys perceived the consequences of their fire in a positive way, which may result in re-engagement in firesetting or other offending behaviour. At the time of the interview, four of the seven boys had re-engaged in antisocial behaviour following their firesetting offence, and two boys in repeat firesetting. Connor explained his positive reinforcement experiences: "I got, like, confidence. [People], like, saying,

‘oh yeah, you’re actually pretty good for just staying there, trying to help out.’” He commented that this reaction had made him feel good about lighting the fire. Prior research has asserted that misplaced praise reinforces firesetting behaviour (Gannon, Ó Ciardha et al., 2012). Post-firesetting, Connor had transitioned into a number of other antisocial behaviours (such as marijuana smoking and aerosol sniffing).

The role of misplaced attention and reinforcement was further supported in Joe’s experience. Joe received attention from his mother, father, teachers and peers that was lacking prior to his firesetting. Post-offence, Joe had been involved in an additional firesetting offence while in the company of a different group of peers. The attention he had received may have acted to reinforce his firesetting behaviour. Reinforcement contingencies facilitate and sustain firesetting (Gannon, Ó Ciardha et al., 2012; Jackson, Glass, & Hope, 1987), particularly for children, such as Joe, who struggle socially or may feel they receive inadequate attention from their parents. Joe’s mother acknowledged that prior to his firesetting incident, she had been working long hours and Joe was often left to entertain himself. Post-offence, she had significantly increased parental monitoring of Joe, including following along behind him in her vehicle while he walked to school. Jackson, Glass and Hope (1987) theorised that these negative reinforcement contingencies (receiving attention from distanced peers or parents) may increase both self-esteem and interest in fire. Similarly, Joe’s experience highlights these contingencies, particularly in relation to his re-engagement in firesetting.

It is not possible to draw conclusions as to why an increase in parental monitoring did not work on the high-risk boys. However, one possibility may be a difference in perceived authority. For example, the lower risk boys recalled several instances of parental punishment and appropriate reinforcement, alluding to respecting their parent’s authority. In contrast, the high-risk boys’ parents recalled difficulties in

asserting authority over their children. Thus, it is possible to hypothesise that an increase in parental authority/monitoring would be difficult to enforce on the higher risk boys.

An important pattern across the boys' offences was a lack of planning skills, evidenced in descriptions of a lack of foresight to consider, understand and predict the consequences of their actions prior to setting the fire. Only one child (John) explained he had understood the ramifications of setting his fire, but commented he had not cared. It was common for parents to report that they believed their child had understood the act was wrong; hence, the covert behaviour prior, during and following the incident. However, their thoughts had not extended past the initial decision to act:

It's hard to tell. Did he comprehend what was going on? Probably not.
Does he know that lighting fires is wrong? Yeah. But was he fully aware
... I don't think he understood that. (Peter's father)

Some parents said it was not until they had taken their child to see the damage from the fire that he seemed to comprehend the consequences of his firesetting. Jack's father explained, "I went down and took him with me, you know, 'this is what you did.' And just, just to see you know ... he didn't think it would be like that." Previous research found firesetters demonstrate poor understanding of cause and effect relationships (Sakheim & Osborn, 1999). Children and adolescent firesetters report they did not expect the fire to spread or grow rapidly (Bowling & Omar, 2014). Correspondingly, the boys confirm this thought process, with poor planning skills consistently exhibited across the sample, supporting the relevance of treatment programs that target the development of decision-making and planning skills.

How the Boys Perceived Fire Post-Offence

A heightened interest in fire, coupled with fire-supportive or offence supportive attitudes, are correlated with persistent and repeated firesetting behaviour (Ducat et al.,

2015). Prior to their firesetting, the young boys showed various levels of fire interest. Post-offence, a difference was observed in how participants viewed fire. Luke's feelings towards fire changed substantially following his offence, and he said he often felt fearful and scared when he saw fire: "oh it scares me you know. I get this feeling in my stomach and it like, brings back what happened." Luke's mother advised he had not discussed the fire with her, but she had observed a difference in Luke's behaviour. She believed he had become unhealthily obsessed post-offence:

He was absolutely petrified after it he was ... because obviously being summer there was a lot of fires and he would be listening in to the radio. He would be looking at the, is it DFES website, he was really, really, it seems like he was really scared.

Luke's experience with fire generated a substantial level of fear that affected several areas of his life, including his behaviour, and social interactions with both peers and family members. This fear was also apparent in Connor's feelings towards fire. He recalled feelings of fear when he saw friends play with matches following his offence:

Sort of, because when they play with matches, I always think, my heart beats, and I start to choke up, and I'm like, nah, and I just end up leaving...and then I'm happy.

Connor's feelings of anxiety differed from Luke's, in that Connor's fear stemmed from the potential consequences of fire as opposed to fear of fire itself. The apparent lack of change in Connor's feelings towards fire is concerning: Connor displayed increased levels of impulsiveness, a need for peer approval, antisocial behaviour and involvement in antisocial peer networks. These factors are associated with repeated firesetting behaviour, and may potentially outweigh any negative feelings Connor has towards re-engaging in firesetting.

Drawing Together the Commonalities of the Offence Process/es

The boys' and parents' responses revealed distinct patterns in the offence process/es of the youth firesetters. These patterns are summarised and mapped in Figure 4.0. The similarities account for both the accumulation and the sequencing of factors that facilitated the boys' firesetting behaviour. Findings supported the emergence of four phases, which fit together chronologically to represent how the boys described their individual (and collective) offence process/es. Phases identified were (1) developmental factors, (2) risk factors, (3) offence components and (4) consequences. Additionally, Figure 4.0 accounts for the moderating influence of family, as it was reported by both the parents and children.

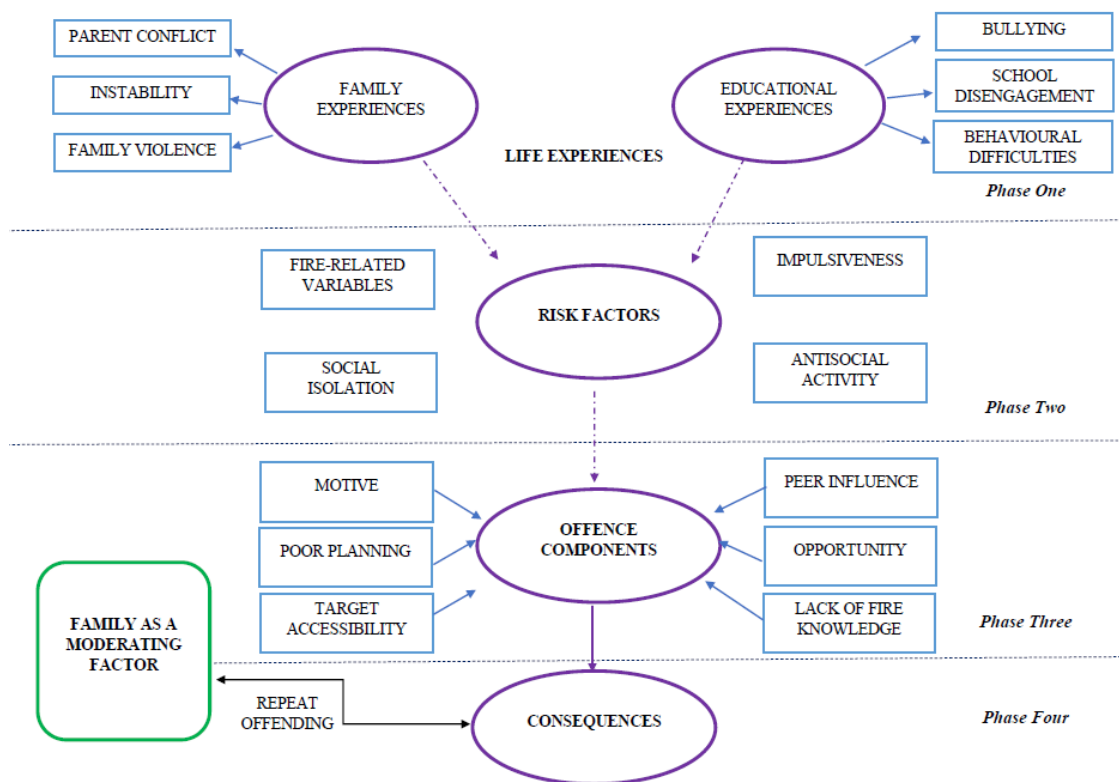


Figure 4.0 The descriptive offence process/es of young firesetters.

Phase one accounts for two life experience categories that were described by both parents and boys of the sample. As illustrated in Figure 4.0, the first theme relates

to family experiences, with family violence, instability and parental conflict the most frequent contributory experiences. The second theme described was educational experiences, which included bullying, behavioural difficulties and disengagement from school. Previous research (Bowling & Omar, 2014; Del Bove & MacKay, 2011; Kolko & Kazdin, 1990) has confirmed the developmental impact of both themes in relation to facilitating youth firesetting. These developmental factors acted as vulnerabilities, but were not necessarily exclusively related to firesetting behaviour. Moreover, previous youth and adult firesetting theories refer to these categories as ‘developmental experiences’ (Del Bove & MacKay, 2011; Gannon, Ó Ciardha et al., 2012; Tyler et al., 2014) that increase an individual’s susceptibility to involvement in firesetting. However, within the context of the current sample, these factors were better labelled as life experiences, since they had not yet become entrenched and were still able to be altered. This term was better able to account for the boys’ history *and* current experience. Should these boys transition into adult firesetting, these factors would similarly transition into developmental influences for their behaviour.

Phase two of the self-reported offence process/es comprises four key risk factors, which acted to make the children more susceptible to firesetting behaviour. These four risk factor categories were: (1) fire-related variables (i.e., fireplay history, fire fascination), (2) social isolation/exclusion, (3) antisocial activity and (4) impulsiveness. Not all firesetters reported these risk factors, demonstrating these factors are not mutually exclusive. Rather, as the boys reported increased experiences of these risk factors, their corresponding susceptibility to engaging in firesetting was amplified.

Perhaps the most crucial phase reported by the boys was phase three (offence components). The boys reported six key external influences that interacted to facilitate

their firesetting: (1) motive, (2) poor planning, (3) accessibility to target, (4) peer influence, (5) opportunity, and (6) lack of fire knowledge. This pattern is arguably the most important aspect of the boys' reports; every boy reported experiencing some level of every component in their offence process/es. The level to which the components influenced their decision to light the fire varied; however, the importance of peer influence on the boys' decision to light their fires cannot be overstated.

The fourth phase refers to the consequences of each child's fire. The boys' experiences of consequences were particularly relevant as a reinforcer that affected them desisting from both firesetting and antisocial activity, their transition from firesetting to alternative antisocial activity, their re-engagement in firesetting or their re-engagement in both firesetting and antisocial activity. The consequences reported encapsulate the punishment they received, the potential reinforcement from bystanders to the offence, whether their offence goals were achieved, and the responses from both parents and emergency services.

Finally, a critical component of the offence process/es reported by the boys was the moderating influence of family. As illustrated (see Figure 4.0), family acted as a moderator to varying degrees throughout the offence process/es; however, it was most relevant in relation to repeat firesetting and antisocial activity. Similar to previous research (Lambie et al., 2013), children who were living with both parents post-offence were less likely to re-engage in any form of antisocial or firesetting behaviour. Extending this finding, family played a crucial moderating role in dictating how the consequences of the child's offence influenced their re-engagement in firesetting. Particularly relevant was the parents' reaction (i.e., punishment and increased parental monitoring), which acted to reinforce the negative outcomes of their firesetting goal.

Thus, the more cohesive and stable a family were post-offence, the more likely the child was to desist from both firesetting and antisocial activity.

This descriptive offence process/es has distinctive value for both practice implications, and for targeted and applicable responses by authority figures (i.e., emergency responders, family and clinicians). Although it was beyond the scope of this study, the patterns described by the boys confirm the relevance of developing a micro-level theory similar to adult firesetting offence process theories (Barnoux et al., 2015; Tyler et al., 2014) to support the findings of youth multivariate theories (Del Bove & MacKay, 2011). A micro-level approach would highlight specific problem areas that should be targeted to assist in prevention of further re-engagement in firesetting.

Summary of Chapter

This chapter explored offence patterns by examining risk and motivations of the young boys, fire variables including fire interest and history, and factors associated with maintaining and desisting from firesetting behaviour. Several findings emerged through this analysis. The chapter began by assessing the boys' risk levels using Gaynor's (2000) fireplay/firestart model. Three distinct differences were discerned between Gaynor's framework and the current sample. These differences can be attributed to subtle variances between bushfire firesetters and structure firesetters that the etiological framework was based on.

Categorising a child solely through motive does not allow for an accurate portrayal of the complexity of the firesetters' behaviour. Often, a child or parent would report a primary motive that was supported and amplified by varied secondary motives. The sample consistently described motives that varied dependent on time, circumstances and triggers for each fire. Further, their motives were not mutually

exclusive, and acted in a cumulative manner. This finding demonstrates the value in adjusting how clinicians and responders perceive motive.

Fire variables (i.e., firesetting history, matchplay) acted as a predictor of risk levels in the sample. Common across the sample was a lack of practical knowledge surrounding fire safety, further highlighted by minimal understanding of how to extinguish a fire. Parents were generally unaware of any matchplay in their child's history. There was a relationship between risk level and parent's knowledge of fire interest, with those boys considered at high-risk of reoffending showing significant levels of fire interest, generally from an early age. Of concern were parents and police who remained unaware of the total number of fires lit by the boys, with many of the boys admitting to lighting several more than previously assumed. Changes in behaviour post-offence were also apparent. Those boys considered high-risk appeared to show an increase in antisocial behaviour, including problems at school, involvement with antisocial networks and setting additional fires. In comparison, those boys assessed at a low-risk level appeared to withdraw from social events and school, and resented the increase in parental monitoring that they were subjected to.

Despite the small sample size of study two, findings evidences the encouraging utility of Del Bove and MacKay's (2011) typology in clustering firesetting risk factors to determine risk level of firesetters. Several subtle differences were observed, most notably the variance in the experience of the welfare system between the theory and the current sample. This difference may be ascribed to the small sample size of study two, but is more likely attributable to differences in welfare systems and protocols between Australia and Canada. Theoretically, Del Bove and MacKay's (2011) concepts provide the most comprehensive etiological framework for understanding firesetting to date, providing a framework to assess firesetters' risk level. These findings support the

benefit of future research developing a micro-level theory, such as offence process theories (Barnoux et al., 2015; Tyler et al., 2014), for young firesetters. This would allow for a more nuanced and thorough understanding of youth firesetting. This is particularly relevant for determining how the behaviour originates, building on current knowledge regarding risk factors for firesetting.

Findings revealed the importance of peer influence (either antisocial, or the need for acceptance) in motivating and contributing to the decision to engage in firesetting. For many of the boys, when fire fascination coupled with low parental monitoring and opportunity and peer influence was present, they decided to take part in firesetting. It was also apparent that these children had predicted the outcome of their firesetting; however, their impulsiveness, coupled with peer influences, trumped these perceived consequences.

Findings from study two are represented in a chronological cohesive four-phase descriptive offence process (see Figure 4.0). Each phase represents different factors that interacted and accumulated to facilitate the boys' decision to light their fire. This figure can account for the heterogeneity of the behaviour while simultaneously highlighting the similarities of the boys' offence process/es. This figure represents each descriptive pattern reported by the boys and their parents, but is not generalisable to a wider population. Rather, it demonstrates two significant findings of this study—that is, the crucial role of peer influence on the offence process/es and subsequent decision to engage in firesetting, and the moderating role that family plays in dictating whether a child will re-engage in either firesetting behaviour *or* antisocial activity.

Chapter Twelve: Concluding the Research

Choosing to engage in firesetting is a complex and dangerous decision, influenced by many factors and thought processes unique to each person. In a fire-prone State such as WA, the problems that firesetting presents are incalculable. Despite this, little is known about youth or adult firesetters in WA. Thus, this research used a two-study approach to gain a nuanced understanding of WA firesetters. Study one answered three research questions: (i) what firesetter characteristics were common across the sample? (ii) what developmental experiences were common across the sample? and (iii) what proximal factors presented across the sample? Study two answered one significant research question: (i) how do WA firesetting youths perceive and explain their deliberate firesetting? The following sections draw together the major findings and contributions to knowledge of this research. The chapter also acknowledges the strengths and limitations of the research. Further, this chapter provides direction for future research and presents potential strategies and policy implications aimed at minimising deliberate firesetting.

Firesetting in Medium- to High-Risk Adult Firesetters: Contributions to the Field

The examination of adult firesetting in WA brings a unique perspective to the research field because the population includes those who target structures *and/or* those who target bush. Descriptions suggest there are no major differences between structure firesetters and bush firesetters. Some minor differences were found; contrary to most previous research, the adult participants had a higher mean age of firesetting. This finding may be attributed to the small sample size; although it is in line with another Australian study that found bush firesetters often have a higher mean age of offending when compared with structure firesetters (Doley, 2009). Minor differences in living

arrangements were demonstrated across the sample; however, the majority of socio-demographic characteristics were very similar to those reported by structure firesetters in previous research. This has implications for both policy and prevention strategies as it suggests current international programmes may prove useful in a WA context.

A notable pattern emerged featuring distinctive differences between those firesetters with a ‘versatile’ history of offending and those with a ‘pure’ history. Firesetters who had a versatile history of offending described their life histories as characterised by high levels of general offending behaviour, often engaging in multiple antisocial behaviours, consistent with an ‘antisocial lifestyle.’ These firesetters presented with relatively low levels of fire interest, and their offence patterns demonstrated they used fire as a tool to achieve their criminal goals. Versatile firesetters were often part of antisocial peer networks who acted to support and reinforce their antisocial behaviours. Critically, these networks did not appear to influence their firesetting behaviour. Findings regarding these versatile firesetters supported the relevance of the theoretical assumptions of the M-TTAF (Gannon, Ó Ciardha et al., 2012), and the particular value in the proposed ‘antisocial cognitions’ trajectory, validating the use of a holistic approach to treatment methods. Given the low levels of fire interest that these offenders reported, it appears counterintuitive to target solely fire-specific risk factors.

In comparison, the pure firesetters had distinct offence patterns that were characterised by an engagement in primarily fire-related offences. These firesetters exhibited severe escalation patterns in their firesetting and reported low levels of antisocial and externalising behaviours. Further, these firesetters were assessed by the police as presenting a ‘higher risk’ of re-engagement in firesetting. Their developmental histories were characterised by social isolation and impoverished social

networks, and they reported memories of fire fascination throughout childhood.

Although the pure firesetters had elevated levels of fire interest, they lived overtly ‘pro-social lifestyles’ (Barnoux et al., 2015), but were easily unbalanced by adversity in their personal relationships. These firesetters exhibited a greater variance in both offence patterns and thinking compared with the versatile firesetters. These findings support similar patterns detailed in the DMAF (Barnoux et al., 2015), verifying the distinct advantages in treatment programmes targeting coping, interpersonal and social skills and developing both educational and general skills in firesetters.

Analyses of the firesetters’ perceptions of fire (such as fire interest) and their childhood histories of fire involvement reinforced the firesetting types. In contrast to current research, findings differed across fire variables to those proposed by the two pathways (approach and avoidant firesetters) of the DMAF (Barnoux et al., 2015). These variances may be attributed to the sample differences (i.e., imprisoned disordered firesetters and medium to high-risk firesetters). Thus, these findings strengthen conclusions that clinicians would benefit from utilising both offending histories and fire-specific factors to determine the treatment needs of firesetters. A ‘one-size-fits-all’ approach, or treatment based solely on motives, would appear to have limited application.

A major finding was the role of family for each firesetter. Reports revealed that family experiences may affect firesetters developmentally, as a proximal vulnerability, or as a trigger for the firesetting act, highlighting the value of conceptualising firesetting at both a macro- and a micro-level. This approach will account for the role of family in each firesetter’s life, thus allowing for an individualistic treatment or intervention.

A useful outcome for practitioners and clinicians was the finding that difficulties for firesetters were not experienced in forming relationships, but rather in maintaining friendships and intimate relationships. Many firesetters reported tumultuous current and past relationships with immediate family and intimate partners, which acted as a triggering factor for their firesetting. This underlying vulnerability made the firesetter particularly sensitive to conflict. Thus, a contribution from this research is how developmental factors (such as abuse, instability in childhood, poor attachment styles) may make firesetters vulnerable (absence of support) when faced with potential triggers (such as conflict or argument). These descriptive reports contribute insight into the coping and resilience skills of the firesetters, and their interpersonal and social skills, providing a platform for the development of treatment and prevention methods.

Firesetting in this sample became more likely when offenders presented with a number of proximal factors, increasing their risk of reoffending. Proximal factors were similar to those in Barnoux et al.'s (2015) theory, with one of the most common identified as alcohol and substance misuse. Further, participants reported alcohol and illicit substance misuse influenced their firesetting in several ways: either as an external influence that assisted in their offence goals and goal formation, as a trigger for their behaviour (acting as a disinhibitor) or as a proximal vulnerability. Alcohol and substance misuse adversely affected versatile firesetters whereas none of the pure firesetters reported histories of alcohol or substance misuse. Advancing and supporting current theory, these descriptions show how one factor (alcohol) can influence firesetting in a multitude of ways (vulnerability, trigger, external influence), changing from individual to individual, affirming the relevance of micro-level approaches to exploring firesetting.

An inadvertent contribution to knowledge was the prevalence of firesetters who had histories as either ‘volunteer’ or ‘bush brigade’ firefighters. These offenders formed a distinct subset, reporting similarities in their offence process/es, and revealing significant interest and fascination with fire, paired with ‘hero’ and ‘attention-seeking’ behaviours. This finding is of concern to emergency services, as these factors significantly influence and escalate both the risk level, and the possibility of re-engagement in firesetting offences.

A major finding, and consistent with other research, was the prevalence of childhood fire interest, fireplay and fire history reported across the adult sample. Participants described early development of inappropriate fire scripts, often using fire as an emotional release. Such behaviour usually developed and was reinforced during their childhood. Although this finding relies on self-reported descriptions that may be affected by recall problems, it highlights the relevance of the early recognition of childhood fireplay, and of fire safety awareness as integral to diverting children from firesetting.

Young People and Firesetting in WA: Contributions to the Field

This thesis argues that both a macro- and a micro-level theory are required for a thorough understanding of youth firesetting. In line with this argument, findings of study two illustrated the complex factors influencing young people who fireset. Four key themes emerged across the sample: (1) family function, (2) antisocial and externalising behaviours, (3) social factors and (4) offence patterns. These factors clustered in a similar pattern to those Del Bove and MacKay (2011), thereby demonstrating the usefulness of a cluster conceptualisation of young firesetters. Supporting this approach, findings show the value in developing a micro-level theory of

young firesetters similar to adult offence process theory (DMAF; Barnoux et al., 2015; FOC-MD; Tyler et al., 2014). A micro-level approach holds value in determining *how* firesetting behaviour emerges, proving useful to practitioners, researchers and development of policy.

This research has contributed in-depth insights into the distinct offence patterns described by the young firesetters (illustrated in Figure 4.0, Chapter 11). The boys fell onto a continuum of behaviour, with their risk level increasing as the number of influencing factors they described amassed. This research identified four common phases of the boys' offence process/es: phase one, life experiences (family experiences and educational experiences); phase two, risk factors (fire-related variables, impulsiveness, antisocial activity and social isolation); phase three, offence components (motive, poor planning skills, target accessibility, peer influence, opportunity and lack of fire knowledge); and phase four, consequences of the behaviour. This finding sheds light on the influencing factors and choices of the young people in their firelighting, which has been poorly represented in available youth firesetting theory.

Phase one included lifestyle experiences that were described by the boys as the most salient long-term factors they had experienced. These factors included family experiences (parental conflict, instability and family violence) and educational experiences (bullying, disengagement from school and behavioural difficulties). These factors amplified their vulnerability to self-reported risk factors (phase two). Four common risk factors were experienced (on a continuum): impulsiveness, involvement in antisocial activity, social isolation and fire-related variables. Phase three depicts the self-described multiple offence components influencing the boys' firesetting. These offence components acted as proximal vulnerabilities, external influences and triggering factors. The most significant offence component reported by the boys was the influence

of peers on their offence. Finally, phase four noted the importance of consequences and family on sustaining firesetting *and* offending behaviour.

One of the most important patterns described by the boys was how family acted as a moderating factor. Family had the most significant effect on whether the child desisted from firesetting, re-engaged in repeat firesetting, or redirected towards alternative criminal activity. Each child experienced their offence process/es differently, and not all factors were described by each child; however, the factors depicted in Figure 4.0 were the most common, and reported as the most significant in their decision to engage in firesetting. By establishing that family is a moderating factor, this research has provided evidence to support interventions that utilise family to divert the young people.

Figure 4.0 has important implications for both researchers and practitioners, as it is able to portray the heterogeneity of youth firesetting behaviour while demonstrating how factors accumulate and amplify to facilitate the emergence of firesetting, a portrayal that is under-represented in an Australian context. These factors and how they cluster were identified in previous multivariate theories (Del Bove & MacKay, 2011); however, the findings of this research show how the patterns and factors that interact to influence and facilitate firesetting are best portrayed through explanatory accounts. This allows for the development of targeted strategies to minimise youth firesetting, (provided below). The findings seen in Figure 4.0 articulate that firesetting theories need to focus on providing explanatory depth to young people's offence process/es to appropriately prevent, or divert, young firesetters.

Contributing to current theory, the motives described by the young boys occurred on two levels: a primary motive (e.g., excitement) was supported by secondary

motives (i.e., peer influence and boredom). Initially, a child or parent would attribute a singular motive to their behaviour; on further discussion, motives became fluid and multi-layered, not mutually exclusive. Thus, in line with Walsh and Lambie's (2013) research, this study supports that categorising young firesetters according to a singular motive has limited usefulness, but is an important tool for adequate assessment of a child. Analysis of the child's motivation exposed its inherent complexity, further supported by parent accounts, therefore demonstrating how important it is to use multiple resources when understanding a young person's firesetting experience.

This research provided explanatory insight into factors that shaped whether the children re-engaged in firesetting. Of the five boys who displayed elevated levels of fire interest and fireplay, two engaged in additional firesetting post-offence. Their stories supported how the consequences of their act may affect and influence future re-engagement. Findings suggest that when a child demonstrates an understanding of the consequences of his behaviour, coupled with effective punishment from authority figures, particularly parents, he is more likely to desist from both firesetting and antisocial behaviour. However, in the event of ineffective punishment or a lack of change in family function, the children transitioned into further reoffending (both firesetting and general offending). If a child experienced a stable and cohesive family life post-offence, they were more likely to desist from firesetting.

Findings suggest that poor planning skills and poor ability to anticipate consequences significantly influenced the boys' decisions to light a fire (phase three of Figure 4.0). Moreover, many parents described their son as impulsive, believing he had not understood the damage a fire would cause. However, they acknowledged that their son knew his actions were wrong before he set the fire. Thus, this research found the boys' immediate needs trumped their capacity to factor consequences into their

firesetting plan or goal formation. When coupled with easy access to incendiary devices and a heightened interest in fire, a young person's engagement in firesetting becomes more likely.

Findings showed a pattern in the vulnerabilities that contributed to the young people's goal formation. Parents described their children's personalities as impulsive because they struggled with anticipating consequences and spoke of poor planning abilities. The boys' impulsiveness was amplified at times of stress, because they were unable to regulate and control their emotions. Consequently, evidence from this research suggests the children were particularly vulnerable to the immediate stressors and triggers that contribute to and influence firesetting (as illustrated in phase three, Figure 4.0).

Many of the young people lacked knowledge of the practical aspects of fire safety. Thus, it is reasonable to presume that a lack of fire safety knowledge was a contributor to their offence process/es, and played a part in their poor planning and decision-making. Low-risk children reported high levels of fire safety awareness. In contrast, the high-risk children reported the lowest levels of fire safety awareness. It is unclear whether the young people's lack of knowledge contributed to their capacity to control the fire. This practical finding has important implications for both policy and prevention programs (as discussed below).

This study confirms the crucial effects of family relationships on firesetting behaviour, demonstrated through all four phases of the boys' offence process/es. Consistent with both general offending and firesetting research, many of the firesetters' childhoods were characterised by instability (i.e., parental absences and lack of routine), family violence and parental substance misuse. High-risk firesetters referred to lax

parental monitoring (a permissive style), and medium-risk firesetters' parents displayed an authoritarian style of parenting. To a lesser extent, in comparison with the adult firesetting population of study one, family factors, particularly instability, were reported to act as both a proximal vulnerability and a trigger for engagement in firesetting by the young boys. Findings support the view that family affected firesetting on a multitude of levels, confirming the argument of this thesis: that is, both a macro- and micro-level approach is required to understand the complexities of the behaviour.

More specifically, this research demonstrates how parental monitoring may influence the formation of firesetting. A distinctive lack of parental monitoring was reported by the boys (five of the seven), with all five measuring at risk of repeat firesetting incidents. Lax monitoring was also evident in the discordance between parent and child recollections of matchplay and fire interest history. It was common for the young people to report histories of both matchplay and fire history; however, only one parent was aware of the full extent of his or her child's history with fire. This finding supports the relevance of programmes that are family focused, rather than solely young people focused.

This research also clarified the complex role that antisocial and externalising behaviours play in firesetting, although not all firesetters were antisocial in their behaviour. Similar to other research (e.g. MacKay et al., 2006), elevated levels of fire interest and fascination differentiate them from other antisocial children who do not engage in firesetting. A noticeable pattern arose in these children; those measured at highest risk of reoffending presented with the highest levels of antisocial and externalising behaviours. Critically, the adult firesetting population of study one was distinctly different, with the adult firesetters considered highest risk and presenting as the least versatile in their behaviour and reporting relatively low levels of antisocial and

externalising behaviour. Given the small sample size, firm conclusions cannot be drawn however, this disparity provides an interesting direction for future research.

Several of the boys displayed no antisocial or externalising behaviours beyond firesetting. This research showed that of those children, fire was selected through interconnecting factors including elevated levels of fire interest, their ability to remain covert in their rebellion, curiosity, boredom, poor planning and consequential thinking, and elevated levels of pleasure-seeking behaviours. A major finding was that the most significant external influence (phase three) for non-antisocial young people was peer influence. Peer influence acted as a motivating factor and affected how they decided to engage and execute their fire-lighting goal.

One of the principal findings was the complex role that peer networks and interactions have in child and adolescent firesetting. Peer influence affected firesetting in three ways: as an externalising influence, as a proximal vulnerability or as a trigger for the behaviour (all occurring during phase three of their offence process/es). Further, peer influence was sub-categorised into two pathways: (1) membership of antisocial networks, or (2) social isolation and a need for peer acceptance. Parents said they believed their sons would not have engaged in firesetting if they had not been involved with their antisocial peers. Although this assertion is difficult to challenge, the presence of post-offence firesetting by two of the four boys took place with a different group of children, suggesting it is not accurate.

This research found a significant relationship between peer influence and the experience of social isolation which presented as a key risk factor for their engagement in firesetting. The boys struggled socially, finding it difficult to maintain friendships and feeding a deep-felt need for peer acceptance. The boys' descriptions demonstrated

that their social isolation and difficulties with peer acceptance were exacerbated by experiences of bullying at school and within their small peer networks. When placed in situations where they felt peer inclusion could be obtained from a seeming small impulsive act (i.e., firesetting), peer acceptance trumped their perceived consequences. Considered in the context of goal formation, the boys' motives for engaging in firesetting were perceived social inclusion or acceptance. The complexity of social experiences and how they affected the boys' firesetting clarifies why a micro-level theory is imperative to understand youth firesetting, an approach not yet provided by theorists.

A relationship between firesetting risk level and academic performance also emerged. As a child's firesetting risk level increased, so too did behavioural and academic difficulties at school. Of note were reports of low tolerance levels, and difficulties working through frustrations when challenged and attention issues. These are not fire-specific risk factors; however, they are useful in the early identification and potential prevention of children who may disengage, increasing the likelihood of poor decision-making or involvement in antisocial networks.

Strengths of the Research

This research has several key strengths, most notably the qualitative self-report approach. A clear relationship was established between adult firesetting and a childhood fire history, using the adult firesetting population in study one to demonstrate why a focus on youth firesetting is so important. By incorporating descriptive accounts provided by the adult firesetters, patterns and commonalities in experiences emerged, with no assumptions made through quantitative measurement. The personal stories from the boys and their parents provided nuanced descriptions that a quantitative

approach is unable to do. Further, the qualitative approach provided insight into thought processes and subsequent actions. The wide age range of the boys strengthens the findings of this research. Previous research has drawn distinctions between children over 12 years and those under 12 years. However, this research shows behaviours were consistent across all age groups.

Incorporating children and adolescents whose behaviour ranges in severity from low-risk to high-risk further strengthened this research, broadening the categories of firesetters, rarely seen in previous research. The views of parents were incorporated to support and provide further context to the boys' actions. The parents' memories provided insights that their child was often unable to articulate, particularly regarding childhood history of domestic violence. One asset of the research approach was that the boys shared their stories separately from their parents and authority figures. This allowed for honesty unlikely in previous recounting of events to parents and police. Comparisons between parents', children's and police observations identified several themes (through discrepancies) that might have otherwise been overlooked.

The Limitations of the Current Research

This research had several limitations, including the small sample size of both studies. The sample size of study one relied on access the police provided to the data. Responses and data were affected by how the officers administered the interviews and recorded the answers. Thus, the data added further limitations to an already small sample. Adult firesetting data would have benefited substantially from a deeper examination of fire-specific risk factors, which could not occur because the original data were collected for policing purposes and not psychological assessments. The young person sample size was influenced by several factors, principally the small size of the

total youth firesetting population in WA. This was further affected because many parents were reluctant to commit to the research. Many parents, “just wanted to put it behind them,” or could not make time to speak to the researchers. Because of the sample sizes, findings cannot be generalised to a broader population.

Both populations were purposive samples, drawn from firesetters who encountered emergency services. Subsequently, large portions of the firesetting population were excluded from participating in the research. By interviewing firesetters who encountered police, the research is able only to share stories of those who have engaged in uncontrolled firesetting incidents. Experiences vary across samples of firesetters, some of whom may be able to control their fires.

Research with young people is constrained by their ability to recall sequences and outcomes of certain events. This was particularly evident in those participants with attention difficulties. This limitation was compounded because the research involved self-reports. Potentially, the young people and parents may have misrepresented events to conform to perceived social norms. Further, self-reports may distort and interfere with self-recall. This limitation was minimised by including police observations and intelligence, and parenting reports to triangulate responses.

Suggested Directions for Future Adult Firesetting Research

The findings and limitations of study one have highlighted several avenues that may inform future research. As highlighted earlier, it would be beneficial to quantitatively measure fire-specific variables in WA adult firesetting populations, both apprehended and non-apprehended. It would be useful to utilise a similar interview style or schedule across both youth and adult firesetting populations to draw comparisons and recognise disparities between the behaviours across these samples.

The findings of study one demonstrated there may be value in exploring how being a parent may affect firesetting behaviour. This would be valuable in light of the reported difficulties the current sample's parents conveyed they had experienced, with poor parent–child relationships a common theme.

More broadly, research is needed to focus on the prevalence of volunteer firefighters engaging in firesetting behaviour. The prevalence of these firefighters was concerning; however, it was not possible to explore this further given the limitations of this research.

A distinct difference between versatile offenders and pure firesetters emerged. Although study one was unable to examine these differences in depth, exploring these differences further would be beneficial. Using a cluster analysis technique may reveal distinct patterns in factors, clustering offenders based on differentiating risk factors. Where possible, further research is needed using both normative and general offending samples for comparisons, to move away from a reliance on psychiatric or apprehended populations.

Suggested Directions for Future Youth Firesetting Research

The findings of study two supported the value in targeting a larger sample, with similar techniques, to develop a micro-level (perhaps offence process) youth firesetting theory. Using a sample that comprises community or non-apprehended firesetters would add value to the current findings. Further studies regarding the role of family in both developmental contexts and as proximal vulnerabilities and triggers would be worthwhile. Using children's and parents' perspectives may provide a greater degree of accuracy, particularly if the research occurs over an extended period to measure the development and trajectories of the firesetters. Future research may benefit from

examining fire safety knowledge in a community sample of young people to determine whether fire safety knowledge contributes to the success of non-apprehended firesetters in remaining undetected by authority figures and parents.

Further studies regarding the complex role of impulsiveness in firesetting would be interesting, with a focus on determining thought processes behind the offence. Comparing the experiences of impulsiveness between firesetters and control groups such as community samples or general offending groups (particularly sex offenders and antisocial offenders) could provide valuable insights into the different treatment and prevention needs that firesetters require. A distinct finding from both studies was that the high-risk firesetters in childhood presented with multiple antisocial variables; however, in the adult firesetting populations the high-risk firesetters presented with non-versatile behaviours and engaged in a pro-social lifestyle. Although this finding has been established using a relatively small sample, this difference needs to be examined using larger populations.

Implications for Policy and Practice: Applicable Responses

Several implications for practice have emerged from the findings of these studies. By highlighting common risk factors and how they affect firesetting, the research has reinforced the importance of a holistic approach to treatment programmes targeting more than fire-specific risk factors. Both adult and youth firesetters would benefit from treatment programmes that target social skills, communication skills, impulsiveness and aggression management, and coping and resilience skills, in addition to current programmes that are aimed solely at inappropriate firesetting scripts. Outcomes of the research support the relevance of measuring fire-specific variables (i.e., interest and fascination) in the risk assessment of both adult and young firesetters.

Further, common experiences of social isolation across both adult and young firesetters support the proposal that identifying these factors may prevent potential involvement in firesetting.

The prevalence of volunteer firefighters in the adult sample suggests a clear direction for improving policy around current screening protocols of volunteer firefighter applicants. This finding suggests a focus is required to better assess applicants' suitability for the position, implementing current knowledge regarding fire interest and fascination variables and associated assessment tools. This has important implications for the current content of volunteer training programmes.

Considering the influence of peers and family factors on the emergence and maintenance of firesetting, it is evident that children who fireset would benefit from programmes that instil good decision-making skills, targeting impulsiveness and advancing consequential reasoning. The concerning lack of fire safety and fire knowledge substantiate the necessity of a proactive approach to prevention programmes that target poor decision-making skills. The results suggest that these approaches should be administered across all age spectrums as a lack of knowledge was common across all ages.

Following their offence, all the boys had been involved in a fire treatment programme as part of the diversionary process; however, despite participating in the programme, they indicated little knowledge of fire safety, suggesting a review of current treatment programmes may be beneficial. The boys' descriptions suggest that placing firesetting into a context similar to other lifestyle dangers applicable to their situation may be beneficial for the young people. For example, when an adult explains to children that they should not run on the road because a car may hit them, this is

equivalent to: “if you light a fire, this will be the result.” Many instances of firesetting occurred because ignition materials were readily available, the opportunity presented and supervision was lacking. Australia’s bushland is highly flammable, plentiful and dense enough to provide suitable camouflage. Considering these factors, parents and other authority figures may need to demonstrate to children the potential consequences of firesetting include wildlife, and human injury and death.

Many of the young people described patterns consistent with family acting as a moderating factor for their firesetting. Therefore, one of the most crucial implications for targeted and directed responses was how family may influence a child’s re-engagement in firesetting *and* antisocial behaviour. As findings demonstrated, parenting strategies and parental monitoring post-offence had critically affected how the child chose to respond to both firesetting and antisocial activity. This was most relevant to the stability and consistency in administered punishments by parents. Therefore, it is reasonable to conclude that treatment programmes and targeted responses should focus on family cohesion and parenting practices to support parents in diverting their child from firesetting.

The relevance of social experiences in the onset of youth firesetting is evident, particularly as a risk factor. This finding is particularly useful for parents and teachers in identifying young people at increased risk. These social experiences (isolation and antisocial networks) were also reported by the adult firesetters in study one. This finding is particularly useful for targeted and directed responses to minimise youth firesetting because it substantiates that significant attention should focus on progressing social and communication skills. Further, advancing children’s self-esteem, which is a moderator for firesetting behaviour, would act to decrease their desire for peer acceptance, minimising the probability of firesetting involvement.

As Willis (2004) wrote, “there are few forces more potentially destructive than fire and perhaps none that can be so easily created and released” (p. 12). Therefore, contributions towards understanding firesetting and associated characteristics, risk factors and developmental factors help in identifying, preventing and treating these groups. Although firesetting may never be eliminated, these findings confirm that understanding a child’s thought and offence process/es illustrates why some young people engage in firesetting, whereas others do not.

Chapter Thirteen: The Research and its Implications

Often, it is difficult for the average person to comprehend how, or why, a young person or adult would choose to deliberately light a fire. The inherent complexity of the decision is dismissed, and the array of internal and external factors that interact and amplify one another to influence the onset of firesetting is overlooked. Adding to the mystery of firesetting, researchers and clinicians have previously grouped both adult and young people who fireset into homogenous clusters that disregard the individuality of each person's offence-process.

This thesis has provided a descriptive recounting of the firesetting offence-process of young people and adults who fireset in WA, which is contrary to these perceptions. The findings of the studies in this thesis suggest that complex factors interact at a micro-level to influence the firesetting offence-process. That is, although most firesetters' offence-process is an individualistic experience influenced by a wide range of external and internal factors, this research found there is homogeneity in the presence of some developmental, proximal and influencing factors that increase a person's risk of engaging in firesetting behaviour. Critically, no pattern in *why* an individual selected fire as their outlet could be established, highlighting how unique the choice is. The implications of this finding are significant, as it suggests there is no one-size fits all approach to eradicating deliberate firesetting. Rather, prevention and treatment must employ a harm minimisation approach to successfully target the behaviour.

Focusing on adults who fireset, the first study of this thesis found that there is limited use in differentiating or grouping firesetters based on whether they select structures or bush as their target. Rather, adult firesetters demonstrated that their risk

level was best determined through examination of their fire and offence characteristics. (such as history of fireplay and measuring fire interest levels).

In contrast to their younger counterparts (who were the focus of study two), the adult firesetters who were at the highest risk-level had limited current or past involvement in antisocial activity, but did report histories of childhood fire play. These findings parallel current adult firesetting theory, which has previously excluded bush firesetters. Together, this has important implications for current clinician understanding. First, it supports that if unhealthy fire interest and fascination in children is not appropriately recognised and diverted, the behaviour may manifest in dangerous and high-risk firesetting as an adult. Second, it suggests that children who engage in both antisocial *and* fire-related activity may be high-risk firesetters during childhood. The patterns in the adults in study one suggest their firesetting behaviour acts as a transition into alternate and persistent long-term antisocial behaviour. This has implications for current treatment approaches, as it evidences the importance of focusing on building skills in young firesetters that target more than fire-specific behaviours. This first study thereby offers suggestive evidence that prevention and treatment programmes should focus on the offence-process of adult firesetters, with an emphasis on measuring fire-related variables to determine risk-level, prior to individualising treatment utilising developmental and proximal factors.

The second study of this thesis looked at how a young person makes the decision to light a fire. Patterns were identified in both contributing and influencing factors. Four fundamental areas emerged consistently across these young people that appear to interact to facilitate firesetting. The findings indicate that although fire-related variables are an integral component of a young person's offence-process, other risk factors had a greater influence on their decision. The most prominent risk factors were

their peer and family experiences. Further, two moderators for desisting in firesetting were identified: self-esteem and family. Thus, current treatment programmes must not focus exclusively on a young person's firesetting behaviour to target future offending.

Most significantly, this thesis has contributed to the extant literature by showing that recognising offence-process characteristics and how they cluster can be used to identify children at increased risk of engaging in firesetting, further identifying the most prominent risk-factor for each individual child. This can then be useful in developing approaches to modify such behaviours. Importantly, there has been limited focus in previous research on developing a micro-level approach to conceptualise youth firesetting, and yet the research in this thesis demonstrates how necessary it is that future researchers' shift attention to developing a micro-level theory, with the purpose of improving current risk-assessment approaches to youth firesetting.

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Appendix I

Police Doorstop Questionnaire



- POLICE IN CONFIDENCE -

| DOORSTOP SCREENING QUESTIONNAIRE | | | | | | | |
|----------------------------------|--|-------------------------------------|-----------|--------|--|--|--|
| Personal Details | Name | | | | | | |
| | Address | (Consider current and future plans) | | | | | |
| | DOB | Age | Ethnicity | Gender | | | |
| PRIORITY QUESTIONS | 1. Who do you live with? | | | | | | |
| | 2. What is your occupation/ name of employer? Are you happy with your job or do you have plans to change jobs soon? | | | | | | |
| | 3. How do you travel around and what, if any, motor vehicles do you drive? (eg bicycle, bus/train, motorbike, car etc) | | | | | | |
| | 4. Do you have many close friendships? Do you have a partner? | | | | | | |
| | 5. Are you a member of any Clubs, group or volunteer organisations? | | | | | | |
| | 6. Have you experienced any mental illnesses or psychological disorders? If so what have you been diagnosed with? | | | | | | |
| | 7. Are you prescribed any medication? If so, what is it and what dosage do you take? | | | | | | |
| | 8. Does this/these medication/s give you any side effects? If so, what? | | | | | | |
| | 9. Do you drink Alcohol? If so what type and how much? (eg 1-2 drinks per day, 3 drinks per day) | | | | | | |
| | 10. Do you take non-prescription drugs? What type? How often? | | | | | | |
| | 11. Other than fire starting have you ever been spoken to or in trouble with the Police before? If so what for? | | | | | | |
| | 12. Have you been to Court because of this? What was the outcome? | | | | | | |
| | 13. When and how often do you light fires (eg mornings, weekends, random) | | | | | | |
| Family Background | 14. Describe your family/relationship with members of family as a child /growing up (To determine level of family dysfunction) | | | | | | |
| | 15. Would you categorise your family's household income while growing up low/middle or high? | | | | | | |
| | 16. Tell me about your childhood | | | | | | |
| | 17. Did you experience/observe violence in the home/elsewhere as a child/growing up? | | | | | | |
| | 18. Are you happy with your current living arrangement and do you have any intentions of moving in the near future? | | | | | | |
| | 19. If /when you are a parent do you/will you do anything different from the way you were parented? | | | | | | |
| | 20. Do/did you enjoy school? If not why and was bullying an issue? | | | | | | |
| | 21. What is the highest grade you have achieved in school? | | | | | | |
| | 22. Have you completed any other education? | | | | | | |
| | 23. What jobs have you previously had and on average how long have those jobs lasted? | | | | | | |
| | 24. What have been the reasons for ending those jobs? | | | | | | |
| | 25. What are your hobbies? | | | | | | |
| Health Mental/Social | 26. Have you experienced any physical illnesses or injuries? If so what? | | | | | | |
| | 27. Do you sometimes feel fearful and worried for no reason? | | | | | | |
| | 28. Do you feel you have been close to panic over the past few weeks, or generally in the past? | | | | | | |
| | 29. Have you been feeling down over the past few weeks, or generally? | | | | | | |
| | 30. Do you have trouble feeling positive generally or even just recently? | | | | | | |
| | 31. Do you find it difficult to relax generally or even just recently? | | | | | | |
| | 32. Do you find it hard to let go of things that bother you? | | | | | | |
| Offending History | 33. How many times can you recall starting fires before you were first charged by Police? | | | | | | |
| | 34. When you were younger did you ever make hoax or prank calls to emergency services, which ones and how often? | | | | | | |
| Fire Fascination | 35. How would you describe your interest in fire? Do you collect any fire paraphernalia? (eg news clippings, videos) | | | | | | |
| | 36. What age were you when you first experimented with fire starting? | | | | | | |
| | 37. Did your interest in fire continue through your childhood? | | | | | | |
| | 38. What do you think when you see fire, are you fascinated by it? | | | | | | |
| | 39. What are you feeling at the time you light fires? (eg anger, excitement, stress) | | | | | | |
| | 40. Where do you generally light fires? (ie specific locations and types of places in detail) | | | | | | |
| | 41. Why do you light fires there? | | | | | | |
| | 42. Do you prefer to be alone when you light fires or in company? | | | | | | |
| | 43. Do you always plan before you light fires or is it spontaneous? | | | | | | |
| | 44. While the fire is burning what do you do? | | | | | | |

POLICE IN CONFIDENCE -

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- POLICE IN CONFIDENCE -

| | |
|---|---|
| Psychological Issues | 45. What drives you to light fires |
| | 46. When you start a fire how does it make you feel? |
| | 47. How do you select a target area to light a fire? |
| | 48. Have you ever felt like you wanted to hurt other people or animals, have you ever done so? |
| | 49. Tell me about the relationships in your life (who are they, how many, type of relationship) |
| | 50. What do you think about the emergency services? |
| | 51. What affect do lights and sirens have on you? |
| | 52. Would you enjoy being involved in fighting a fire? |
| | 53. Have you ever been to the scene of a fire to help, if so how did it make you feel? |
| OBSERVATIONS AT INTERVIEW | |
| Obvious physical identifiers (eg scars,tattoos,piercings) | |
| Verbal Skills | |
| Sociability | |
| Non verbal communications (unusual responses when answering particular questions) | |
| Eye contact | |
| Confidence | |
| Enthusiasm | |
| General Disposition/Level of Cooperation (eg remorseful, apologetic, insincere, aggressive, disrespectful etc) | |
| ENVIRONMENTAL OBSERVATIONS | |
| Access to Motor Vehicles other than those advised (eg housemates, family members, friends unregistered vehicles) | |
| Standard of Living | |
| Permanency of Living arrangements | |
| Influenced Behaviour (ie level of interest/response by other residents during police attendance) | |
| Welfare risk in home environment | |
| Presence of animals and their condition | |

POLICE IN CONFIDENCE -

- FREEDOM OF INFORMATION ACT EXEMPT DOCUMENT

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Appendix II

WAPOL to ECU Referral Form



SPIEL: *Following our contact with you today, there is two more parts to the process. The first is that Catherine, from Edith Cowan University will call you. She will speak to you more about her part of the process while on the phone with you. Following Catherine's contact, an individual from the Department of Fire and Emergency Services will be making contact. With your permission, may I please grab some details so that we can get the next part of the process underway?*

Guardian's Name: Click here to enter text.

Contact Number: Click here to enter text.

Email Address: Click here to enter text.

Child's Name: Click here to enter text.

Child's Age: Click here to enter text.

Child's Gender: Male ☐
Female ☐

Child's First Contact with Police: Yes ☐
No ☐

Child Referred to JAFFA: Yes ☐
No ☐

Notes/Observations: Click here to enter text.

Please email completed forms to c.timms@ecu.edu.au AND n.gately@ecu.edu.au

Appendix III

Commonly Asked Questions



1. Why is ECU part of the process?

Edith Cowan University, the WA Police and DFES have partnered together, to target firesetting behaviour. What has become obvious over the last couple of years is that our situation in WA is unique, and we really don't have any proactive measures in place, to stop firesetting. All three agencies want to be able to understand the behaviour, so that we can actively target it. Part of the process is to try and gather as much information as we can, from a neutral third party (ECU), who can protect both yours and your child's privacy and confidentiality.

2. How does it work?

What will happen is that Catherine will contact you to discuss some options about talking to you and your child. So that we can remain separate, and so that the information is confidential, we as Officers, remain separate from this part of the process, to protect your privacy.

3. Can I contact someone myself to talk about it?

Yes, absolutely. We have three people that you can contact about the research should you want to:

Catherine (chief researcher): *ph.:* 6304 4231 *email:* c.timms@ecu.edu.au

Natalie (researcher): *ph.:* 6304 5930 *email:* n.gately@ecu.edu.au

Cath (researcher): *ph.:* 6304 2831 *email:* c.ferguson@ecu.edu.au

4. Do I have to take part?

No, this part of the process, like the DFES part, is voluntary and you can withdraw at any time. However, we do urge you to take part, as you have a unique perspective that is invaluable to us. If you are feeling unsure, please do not hesitate to contact Catherine or one of the other researchers, who can explain this further.

5. Is it confidential?

Absolutely. The process that makes you non-identifiable is handled by the chief researcher only. Police and DFES will only see the final report, where there are no names utilised, and ALL identifiable information will be removed. Once we have directed you to the researchers, Police hear nothing until the final report has been presented at the end of the fire season.

Appendix IV

Participant Information Letter



Thank you for your interest in this research. My name is Catherine and I am a PhD Candidate from the School of Law and Justice at Edith Cowan University. In conjunction with Bond University and the Western Australia Police, this research has been developed to examine juvenile firesetting within a Western Australian context. You have been invited to take part in this research as you have a unique perspective, and we would like to ask for your help to understand this issue, and to give your experience voice. This research has the approval of the ECU Human Research Ethics Committee.

If you agree to take part in this study, you will be asked to participate in an interview of no more than an hour. Further, your child will be asked to take part in a 30-60 minute interview regarding their firesetting experience. Please note that I am not interested in uncovering any past illegal activities but if any future plans/actions that will put you or another person at serious risk of harm are disclosed, then I am obliged to report it.

All information collected during the research project will be treated confidentially and will be coded so that you remain anonymous. All the de-identified data collected will be stored securely on ECU premises for five years after the project has concluded and will then be confidentially destroyed. At no time during data collection or storage will anyone be able to identify who you are. The information will be presented in a written thesis and report, in which your identity will not be revealed. You may be sent a summary of the final report on request.

It is possible that you may feel uncomfortable or distressed during the interview. Should this occur, please remember that your participation is voluntary and you may end the interview at any time.

Thank you for taking the time to consider participating. The information you have is invaluable in understanding why and in what context young people light fires. Please feel free to ask me any questions. If you have any further questions about the research, please do not hesitate to contact either myself or my supervisor. If you have any ethical concerns, you can contact the ECU Human Research Ethics Committee, as below.

Catherine Timms

Project Researcher
School of Law & Justice
6304 4231

Email: c.timms@ecu.edu.au

Dr Natalie Gately

Project Supervisor
School of Law & Justice
Ph: 6304 5930

Email: n.gately@ecu.edu.au

Dr Cath Ferguson

Project Supervisor
School of Law & Justice
Ph.: 6304 2831

Email: c.ferguson@ecu.edu.au

Appendix V



Guardian Consent Form

UNDERSTANDING WHY YOUNG PEOPLE START FIRES

PARTICIPANT NAME: _____

PARTICIPANT NAME: _____

I have received a copy of the information letter. I understand the aim of the research and have all my questions answered to my satisfaction.

☐

I am aware that I am free to withdraw my participation at any time, and am under no obligation to continue should I decide otherwise.

☐

I am aware that I am free to withdraw my participation at any time, and am under no obligation to continue should I decide otherwise.

☐

If I have any questions regarding the research, I am aware I may contact the researcher or supervisor at any time.

☐

I understand that the interview may make me feel uncomfortable or emotional and I am aware that there are support services available. I freely give permission for my interview to be recorded and transcribed, provided I remain unidentified.

☐

I know that all audio materials will be kept in a secure location, accessible only by the researcher and supervisor. I am aware that all data obtained will remain confidential and will only be used for the purpose of this research. In the event that this research is published, no identifiable information will be published.

☐

Participant signature: _____

Date: _____

Catherine Timms

Project Researcher
School of Law & Justice
6304 4231

Email: c.timms@ecu.edu.au

Dr Natalie Gately

Project Supervisor
School of Law & Justice
Ph.: 6304 5930

Email: n.gately@ecu.edu.au

Dr Cath Ferguson

Project Supervisor
School of Law & Justice
Ph.: 6304 2831

Email: c.ferguson@ecu.edu.au

Appendix VI

Youth Consent Form



UNDERSTANDING WHY YOUNG PEOPLE START FIRES

PARTICIPANT NAME: _____

I know what the research is about and why I am a part of it.

☐

I know that I can stop the interview at any time and won't be in trouble if I do. If I don't want to answer a question, I do not have to.

☐

I know that the person I am talking to is not here to find out about anything illegal I may have done in the past. If I do tell the interviewer about a crime I plan to do, I know that the Police must be told. Everything else is just between me and the person I am talking to.

☐

If I feel upset or unhappy about what is being asked, I know I should tell the interviewer.

☐

I know that what I am saying is being recorded. I know this will only be heard by the interviewer and when she writes it out, she will get rid of anything that shows it is me, so no one will know who I am.

☐

Participant signature: _____

Date: _____

Catherine Timms

Project Researcher

School of Law and Justice

6304 4231

Email: c.timms@ecu.edu.au

Dr Natalie Gately

Project Supervisor

School of Law and Justice

Ph.: 6304 5930

Email: n.gately@ecu.edu.au

Dr Cath Ferguson

Project Supervisor

School of Law and Justice

Ph.: 6304 2831

Email: c.ferguson@ecu.edu.au

Appendix VII

Parent/Guardian Questionnaire

Basic Demographic Questions: Name, age, occupation, education, children (ages)

- 1) How did you first find out about your child's firesetting behaviour?**
 - a. What was your initial reaction?
 - b. How do you feel about it now?
- 2) Do you remember your child ever being fascinated with fire?**
 - a. Matchplay?
 - b. Fireplay?
 - c. Childhood?
- 3) Tell me about your child at school**
 - a. Do they enjoy it? Do they struggle?
 - i. How?
- 4) Tell me about your child's friends**
 - a. Do they have close friends?
 - b. Have they ever been bullied at school?
 - c. Do they struggle to interact with others? How?
- 5) Has your child ever been diagnosed with a psychological/psychiatric condition?**
 - a. Do they take medication for it?
 - b. Do you struggle to get them to take the medication?
- 6) Tell me about the events leading up to the offence?**
 - a. Did your child seem different to normal?
 - b. Did they seem like they were upset about something?
 - c. Had they started behaviour differently at home?
- 7) How did your child seem the day of the offence?**
- 8) Tell me about the offence itself. What happened according to your child?**
- 9) Did they change after they had committed the offence?**
 - a. Did their demeanour change at all? Did they become tenser? More relaxed?
- 10) Do you think how the Police handled the situation has worked?**
- 11) Have you had to change anything since the offence? What?**
- 12) How do you think the Police can better target this behaviour?**

Appendix VIII

Youth Questionnaire

| Adolescent Questions | Child Questions |
|---|---|
| <p>Family Background/Caregiver Environment</p> <ul style="list-style-type: none"> ▪ Who do you live with? <ul style="list-style-type: none"> ○ Has that changed through your childhood? ○ Were you ever taken out from your parent's care? Why? ▪ Do you have any brothers or sisters? <ul style="list-style-type: none"> ○ How old are they? ○ Where do they live now? ○ Do you like them? ▪ Tell me about your parents. <ul style="list-style-type: none"> ○ Are they married? ○ How do you feel about them? ○ Do you remember them arguing? <ul style="list-style-type: none"> • How often? • About what? • Was it ever physical? ▪ Can you remember anyone in your family ever using drugs or alcohol? <ul style="list-style-type: none"> ○ Often? ○ How did you feel when they did? ▪ Has anyone in your family ever been in trouble with the Police? ▪ Are you disciplined? <ul style="list-style-type: none"> ○ How are you punished? ○ How often? | <p>Family Background/Caregiver Environment</p> <ul style="list-style-type: none"> ▪ Who is in your family? ▪ Who do you live with? <ul style="list-style-type: none"> ○ Has it always been like that? ▪ Do you have any brothers or sisters? Tell me about them. <ul style="list-style-type: none"> ○ How old are they? ○ Do you like them? ▪ Tell me about your parents. <ul style="list-style-type: none"> ○ How do you feel about them? Do you get on with them? ○ Do they fight? <ul style="list-style-type: none"> • How often? • About what? • Was it ever physical? ▪ Tell me about drugs and alcohol in your house. <ul style="list-style-type: none"> ○ Often? ○ Do you drink? ▪ What happens if you do something naughty? <ul style="list-style-type: none"> ○ How are you punished? ○ How often? ○ How do you feel about this? |

Friends and Social Background

- **Tell me about your friends.**
 - Do you fight?
 - Do you feel like you can depend on them?
 - Do you feel pressured to do things with them?
 - What do you guys do for fun/entertainment/so you aren't bored?
 - What are your favourite/least favourite things about your friends?
- **Have you had contact with the Police as a child?**
 - What kind of trouble?
 - What happened?
 - What do you think of the Police?
- Did you ever get in trouble for hurting animals?
- Did you ever run away from home?

Educational Experience

- **Tell me about school**
 - What is it that you like about it/don't like about it?
 - What was the highest grade you completed?
 - Was school hard for you?
 - Were you ever in any special classes?
 - Did you ever get into trouble at school?
 - What kind of trouble?
Detention/Suspension/Expulsion
 - Did you skip class a lot?
 - Were you bullied at school?
 - How did that make you feel?

Friends and Social Background

- **Tell me about your friends.**
 - Do you fight?
 - Do you trust them?
 - Do they make you do things? Like what?
 - What do you like about them?
 - What do you hate about them?
- **What do you do when you are bored?**
- **Have you ever spoken to a policeman before?**
 - What about?
 - What happened?
 - What do you think of the Police?
- **Did you have pets growing up? Tell me about them.**
- **What do you do when you are mad at your parents?**
- **What kind of social media do you use?**
 - Favourite?
- **Did you see anything about fires on social media? TV?**

Educational Experience

- **Tell me about school**
 - What is it that you like about it/don't like about it?
 - What grade are you?
 - Was school hard for you?
 - Did you ever get into trouble at school?
 - What kind of trouble?
Detention/Suspension/Expulsion
 - Did you skip class a lot?
 - Are kids nice at your school?
 - How did that make you feel?

| | |
|---|---|
| <p>Medical/Psychiatric History</p> <ul style="list-style-type: none"> ▪ What was your health like as a child? ▪ Did you remember any major life upheavals? ▪ Did you ever think about trying to hurt yourself as a child? ▪ Did you have trouble sleeping? ▪ Have you been diagnosed with anything? ▪ Did you ever experience violence as a child? | <p>Medical/Psychiatric History</p> <ul style="list-style-type: none"> ▪ Do you remember being sick as a kid? <ul style="list-style-type: none"> ○ Tell me about it. ▪ What do you remember from being a kid? ▪ Do you know if you have been diagnosed with anything? |
| <p>Pre-Offence Period</p> <ul style="list-style-type: none"> ▪ How were you feeling before lighting the fire? ▪ What had happened in your life before you thought about lighting the fire? ▪ How was your relationship with friends/family/partner? ▪ What emotions were you feeling? ▪ Had you had any alcohol/drugs? | <p>Pre-Offence Period</p> <ul style="list-style-type: none"> ▪ Tell me about the day of the fire. What had you been doing? ▪ How were you feeling? Why? ▪ Where did you get the idea to light the fire? ▪ Were you upset about anything? ▪ Had you had any alcohol? Drugs? |
| <p>Fireplay</p> <ul style="list-style-type: none"> ▪ Have you ever lit a fire before? Tell me about it ▪ Have you played with matches? Tell me about it ▪ How do you feel when you see a fire? ▪ Do you like firemen? ▪ Do they Police know about all the fires you set? (probe) ▪ What kinds of things do you like to set on fire? <ul style="list-style-type: none"> ○ Why do you like these? ○ Is there a reason you pick these? | <p>Fireplay</p> <ul style="list-style-type: none"> ▪ Have you ever lit a fire before? Tell me about it ▪ Have you played with matches? Tell me about it ▪ How do you feel when you see a fire? ▪ Do you like firemen? ▪ Do they Police know about all the fires you set? (probe) ▪ What kinds of things do you like to set on fire? <ul style="list-style-type: none"> ○ Why do you like these? ○ Is there a reason you pick these? |

Firesetting Behaviour

- How many fires do you think you have set?
- What age do you think you first started playing with fire?
- Do the Police know about all of the fires you have set?
- What kinds of things do you like to set on fire?
 - Why do you like these?
 - Is there a reason you pick these?
- How close to home were you when you lit it?
 - How did you get there?
- How did you start the fire?
- Where did you get the stuff to make the fire?
- Where you alone or with people?
 - Why?
 - Which do you prefer?
 - Did someone make you start the fire?
- How did you feel when you had lit the fire?
- What did you do after you had lit the fire?
 - Did you call 000?
 - Did you tell anyone?
 - Did you watch?
- How did you feel before setting the fire?
- How did you feel after the fire?
- Did you get punished for setting the fire?
- Did you get what you wanted out of lighting the fire?

Firesetting Behaviour

- **Tell me about the fire that got you in trouble.**
 - What gave you the idea?
 - How did you start it?
 - What did you use? (Where did you get it from?)
 - Why did you pick that spot? How did you get there?
 - How did you feel before you lit it?
- **How did you feel when the fire had been lit?**
- **What did you do when you had lit the fire?**
 - How did this make you feel?
 - Did you call 000?
 - Did you tell anyone?
 - Did you watch?
- **Were you alone or with people when you lit it?**
- **Did you get in trouble for setting the fire?**
- **What did you want to do by lighting the fire?**
 - Did it work?
- **Why do you think you lit the fire?**
- **Were you worried about getting caught?**

Post-Offence Thoughts

- What has happened in your life since you lit the fire?
- Has it affected anything in your life? What?
- Do you regret lighting it/would you do it again?
- What do you think caused you to light the fire?
- Were you worried about getting caught?
- What happened when you were caught by Police?
 - Was this fair?
- What do you think should happen to people who get caught lighting fires?

Post-Offence Thoughts

- **Tell me about your life since you lit the fire**
 - Has anything changed? (probe)
- **Would you light another fire?**
- **What happened when you were caught by Police?**
 - Was this fair?
- **What do you think should happen to people who get caught lighting fires?**
- **How would you stop people from lighting fires?**

